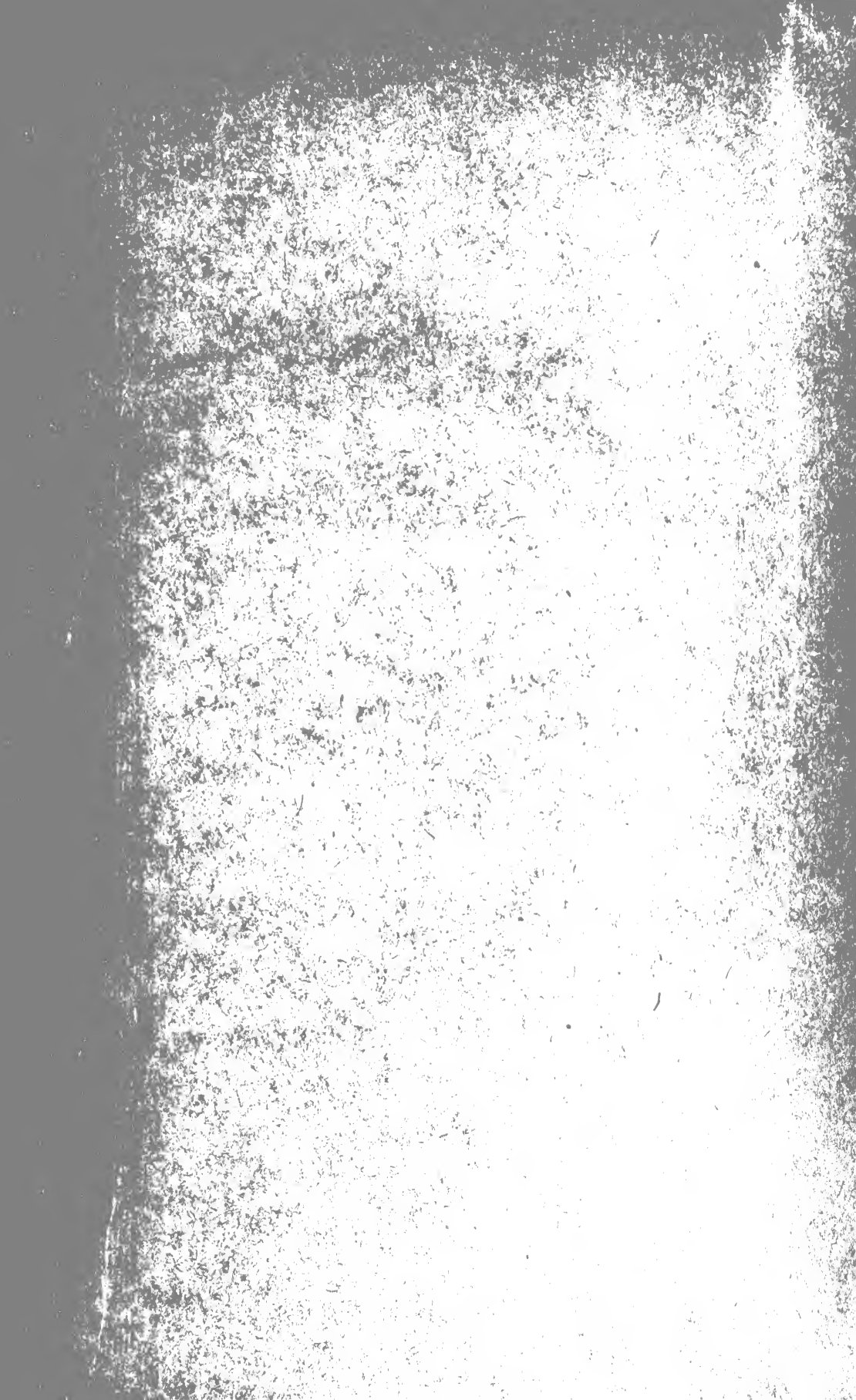


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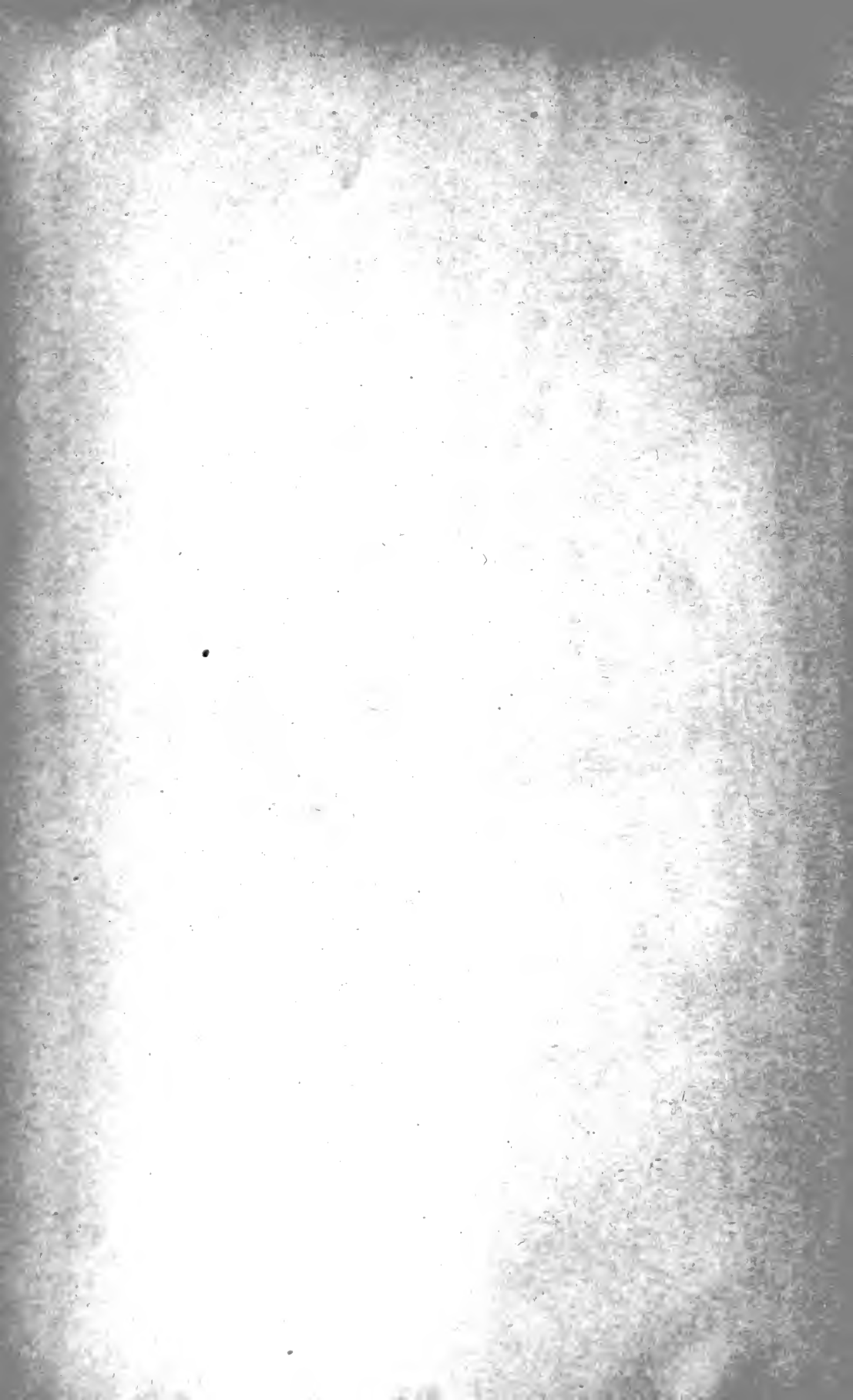
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JUST A CHANCE—THAT'S ALL

*Some sing the praise of the sweet, shy trout
And some of the bold, bad bass ;
And some of the salmon that leaps for the fly
And some of the tarpon that dazzles the eye
Or yet to the ouananiche pass.*

*I sing the praise of the whole fish tribe,
The cast, the lure, and the strike,
Any kind that will chase my dull cares far away
And give an excuse to play hookey to-day
Is the kind of fishing I like.*

—From the Boss's Calendar.



AT THE ROPE FORD OF THE N' GOURAMANI RIVER

OUTING



APRIL
1914

VOL. LXIV

No. 1

IN BACK OF BEYOND

By STEWART EDWARD WHITE

ILLUSTRATED WITH PHOTOGRAPHS AND A MAP

BEING THE STORY OF A SPORTING PILGRIMAGE
INTO A NEW GARDEN OF EDEN

THERE still remains a large section of the earth's surface where the white hunter is unknown and where big game roams in literal thousands. The story that Mr. White tells in this and succeeding issues is of such a region. His narrative is of a dream that came true—the dream that all good sportsmen have of turning back the clock of the ages and coming again into a world of animal life all new and unknowing. He and R. J. Cuninghame were the first white men to see this wonderful paradise of sportsmen, and they are the last to whom this experience can be vouchsafed, for there are no other such regions left anywhere in the world. They have written the last paragraph in this particular chapter of the Book of Sport.

THE story that follows is the journal of my second African expedition. During the past year (1913) I have discovered and partly explored a virgin game field. This will never again happen, for the region comprises the last possibility of such a discovery. There are now no more odd corners to be looked into; that is to say, odd corners of a size worthy to be considered as a new game country.

That at this late stage of the world's history such a place still remained to

be disclosed is a very curious fact. The natural question that must arise in everyone's mind, and that must first of all be answered, is how this happens, for the prevalent belief is that English sportsmen have pretty well run over all the larger possibilities. This is a legitimate question and a legitimate wonder that should be answered and satisfied before full credence can be placed in so important a discovery. That unknown to sportsmen there still remained in the beginning of the year 1913 a country as big as the celebrated hunting grounds of British East Africa and even

better stocked with game is due, briefly, to three causes:

In the first place, the district in question has escaped the knowledge of English sportsmen because it is situated in a very out of the way corner of a German protectorate. The Englishman is not at home in German territory; and, as long as he can get sport elsewhere—as he has been able to do—is not inclined to enter it. In the second place, the German himself, being mainly interested in administrative and scientific matters, is rarely in any sense a sportsman. The usual Teuton official or settler does not care for shooting and exploration, and the occasional hunter is quite content with the game to be found near at home. He does not care to go far afield unless he is forced to do so. In the third place, this new country is protected on all sides by natural barriers. Along the northern limits, whence the English sportsman might venture, extend high, rough ranges of mountains through which are no known tracks. On all other sides are arid and nearly gameless wastes. Until we entered the country there had been no especial reason to believe these wastes were not continuous.

Why It Was Left

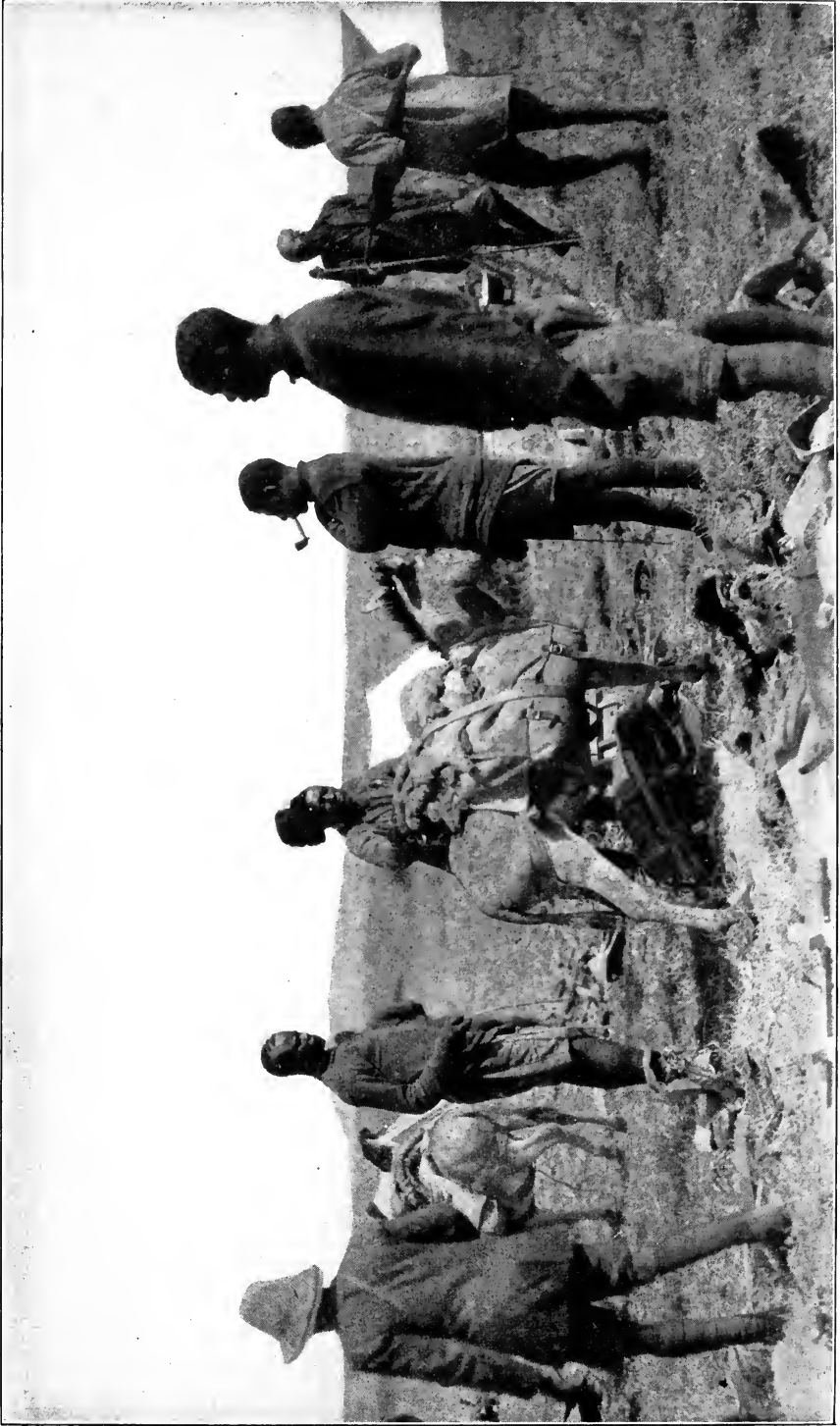
Thus the people naturally given to adventure were discouraged from taking a go-look-see by a combination of natural barriers, racial diffidence, and political and official red tape. Besides which the English had not yet come to an end of their own possibilities in British East Africa; and the race in possession simply did not care enough about sport to go so far merely to see more animals than they would see nearer home. In other words, from the German side this patch on the map was much too far; from the British side it was practically inaccessible.

With this brief but necessary explanation accomplished we can go on. It must be remembered that when R. J. Cuninghame and I first began to consider this matter there was no suspicion of the existence of any unexplored hunting fields. South Africa is finished;

Nyassaland offers good sport, but is unhealthy, and the species to be obtained are limited in number; small open areas in the Congo, Uganda, the Sudan, offer miscellaneous shooting, but are isolated and remote; Rhodesia and British East Africa are the great game countries par excellence, and these, while wonderful, are well known. There is no lack of game in these countries—indeed, it would be difficult even to convey a faint idea of its abundance to one who had never seen it—but in a rough way they are all known, they have all been more or less hunted, and conditions have been to a greater or lesser degree modified by the white man and his rifle.

Now I think you will all bear me out that from earliest boyhood the one regret that oftenest visits every true sportsman is that he has lived so late, that he has not been able to see with his own eyes the great game fields as we read about them in the days of their pristine abundance. It is an academic regret, of course. Such things are not for him. Trappers' tales of when the deer used to be abundant on Burnt Creek; old men's stories of shooting game where the city hall now stands; the pages of days gone by in the book of years—we listen and read and sigh a little regretfully.

At least that is what I had always thought. Then in 1910 I undertook rather a long journey into the game fields of British East Africa. There I found the reports not at all exaggerated. The game was present in its hundreds, its thousands. If I had done what most people do—hunted for a few months and gone away—I should have felt the fulness of complete satisfaction; should have carried home with me the realization, the wondering realization, that after all I had lived not too late for the old conditions. But I stayed. I became acquainted with old-timers; I pushed out into odd corners of the known country. And by degrees I came to see that most of British East Africa is a beaten track. Shooters are sent by the outfitting firms around one or the other of several well-known circles. The day's marches are planned in advance; the night's camps. There is plenty of



THE PARTY PACKING FOR THE DAY'S MARCH. MR. WHITE WAS THE FIRST TO USE AMERICAN PACKING METHODS IN AFRICA

game, and the country is wild; but the sportsman is in no essentially different conditions here than when with his guide he shoots his elk in Jackson's Hole or his deer in the Adirondacks.

And again I heard the tales of the old-timers, varying little from those at home—"in the old days before the Sotik was overrun, the lions would stand for you"—"I remember the elephants used to migrate every two years from Kenia across the Abedares"—"before Nairobi was built the buffalo used to feed right in the open until nine o'clock." In short, spite of the abundance of the game; spite of the excitement and danger still to be enjoyed with some of its more truculent varieties, the same wistful regret sooner or later was sure to come to the surface of thought—I wish I could have been here then, could have seen it all when the country was new.

And then unexpectedly came just this experience. There still exists a land where the sound of a rifle is unknown; as great in extent as the big game fields of British East Africa or South Africa in the old days; swarming with untouched game; healthy, and, now that the route and method have been worked out, easily accessible to a man who is willing to go light and work. Furthermore, I must repeat, this is the last new game field of real extent. All the rest of the continent is well enough known. Therefore we have the real pleasure, not only in opening a new and rich country to the knowledge of sportsmen, but the added satisfaction of knowing that we are the last who will ever behold such a country for the first time.

Where the New Land Lies

This new game field lies in German East Africa, between Lake Natron and Lake Victoria Nyanza, and extends from the British boundary south for several hundred miles. Along the Anglo-German boundary runs a high, wide range of mountains.

In 1911, while on an expedition with R. J. Cuninghame, we pushed a short distance into these barrier mountains far enough to realize their rugged beauty and their equally rugged difficulties, and

to entertain a natural wonder as to what might lie beyond them. This idle speculation hardened into a genuine curiosity when all our inquiries among the native tribes elicited either absolute ignorance or the vaguest rumors of "some plains; some bush; very little water, someone says."

When we returned to civilization we began to proffer inquiries, but to our surprise were unable to find anyone anywhere, either in or out of official circles, German or English, who could or would tell us the first thing either of the nature of the country, its extent, whether it was flat or hilly, watered or dry, bare or wooded; whether it was thickly or thinly inhabited or whether there dwelt there any people at all; nor could we get track of anyone or any report of anyone who had ever been there. In the early days probably a few slavers had been in, and in more modern times two or three reconnoitering German officers had marched through. Gradually it dawned on us that (from the sportsman's standpoint) beyond those mountains lay practically an undiscovered country. We resolved to go take a look at it.

Mind you, we had no very high anticipations. There is plenty of waste desert land in Africa. The country between Natron and Kilimanjaro—to the east—is arid and unproductive of much of anything but thorn bush; there was no real reason why the corresponding country between Natron and Victoria Nyanza—to the west—should be any different. Only that the former was useless was a well-known fact; while of the latter the uselessness was only supposition. Cuninghame and I resolved to take a chance. We might find nothing, absolutely nothing, for our pains; but even that would be knowledge.

As far as we could see, our difficulties could be divided into several classes. In the first place, we must get permission to cross the boundary between the English and the German protectorates at a point where there is no custom house. This was a real difficulty, as those who know the usual immutability of German officialdom will realize. It took us a year to get this permission; and

in the process many personages, including Colonel Roosevelt, the German Ambassador and high officials in Berlin, were more or less worried. Once the matter was carried through, however, we received the most courteous treatment and especial facilities from the German government.

Our second important difficulty was that of water. We anticipated this as far as we could by constructing water bags according to our own patterns.

Our third great difficulty was to feed

for our whole transport for the reason that, in this land of strange diseases, we could by no means feel certain of their living; and we could not take a chance of finding ourselves stranded. Each donkey would carry two loads—one hundred and twenty pounds—and would not require feeding.

For these twenty beasts Cuninghame had built pack saddles after the American "saw buck" pattern, the first, as far as I am aware, to be so used in Central Africa. The usual native



IN CAMP ON THE WAY TO THE MOUNTAIN BOUNDARY

our men. In an explored country, or in a country known to be inhabited, this is a simple matter; one merely purchases from the natives as one goes along. In an unknown or uninhabited region, however, the situation is different. Each porter must receive, in addition to meat, a pound and a half of grain food a day to keep him strong and in good health. That is forty-five pounds per month per man.

As a porter can carry sixty pounds only, it can readily be seen that supplies must be renewed at least every month. To overcome this difficulty we resolved to use donkeys for the purpose of carrying grain food—or potio—for the men; and to cut down the numbers of the men to the lowest possible point. We did not feel justified in depending on donkeys

method is to fasten the loads together and string them across the beast. On the level this works well enough, but up or down hill the loads are constantly slipping off. Then the donkey must be caught, held, and the loads hoisted aboard. It takes a man for every four donkeys, and the pace, as can be imagined, is very slow. We hoped to be able to train natives to pack American style; and trusted that by means of the special saddles the usual objection to donkey transport—viz.: its extreme slowness and uncertainty—would be overcome.

Our own outfit we cut to a minimum, taking advantage of every expedient known to either of us to lighten our loads. Thus at the last we found ourselves with thirty porters and ten other men, twenty donkeys equipped with pack



THREE MAINSTAYS OF THE EXPEDITION—LEFT TO RIGHT—KONGONI, MEMBA SASA, SANGUIKI

saddles, and twenty-five other donkeys rigged in the native fashion, hired to take their loads of grain potio over the mountains, there to leave them, and then immediately to return. The porters carried, beside our light tents, beds and seven boxes of provisions, such matters as trade goods, river ropes, ammunition, medicines, mending materials, and the like. The ten extra men included donkey men, gun-bearers and utility men in

camp. These were all carefully picked men, some of whom, notably M'ganga, Memba Sasa, Kongoni and Al, had been with me before. Others were personally known to Cuninghame. As provisions we took merely the staple groceries—beans, rice, coffee, tea, sugar, flour, and some dried fruit.

As will be seen by the journals we encountered many difficulties. Were it not that we later discovered a better



ON THE GRASSY PLAINS OF BRITISH EAST AFRICA

way into the country, I should advise the trip only for the most ambitious and adventurous. Even so, I would impress it on my readers as emphatically as I am able that this is not a soft man's country. The "adventurer" who wants to go out with a big caravan and all the luxuries should go to British East Africa. The man too old or fat or soft to stand walking under a tropical sun should stay away, for, owing to prevalence of tsetse, riding animals are impossible. The sport will not like it; but the sportsman will. This country is too dry for agriculture; the tsetse will prohibit cattle grazing; the hard work will discourage the fellow who likes his shooting brought to his bedside. But the real out-of-doors man who believes that he buys fairly his privilege to shoot only when he has paid a certain price of manhood, skill and determination, who is interested in seeing and studying game, who loves exploring, who wants extra good trophies that have never been picked over, in whose heart thrills a responsive chord at the thought of being *first*, such a man should by all means go, and go soon, within the next five years. It is a big country, and much remains to be done. He can keep healthy, he can help open the game fields for the future brother sportsmen, and he can for the last time in the world's history be one of the small band that will see the real thing!

Nevertheless it is fully appreciated that, to the average man with limited time, even a virgin game district is of no great general value unless it can be got at. The average sportsman cannot afford to make great expenditures of time, money, or energy on an ordinary shooting trip. The accessibility as well as the abundance of British East Africa game is what has made that country so famous and so frequented. It would be little worth your while as practical sportsmen to spend a great deal of time over descriptions of a game field so remote as to remain forever impossible except to the serious explorer, nor would in that case the value of discovering an unshot country possess other than academic interest.

If future safaris had to retrace our footsteps in this expedition, the game

would hardly be worth the candle. It would take too long to get there; it would involve too much hard work; it would involve also the necessity of doing just what we did in regard to food; viz., carrying it in on expensive beasts that will surely be fly-struck and die soon after crossing the mountain barrier. But fortunately this is not necessary. We suffered only the inconveniences inseparable from the first penetration of a new country. We paid for mistakes in route that need only be paid once. The problems of food, transport and water still remain; but we have worked out a solution of them that makes the country practicable to the ordinary sportsmen.

At the close of these articles details will be given. In the meantime, speaking broadly, the scheme is to go in where we came out, viz., by the lake. The route would be to Victoria Nyanza by rail through British territory; south by boat to Musoma or Mwanza, and thence eastward on foot. The scheme at present involves considerable prearrangement and some plans, but no excessive amount of time. Two days to the lake by rail, two days by boat, and a ten days' march will place one at the edge of the new district. You are among game, however, at the end of the second day's march. In other words, a fortnight all told—surely a small enough toll to pay for getting into fresh fields.

I am convinced that these are the hunting fields of the future, that they will be as extensively visited ten years from now as British East Africa is at present. British East Africa is still a wonderful hunting field; but it is passing its prime. The shooting by sportsmen would never much diminish the game; but the settler is occupying the country, and game and settlers cannot live together. I can see a great difference even in three years. In time the game will be killed or driven far back—game in great numbers—and even now, abundant as the animals still are, it is difficult to get really fine heads. They have been well picked over.

This particular part of the German country, on the other hand, as said before, will never be occupied. It is not fitted for agriculture, the rainfall is



HELPING THE DONKEYS UP A STIFF PULL

slight, water is scarce; it is not adapted to grazing, for tsetse is everywhere. The game has it all, and will continue to have it all. Indiscriminate shooting over a great many years and by a great many people would hardly affect this marvelous abundance over so great an area; but, of course, indiscriminate shooting in these modern days of game laws is impossible. The supply is practically unlimited, and is at present threatened with no influence likely to diminish it.

For the next five or ten years this country will, in addition, possess for the really enterprising sportsman the interest of exploration. Our brief expedition determined merely the existence of the game country, and, roughly, its east-to-west extent. We were too busily engaged in getting on, and in finding our way, to do as thorough a job as would have been desirable. Even along the route we followed months could be spent finding and mapping water holes, determining the habitat of the animals, search-

ing out the little patches where extremely local beasts might dwell, casting out on either side one, two, three days' marches to fill in gaps of knowledge.

To the south of us lay a great area we had no opportunity even of approaching, and concerning which we heard fascinating accounts—for example, the Serengetti, a grass plain many days' journey across, with a lake in the middle, swarming with game and lions; the Ssalé, a series of bench plateaux said to be stocked with black-maned lions beside the other game; some big volcanoes (some of which we spied forty miles away) with forests and meadows and elephants in the craters; and so on. All this remains to be looked over and reported on. As the water holes are found, the possibilities of reaching out farther will be extended. We have really only made the roughest of rough sketches. The many sportsmen who will follow us must fill in the picture.

(To be continued)

The next instalment of Mr. White's narrative carries his party through the earlier stages of their trip up into the hills that lie between the much hunted plains of British East Africa and the land of their desire.





OTHERS WERE WHISKING ABOUT OVERHEAD

SPYING ON THE TRIBE OF WAWA

By HAMILTON M. LAING

PHOTOGRAPHS BY THE AUTHOR

A Tale of Days Spent in Posing the Wild Geese of Manitoba Before the Watchful Camera

THE wawas had arrived; there could be no doubt of it. Fully two weeks previously the speckled fellows (White-fronted) had come tittering down through the night, as is their custom; the past three days the grays—Hutchins, Cacklers, and White-cheeks, by their yells—had streamed by in scores and fifties each evening from the north and northeastward, plainly newcomers every one of them; and now even the wavies (Snow Geese), the most tardy migrants of the clan, were coming, for this morn-

ing the glasses picked up two hundred or three hundred glistening white on the blue lake, where yesterday there had been seventy-five and the previous day but a score. The goose battalions, most inspiring division in the whole autumn host of migrants, plainly had arrived.

As dusk settled upon the water, the go-to-bed clamor of the goose throng centralized and grew fainter toward the southwest, and I knew that they were drifting into the big bay there to spend the night. For a goose loves to get his feet anchored while he is on the night-roost, and I knew well that this bay, with



THEN CAME A RUSH AND A TREMENDOUS CLAMOR

its low, pastured shore, had seen the going to bed and awakening of innumerable goose thousands each autumn for a generation. Also I knew that it had seen the midday sun-bathing of the same thousands—all of which was of much more concern to me.

Out of the dusk, on the skyline five miles distant, twinkling directly back of the go-to-bed goose racket, was the little light in the shanty of the game protectionist. I was interested in that light in conjunction with the goose noises, for I saw here one of my theories in imminent danger of being shortly relegated to the realm of discards. For when a month previously he—the G. P.—had come along from the East with a shooting lease in his pocket (the rights for the whole ranch shore) and had built a shanty upon the very spot where formerly, remote from even a farmhouse, I had stalked cranes and pelicans and things, I told him plainly, bluntly, that he had spoiled all the poetry of the place—that I couldn't sleep there any more with the same all-alone-to-goodness feeling as so often before when I had rolled in my blanket in the lee of the canoe; and I told him, also, that the geese wouldn't frequent that shore-line any more.

But now I had come to know the G.

P. better. All through the September open season I had scarcely heard the sound of his gun, though some of the other preserves rattled daily like battlegrounds. Also, I had spent a day or two under his roof and found that the canvasbacks drifted about beside his boats below the window and tolled to the friskings of Bess, the setter, while a family of Canadian geese sunned themselves in the shallows at no great distance. So now I was almost ready to believe that the thousand gray geese whose gabble was dying out of earshot in the darkness were bent on spending the night about his doorstep.

The last of the morning flight of noisy wawas going fieldwards were streaming from the water when I pushed out in the canoe, bound for my neighbor's shanty. About an hour later I reached my destination, and the reply to almost my first query was something like:

"Any geese? I should say! If you had tried to sleep here last night you would have thought so! That bay up there is about full of them every day at noon. Now is your chance, and I have a blind there ready for you."

The blind did not suit me. It was a pit dug on the edge of the abrupt bank, here about three feet high, and it commanded a view of the curving line of the



AS THE SHALLOWS IN FRONT OF ME WERE CLEARED

bay. But it was shallow and there were sods piled around it, and while it might have served first rate for a gunner, I felt that it was not cunning enough to serve my purpose. So I got the spade and four or five laths and set to work. I expended a great deal of myself on that pit, but I had plenty of time. I dug it deep; I threw all the loose earth into the water, covered all fresh signs with some dry pond-weed matting, and then planted goldenrod sprigs around the mouth of the hole—not thickly, but just as they grew on the soddy bank beside me. Next I placed the laths across half the pit-mouth and thatched it as artfully as I could with grass. Whereupon I felt satisfied with my handiwork and sat down to watch patiently for the returning flight.

At ten o'clock I went below; the geese were coming back high and doing their apparently idiotic tumbling performance over the water. Eleven o'clock: dreadful monotony in the pit, and the goose situation unchanged. Twelve o'clock: aches and pains, and the geese gabbling sleepily fully a mile distant. One o'clock: a wolfish appetite in front and several dorsal vertebræ getting out of place behind; the geese apparently well satisfied with their midlake quarters. One-thirty: a tittering of speckled geese closer at

hand, and I felt that the curtain was about to rise.

Risking a slow, canny peep, I saw the newcomers stealing up low over the water, headed directly toward me. They rose presently and edged in toward the shoreline and circled back again, then turned, and with their heads a-wiggling as they peered and peered, they came out over the sod a distance, then veered around again and settled in the water about one hundred yards from shore. Scouts! And what scouts ever knew their work better?

But more were coming, and quickly—flock after flock, and all speckled chaps. Soon some were lighting in the water, others swimming in steadily, cannily toward me, while others were whisking about overhead, so that I had to crouch back under my little roof till they went by. So thorough was their inspection of the shore that some of them saw the pit-mouth and swirled away with warning calls; but as nothing stirred to increase their alarm, they immediately were reassured and forgot their fright. Soon the air was filled with a tittering and squeaking and gabbling (these geese never honk like the rest of the clan), and I judged by the clamor, for I dared not peep, that a goodly number were in the shallows within thirty yards of me.

Then there came a fresh hurrah of honking and shouting and the black-necked grays were coming. They did far less maneuvering; it was plain that they trusted to the leadership of their speckled brethren; and now they flapped into the bay, took a turn and dropped into the shallows. What a glorious din! Aches and pains were forgotten. I looked at my watch—2:30! They had been coming for an hour, and I could have sworn it had been but fifteen minutes. The bay must be full. With some goldenrod tops stuck in my hair I dared a slow, cautious peep. It was a glorious sight! I was on the end of the congregation; the bay for two hundred yards north of me was living with geese. They were in the water and up sunning on the sand; they were sitting, standing, stretching, flapping, preening, fighting, and frolicking. It was time for a picture.

Company Come!

At this precise moment I was frightfully positive that I heard a snuff at the landward side of me, and, lowering my head, I pivoted around to—gaze right into the face of a big, red steer. He was standing not ten feet distant, with his head lowered and with a "What-in-the-name—!" expression on his phlegmatic countenance. Behind him I could see the backs of some fifty more of his kind, and—horrible thought!—they were feeding directly toward the bay. With a sick, now-or-never feeling at the pit of my stomach I examined the camera fixings again—I had done it already the Nth or Mth time. Then I bobbed up, swept the bay with the finder, and released the shutter.

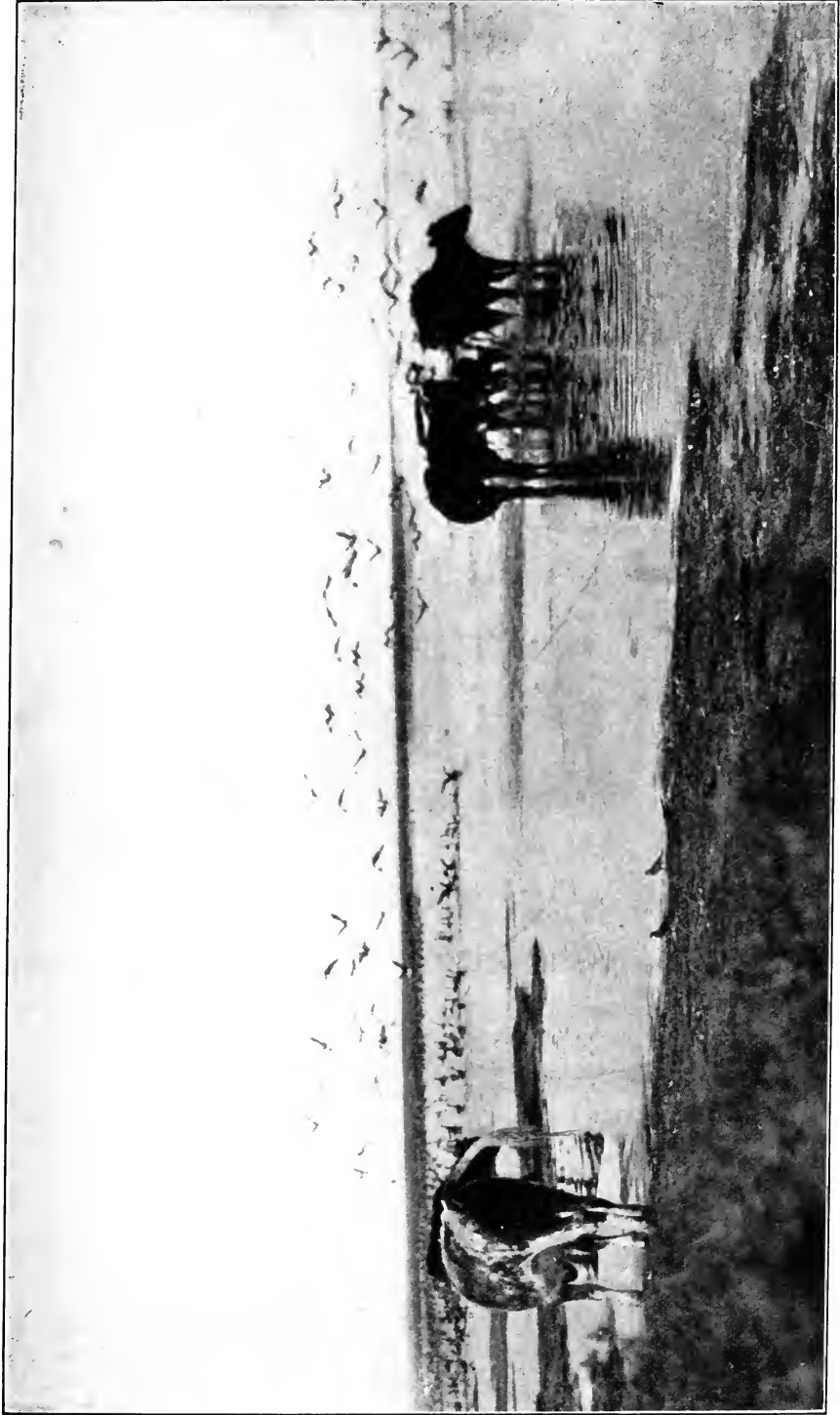
I had expected to get one picture and one only from the pit, and I held my breath in anticipation of the rush and roar that must follow as the shoreline was cleared. But there was merely a slight commotion, a sort of "Did-I-see-something?" giggle from some of the nearby geese, and nothing more. Quickly I made adjustments and rose—to find 1,000-odd pounds of beef towering in front of me! I let out a horrid "Gr-rr-r-ow-woff!" and a scared shiver shot through the brute as he jerked back an

inch or two. Then he advanced again, wonderment and curiosity written in scare headlines all over him.

Then came another and another—an inquisitive yearling, a silly, two-year-old heifer, and a blinking old Nancy with rings on her horns. By that wondrous telepathy practiced by the animals, the news had gone abroad, and all came over to ogle and ogle and snuff and edge nearer, an inch at a time. Soon all the standing room in the front was taken and the late-comers began to use rough tactics, till I feared that I was in immediate danger of having company in the pit and thrust up head and shoulders above the pit-mouth.

The geese paid scant heed to the cattle, and they saw so little of me among my intrusive visitors that they failed to recognize the species and showed no sign of leaving. But the cattle showed the same. There were 450 head on that ranch, and all, jointly and severally, were bent on coming to the show. They were getting unruly now. One big, rakish red steer, that thought he was a bull because he had a rough voice, thrust himself in so close that his front feet narrowly missed a plunge through the frail lath roof; and he stood there and said "Ba-a-a-ow!" and pawed dust over himself and me and snuffed and shook his head. And, on my part, I cursed him impotently; I gathered handfuls of wet sand and slammed it into his eyes, making him at least wink hard; I called him names that would have shocked a sixth century pirate; I threw slurs upon his ancestors and with malevolent precision spat on the end of his beslobbered nose.

But worse was coming. A number of the animals now jumped down to the water's edge and under pretext of drinking a mouthful here and there routed the geese close at hand, then deliberately turned down the bay to do the same with the larger throng there. I realized now that the game was up, and rose and snapped through the first opening that was presented. Then, as the geese in a seething clangor stormed off lakewards, I sprang over the bank, seized upon the sun-bleached jawbone of something—it wasn't an ass—and for the next several minutes consecrated my life to vengeance



UNDER PRETEXT OF DRINKING THEY ROUTED THE BIRDS

—dark, deep, unchristianlike, but at the time mighty satisfying.

About the time that my wind was falling short of immediate demands the G. P. appeared from somewhere close at hand, where he had been watching from behind the scene. He did not laugh—not even once. Now that I look back through a cooler, saner distance, I feel that he was too gentlemanly; then I felt that he didn't dare to. Instead, he took me into the shanty and with liberal bounty fed the wolf within me.

Whereupon I got into the canoe and set off campward to satisfy myself as to what was on the two precious plates I had exposed. When, a few hours later,

sitting before the little ruby light in my hole-in-the-ground dark-room, I found there was not much of anything on the first one and but an indifferent image on the second, I lost the last shred of an already ruined vocabulary and vowed that I would return on the morrow.

I did so, and when next I disembarked at the landing of the G. P. I carried, in addition to my photographic outfit, my little .44 calibre double-barrelled shotgun, and my pockets rattled with shells. At the sight of it the G. P. did laugh. Also, he offered to lend me a full-grown 12 gauge for the occasion. But I declined the well-meant offer and at ten o'clock went off to the pit on the shore



I SAW THE NEWCOMERS STEALING UP, HEADED DIRECTLY TOWARD ME



THEY NOW SHUNNED THE SHORE IN FRONT OF MY PIT

The geese were clattering noisily in midlake and the cattle feeding half a mile distant when I loaded the little gun, tucked it away in a handy corner of the pit, and then holed up beside it. Of course I was hoping my bovine visitors wouldn't come, but if they did I prayed that the first might be a big, red steer with an abominable voice and a broken horn-tip. But they did not come, and I am not sure whether I was pleased or sorry to find, an hour later, that they were a mile or more distant.

Sharp at twelve the geese came ashore, and in so doing they repeated their previous performance to the letter. The speckled scouts led them in, and soon

were standing in the shallows directly below my bank blind. The grays, by far the more numerous, followed them quickly and lined the bay. Last of all, several hundred snow geese anchored their white squadrons just outside the ranks of the others. It was a goodly sight, and as I had artfully arranged a safer lookout I was the better able to enjoy it.

The din was tremendous; it droned on unceasingly like the symphony from a huge organ. Above the shooting and honking of the grays, the teeheeing and tittering and cackling of the speckled, and the high-pitched yelling of the snows, there sounded a deep, pulsating under-



A HUNDRED GEESE, UTTERLY UNCONSCIOUS OF THE SPYING EYE OF ANY FOE,

tone—strong, vibrant, rhythmical. There were diminuendos and crescendos in this barbaric monotone, but it died low or ceased only when some suspicious gander shouted a sharp warning and all necks were stiffened anxiously in alarm. Upon the alarm proving a false one and safety being assured, it rose again, strong and insistent.

How different is the wild thing, animal or bird, when we catch him truly himself—quite at home as it were—to the creature we usually meet: on the *qui vive*, conscious, afraid. Here, at fifty feet, a hundred geese, utterly unconscious of the spying eye of any foe, showed me little sides of their goose nature that are seldom revealed. It was plain that, though four or five species of the birds were here in one congregation, each species held aloof and showed actual dislike to all other than their own kind. The speckled fellows formed one unit, the Hutchins or Cacklers another, and so on through the assembly. They were merely allies united in a common cause—self-preservation. Also, each species plainly was broken into families. The young were still trusting to the leadership of the parents.

Though more difficult to discern

among the black-necked grays, where the brownish coats of the young were the chief color-evidence, with the speckled geese differentiation was easy, as the juveniles wore no black breast markings nor white facial crescents. And there were introductions of family to family there just as plainly as could be. Though somewhat informal, they were all rather much alike. When family met family, everyone arched his neck and pumped his head a few times, and, advancing, they passed through among each other a time or two and then rearranged close to their respective parents.

Also, some of them played a game, or what to me was mighty like one, for they chased each other around in a circle on the water, half running, half flying, after the manner of a young duck. I could not get the point of the affair, but it may have been merely the old "keep the pot boiling," for they raced hard and lashed the water into a turmoil with their wings.

But I had to disturb this rare scene. With the camera ready I bobbed up like a jack in the box, snapped, and jerked down. There was a moment of impressive silence; then came a rush and tremendous clamor as the shallows in front



SHOWED ME LITTLE SIDES OF THEIR GOOSE NATURE THAT ARE SELDOM REVEALED

of me were cleared. But they had not all seen me; and now, encouraged by many of their comrades that had remained behind, the scared fugitives dropped into the water again. My ear told me this; for now, in the face of one thousand or more eyes sharp focused upon my exact location, I dared not even peep. Soon, to my surprise and joy, I could hear that the shallows were well filled again, so I popped up as before. There was another clangorous exit; yet again they returned and again I shot at them.

Now, however, the birds had come to the limit of their credulity. It might have been an hallucination once or even twice, they argued, but three times—never! And they now shunned the shore in front of my pit. Soon they began to fly off in detachments toward the prairie, and as I could not rise to watch them I had to surmise that they were going off to the fields. They rose noisily, flock after flock, barely cleared the low bank, and strung out over the sod. A hundred streamed over my head so low that I had to throttle an almost irresistible desire to grab for some of them. It was impossible to photograph them, and I knew it, but I tried all the same, and squirmed and contorted into a dozen positions and

shapes and hoisted my feet and sat on the back of my neck till all the world seemed black in the face.

The last plate was gone. It was three o'clock and my outraged bones and stomach were crying out vehemently as I stood up and turned to the westward to follow the last stragglers from the shore. Blunderer! Fool! Imbecile! Less than a hundred yards away, on the bare sod knoll, standing with necks fear-stiffened, were acres and acres of geese. All the goose clans in the Canadian Northwest seemed to be there, and as I frantically rummaged for another plate that of course wasn't there, the whole mass rose in a seething pandemonium and flowed by in front of me to settle in the lake a quarter of a mile from shore. They were thoroughly alarmed now, and their excited jabbering made a tremendous din.

But I was not through with them yet, and as I hurried off toward the shanty I was to see still another side of goose nature. The great throng had scarcely more than settled than some of the birds rose and returned. They did not come in flocks, but in ones and twos, and they straggled back to the knoll where formerly the whole congregation had camped,



I HAD TO DISTURB THE SCENE

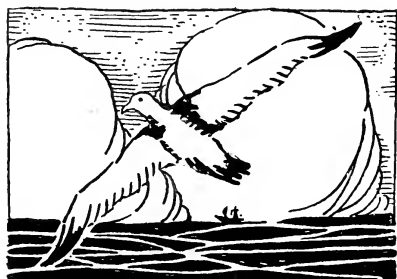
then circled and called and circled again. They paid no more attention to me than if I had been a tuft of grass, and soon I saw why: they were young birds, just out of the lonely North, and they knew not guileful Man. In the hurried scramble from the sod the birds had quickly lined up in ranks, as is their wont always, and many of the young had lost the other members of the family. They were now trying to find them and naturally returned to the place where they had been seen last.

They were not easily discouraged in their hopeless quest, for during the next half hour, as I was very busy at the little table in the G. P.'s shanty, a score or two

of the birds were constantly hovering and circling over the prairie. Then they moved down and invaded the very premises. This was too much for even the G. P., and he loaded the gun. He dropped two among the boats as I ate, another he shot from the door, and once, when he was busy, I surreptitiously fired through the open window and brought down a fourth.

Thus some of these young geese did not find their kin; but whether or not the others succeeded I am unable to say, for at four o'clock the whole assembly filed off in flocks to the grainfields, and I loosened my belt two holes and set off in the canoe homeward.

What has become of the shore birds? That is the question that Mr. Laing asks and answers in the May OUTING under the title LITTLE FOLKS ALONG THE SHORE





ONE OF THOSE OUTRIGGER CANOES, WITH TWO HUSKY KANAKAS PADDLING IT, BELONGS TO LINDA, THE DILATORY, WHO IS KEEPING US WAITING

RIDING THE SURF AT WAIKIKI

By GEORGE MARVIN

ILLUSTRATED WITH PHOTOGRAPHS

EVERY country has its own customs in sport as in other things. It has remained for Hawaii to reign preëminent in the manly sport of surf-riding. The conformation of the beach and the bottom along the island shores brings the waves in in long, carrying swells that shoot the expert rider toward shore with the speed of an express train. None but a strong swimmer dare venture out, but for those who can do the trick there is nothing can beat the sensation. The article which follows is a narrative of a typical experience at Waikiki, where the conditions are perhaps the best in all the islands, as recounted by a newcomer.

PAST us as we sit on the sand waiting for Linda runs Duke Paoa, stripped to a blue breech clout, with his light "alaia" like a dark mahogany ironing-board under his arm. Makeale hails him:

"Hai," in his sing-song voice, "wait for us; what's your hurry?"

"Goin' out with Kahola," the Duke

calls back without stopping, heading off down the beach where Kahola's mighty back makes a warm-colored break on the white sand.

"The two best surfers in the islands," says Makeale, watching them. "See, they're goin' to ride the big surf this mornin'."

Sure enough Kahola, grabbing up his big board, joins Paoa, and the two to-

gether, moving still farther away to the left, slosh out through the shallows. Pretty soon, waist deep, they slap their boards down and begin paddling through the broken white water where spent rollers come creaming up the sand.

"Yes, surely the two best here at Waikiki—not counting yourself, Mak. Paoa is wonderful. Kahola slower, not so graceful. But how about the other islands, Niihau or Hawaii? Those wild stories of Hilo Bay?"

"Everyone says the best in the world are here," says Makaele, throwing handfuls of sand on his coppery legs. "But those are not wild stories. After a big *kona* (south wind) at Hilo I have seen men come in standin' three miles across the bay, fair tearin' up the ocean. At Niihau, the reef is very far out there,

farther than at Hilo, five miles even they ride in that surf, though I have not myself seen them. But in those places they have big boards, 'olos.' Your 'alaia' is not seven feet. Paoa's and mine less than six. Now at Hilo Bay they are often ten or twelve, sometimes more. To manage an olo like that takes a very strong man, like the old chiefs."

"Like old chief Kahola there navigating that barge of his. Anybody else would have to lug it out in a canoe."

The two champions, outward bound, are hurdling their first breakers. Three or four other "kamaainas" (old-timers) are riding in on the "big surf," their poised, glistening bodies coming zipping ashore, picked out against the dark tree line over toward Diamond Head. In the "canoe surf" in front of us some dark-



PICK A STEEP SURF WITH A JAGGED, DANCING EDGE AGAINST THE SKY

skinned kanaka boys are playing, and westward, near the Outrigger Club, a couple of canoes are launching in what they call the "cornucopia surf," where the neophytes, the "malihini," learn their first lessons in riding the rollers.

The difference in these three parts of Waikiki beach lies simply in the way the coral and sand shoal out to the reef, a mile or so offshore. From where we sit the whole sunny sweep of sparkling ocean

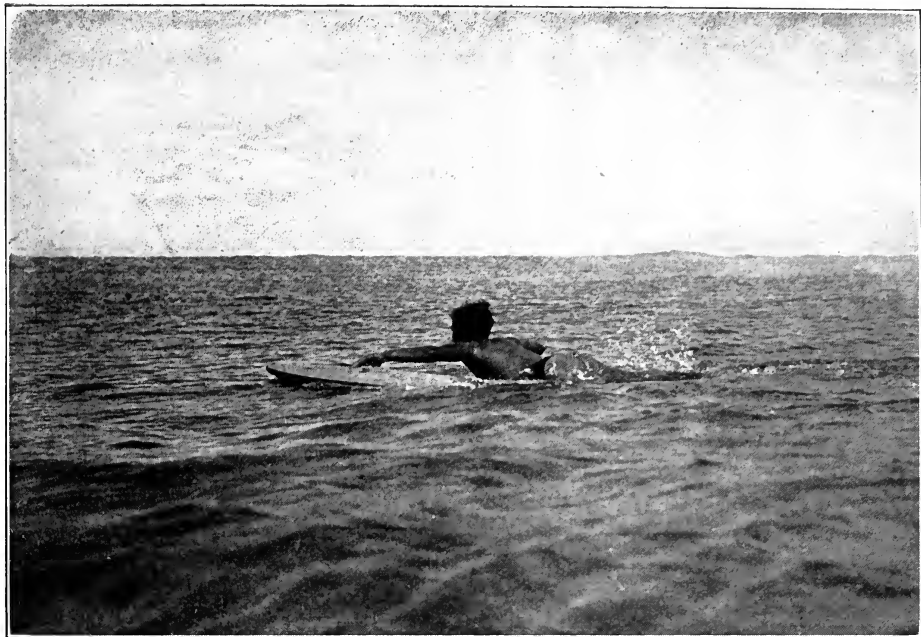
belongs to Linda, the dilatory, who is keeping us waiting. She's got that pretty Mrs. Neave with her, who came in yesterday on the *Tenyo Maru* from 'Frisco, "just crazy to try surf-board riding," as she calls it. So Linda is taking her in an outrigger to-day to see it done and give her a long coast back in the canoe. Makaele and I are part of the Roman holiday, a very willing pair of barbarians.



HIS LEGS IN THE AIR LIKE THE SPARS OF A DERELICT

seems the same, as from one wooded point to the other the long, onward-marching ridges reach clear across in even succession. But when you get into the water there is a whole lot of difference between the big surf, where eastward a more abrupt shoal piles incoming waves up steep and strong, and the serener cornucopia rollers where the bottom goes out almost flat for half a mile or so.

We don't mind waiting much either, for it is very comfortable lying here in the sun-warmed sand. Makaele has got started on his folklore about the extraordinary stunts of the old Hawaiian chiefs, who "used to run seven and eight feet tall, sure *kela*." Some chiefs, those, as the pretty Mrs. Neave would say—and their Homeric surfing on twenty-five foot boards that no modern man could lift.



FLAT ON HIS CHEST, HIS LEGS CHURNING THE WATER BEHIND IN THE TRUDGEON STROKE, HE KEEPS HIS ARMS GOING LIKE PADDLE-WHEELS EACH SIDE



SURFER AND CANOE FINISHING TOGETHER WELL DOWN AT THE BASE OF A NEARLY SPENT WAVE



THE DUKE GOES STREAMING BY, LIGHT AS THE SPRAY SMOKING
AFTER HIM

Punctuating Makaele's monologue come the shouts of the laughing kanaka boys, beginning now to paddle out together toward the reef, and from time to time I can hear the drone of the Honolulu trolley car with its changing note as it hits the bridge back of ex-Queen Liliuokalani's house. The blue sky comes down clean and sharp, to the darker blue of the deep Pacific beyond the reef where the white sails of fishing boats are heaving.

"There they are," says Makaele, suddenly breaking off in the maritime amours of Kalea and Kalamakua, and

summoned out of our sun-baked laziness by Linda's familiar whistle, we are off down the beach to meet two graceful figures drifting in long white bath wraps to the sea. Behind them Linda's French maid comes mincing like a cat, trying to keep the sand out of her tight patent leathers. The kanakas in the outrigger have sighted them, too, and are coasting along toward us, both paddles going.

"You wouldn't believe what a time I've had to make her leave her skirt off," laughs Linda. "That's what has kept us all this time. I tell her," with a wink of

her long-lashed eyes to us, "there's a perfectly good chance of our upsetting out on the reef or turning turtle coming in, and then where would you be, Mrs. Propriety, with an old skirt wrapped round your legs?"

Mrs. Propriety hugs her bath wrap round her. She is the color of shell-pink coral, with a wisp of gold between that and the deeper shade of her bewitching bathing cap.

"But, Linda, darling, at Narragansett I have swum—swum, swam, swum, swum, which *do* you say?—as far as that several times, and always in my bathing suit. These Annette Kellermans of yours are worse than the front row in the chorus—I feel like an aborigine—there——"

And so saying she gives the bath wrap

a whisk and a kick to Celestine and makes a dash for the canoe. Linda takes her white mantle off slowly and hands it to the maid. She makes a fine contrast to the lady from San Francisco, her arms, shoulders, neck and face almost as brown as Makaele's, her uncovered mass of black hair coiffed tightly, her figure as straight and strong as Kalea's must have been.

The two girls splash laughing up to the outrigger, Linda helps the coral-pink in amidstips, then she and the two kanakas start paddling easily out in the soapy water. Makaele and I are right after them, running with our boards like sleds in both hands as far as we can keep our knees free, then, souse! flat out we shoot alongside them. The pretty Mrs. Neave,



TWO YOUTHFUL TRITONS SHOOTING DOWN AT US

watching Makaele, forgets all about her bathing suit.

This is one of his specialties. Flat on his chest, his legs churning the water in the trudgeon stroke, he keeps both arms going like paddle wheels each side, the front end of his alai'a scowling over the water like the bow of a launch. Everyone goes out more or less that way; I'm doing the same thing, but only two or three others can make such speed as Makaele, even when he isn't showing off.

you are going to wear your short ribs right through the skin from the chafing of your position on the hard "koa" wood, and for the first week of your malihini-ship you contract pains like inflammatory rheumatism in your shoulders, the back of your neck, and the small of your back. But the sun and the exercise bake and work the soreness out of your muscles long before you make sufficient progress in the science to take the soreness out of your spirit.



A KAMAAINA (OLD-TIMER) BALANCING ON ONE LEG AT THIRTY-FIVE MILES AN HOUR

"Keep way over to your left," calls Linda; "we must see the Duke and Kahola coming in." So our squadron changes its course and, swimming and paddling diagonally in the long intervals between waves, we work over eastward toward the edge of the big surf and always outward toward the reef.

This matter of navigating out with your board is an important part of surfing and good fun, too. At first you think

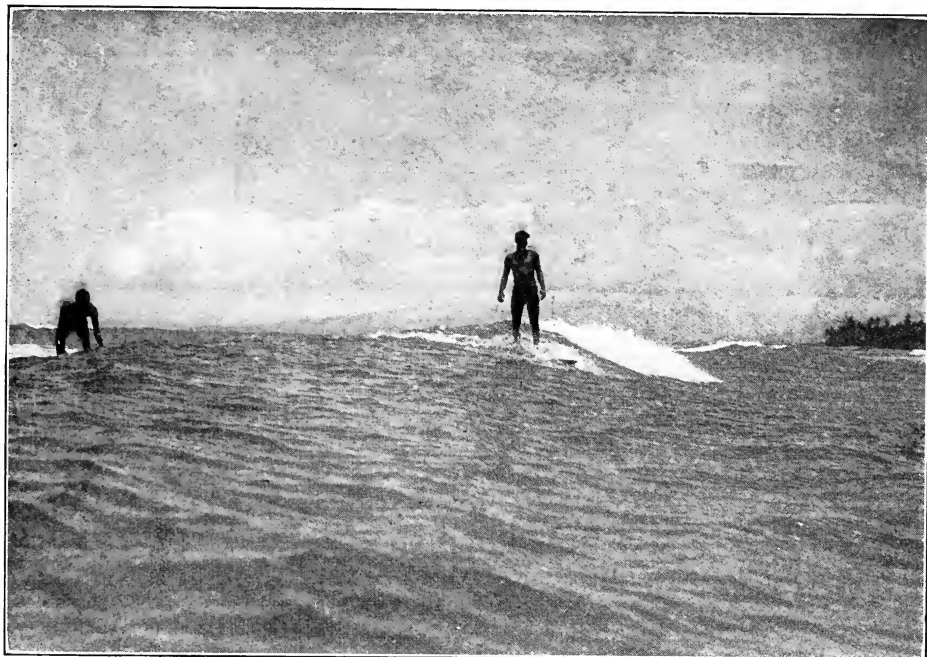
This is the leeward side of the island, you see, so there is never a pounding surf inside the reef, even after a storm. Also, over this flat, level bottom the surf forms slowly and is slow to break. Consequently you often have long distances where you can make speed going out; sometimes, depending on the tide and wind, the sea all about you will be like a plain; then, especially half a mile or more from shore, where most riders turn,



THE SURFER HAS JUST RISEN ERECT AT THE MOMENT OF BREAKING THROUGH
THE TOP OF THE WAVE



A BROWN MERMAN, STRETCHED OUT HALF SUBMERGED ON HIS LIGHT SHINGLE,
WAITING FOR THE RIGHT WAVE TO ARRIVE



A DULL, HEAVY-MOVING WAVE WITH A LUMPY SURFACE. LET THIS KIND GO BY



RISE HEAD AND BACK TOGETHER, FEEL FOR THE BALANCE CENTER, THEN STAND ERECT

the surf will come in series, three or four, or even seven, crests at a time, rolling very grandly in a sea procession.

Soon we strike our first big waves. Over the first two broken ones Mak and I coast. Then I see him dive headlong into the third, which is curling to break, and in a minute I follow suit, depressing the front of my board with a sharp forward thrust. On the reverse slope, looking back, we see the outrigger lift drunkenly over the white ridge and come down, ke-slosh! ke-zop!—Linda a victorious figurehead in the bow. In negotiating these big toppling fellows you must be careful to duck the front of your board just right as you dive through, otherwise she is apt to plumb the depths without you or set you back shoreward with a big drink of salt water.

Now comes a level space and way ahead of us we make out the dark heads and shoulders of the Kanaka boys sitting on their boards waiting for a good wave. There it comes, its mounting top shutting out the sails of the fishing boats. We hear them calling to each other excitedly "nalu-nui!" (big wave) and "hoë, hoë, hoë" (paddle, paddle); then with a shout the row of dusky figures out at sea leap upright on their boards and come tearing in. Theirs proves to be a lumpy wave, badly chosen. We slip over it as they go cheering by to the west of us, but on behind come some hummers, and right on the crest of the second stand two figures glorified.

"Look, look," calls Makaele back to the canoe, "the Duke and Kahola!" They must have seen us coming out and swum across, and a good thing they did, too, for now the eager visitor will see the finest sight at Waikiki, the last word in surf riding. No race in the world is so beautifully developed as the Polynesian, and these two men are the pick of their race. Without changing a line you could put them into a Greek frieze, but you would have to animate or electrify the frieze to keep it in key with their poised grace supreme in this immemorial pastime of their people. Both are as much at home on the streaming mane of a breaker as a Pawnee brave on the bare back of a galloping bronco.

Ducking through the top of the wave ahead of theirs, we emerge to find their glistening brown bodies against the sky surging down a smoky green hillside. A familiar sight, it is nevertheless a miracle, for the boards are nearly hidden in spray so that we behold shooting down at us two youthful Tritons not, as they really are, obeying the course of the wave they ride, but directing it; ruling, triumphing over, the ocean.

"Ai-i-i-i-e-e-e-e!" yells the Duke, as he goes streaming by, light as the spray smoking after him, the last of his yell swallowed by the half-drowned work I make of that breaker because of watching him too long.

Waiting for a Good One

It is still a good long hoë out to the reef and Mak and I, already half a mile offshore, decide to mark time hereabouts, the outrigger going on to the "kulana nalu," place where the surf begins to form, so as to give our now highly enthusiastic gallery a longer ride in. Off they go seaward, disappearing and reappearing, and one of the kanaka boys we lately passed, who has lost his wave and with it his companions, paddles out to join us. He and I, sitting on our boards, shove them all but the tip under water. Makaele, a brown merman stretched out half submerged on his light shingle, kicks his feet lazily.

In this seventy-eight degree water we are even more comfortable than on the sand ashore, and the view is finer. Off to the eastward old Diamond Head, *couchant* like ourselves, stretches out into blue water, the iron pyrites at its base shimmering like myriads of real diamonds. Millions more of sparkling water diamonds the sun makes far westward over the sea to the purple headland of Waianäe. Straight ashore, in interrupted views, stretches a long, white band of beach with the parallel green band of palm and rubber trees above it broken by square hotels and angular, ugly houses.

We have not long to wait before we hear a distant hail from the sea and, looking back over our shoulders from the top of the next low swell that heaves

us up, we make out a fine series of surf charging toward us hot off the reef, the canoe chasing down the face of the first hill.

Now it is all action with us, for to catch a wave just right you must get going at top speed before it overtakes you.

"Hoë, hoë, hoë," yells the kanaka boy, but "No!" Mak sings out; "wait, wait, no good."

Checking my headway I see he is right, for this first wave is a dull, heavy-moving one with a lumpy surface. In spite of its threatening height it will peter out before it gets ashore and be absorbed by the following surf. You must let that kind, or double ones, go and wait patiently for a precipice with a jagged edge toppling over you.

The canoe goes sifting by down the steep slope we climb, a burly, naked mariner high in the air astern straining over on his paddle to keep her head straight, a cloud of fine white spray whispering up from her forefoot. There is a brief dream of fair women, starry-eyed, their mouths open and their arms outstretched, and back on the wind comes a Gabriel-horn kind of noise, the result of Linda's contralto jeer at us mingling with her friend's high soprano shriek of delight.

We let them go with their inferior wave, and the next one, too, but the third, a high green comber with a dancing ridge of spray, we mark for our very own. There is a lot of excited yelling in the process of making this judgment unanimous, but then each man is down on the tail of his board with never another look behind, legs churning madly and arms whaling the water for dear life.

Now the surf has caught us, towers over us. I feel my feet lifted in the air, the board shoots forward, higher and faster I drive till in a sudden white seething I break through the top of the wave. Then, lost for a second in the foam, quick my hands slip back, legs gather up, one foot in front as though kneeling, and I rise head and back together, feel for the balance center, then stand erect. Just ahead on my right Makaele is calmly standing in a smother like the wake of a motor boat; behind on the other side the

kanaka boy is whooping, and we are off all together, forty miles an hour, for the coast.

What It Feels Like

Anyone who has sailed a racing canoe in a fresh breeze, or held the tiller of a sloop running free in a heavy following sea, will have some idea of the sensation of surfing. Only you must multiply those other sensations by at least ten to get the exhilaration of riding a big surf at Waikiki. The lift and yawing thrust of the wave under you is something like that you feel in a boat, but a twenty-pound board is, of course, far more sensitive. When you first stand erect, it feels as though you had suddenly spurred some gigantic marine monster with the wild response of a thoroughbred hunter rising at a fence, or as though the Ancient Mariner's Spirit of the Deep had reached fathoms up a great hand to hurl you like a javelin at the beach.

As a racing canoe is balanced on a rigger out to windward, so we, standing upright on our racing boards, balance them by anticipating the whim of the wave, keeping them coasting forever down hill and never reaching the valley. While the surf is high and steep I stand back on the board; when it begins to flatten out I slip forward. The danger point ahead is in driving the alai'a nose under, when she is very sure to throw you and dive for coral; yet I must not let her climb too high or I shall lose the wave and be dragged backwards over the crest as though someone had suddenly tied a flock of peach baskets on behind. And all the time, like a shying colt, she is apt to slew sidewise; sometimes I let her slide off on the bias and then straighten her with a flip of my legs, when she shoots ahead again, obeying the tread of her master's feet.

Sunlight and flashing color! A great wash of air and water; tingling life and speed, speed! We are chiefs of old back in the springtime of the world, in the undiscovered Pacific!

And so at length we drive into the "kipapa," the place where the long rollers from end to end break and come foaming down in white ruins. Here is the canoe close at hand. Makaele, in

sheer exuberance, stands on his head on his board and goes on so, his legs in the air like the spars of a derelict. I tread back from the "muku" to the "lala" side of the wave, am caught in the drag, and stop as though I had run into a rope. My board sinks slowly and I swim with it alongside the canoe.

"I'm going to learn to do that," says the extraordinarily pretty Mrs. Neave, "if I have to stay here a year." And then to show how reconciled she has become to Annette Kellermans she stands up slowly and proudly in the canoe and makes a beautiful porpoise dive over the side.

The acme of photography is the catching of wild birds awing or at rest. Mr. R. P. Holland writes of his efforts in this difficult art in May OUTING and gives some sound advice for amateurs.



TWENTY-FIVE YEARS OF BIG LEAGUE BASEBALL

By CLARK C. GRIFFITH

MANAGER OF THE WASHINGTON AMERICANS

STARS OF YESTERDAY AND TO-DAY

WHICH was the best catcher, Buck Ewing or Archer? Was Comiskey a better first baseman than Hal Chase? How did Clarkson compare in the box with Mathewson? So run the questions and the arguments that follow any attempt to answer them. Mr. Griffith has been in and of big league baseball for a quarter of a century—practically during the lifetime of the organized game. He has seen and studied and thought and compared until to-day he is highly qualified to offer an opinion that is expert and as near complete accuracy as it is possible to arrive in such a tangled web. He holds no brief for men or teams. His article that follows is a careful, unbiased comparison of the stars of yesterday and of to-day as he has seen them in action.

THE older generations favor the things of the old; so does the new, the new. Not only is this true of customs, but of public persons, preachers, actors, or ball players, for instance. I presume you are a follower of baseball. Perhaps if you have watched the game for many years, if you have seen it grow from a mere pastime to a great big business, your sympathies and admiration are with the older generation of players. This is natural. Likewise your son, if you have one, is intolerant of the old-time player. Besides the Johnsons and the Cobbs, he rates the star of the "early nineties," for example, as more or less of a joke, as a mere beginner, thinking that because "modern baseball" had barely begun its players were not as proficient as they are to-day. That is not so.

Bring together a number of fans. Be careful to see that they are not all fans of the present day; turn the conversation on a comparison of the stars of yesterday

and to-day and what a wrangle you will raise! Just as those theatregoers of yesterday will take their dying oath that no actor of the present day even approaches Booth or Forrest, so will these older fans deny that Mathewson was as good a pitcher as the first Clarkson or that Speaker was as valuable to a team as Bill Lange. I suppose what I have consented to do—to give you a talk on old ball players and new—may bring down a storm of comment and controversy upon my head. But I shall try to make a sharp and clean-cut comparison between the stars of other days and to-day. Also, I think I am able to make this comparison from a perfectly unbiased viewpoint. This is why:

It may be news to many fans, but I have been in big league baseball twenty-five years. I started when I was seventeen. During that period I have seen every generation of ball players. The first generation of real "big league" men were just going out when I was coming in. I saw these very old-timers in the

last years of their careers. Since then I have seen hundreds upon hundreds of youngsters come into the big leagues; some fail and disappear, others play brilliantly for a few years and then go the way of those who did not make good; fewer play wonderfully and continue that pace for almost a score of years. Think of Wagner!

During all the time I have been in baseball, actively associated with it, I have watched the changes that have come over it. I have seen how the style of play has varied and with it the work of the stars. Before basing my judgments, I have taken all these things into consideration. Of course, I do not expect that everybody will agree with me. If baseball fans agreed, baseball wouldn't be nearly as popular as it is.

We shall consider first the pitchers. Of the very old-timers there are Clarkson of Chicago and Keefe of the Giants. They belong in the generation that ended about 1893. They pitched when the distance from the home plate to the box was only fifty-five feet. They had, thus, an advantage over the Walter Johnsons. Clarkson had everything that any pitcher of to-day has. By this I mean that in equipment, possessing different curves, he was equal to the best of the modern pitchers. Keefe was what we call a "foxy pitcher." He had a wonderful slow ball. It wasn't like Mathewson's fadeaway, it didn't "break," it was just slow and tantalizing. These men were the king pins of their time.

Then came three wonderful pitchers, Amos Rusie of the Giants, and Cy Young and "Kid" Nichols of Boston. Young had tremendous speed and accurate control. His career is still fresh in the minds of present-day fans. Perhaps Rusie cannot be recalled so easily. I remember him when he first came into the league. He had terrific speed and tricky curves. He was terribly wild, though, and we didn't think he would last. He surprised us all by developing the most perfect control I have ever seen. Nichols, the Boston man, used a fast ball that was a terror. It had a peculiar jump and the star batsmen of his day were often made to look ridiculous.

Clarkson and Keefe and Nichols were

not quite as good as Walter Johnson of my own club and Mathewson of the Giants. Cy Young and Rusie, however, were right with Johnson and Matty. Young and Rusie could be worked more frequently than Matty, but not more than Johnson. Johnson is the greatest pitcher of to-day. I am paying those old-timers a high compliment in rating them as good as Johnson. What I think of Johnson is best illustrated by this incident:

Just before the world series last autumn, I was in New York and a newspaper reporter came to see me.

"Do you think the Giants' pitchers will be able to stop the Athletics?" he asked.

My only answer was: "I have seen the Athletics hit Walter Johnson."

That was enough. When it was printed and baseball men saw it, they knew what would happen to the New York pitching staff.

With the catchers, however, it is not a stand-off. The stars of yesterday and to-day are not equal. I have never seen a catcher the equal of "Buck" Ewing. I call him the best ball player in the world. He first caught for, then managed, the New York Giants. When I broke into the league, Ewing was king. The only man who approached him was Mike Kelly of the Chicago White Sox. Kelly and Clarkson, you know, made up the famous "ten thousand dollar battery," a price unheard of for ball players in that day. Ewing was a wonder. He was a great thrower, not as fast, perhaps, as Archer, the star of to-day, but marvelously accurate. He was the man who invented most of the tricks that modern catchers use. He was what ball players know as a "foxy guy."

Catchers of Yesterday and To-day

In one game I saw him cut loose a new trick on Fogarty, a Cincinnati player, the best base runner of his day. Ewing was catching and Fogarty was on first base. Ewing dropped the pitcher's throw and Fogarty, trying to steal, was easily thrown out. After the game I learned that Ewing had dropped the ball purposely, that, confident in his

wonderful throwing arm, he had muffed deliberately so as to entice the speedy Fogarty into a dash for second base. It was a trick that Ewing subsequently worked with excellent results. I saw him pull it on Billy Hamilton of Boston, one of the best base runners of his day.

As a catcher pure and simple, Archer does not suffer by comparison with Ewing. I rate Ewing superior because of his all-round ability. Archer is just as good a catcher but not as good a *ball player*. It is worth money just to see Archer catch. I would pay it myself. Perhaps he has gone back a little, but even so, he is a wonder. His throw to second is perfect. As I said, it is even faster than Ewing's throw. Archer stands head and shoulders above the present-day catchers.

In making this statement, however, I am considering that some of our younger catchers are not in their prime, and that they give promise of being Archer's equal. On my own club I have two such men, Henry and Ainsmith. Both of them give promise of being stars. They are improving year by year, and when they reach their prime, watch them. Connie Mack has another youngster of this type. He is Schang, who did so many sensational things in the last world series against the Giants. Then Chicago has a youngster, Shank by name, who will be heard from later.

At this writing the other young and very promising star, Killifer, appears to have signed with the Federal League. This is too bad for Killifer's own sake, as the experience he would get in the majors would be invaluable at this stage of his career. I judge Meyers of the Giants a good catcher, as good as any in the old days, with the exceptions of the stars I have mentioned. He is what I call a valuable man, steady and conscientious.

Making First Base Play

A comparison of the first base situation interests me more than the catchers. Perhaps it is because we have had so many really marvelous first basemen. Perhaps the average fan thinks first of "Cap" Anson, who has been exploited so

much of late in the newspapers. That is why the name of the "Grand Old Man of Baseball" is so much more familiar to the fans of to-day than is that of Charles Comiskey. The average young fans only think of Comiskey as the owner of the Chicago American League Club. Unless it has been brought to their attention, they cannot think of him as one of the greatest first basemen. When Comiskey was playing with the St. Louis Browns, he absolutely revolutionized first base play. It seemed he was the first man to realize the possibilities of the position. Before his day, the first baseman was only a basket. That is, he stood glued to the bag and held out his hands to catch any balls thrown to him. He never thought of moving away from his position. Comiskey changed all this.

One day when the Browns took the field he was discovered playing about ten feet on the right of first base and about ten feet back. People thought he was crazy. His own teammates kicked. But when Comiskey began to stop ground balls that had formerly scudded safely into right field, and picking up those balls darted to first base in time to put out the batter, everybody opened their eyes. Comiskey had changed the style of first base play. He had made it a *fielding position*, instead of a mere receiving station.

Soon Comiskey began to do other things. He played even farther behind the base. On certain ground balls he made his pitcher run over, cover the base, and take the throw. This was unheard of—a first baseman tossing a ball to someone else on his own bag. So well did it work, however, that Comiskey soon had every other first baseman in the league doing it. Among his other qualifications he was a splendid batsman and base runner and above all he had "baseball brains." Also, he possesses ample of the other kind of brains as his present-day financial success as owner of the Chicago White Sox will attest.

Anson played four more years of baseball than did Comiskey, quitting the game in 1897. Anson was a great first baseman. Think of his batting average—never under "three hundred," for twenty-two years of big league baseball.

Anson was not quite Comiskey's equal. He was not as fast a base runner, or as quick a thinker. He was not as foxy a player as Comiskey. There was one other notable first baseman of that day. He was Dan Brouthers, of the New York Giants, not, however, on a par with Anson.

Since Comiskey's day there was no really great first basemen until Hal Chase came to me. I got him when I was "on the hill"—the baseball term for Frank Farrell's New York American League Club. From 1905 until 1911, Chase was one of the greatest first basemen in the world. Then there came along three youngsters who give promise of being better first basemen than any who have gone before them. By these men I mean McInnis of the Athletics, Daubert of Brooklyn, and Gandil of my own club. Possibly of the past generation Tenney was one of the cleverest at making trick catches, that is, taking the ball back handed. McInnis excels Tenney at this, his own game.

Daubert, being a left-hander, has a shade on either McInnis or Gandil in making plays to second base. Gandil has a wonderful reach. Chase was always renowned for the way he would take wide throws. Gandil can get a wilder ball than Chase. He is, moreover, the best man on low throws, pick-ups, that I have ever seen. They are a wonderful trio, Gandil, McInnis, and Daubert, better than any trio of the older days that I can think of. Even now—for they are young—they are the greatest first basemen in the world.

Of the second base stars there are two who stand head and shoulders above the old-timers. They are Fred Pfeffer of the White Sox and McPhee of the Cincinnati Reds. Pfeffer was an artist. He stood out among them all. For touching runners at second base he has had no equal. He was only a fair hitter, but a great base runner. His throwing arm was wonderful. I played on the same team with Pfeffer two or three years. He was just ending as I was coming in. I have never seen a better second baseman.

It was Pfeffer who invented the play that is used to-day to cut down the

double steal when men are on first and third. You know the play I mean. The runner on first goes down to second, the catcher throws to second, the man on third races home. All the teams of the day were successfully using this "steal" until Pfeffer stopped it. He devised the scheme of running in and intercepting the throw and relaying it to the plate, if the man on third went home. If he didn't go home, Pfeffer would back out to second and, taking the throw there, touch out the runner coming from first. How in the world he ever managed to get to second in time to do this I don't know. But he got there. He seemed to possess uncanny intuition as to whether the man on third would go in or not. Just think of it. Pfeffer carried out this play alone, a strategy that to-day always brings the second baseman and the short-stop into action.

McPhee—eighteen years, by the way, with the same team, the Cincinnati Reds—was the last man to play the infield barehanded. He did this for ten years after infielders' gloves were invented, disdainingly to use one. I know that when the Cincinnati fans made him a present of nineteen hundred silver dollars, he had never used a glove. That was in 1895. He played all the tricks of the base and two years of his prime coincided with two years of Pfeffer, so I had a chance of seeing them both in action against each other.

A Great Second Baseman

From their day until the coming of "Eddie" Collins, there was one really great baseman. I have in mind the big, graceful Lajoie. For eighteen years his hitting was always well above three hundred. He was an accurate fielder, a fair base runner. He was a perfect machine, yet a machine. He was always the most reliable bit of mechanism in the team. He was the star of the highest magnitude, but a mechanical player. Lajoie as the brilliant star of the day was succeeded in 1904 by the peppery Evers of the Chicago Cubs, who in turn gave way to Collins.

When we consider "Eddie" Collins, there's no use talking about any other

second baseman of to-day. He is what I call a *naturally* great ball player. He has a rare baseball head. He can go up to the plate and if the situation demands a safe hit, you can pretty generally depend upon it that he will wallop the ball. If the stage of the game makes a base on balls advisable, he will somehow manage to get that base on balls. Collins is a remarkably good guesser. He always uses his head and figures out in advance several possible outcomes to a situation. He is the kind of a player—and they are rare—who knows every kind of ball his pitcher is going to pitch. He never misses a catcher's signal and plays his position accordingly.

It has sometimes struck me as odd that the players who are called upon to do the hardest work generally last the longest. Catchers and pitchers, as a rule, remain longer in fast company than do outfielders. Likewise with the shortstops. There have been more stars at shortstop than at any other position of the infield. This is surprising because the position is supposed to be so difficult to play; yet it has developed more stars and they have lasted longer than any other infielders. Indeed, there have been so many star shortstops that I hesitate long before mentioning those whom I consider best. Even now I unintentionally may have missed somebody.

The old shortstops, those of the first generation, were just quitting when I came in. I remember Williamson of the Chicago White Sox. He was a big man and a fair hitter. He finished with the Brotherhood in 1890. In his day he was a wonder; I've seen him do things like this:

A hot grounder would come at him. He would stand with his heels together and meet the ball with his toe. It would leap into the air and, nipping it with one hand, he would fling it across to first and get his man. Obviously his was a wonderful throwing arm.

After Williamson there began, in 1890, a generation of great shortstops, each of them better than any to-day. There was Herman Long, of Boston, the best shortstop I have ever seen. I do not know his equal. George Davis, Dahlen, Cockran, Jennings, Wallace and Wag-

ner make a list that cannot be equalled. Davis was a past master at catching men off second base. Long was a perfect fielder, fast, possessing baseball brains and a comical nature that always kept a team in good humor. Jennings, one of those who revolutionized baseball at Baltimore in 1894, was continually thinking up tricks. Then there is Bobby Wallace, who for twenty years, season in and season out, has been a remarkable shortstop. Bobby is still in the ring with the St. Louis Browns.

About the time of Jennings came Hans Wagner. And Hans is still in the game, and still a star. With the exception of Wallace, he has survived all the great shortstops of his generation. Wagner has a barrel of ability. He is not what many people think, a foxy ball player. He has hands the size of hams, but, unlike hams, possessing the properties of grappling hooks. I never saw a shortstop so endowed by nature as Wagner. Of course, everybody knows what a hitter he is. Although his star is fading, he must also be considered with the generation of shortstops of to-day.

On a par with Wagner, just as a shortstop, not as a batsman, I would rate Barry of the Athletics and McBride of Washington. McBride is a weak hitter, but he is a wonderful defensive man, the best in the business. Save George Davis, he has had no equal in catching a man off second. Besides, he is the finest ball player who ever put on a uniform, "all white." If McBride could hit like Wagner, he would be the greatest shortstop of all time. He will outplay Barry in the field, but Barry will out-hit him.

Some Great Old-timers

Fletcher of the Giants is an awfully good ball player, who has had the misfortune never to shine in a world series. When I managed the Cincinnati club a few years ago, I had plenty of opportunities of seeing Fletcher in action. Considering the years of usefulness he has ahead of him, I would rather have him than any shortstop in the National League. None of these men of to-day, however, come up to those of that great generation of shortstops, Long, Dahlen,

Wagner—for I prefer to think of Wagner in his prime.

There are few star third basemen. Indeed the position has fewer real stars than any other in the infield. Beginning with that first generation, there was Whitney in Boston, Latham of the St. Louis Browns, Burns of Chicago, and a little later Nash of Boston. Nash was just about getting through when McGraw and Collins of Boston came in. Latham, who, up to a few years ago, was carried by the New York Giants as a coach, was a strong hitter and base runner but only an average fielder. He was with Comiskey when the Browns won four pennants. I am rather hazy on Whitney, the old Boston star, but there was nothing about him that makes him stand way out, nor was there with Nash.

Perhaps of all third basemen McGraw and Collins were the best. McGraw didn't get good until 1894. He was foxier than Collins, a better fielder and a better batter. Collins, though, was by far the better third baseman. He was the most graceful fielder of the position I have ever seen, and for third base play I rate him the best.

The only men of to-day you can compare with him are Baker of the Athletics, Foster of Washington, and Gardner of Boston. Baker is a very poor fielder. He is awkward. By his very awkwardness, he brings down criticism upon himself; that is, he is accused of blocking base runners unfairly. The truth of the matter is that Baker cannot help it; he is so clumsy. He is such a wonderful hitter, though, that his bat lifts him up among the top-notchers. Baker is one of the few psychological hitters in baseball. He always goes up to the plate and smashes the ball when it means the game. In this respect he is the most timely hitter there is. Foster is a foxy fielder and a foxy batter. Forgetting Baker's hitting, Foster is the best third baseman of to-day. Gardner of Boston is good but not quite in Foster's class. Baker's hitting, of course, makes him stand out.

Let's run down the list of clubs and see how few really great third basemen there are. The New York Nationals never had one. Devlin was only better than ordinary. Of the two Boston teams

only one has developed a star, Collins. The Philadelphia Nationals never had a third baseman. Neither did Brooklyn, St. Louis, nor Cincinnati. Chicago came fairly close to it with Zimmerman, so did Pittsburgh, with Tommy Leach, Cleveland with Bradley. All in all, though, the third base stars are few, and of them Collins is the best.

The outfield presents a chance for many interesting comparisons. It has developed many wonderful players. We shall first dispose of the old school. Of it, I well remember Fogarty. He was one of the greatest base runners that ever lived. There was Dicky Johnson, a remarkable fielder. Neither Fogarty nor Johnson was a great batter. Boston a little later had Hugh Duffy, a splendid hitter. St. Louis in McAleer has a fast fielder, who, if he had hit heavier, would have been renowned.

Tom McCarthy of St. Louis gave the outfield its first trick play. It was McCarthy, who devised the stunt of "trapping" short fly balls and trying for double plays. Then there was Billy Hamilton of Boston—out of the ordinary as a hitter and base runner but a poor fielder. Considering these men in their prime, they gave way to Bill Lange, star of the Chicago White Sox. From 1894 to 1898 Lange was the king pin of all the outfielders. He had everything. He could hit, run the bases, and make the most sensational catches. One year he stole 115 bases. He invented the delayed steal. He was continually using his head and doing the unexpected. He was the star of his generation and that following it. He was not, however, as good as one or two outfielders of to-day. As you doubtless have noticed, his period of usefulness was short, for he got heavy quickly.

About that time there came Burkett, Hendrick, Kelly, Flick, and Keeler. They were all terrific hitters and sure fielders. All were stars, Keeler standing out. By the time of the opening of the American League, the best days of most of these men were over. They had just a few good seasons left in them. It was then that Fielder Jones of Chicago appeared as a star; Fred Clark came into his prime, so did Donlin, always a great

hitter but an uncertain fielder. Sheckard of Brooklyn had some good seasons left in him, so did Keeler. What a pair they were, both little men, somewhat similar in their style of batting, both deadly fielders and trouble-making base runners! Of course, by reason of his batting, Keeler stands out. Sam Crawford of Detroit had also begun to be a star at that time. Crawford has stood the test better than most of them for he is still of rare value.

After Fielder Jones, Clark, Sheckard, and the rest had their day, there were no really high-class outfielders, until the coming of Schulte in 1906. McGraw at that time was winning pennants with very ordinary outfielders. Then came the discovery of Speaker, Cobb, Jackson, and Milan. It is significant that most of these men are American Leaguers. It is to be supposed that I would favor the American League. Not in the last ten years, however, has the National League developed a star outfielder. I regard the prime of Clarke, of Pittsburgh, as being outside that limit. On the other hand, the American League has developed four stars.

Speaker is the most remarkable fielder that ever lived. He is the best man on fly balls I have ever seen. Let me show you why that is. Watch Speaker some time and you will see that he plays unusually close to the infield, no matter who is up. In this way he manages to catch short hits that would otherwise go for "Texas leaguers." I'd like to see the man who can score from second base on a short single to Speaker. His throws are deadly and he cuts down many men at the plate. Playing as close as he does to the infield, I marvel how he ever catches the balls he does. Batters seem to hit a mile, but somehow Speaker cuts out for the fences and pulls down drives that with another man would mean three base hits or home runs.

It is hard to judge accurately who is the better man, Cobb or Speaker. The only difference is that Cobb is a better base runner and a little better batter, while Speaker, as a fielder, stands out by far. Of course Cobb's base running is too familiar for me to discuss it.

Jackson, of the Cleveland Club, is a wonderful batter and thrower. As a

base runner, however, he does not shine. He does not think quickly enough. He does not "protect the game" and he is not valuable for "inside work." Nevertheless, his terrific hitting and his rare throwing ability bring him 'way above the level and make him a star.

Milan, of Washington, is a better ball player than Jackson because "he can do more stuff." He is a splendid base runner and fielder and is a consistent three-hundred hitter—different, however, from being a four-hundred hitter. He is a splendid man to send to bat in a pinch. He possesses that very admirable quality in some few ball players, "cold nerve." He is continually using his head.

Comparing these outfielders with the star of the old generation, Bill Lange, the old generation suffers. Cobb and Speaker are Lange's superior. Cobb is just as good a base runner and a better batter. Lange was only a three-hundred man. Speaker is also a better hitter and is, moreover, Lange's superior as a fielder. I think that Milan, of Washington, is almost as valuable a man as Lange. While he is not as good a hitter, he is about as good a base runner; their fielding is a stand-off.

So as I look upon the great players of to-day and yesterday, I think I have made these comparisons in all fairness. I have said that the pitchers of to-day are as good as those of yesterday, that the catchers are not. It is my observation that no first baseman of the olden days is equal to any of three first basemen of to-day. So is the best second baseman of to-day superior to the best of other generations. The old short-stops were better, so were the old third basemen. But in the outfield it is all "to-day."

The standard of baseball has been raised—wonderfully so. Likewise the general standard of playing. But the old days developed so many individual stars that, were we to consider the whole mass of players, those of to-day would not stand out. I have given you my honest opinion, gained by watching or playing with them all for twenty-five years. Of course there will be those who disagree with me. Every man to his opinions.

(To be continued)

GETTING READY FOR THE TROUT

By STILLMAN TAYLOR

Things That Should Be Known and Done Before the Speckled Beauties Land in the Creel

And as a ship in safe and quiet roade
Under some hill or harbor doth abide,
With all her fraight, her tackling, and her
load

Attending still the winde and wished tide,
Which when it serves, no longer makes abode,
But forth into the wat'ry deepe doth slide,
And through the waves divides her fairest
way,

Unto the place where she intends to stay;

So must the angler be provided still,
Of divers tooles, and sundry baytes in store;
And of all things else pertaining to his store;
Which he shall get and lay up long before,
That when the weather frameth to his will,
He may be well appointed evermore
To take fit time when it is offered ever,
For time in one estate abideth never.

THESE quaint lines taken from John Denny's "Secrets of Angling," printed at London in the year 1613, contain much timely counsel for the angler of to-day, for the time spent in getting the fishing kit ready for the angling season are enjoyable hours to the true member of the clan. Although most of us agree that not all of the pleasure of fishing is dependent upon the number of fish we catch, few anglers will deny that the day's sport largely rests upon the selection of a good and dependable fishing outfit, which is well suited for the fish we are going to catch.

Trout fishing, and fly-fishing for trout in particular, is unlike any other phase of angling; and as success so greatly depends upon accurately placing the fly lightly upon the surface, the question of a suitable rod and appropriate tackle is a most important consideration. The enjoyment of the invigorating life of the open is, after all, the important factor with most anglers, and good rods and tackle will ever be found a joy to handle,

while the poorly balanced rod and cheap shoddy equipment is pretty sure to mar the trip by handicapping the unlucky owner, who being thus rudely initiated in the gentle art, will very likely be tempted to "swear off" permanently after his first experience.

The brook trout of the Eastern states is at once a gamy and a wary fish, and to creel a fair number, the angler should know something about their habits, and likewise possess a certain skill in handling his tackle. Of course trout may be caught on a length of twine, tied to an alder pole and baited with a worm. The secret of the barefoot lad, thus rudely outfitted, lies in his intimate knowledge of the fish in the nearby stream; he knows where the fish are, and he succeeds in landing a good string despite his crude equipment. That he could do much better with a good rod and tackle goes with the telling.

However, the skilful fly-caster can, under equally favorable conditions of weather and water, easily duplicate the bait caster's success, and his average catch will generally run very much higher. Fly-fishing is for several reasons the best method for capturing the brook trout, and there is a fascination in handling the feathered lure which bait fishing can never give. It requires a more complete knowledge of the fine art of fishing to achieve success with the artificial fly and light tackle, but this requisite skill is quickly acquired by a little practice, and once the knack of casting the fly is mastered, the angler will but seldom make use of the more clumsy bait-casting method.

The choice of a rod is the first important item to be checked off in getting together a good fly-fishing outfit. The

purchase of an ordinary "fishing pole" requires little thought, but success in fly-fishing calls for a light-weight rod that is pliant and resilient from tip to butt; one that possesses sufficient strength or "backbone" to stand up under the class of fishing to be done, and last, but by no means of least import, it must balance well with the particular reel you intend to use. The only material which possesses these qualities in the fullest measure is split bamboo. Other materials make good fishing rods, but the three cardinal points of the ideal fly rod—lightness, strength, and elasticity—are only fully met with in the well-made split bamboo.

There are rods and rods; some are machine-made and others hand-made, and while all are included under the caption of "split bamboo," the supply of machine-made rods of inferior quality greatly outnumbers the good and serviceable tools. The principal difference between the good and the cheaply made split-bamboo lies in the making, since the supply of first-class cane is easily secured. In making the hand-made bamboo, the cane is split with a knife, the sides only being used, since the front and back sections of the natural cane or pole contain numerous knots. These hand-split strips of cane are then straightened and planed down to the correct shape from the inside, thus removing the soft and punky part of the wood, but leaving the hard and springy outside enamel uninjured.

The machine-made rod is made from bamboo strips obtained by sawing the cane with a fine saw, which cuts the bamboo at a bevel all ready to glue together. The entire cane is thus utilized, knots and all, and the proper taper is given the rod by planing away the outside, which is the most valuable part of the material. An examination of a Calcutta or Tonkin bamboo pole will disclose the fact that the grain never runs in a straight line from butt to tip, but that it curves somewhat at the knots and leaf shields. In making the machine-made rod, the saw cuts the cane in a straight line, and by sawing across the knots and leaf shields the bamboo is weakened to an undesirable degree. In

brief, only the choicest and strongest parts of the natural cane are used in building the hand-made rod, while all the cane is used in fashioning the machine-jointed affair.

The harder male cane is preferred by anglers and rod makers to the lighter and softer kinds, and in picking out a rod it is well to choose the darkest (unstained) bamboo, which will weigh a trifle more than other rods of the same class. The dark color of the enamel indicates that the fibers of the cane have not been planed away, while the greater weight and relatively shorter distances between the leaf shields point out the more durable male cane. Look the rod over carefully and note that the glued joints are closely matched throughout the length of the joint, and discard that rod which shows the evidence of glue or openings where the strips are joined. Also carefully note if the fiber or grain runs straight with the strip; if it does the rod is a hand-made one, but if the grain turns out against the jointed strips, it is unquestionably machine-made.

The Best All-Around Rod

The best all-around fly-rod for general trout fishing is one of nine or nine and one-half feet in length, weighing six to seven and one-half ounces. The good rod will have an even taper from butt to tip and the action will show an even curve throughout its entire length; an even flexibility is the chief quality to be sought. Good elasticity and pliability are essential in a fly-rod, but the rod must not be too "whippy," neither should it possess a stiffish action.

For small brook fishing, where the overgrown nature of the banks makes long casts the exception rather than the rule, a shorter rod may be chosen, while a longer rod of greater weight may be selected for river angling in the "white water" streams of the north and west. The skill of the angler must, of course, enter into the choice of the rod, and while the old hand may safely elect to use a six ounce rod for even the heaviest fishing, the less experienced fly caster will do well to pick out a rod an ounce or an ounce and one-half heavier.

When purchasing a good hand-made split bamboo fly-rod, the angler will only be fully satisfied by thoroughly testing out the rod by affixing his favorite reel and line as in actual angling. By fastening the free end of the line to a weight resting upon the floor, the angler can well test the bamboo for spring and elasticity by reeling in the line and trying the spring under varying tensions. A little careful experimenting in the sales-room will bring out all the good points and also show any existing weaknesses which many well-made rods often possess. The rod should fit the angler and it should balance to suit the individual's requirements, and the owner is obviously the best judge when it comes to deciding whether the "hang" or feel of the rod in the hand is to his satisfaction.

For the fly-rod, the single-action click reel is the logical choice, and the most satisfactory type is the so-called "English style," which has the handle screwed or riveted direct to the revolving side plate. A balanced handle is a constant source of annoyance, possessing no advantage for the quick recovery of the line, but rather hindering the angler because of the liability of the projecting handle to foul the line when casting. A multiplying reel of the bait patterns is an abomination on the fly rod, destroying the proper balance of the best rods and seriously interfering with long and accurate casting.

The best click reel is one having a relatively large diameter, but narrow between the plates. Hard rubber or vulcanite is the best material for the side plates, while German silver or hard aluminum form the best metal trimmings. The most useful size is one holding about forty yards of No. E size waterproof line, the plates or spool diameter being about three inches, with a width of about seven-eighths of an inch between the plates. With a narrow spool reel of this kind, the angler can recover his line almost as rapidly as he can handle the multiplying reel.

The chief point to remember in buying a reel is to secure one of proper weight to balance the rod. The proper position for the reel on the fly-rod is below the grip, and a comparatively

light-weight reel is therefore essential, since a slight increase in weight added near the butt end is likely to make the rod butt heavy and render casting difficult after an hour or so of fishing.

The silk enameled double-tapered line is decidedly the best line for fly casting, because the tapered end allows the angler to drop his fly with the utmost delicacy on the water. Single-tapered lines are less expensive, but as the taper is on but one end, the line cannot be reversed to equalize the wear of casting. The level line, having the same diameter throughout its length, is more commonly used, but the cast cannot be drawn so neatly and fine with the level line. Size E is the most useful, but a size smaller, known as F, may be used for small brook fishing, while Size D is only suited for the heaviest kind of fishing.

The commonsense rule in selecting a line is to use one suited to the weight of rod—a light line with a light rod, and vice versa. A comparatively heavy line on a light rod will rob it of its elasticity, while a light line and a heavy rod is surely an impossible combination, resembling an ox whip more than a fly rod. However, a rather stiff action rod may be limbered up to a considerable extent by using a slightly heavier line, while the very willowy, whippy rod demands a very light line.

Selecting the Leader

The single gut leader is preferred for fly casting for trout, and the leader should be as fine as can be safely used for the fish to be caught. It is of course an advantage to use a leader with a breaking strain much less than that of the line, for when a breakage occurs the leader will first part and the line will be saved. Leaders may be purchased tied up ready for use, or the angler may make his own by knotting as many single lengths of gut as he desires to secure the wanted leader length. A three or a three and a half foot leader is amply long enough, for a longer length is likely to catch in the tip ring when reeling in the fish close enough to reach it with the usual landing net.

Leaders may be bought with a loop

at each end, or with loops for using two or three flies. The two-fly cast is the best for average fishing, and the single fly the more killing for lake fishing. For the two-fly cast the leader should be provided with three loops, the extra loop being tied in about fifteen inches from the lower loop. The first or upper fly is called the "dropper" while the lower one is known as the "tail" fly. When but one fly is used the leader requires but two loops.

When purchasing leaders or lengths of gut for tying, select only those lengths which are of uniform diameter and well rounded, discarding all lengths which show flat and rough spots. Gut is very brittle when dry and should not be handled roughly until well soaked. The leaders should be soaked overnight previous to the day's fishing, and should be kept moist and pliable by coiling them up and placing them between the felt pads of the leader box. When through fishing, it is a good plan to dry out the leaders by placing them between the flannel leaves of the fly book.

Artificial Flies

To the fly caster the subject of artificial flies is one of the most interesting phases of his art, and the list of flies is so long and personal opinions differ so widely regarding their merits that only the best-known favorite flies, attractive throughout the territory where the brook trout makes his home, can be mentioned. The list of standard flies includes some five dozen varieties, but the universal favorites may be boiled down to about twenty-four patterns. To enable the inexperienced angler to recognize the several kinds, a concise description of each fly is here given.

Caldwell—Body, claret silk, ribbed with gold tinsel; wings, pintail duck; hackle, brown; tail, three fibers wood duck; tag, gold tinsel.

Cinnamon—Body, brown worsted; wings, speckled brown hen's feather; hackle, brown; tail, three strands black hackle; tag, gold tinsel.

Coachman—Body, peacock berl; wings, white; hackle, brown.

Green Drake—Body, straw silk, ribbed with loose coils black silk; wings, wood duck; hackle, brown; tail, three fibers, wood duck.

Grasshopper—Body, brown worsted; wings, jungle cock's feather, above it one strip of yellow color, dyed, and one red ibis, about three fibers of each; hackle, scarlet; tail, yellow, swan and pintail duck, three fibers of each; tag, gold tinsel, and about i-16-inch green silk; head of peacock berl.

Grizzly King—Body, green silk, ribbed with silver tinsel; wings, pintail duck; hackle, grizzled; tag, gold tinsel; tail, red ibis.

Jungle—Body, scarlet silk, ribbed with gold tinsel; wings, jungle cock's feather, single; hackle, white with black center; tag, gold tinsel; tail, three fibers red ibis.

Montreal—Body, dark crimson silk, ribbed with gold tinsel; wings, turkey's wing feather, hackle, scarlet; tag, gold tinsel; tail, red ibis.

Pale Evening Dun—Body, yellow silk, ribbed with gold tinsel; wings, mallard's under wing feather; hackle, yellow; tag, gold tinsel; tail, three fibers of mallard's wing.

Professor—Body, yellow silk, ribbed with tinsel; wings, pintail duck; hackle, brown; tail, three fibers red ibis.

Red Ant—Body, scarlet silk; wings, red ibis; hackle, red or scarlet; tag, peacock berl.

Seth Green—Body, green silk, ribbed with yellow silk twist; wings, lead colored mallard's feather; hackle, brown; tag, gold tinsel; tail, three strands mallard's wing.

Soldier Palmer—Body, scarlet silk, ribbed with gold tinsel; hackle, brown, one short above, one full at head; tag, gold tinsel.

Stone Fly—Body, gray silk, ribbed with silver tinsel; wings, mallard's wing feather; hackle, gray; tag, silver tinsel; tail, black hackle.

Brown Hackle—Body, peacock berl; hackle, brown, wound thick; no wings.

Canada—Body, red worsted, wound with gold tinsel; wings, light brown and mottled; hackle, brown; tail, red worsted.

Gray Hackle—Body, green silk, ribbed with silver tinsel; hackle, gray; no wings.

Blue Jay—Body, claret mohair; wings, matched English blue jay; tail, red ibis.

Jenny Lind—Body, yellow; wings, blue; hackle, red.

Page—A red fly with wood duck wings.

Parmacheene Belle—Body, yellow, remainder red and white mixed.

Rube Wood—Body, white chenille, finished with red silver tag; hackle, brown; tail, brown mallard.

Scarlet Ibis—Body red, ribbed with gold tinsel; wings, scarlet ibis; hackle, ibis; tail, ibis.

Silver Doctor—Body, silver tinsel, wound with red silk, finished with red tag; wings, mixed yellow and red, with wood duck, and bars of wild turkey; hackle, blue and guinea hen; tail, golden pheasant.

For mid-spring fishing, Coachman, White Miller, Professor, Brown Hackle,

and Gray Hackle are splendid flies. The cast for the latter part of April and the month of May should certainly include all the above. For Northern waters, Jock Scott, Brown Hackle, Parmacheene Belle, and Silver Doctor are especially killing lures, while Montreal, Parmacheene Belle, and Silver Doctor are the three invincible flies for Canadian waters.

In addition to the above patterns, the appropriate flies to use during the fly fishing season include these representative casts:

April—Red Ibis, Cinnamon, Stone Fly, Red Spinner, and Parmacheene Belle.

May—Yellow Dun, Turkey Brown, Iron Blue, Spinner, Montreal, and Red Fox.

June—Silver Doctor, Alder, Black Gnat, Gray Drake, Orange Dun, and Green Drake.

July—Grizzly King, July Dun, Pale Evening Dun, Red Ant, Brown Palmer.

August—Coachman, Seth Green, Governor, August Dun, Shad, and Royal Coachman.

September—Willow, Whirling Dun, Black Palmer, Blue Bottle, and Queen of the Water.

Flies tied on eyed hooks of the Pennell style are preferred by a great many anglers, and the smaller range of sizes are the most used, numbers six and eight being the standard hook sizes for all average fishing. For small brook fishing during the opening month, the small midge flies tied on number twelve and fourteen hooks are the most killing, and the most attractive patterns are those in which brown and gray colors predominate—the Palmers and Hackles being always good.

The Knack of Casting

The knack of casting the fly is far from being as difficult an art as many are inclined to believe, but to secure a mastery over the rod and line considerable patient practice must be indulged in. The first point to be attended to is to hold the rod correctly, for little can be accomplished if the proper grip is overlooked. The hand should grip the butt at the point where the rod balances the best, with the thumb extending in the direction of the tip, the reel lying below the rod with its handle on the right-hand side. Casting is not done with a free reel as in bait casting, but is ac-

complished by reeling off sufficient line for the desired cast.

For the first practice casts, twenty feet of line is sufficient, and this amount is reeled from the spool and coiled at the foot of the angler. Now with a quick upward snap of the wrist, carry the rod upward, checking it when the tip points over the shoulder, not more than twenty-five degrees from the vertical. The impetus of this snappy up stroke is known as the "back cast," and whips the line high in the air to carry it behind the angler. As soon as the line straightens out behind, the rod is brought forward with a sharp snap of the wrist and forearm, and the line is projected ahead of the angler to make the long "forward cast."

The description of this very useful cast, known as the overhead cast, may appear difficult, but a few trials will teach the angler how it should be executed and future skill rests upon practice. The chief thing to keep in mind is that fly casting is almost entirely a matter of wrist action, and no shoulder motion must creep in or the accuracy of the cast will be interfered with. By keeping the arm and elbow close to the body the correct muscular effort is more easily controlled.

The properly executed overhead cast consists of three motions, and the second or back cast is the most important and difficult of all to master, because the line is back of the angler and the eye cannot aid the hand. Just how long to pause in order to let the line straighten out behind is the crux of the whole cast, and this can only be acquired through practice. After a little experience, the tension of the line communicated to the rod will inform the angler when his back cast is complete, when the rod must be quickly snapped downward to send the fly in the direction the angler is facing.

The best manner of learning how to cast the fly neatly and with precision is to practice on the open banks of a pond, or in the back yard if there is space to swing a fairly long line. Begin by making short casts and endeavor to aim at accuracy and delicacy rather than to attain long distance. The line should be kept well up in the air on the back cast,

and the rod should neither be carried too far backward, nor should too long a pause intervene between the back and forward casts. The beginner will find it an advantage to time the cast by counting, "one" for the up stroke, "two and" for the line to straighten out behind his back, and "three" for the final forward throw. The success of the fly caster on the stream chiefly depends upon handling the fly lightly, and delicacy together with reasonable accuracy are the two principal things to attain. By using a newspaper for a target in the back yard, one may become quite proficient with a little systematic practice.

The skilful handling of the flies on the water is a much finer art than mere expertness in casting and means a great deal more to the average fisherman. The seasoned fly-caster prefers to wade with the current, and casting before him, he flicks his flies to cover every bit of promising and fishable water. Just where the trout are wont to hide depends upon the season of the year, the nature of the stream, and also upon the trout, since the characteristics of the brook trout in different localities and in different streams will be found to vary considerably, while the habits of the rainbow and brown trout are, of course, dissimilar.

One of the common mistakes which the novice is likely to make is to endeavor to imitate the flight of natural insects as they alight upon the water. Now this imitation may be correct in theory, but the practice of skipping and twitching the flies about in the fond belief that you are fooling Mr. Trout is about the worst kind of amateur fishing. If you are anxious to catch a few trout, do not attempt to formulate an original system for their capture, unless you are more interested in putting your theories to the test than in catching trout. The experienced fly-caster will invariably wade with the stream and the majority of his casts will be made across the current at right angles to the stream's flow.

The flies are cast above the likely-looking places and the current allowed to carry them along in a partly submerged and wholly natural manner, while the angler is enabled to keep a

fairly taut line. As a general thing, the slightly submerged fly insures the better luck, yet there are numerous exceptions to this. But submerged does not mean fishing with the fly dragging deep in the water, unless the stream is flooded and discolored by recent rains, when deep fishing is the most successful method.

From the standpoint of sport, surface fishing is recommended, and when casting is done under favorable conditions of wind and water, the surface fly will reel as many fish as any method of fishing. To keep the fly on the surface, the tip of the rod should be carried fairly high and the line kept taut by taking up the slack with the free hand. The flies should float down with the current in a perfectly natural manner, and advantage should be taken of any bits of floating foam to cast your flies upon it and let them float with the current.

The brook trout is a hard fighter and will generally make a savage run at the fly, and in quick water the fish more often hooks himself. The psychological moment arrives when the fish rises to the fly and the hook is in his mouth. This is the time to strike, which is done by checking the line with the forefinger and turning the wrist to plant the barb; just how much force to use depends upon the current and the size of the fish; if the trout run small and the stream has some current, very little force will suffice; but in pool fishing, where the water is still and the fish run large, considerably more force is required to hook the fish.

Skill in striking the fish comes from experience, and not a few good trout will be lost by striking too early or too late, until the angler gets the "hang" of judging the behavior of the fish. When hooked the common error is to rush the trout to the net as quickly as possible.

However, if slender tackle is used, the fish must be humored in until his exhausting strength enables you to safely reel him in. In playing a fish the only points to remember are to keep a taut line. Let the fish feel the tension of the line always; keep the tip well up and let the rod curve evenly from joint to tip. A good angling maxim to remember is this: When the fish pulls, you don't; when he doesn't, you do.

THE OTHER SIDE OF THE SHIELD

By JOHN T. ROWLAND

Which Shows the Price That Some Must Pay for the Safety of Others

A FREE trader who does business on the theory that flour is worth what he can get for it doesn't naturally look for much love and admiration from the mission folk; so it wasn't any sly hankering after affection that led me into their harbor on the Straits that afternoon. Rather, it was the sight of a long, skinny Marconi pole up back of the hospital, combined with the fact that the first hard gale of the fall was due from all indications to bust out of the nor'west butt-end-first in a matter of hours and that the owner of the schooner *Sarah Timmons* would not be the only one to wonder where she was when news of the "terrific blizzard raging over the Gulf of St. Lawrence" came to be duly chronicled in the *Rockport Daily*.

I was trying hard to be proud (and chewing my whiskers) from the time that bloomin' stick on the top of Signal Hill showed up over the horizon until it got plumb abeam, with Cutthroat Tickle opening out fair underneath. Then I lost my nerve.

"Main sheet, all hands!" I sung out, and to the man at the wheel, "Head on the wireless, yonder."

Fifteen minutes later the *Sarah* was hooked up securely to both anchors just off the foot of Signal Hill; and before we'd finished getting the mainsail stowed, whoopee! here she came, business-end first as predicted—snow and hail and a gale of wind that set the old packet back on her tackle and turned the funnel-shaped little harbor into a sure-enough imitation of Peary's winter quarters at Cape Columbia. We got the yawl boat half full of water just pulling ashore, which shows the kind of song-and-dance old Boreas was passing out. You can

plant your ground tackle on it that I felt all-fired tickled I'd come in after all when I got up in the operator's little kennel on top of the hill and handed him a message that went the full limit on words.

"Ain't you scared this coop will founder?" I asked him as an extra-heavy gust landed just after he'd finished sending. "Now it seems to me"—but he interrupted me quickly—"Shut up, someone's calling," and reached for his pencil and pad with a mighty interested look on his face.

This Marconi business was one fine thing, for sure; all this gale of wind and hell-in-general going on outside, and yet here we few human beings on a desolate, God-forsaken coast were talking back and forth, sending word home just as comfy as a Wednesday afternoon hen party at a church sociable; and if anybody ever got into trouble, why, all they had to do was just tell the "wireless" to send for help and haul 'em out!

When the operator had finished scribbling and unshipped his ear-tabs I told him my sentiments.

He looked at me kind of queer. "Yes," he said, "just send for help, but *God* help——" He stopped short and rapped on the arm of his chair; then he shoved me the pad. I read the message twice through—and took a long look out the window; here was what it said:

DR. BOND,
DEEP SEA MISSION STATION, CARRINGTON.
Steamer put into Flower's Cove for shelter.
Two men dying from accident. Come at once if possible.

HARE,
Commanding R. M. S. S. *Hyperion*.

"He'll not try it, surely!"

"Come and see," the operator snapped, and the next minute we were both racing

for the hospital. All I could think of, stumbling down the hill (for it might as well have been dark) was the way that little dink of a hospital launch would look out in the Straits in this. Great God, he surely wouldn't try it!

We found the doctor in his study reading in front of an open fire, with slippers on and a big brier pipe in his face—where it fitted. He nodded to me kindly enough and—"News, Marshall?" he asked the operator.

"Yes, sir," said Marshall, dropping the slip on the table like it burned his fingers and lining up 'longside of me. The doctor reached out and opened the paper—and the slow puffing of his pipe never jumped a beat. I'd counted ten of them before he laid it down. Then he pulled out his watch and studied it for a few seconds before he swung around to face Marshall.

"Ask Captain Hare, for me, to commence blowing guiding signals every thirty seconds at about eleven o'clock and to continue the same till I get there—or until 1 a. m. Thank you." That was all.

I don't rightly know just what happened the next few minutes. I've been through some pretty tight passages myself and kept my head; but *this* thing—Jehoshaphat! it got my goat. It was so cold-blooded!

At any rate I sha'n't forget the wind-up in a hurry. The doctor was standing in the doorway with his oilers on. I was inside facing him.

"If the schooner was mine I'd let you take *her*," I blurted, "and you might stand a chance—but that damn little launch——!"

The doctor's gray eyes lit on mine, and for some reason I felt like a kid. "Thanks," he said slowly. "I don't want the schooner, but I do need *you*."

Hypnotism? I don't know, was kind of hoping it might have been something different. Anyhow we went out together.

By this time the early winter night had shut down black. With the sinking of the sun behind the Bradore Hills the mercury must have dropped off close to zero. The snow didn't sting any more; it cut like steel dust, and the wind—well,

sometimes I expected to feel the whole bloomin' island starting to turn turtle.

At the end of the hospital wharf we groped our way on board the launch and down into the dinky hole that was engine-room, cabin, and foc's'le all in one.

"Now, any suggestions, Captain Webb?" says the doctor, striking a light and getting ready to limber up the motor.

"Just where is this Flower's Cove place?" I questioned back, Yankee fashion.

"Seventy-two miles east-south-east from here, diagonally across the Straits."

"That must be inshore from Flower's Ledges," said I, thinking of the Sailing Directions' description of those same as "the most serious menace on an extremely hazardous stretch of coast."

"It is; in fact, we have to enter between the ledges, so it will be necessary to steer a very straight course all the way. An eighth of a point deviation either side," he added in the same easy voice, "will be sufficient to pile us up on the Ledges."

Now, it's no easy matter to hold even a sizable vessel true within an eighth of a point of her course in fine weather, and as for a little tub like this and on such a night! "Man," I cried, "you're daft. It's impossible—it's suicide!"

"Well," he said slowly, looking up from the engine, "the pier is still alongside."

"You'll not go!"

"I? Why, yes, *I* shall. They've sent for me——"

Do you ever remember trying to stare down the principal when you were a kid in school and called up for heaving a ball through the window? That's the way I felt glaring at the doctor. It was no use.

"Sing out when you're ready," I said, making for the hatch.

"All right," cheerfully, "cast off the shore fasts when you hear the engine start; then take the wheel and hold her south-a-half-east for the harbor mouth till I can come up."

As we scudded down the harbor I got to reckoning up the chances in this fashion:

First. We were to drive almost

straight down the wind for seventy-two miles and fetch up on a lee shore where we had to hit a mark about three miles wide. That just possibly might happen—on a fluke.

Second. The engine was likely as not to quit when she got to standing on her head outside;—so long, Jack!

Third. There was plenty of drift ice in the Straits that she'd split herself in two on at the first swipe;—in the hand of God, since you couldn't see ten feet, or, say, a 1-to-1 shot.

Fourth. It was more than likely we'd get frozen stiff or washed overboard when the old gray-backs had begun to climb over her;—seventy-five per cent against us.

Fifth. And last, but not least, would the boat herself stand the gaff if properly handled? This last count interested me most, and I'll come back to it pretty quick, but for purposes of argument let's give her the benefit of the doubt and call *that* 3 to 1 in her favor. Then here's the way it stacked up:

Out of five things which could be counted on as likely to happen, any one going wrong was enough by itself to dump the whole apple-cart, so that the actual expectation of life (as the insurance books say) for the next few hours came down to the product of those various chances, or, as near as I could figure it in my head, about a half of one per cent!

I'd got used to figuring out risks that way in my trade, and now I was glad of it, because it relieved my mind altogether—when you realize there's no chance at all you get past worrying and just sort of take a mild interest in what's going on. That was the way I had got to feeling when the doctor joined me on deck.

He began explaining to me how he'd figured the boat would act. As I said, this point had interested me, so I got plumb curious to see if he would prove correct. Here's the idea: Imagine a bottle corked up and ballasted so that one side will float up. Then imagine a couple of bugs fastened on topside and the bottle tossed into some rapids. Of course, the bottle will be under water as much as it is on top, but unless it caves

in or hits something solid it will continue to float, and the bugs will continue to enjoy the ride—so long as they don't drown or freeze! Well, we were to be the bugs on the bottle.

The doctor had brought up some half-inch manila out of the cabin. With this I lashed him fast to the wheel-box. Then I passed a bight of the line over the *Comfort's* stern and made a bowline in it that I could slip into myself in a hurry when it was needed. Finally, I ducked down into the cabin at the doctor's direction and got a bottle of glycerine, with which I smeared the little window in the after bulkhead of the cabin-house through which the helmsman looked in at the compass. The heat of the cabin lamp just inside would prevent ice from forming on the outside of the glass, and this glycerine was to keep it from fogging. You have to hand it to a doctor sometimes!

I had just stowed the bottle below and slammed the cabin hatch tight shut when all at once, without any warning, the old *Comfort* gave a buck jump that sent me sprawling.

"Hold fast!" bellowed the doctor. Next instant all the waters of the earth sat on my back. "That's the first one," I thought. Then I got a gasp of air and heard the doctor's voice sing out: "We must be clear of the harbor. Come aft now." Which I did, and sat with the bowline under my arms! I'd figured for some years back that I was a sailor, but this submarine business was a new breed of fish to me.

Pretty soon I got some of the brine out of my lights and saw he'd hauled her off E.S.E. for Flower's. Then the old *Comfort* did another flip and half of the North Atlantic jumped over us; but when she had freed herself—shaking like a Spaniel pup—the lubber-line was just the least shade to the right of the E.S.E. diamond, and as she coasted down the next planing chute it swung a hair to the left. For a good ten minutes I kept my eyes glued on that card all the time it was in sight, and in that time she only swung an eighth off, which single error was evened up by a similar swing in the other direction immediately after.

It was evident that the doctor was a

master helmsman, but equally clear that he was continually exerting his whole force of nervous energy and a good share of the physical. Moreover, his skill was nine-tenths due to absolute familiarity with the boat—in which I would be totally lacking. In other words, he would have to steer the entire distance! Seventy-two miles! Could he last it out, at that tension?

But what matter! My clothes and moustache were frozen solid now and every sea that broke over the old *Comfort's* deck seemed to give her a body blow. Still it was mildly interesting—like a hunting trip, where the hunter is sure to win, only turned around.

The minutes slid past. We were alternately dropping plummet-like into deeper and deeper pockets and shooting skyward over loftier and loftier crests. Sometimes a crest would break before we topped it and then even the roar of the wind would be smothered out. In the whole world there was nothing but water and wind and the compass card—the latter alone visible. Our confused senses were tortured by uncanny leaps and twists and wriggles which the boat made in addition to the rhythmic rises and swoops.

However, one took little count of these minor sensations. One time the rope pressed against my chest so hard that something gave—with a sickening jab—and another time when a sea burst over us I heard the doctor give a stifled cry.

What was the use? A thousand times I made up my mind to implore him to broach her to and end it; but somehow the compass card each time fascinated me and took my mind away. I got to betting myself that the next sea would swing the lubber point 'way off the course, but it seemed glued there!

Pretty soon it began to irritate me, and I got to taunting it under my breath—daring it to move away, go clear around the compass if it liked.

Then I heard the doctor's voice, sharp in my ear—"The engine's stopped. Get up!"

Something woke up; I remembered suddenly that I was a ship master, a man. The doctor pulled me over beside

him and put his lips to my ear, "I'm frozen solid here with this lashing," he shouted. "You will have to look to it."

I watched, or rather felt, for my chance, and managed to get below without being swept overboard. Then I held an autopsy on the motor. Gas-engines are not just in my line, but it didn't need an expert to con this one's trouble. It was a broken connecting-rod.

So it had happened—we were helpless!

The doctor took the news without comment. Instinctively I looked again at the compass. With his wonderful skill he was still holding true on the course, but this could not last long. We were fast losing steerage way. Soon she must broach to and then roll over. Well, it would be best so.

Again the doctor pulled me over to him. "You must rig a sail," he shouted. A second time something seemed to wake up inside of me, something that was almost dead in my numbed, dazed being.

"I unbent all her canvas last week and stowed it on shore," the doctor was saying, "but there's a patent drogue in the forepeak; see what you can make of it."

Here was my own sort of work, to get a jury rig set up, and quickly—before she had lost way and become unmanageable.

I'd come to myself altogether now and went about it in a hurry. There was a great collection of junk stowed away forward, but I yanked everything out on the cabin floor and pawed it over. Here was what I wanted—a yard about four feet long with a square piece of heavy sailcloth bent onto it. Next I hauled out a coil of stout manila and took enough for a set of halyards. Then I got hold of the lower corners of the canvas and saw they were fitted with grommets. Into each of these I secured a piece of lighter line for sheets. This done I started for deck.

Then just as I got to the companion-steps and was reaching for the hatch fastening the whole world suddenly turned upside down.

Simultaneously there was a crash; I seemed to be falling through a great space and then to land very softly.

When I came to there was a new pain in my chest and splitting ache in my head—the cook-stove was sitting on my legs and a general assortment of pots, pans, lanterns, and spare gear lay all over the place. But the sight that really interested me was the cabin lamp. This was one large ball of flame; also the air was thick with the acrid stench of burning varnish.

Somehow I got clear of the stove and ripped up the cabin floorboards. A bucket was handy, so I dipped it into the bilge-water, then located my sail—so I could find it in the dark—and let go at the burning lamp. Followed a great puff of steam, a sudden roaring flash, and—darkness. The fire was done for; so also the lamp!

I got on deck as quickly as I could and forward to the mast. How that young square sail ever was rigged is beyond me, but sailors do such stunts by instinct, when there's nothing else on the job. It had only sixteen square feet area and set just a foot or two off the deck, but in that gale of wind a napkin would have done the job. The old girl jumped ahead again and the doctor let out a shout of joy.

I went back to him. "What happened when I was below?"

"She stood on her ear," he yelled back; and, by the great Horn Spoon, there was a laugh in his voice! "I let her round-up too much," said he, taking the blame on himself, "and one caught her under the counter. She rolled clean half over and back onto her keel—so quick I hardly got wet. How are things below?"

"All over the lot!" Then I remembered, and it seemed as if somebody had suddenly hit me in the stomach. "The lamp's finished, blown up, done for; I've got no way to light the compass for you." We were finished.

This time there was nothing to say. The doctor just kept steering. A skillful sailor can approximate a course pretty closely by the feel of the wind—which was, of course, the only thing left to do—but we both knew that now there remained not one chance in a thousand of striking the far coast where we had aimed at it.

Yet somehow about this time I began to sort of get a second wind. About everything had happened that seemed as if it could, and here we were still alive and afloat. It may have been partly that my clothes had frozen solid (except at the joints) and kept out the wind so that my body was less chilled—or maybe it was just a case of getting used to it. At any rate, I had begun again to figure on the chance of getting through the Ledges—when the big surprise was sprung.

The doctor must have been thinking about the same thing, because he asked me to see what time it was. I ducked down below and managed to find a dry match. The clock showed eleven-thirty, which, at ten knots' average speed, would mean we had come within fifteen miles of the destination. I wanted to cheer; then a curious glint underfoot caught my eye, and just as the match went out I saw a tongue of water snake up between the cracks and glide across the cabin floor. I sat still in the dark and waited for about ten minutes. Then I struck another match. This time the whole cabin floor was awash. I went on deck.

For that next half hour I envied the doctor his job at the wheel. It was hell just to sit still—and sink! Various schemes went through my head. The wind seemed to be moderating. I wondered if we could'n't sneak off south for the nearest point on the Newfoundland shore and take a chance on running into a lee behind some island.

The more I thought of this scheme the better it seemed. St. John's Island would be handiest. We should be about off it now and not more than three or four miles out. The wind certainly was moderating, and the snow seemed less impenetrable; one could see some little distance now!

My hopes began to beat high. As we rose on the next crest I looked hard to the southeast. Was that something darker than the sky? The next time we rose I looked again, with my heart in my mouth. It was still there! Then I shut my eyes, counted a hundred, and looked again; yes, there could be no mistaking it—the dark loom of high land!

I threw up my arms and let out a

shout, "St. John's Island, Doctor! By God, we're saved—we're saved!"

"How's that?" he asked. I was surprised at the new note of weakness in his voice. The strain had surely been grueling.

"St. John's Island," I cried, shaking him, "over there—harbor—d'you hear?"

He was silent for a few moments. Then—

"Yes, we should be about off it now," he replied without special interest.

"But, for God's sake," I yelled, dumbfounded, "what are you doing? Aren't you going in?"

"The mail steamer is at *Flower's*," he answered simply.

I confess it; I wept.

Half an hour passed. We were still afloat—waddling like a drunken goose. At the end of an hour every sea swept us, though the wind had moderated considerably. I was near numb with cold. Neither of us had spoken.

Then suddenly something white flashed out ahead.

"Ice!" I yelled, pointing. There it went again!—a long white rim gleaming for a moment across the sea before us.

"No, the Ledges," said the doctor quietly. Every sea we rose on showed the white line of breaking water nearer. Presently we could hear its crashing above the roar of the wind. It lay directly to leeward and stretched as far as one could see to right and left. There was no escaping it.

The doctor's hand fell on my knee. "We have missed the channel clean. It's too bad," he said simply.

I couldn't speak, but I gripped his arm tight, and in that instant I loved this iron man as I never knew one man could love another. We sat there waiting—drifting closer—not even caring to delay the finish by dousing the sail.

"Look!" cried the doctor suddenly.

I followed the direction of his arm. Well off to starboard there was a small, dark gap in the white wall of spume. We watched it while another sea piled over the ledges and saw it stay in the same place—an opening in the reef!

"God! if we only had the engine!" I groaned. A curious rasping sound came from the doctor's throat. I looked and

saw he was struggling like a madman with the frozen lashings that held him to the wheel. With numb hands I tore open my oilers and fumbled for my sheath-knife, but before I could draw it out the man beside me had thrown himself forward and cast all his great strength into one convulsive effort. The next instant he fell crashing, free, on the deck.

"Cut away that sail!" the doctor called to me, as he kicked open the cabin hatch and leaped down. Ten seconds later I joined him in the cabin and took an improvised kerosene torch from his hand. At our feet stood the engine whose restoration to life might save ours. It was a two-cylinder machine. The connecting-rod in the forward cylinder had loosened and ripped off the bottom half of its crank bearing, whereupon the rod itself had jammed in the crank-case so as to prevent the shaft from turning.

If one could dismantle the injured cylinder and remove the rod the engine would probably run on its after cylinder alone, but to do that would mean the unscrewing of many nuts and bolts, a job for minutes with all facilities—while we had seconds only and no facilities. The doctor stood silent with head bent forward and massive shoulders bowed. The seconds of our life ticked out.

Then suddenly he had leaped to the forward end of the cabin and from the forepeak was dragging out a cumbersome iron object—the launch's spare anchor.

"Look out!" he shouted. Quick as lightning he had swung the heavy casting up over his head in both hands, poised it there for a moment, and brought it down with the sweep of an axe upon the top of the disabled cylinder.

There was a shower of iron and—thank God!—it was the cylinder that was shattered! With his bare hands the doctor tore the wreckage apart and hove out the piston and the bent connecting-rod on the floor. The engine was free!

Next he grasped the flywheel and gave it a spin. Nothing happened. I picked up a priming-can and opened the petcock of the remaining cylinder. While I was priming it the thunder of the Ledges shut out all other sound. Would we be just too late, after all?

On his knees in the water over the cabin floor the doctor cranked the motor as you might spin an empty coffee mill. Again there came the crashing roar of a sea on the Ledges almost at hand. Would the engine never start—God, it was too much! Suddenly in the uncertain flare of the torch my eye fell upon the ignition switch. It was turned off!

I thought my hand would never reach it; yet it could not have taken more than a minute fraction of a second.

Instantly the engine came to life. A big shape hurled itself past me up onto deck. The wheel was spun hard over. The boat seemed to respond.

Fortunately it occurred to me to look at the carburetor. I saw that the water in the cabin was nearly up to it. I grasped a bucket and thrust it down in the water until I had passed its rim under the carburetor, then let it rise as far as it would. It took all the nerve I had to sit there in the cabin and hold that bucket. I had felt the vessel round up toward the wind and knew that the doctor was using the best of judgment in edging his way toward the opening; but the question was whether he could still make it before the send of the sea and the weight of the wind had carried us down on the Ledge?

I counted the seconds—then the minutes—surely the little boat was at least making a game fight!

All at once I felt her bow swing off, and at the same instant the doctor shouted. I dropped the bucket and leaped for the hatch—was it salvation or death?

On deck I saw at once that the climax had come. We were being shot forward on the crest of a high, steep sea. Just ahead lay a narrow gap of black water, for which the doctor was struggling to hold her true—the sole break in a great, tumbled line of seething spume which stretched off to infinity on either hand.

Now white water was roaring and crashing on both sides of us—a scant five yards away. The fury of it was past describing; it numbed my brain. Then, like a flash, all had been left astern and we shot into the quiet, sheltered water of Flower's Cove—through a hole in the Ledges!

Hot blankets, followed by dry clothes and some steaming soup, will sure work wonders for a man. By 2 a. m. the *Hyperion's* cheerful smoking-room looked good to me. I wandered in with the ship's first officer, and he ordered drinks.

At another table Dr. Bond, likewise in borrowed clothes, was explaining to Captain Hare the theory of splints and bandaging. You might have thought he had been there all the time.

Most of the passengers had been unable to go to sleep on account of the noise of the gale, and now they had drifted into the smoking-room and were gathered in groups, listening to the doctor or trying to pump *me*.

"I tell you what it is," said one smug, satisfied, twentieth-century hobo of the drummer variety, "man's dominion over nature will soon be complete. Look at this wireless, for instance—marvelous thing—here we put into this little port stormbound, with two fellows dying up forward—and, lo and behold! We just whistle their salvation out of the very air. Nothing can harm us any more with the wireless. It is the invulnerable shield of Hector come true!"

Across the table the mate caught my eye and looked up at the man with a curious grin—the same look which I had seen hours before on the face of the operator at Carrington. "I don't know a whole lot about this Hector person and such," he observed drily, "but it occurs to me that Captain Webb here may think there's a reverse side to *this* particular shield!"

HELP FOR THE AMATEUR HIKER is offered by William C. Stevens in May. If you like to walk and want to know how to get the most pleasure out of it with the least effort and hardship, read his article.

SAFETY FIRST

By EDWARD C. CROSSMAN

Cases Which Prove That a Gun Is Never as Safe as the Casual Handler Thinks

THESE little instances are facts, not fiction, told exactly as they happened, and happening either within my own sight, or else told me by men whom I know to be accurate, and not drawers of the long bow. There's no moral to be pointed out, it runs too plainly through the tales. Also, as I've used a gun since I was ten, I have some twenty-two years' gun experience back of me. Also, with this experience and the usual proportion of the gun accidents that happen to every man who uses a gun enough to run with the law of chances, I have reached certain fixed conclusions. They are:

That I'm more afraid of a gun now than when I first started in; not afraid of its recoil or its report, but of its devilish uncertainty, its certainty of being loaded just when it should not be.

That if a man accidentally points a gun at a human being he should be reminded of the fact in no uncertain terms so that he will take heed next time.

That if a man deliberately points a gun at a human being, save at one whom he is entirely willing to harm or intimidate, he should be clouted alongside the head with the first heavy object to hand. He is but a peg above the sort of fellow who would put a live rattlesnake in your blankets for a "joke."

That if a man fires a gun without being reasonably sure that his target is not a human being, and that his bullet or shot will not injure someone beyond, his arms should be taken away from him, and his name posted in every sportsman's magazine in the country as a fool unfit to own firearms.

The only apology for printing these

incidents is that *they are true*, and but a few of those that every observing man of long gun experience can recount.

From where he sat the hunter could look down into the little meadow below him. In its center lay a hundred-yard patch of tangled brush. Its skirts were clear for a few yards, then came the brush of the surrounding hillsides. Beyond the patch, away from the hunter, lay the green of the little mountain cieraga.

As he watched, a big four-point buck stepped out of the brush of the hillside, walked swiftly across the few yards of clear space, and entered the center patch, which concealed him again.

Presently the brush on the opposite side began to wave, and the hunter above could see dimly the dark body moving through. The sight of the powerful rifle fell on the object, but to the mind of the hunter came his old rule, be sure. Not one chance in a million was there of another human being in that remote canyon, but he waited.

In a moment more the disturbance in the brush reached the edge—and out stepped a man, dressed in khaki, the color of a deer, unaware of the presence of the buck on the other side of the patch. Lying perdu, the cunning buck broke and ran only when a shot crashed over his head a few moments later. He had not gone ten feet into the patch before he heard the rustle of the hunter on the other side, then he stopped and waited.

It was in the days of the old Naval Militia of Chicago, the good old First Ship's Crew. The discipline was strict, a veritable martinet commanded.

Standing at attention on the upper "deck" of the old building, a man raised

his hand and straightened his cap. A moment later he was on his way to the "deck" below, with a guard over him and orders to walk up and down with a forty-pound sack of shot over his shoulder.

The sentry was a friend of the culprit. The rifles in those days were the old Remington-Lee .45, with box magazine and magazine cut-off. The prisoner jestingly refused to walk, and equally in jest the sentry took aim at his head and snapped the rifle. Then he slammed the bolt out and in and again snapped it at the prisoner—all in fun of course. Then he happened to glance into the open magazine when he again opened the gun.

Five neat cylinders of lead and brass snuggled therein, left by some bone-head who had been to the target range and who forgot to remove the filled magazine. Only the "off" position of a little catch lay between the "prisoner" and the bloody death that comes from a .45 caliber lead bullet at ten-foot range.

It was an automatic .22. The extractor was not well designed, and if it snapped forward when the gun was apart, it became bent inward and refused to grasp the rim of the shell. The salesman in the store took the little rifle, removed the magazine, pulled back the bolt twice to make sure the chamber was empty, and set it up in the rack, to be cleaned when leisure permitted. Ordinary precaution had been taken.

A customer a bit later asked to see the new rifle. The salesman took it down, pulled back the bolt, let it snap forward—and the rifle remarked viciously, "Pack." The bullet went up through the ceiling.

Investigation proved that the extractor had in closing, because of being bent, failed to grip the rim of the case. Instead it struck the rim of the shell, and the third time had battered the soft copper enough to fire the fulminate. And the "Smart Aleck," the "Wise Guy," the fellow who knows all about guns because he owns one, says that "It ain't dangerous, I know it ain't loaded." Luckily the salesman who handled this gun knew guns and the tricks thereof.

The shell was a bit damp and did not

chamber freely in the pump gun. The shooter closed it and tried to let down the little, slippery, miserably inadequate hammer. It failed to slip down when he pressed the trigger—the action was not quite closed. He released the trigger, gripped the stock, and slammed the slide handle forward to complete the closing.

Luckily only a few pellets struck the feet of the other man and did not even get through his shoes. It was a pleasant trick of this particular gun that if the trigger were pulled when the bolt was not quite closed, but near enough to appear shut, it would not re-engage, when released on the hammer failing to fall. Then, when the gun was forced shut, the hammer fell of its own accord. No, this gun was not dangerous, "I didn't even have my finger near the trigger."

"I'll fix it," quoth the husky when the lady could not get the trombone rifle closed. He slammed the action-slide-handle home with all the force of a husky forearm—then stared with greenish countenance at the hole a soft point .30 automatic bullet made just to the right of his big toe—said hole luckily in the ground, not in his foot. No, the rifle was not built to fire this way, it could not possibly do it—but trial proved that the rifle could be fired just as fast as the action-slide-handle was slammed home, without finger being near the trigger. "Perfectly safe, I didn't have my finger near the trigger."

The gunsmith and the owner of the Mauser both tested it. The set trigger had been changed over to an ordinary fixed one, with 3½ pound pull, not the ordinary double draw with which bolt guns are usually equipped. The bolt stood their handling perfectly well—and the gun was passed as safe.

It fell into the hands of a person used to a bolt action rifle, who made a turn bolt slam home with the speed of a straight pull. The first shot missed the goat, then the bolt slammed open and shut with the speed that comes from training.

"Pow," bellowed the rifle, in the accents of a Springfield 1906 cartridge. A jet of dust flew up on the hillside. A

second time the bolt was yanked open and shut, the hunter cursing himself for apparently holding back on the trigger with what must have been a third hand. Again the gun roared. A "safe" gun had once more illustrated how safe a gun is.

The safety was on, therefore the man who knows it all stood the gun against the fence, loaded, barrels closed. A safety is a safety, isn't it? The other fellow wiggled the top rail of the fence as he climbed down, and the double hammerless slid slowly along the rail, cleared it, and dropped heavily on a stone, muzzles toward the man who had just slid down from the fence. The safety was on, it was harmless.

The doctor got there too late; a charge of shot through the upper thigh at a range of ten feet leaves little for the doctor to do, anyhow. And the safety was still on, although they found that the sear had jarred out of the bent in the tumbler, from the blow of the gun on the stone. The safety was on, the young fellow must be still living, it is all a mistake of some sort.

The old gentleman, not so very old after all, for he loved to hunt and was as fond of guns as ever, stepped up on a rock beside the trail to gaze down the lovely canyon. He dropped his hands to his hips to hitch up his belt, standing there in plain sight with his handsome face, his short white beard, and his gray hair.

A heavy blow whirled him half around and his right hand went suddenly numb. The bellow of a rifle echoed and re-echoed up the canyon.

By the luck that protects a few men from fools, the spitzer from the heavy army rifle had merely gone through the right hand without breaking a bone, struck a glance blow on his side, and departed without entering the body.

The horrified fellow with the rifle, who had met the old gentleman on the trail but a few moments before, had wild cats on the brain, saw wild cats in every bush, and said that when he saw the old gentleman with the white beard step up on the rock a couple of hundred yards

away, he thought he was a wild cat!

It was the usual variety of take down .22 caliber repeater. The cautious owner threw down the lever three or four times, then pulled out the magazine tube and tipped up the rifle so any cartridges in the magazine would run down into sight. Then it was taken down to put in the case. Snugly ensconced in the mouth of the magazine, but caught so the follower did not drive it down into the carrier, lay a long rifle cartridge. So loosely was it held that a slight jar of the receiver released it, and it slid down to the cartridge stop, ready to move into the carrier when the lever was depressed. "It's not loaded, I worked the lever and looked in the magazine, go ahead and snap it to see how you like it."

He was the usual fool, and he held in his hand a powerful automatic pistol. "Want to see it?" he asked of his friend, "I'll unload it for you." He knew all about automatic pistols, he owned one and had owned it for fully an hour. He depressed the magazine catch and slid the full magazine out into his hand. "Go ahead, she's safe now," he assured his friend. Had he not taken out the magazine, how could it be otherwise than safe? A moment later it was as safe as guns ever are, for the friend fired the cartridge that remained in the chamber, and that had nothing to do with the ones in the magazine. The man in the office across the street spent a month in the hospital. It was a powerful gun.

He had one of the old Single Action .45's with the solid frame and the little gate at the right side of the frame by which empties are removed and full cartridges are slid into the cylinder chambers. He loaded it carefully, being a careful man with guns, then showed his two friends how the sliding rod below the barrel drove out the cartridges through the opened gate. Carefully he removed the cartridges and spun the cylinder to make sure that every one of the six chambers was empty. He was called away for a few moments, and left the gun and box of shells lying beside it.

A half hour later he started to put the

gun back into the holster, still talking to his friends. From force of habit he dropped the gate and again spun the cylinder. Across the gate there moved the head of a cartridge, just one. One of the friends glanced at the gun at his exclamation, then turned red.

"I loaded it up to see how it worked," he said, "but I counted the cartridges as I took them out, and I took out all five I'm sure. Holds six and I left one in? Why that's funny, I got a Forefoot and Johnson home and it only holds five."

It was an old muzzle loader, with the barrel badly breech-burnt as was the fashion of those old guns. For years it had lain around a garret, then the owner decided to have the barrel screwed out of the receiver, the burnt end cut off, a new nipple put in, and the old gun put into shape once more.

The smith ran down the old worm charge extractor, pulled out a wad that lay on top of the shot, poured out the shot, took out the powder wads, and poured out the powder. Surely there could be no safer gun.

He took it off the stock and put the breech in the fire to enable him to turn off the barrel. A streak of fire and blue smoke drove across the shop, and a thim-

bleful of shot, nearly as one shot, drove out the shop window.

Theories are all right and luckily the smith lived to theorize, because he refused to trust his body before the muzzle even of an old gun half torn to pieces. Apparently in years gone by someone had tried to fire the old gun, failed, jumped at the conclusion that it was empty, without checking up by the ramrod, and had rammed a second charge home on top of the first. A farmer boy is full of such tricks, with a contraband gun and a small knowledge of gun lore. The smith drew the first charge and the gun presented him with the second when the breech grew hot enough.

Purposely I have avoided the long, weary list of the performance of fools with guns, saving a few exceptions that show "how it happened."

I've tried to show you how the most careful of men and the most experienced ones can be caught napping by the demon that lurks in gun barrels.

I like guns as some men like race horses or yachts or dogs. I own a cabinet full of them, but not one would I trust for as long as a watch tick, were its muzzle turned on someone that I would not dream of harming.

WHAT AN OLD MARKET SHOOTER THINKS ABOUT GAME PROTECTION

By EDWARD T. MARTIN

*The Man with the Gun Is not the Only Enemy Against Which
Our Birds Should Be Shielded*

IN the Western mountains, cats, cougars, and hawks, aided by big gray timber wolves and their coyote cousins, undoubtedly destroy more game than all visiting huntsmen. In places where a vigorous war, prompted by high price of fur and liberal bounties offered by State or county, has been waged on these game eaters, so far as

the writer can learn, there has been an increase rather than a decrease in the number of deer, grouse, and rabbits, an increase rather surprising in view of the constantly growing body of visiting shooters.

If on the outskirts of civilization and in thinly settled parts of the land, it has been deemed wise to pay bounties for

the killing of these game destroyers, why in the farming country would it not be showing equal wisdom to pay directly for game protection? Courts have decided that game is the property of the state. Both nation and state unite in making laws for its protection. Why should they not also unite in paying bounties for its increase?

In some states the planting of trees has been encouraged either by a reduction of taxes or by actual cash.

They tell us a tariff is necessary for the protection of infant industries, and to increase the output of home-made goods. They argue in Congress in favor of a subsidy for American shipping, so why should not something be done along the same lines for American game? Every dollar paid in bounties would come back a hundred-fold and more.

Game laws sometimes protect and sometimes they do not. A farmer argues:

"Well, I'm feeding those birds; why shouldn't I kill some when I want a mess for my table, law or no law? My crops have no closed season. The chickens or quail or ducks eat my corn and wheat when they are hungry, and I can't stop them. Seems to me turn about is fair play."

To get perfect protection for the birds, something must be done to make this kind of man change his mind. A bounty would do it. Game wardens are not ubiquitous. There are only a few—perhaps but one—to a county with a thousand farmers and twice as many farmers' sons to watch. They can't do it; besides, perhaps these people are their friends; possibly their relatives. Then they may have been raised on a farm themselves, anyway among farmers with the same ideas of right and wrong; consequently it is very easy to get on the blind side of them.

Escaping Conviction

If an arrest should be made, the trial would come off before a local justice with a jury dominated by the granger influence. What a chance for conviction! Such cases always go one way.

The writer once was present at a deer-killing case in a Western state. A poor

homesteader shot a doe a few weeks the wrong side of the law. A neighbor with whom he was on bad terms saw him carrying the meat home and next day swore to a complaint before the nearest justice as the law provided. It was a serious matter; a minimum fine of \$25, which meant fifty days in jail, as the offender was troubled with the usual backwoods scarcity of cash.

The evidence was clear and positive. The complainant was within a few yards of the hunter. He swore he saw him walking down the trail carrying a rifle, with part of the deer slung across his shoulders. The only question asked in cross-examination was:

"Will you swear it wasn't a sheep?"

The witness, with a snort of derision, blurted out, "Do you think I'm a fool and can't tell a doe when I see one?"

That was all; no character witnesses, no arguments, nothing. And the case was submitted for decision. The writer, who had hired the offender to help on a fishing trip for which supplies were already bought, was sure nearly two months would pass before his man could climb a mountain side again, and was surprised to see the judge hesitate. Still more so when he heard him say:

"I ain't a-going to convict nobody on sech evidence. It might have been a sheep. If it wa'n't, why didn't the witness say so when I asked him 'bout it? Not guilty."

"Lucky boy," the writer remarked.

"Lucky nothin'," the "sheep" toter responded quickly. "You see, I knowed I was in for trouble when I met that skunk, an' soon as 'twas dark I hung a hindquarter of that 'mutton' in yonder old rooster's barn," pointing to the justice, "an' he had some of it for breakfast this morning."

Local Feeling

That is the feeling all over the land. Farmers stand by farmers. Residents of the same locality help one another. Of course, if an outsider is caught, even with a doubt in his favor, it goes hard with him. Nothing like turning good money loose in a community and keeping it there, too.

In a rural settlement a little easy money goes a long way. Where birds are scarce—and does anyone know where they are plentiful?—some small bounty, some remission of taxes, would cover everything and stop seven-eighths of the illicit shooting, for in almost every township there are resident shooters enough to decimate many a covey, to bring home many a horn-wearing “coon.”

Then, if the bounty did not furnish sufficient incentive for the land-owners to provide, or, more properly, to spare from the plow, spots of grass, or brush, or briers, nesting-places for grouse and quail, and shelter as well, let the state go a step farther and either require by law that such be done, or pay out a little more easy money for rental of some tracts of almost waste land—the farmers surely would meet the authorities more than half-way. A small amount of money only would be required; one or two such tracts in each township and the problem would be solved. In a few years grouse and quail would be back to their own again.

Let us see. One pair of chickens or quail, a dozen eggs, with full protection from man, eight young birds should live and reach maturity. That would mean forty birds the second year, a hundred and sixty the next, and six hundred and forty the next. Looks well on paper, does it not? Well, it might look even better in fact, unless the chickens were to become restless and migrate; but then, with uniform laws, the country somewhere would receive benefit from their increase. The quail would remain at home and so would the ruffed grouse.

Vigorous Action Needed

There should be no half-way measures. Vigorous action should be taken. Shooting should be stopped on all birds excepting water-fowl for a period of, say, five years, stopped all over the land.

With the farmers as allies, the present army of game protectors would have little trouble in silencing the guns of the country lads, as well as those of the city sportsmen, and with “elbow room” for the birds to live and breed, even in the lifetime of some of us old fellows for-

mer conditions would to a considerable extent be revived.

And the water-fowl? First of all do away with your reserved grounds and baited ponds; or, better yet, close them against all shooters and let the birds have the benefit of them. Places of refuge in Southern waters are very good as far as they go, but they should go as far as the Stars and Stripes fly. Such spots of refuge should dot the land from the waters of the Gulf to the Canadian line, and what better locations could there be than those places which for years have been slaughter pens for the ducks?

Few have an idea what a farce on game protection this reserved land and baited pond business is, particularly west of the Rockies. I have before me the records of some shooting clubs, records to be sure, over a year old, but official and undoubtedly correct.

On the reserved lands of one club during the season 9,200 ducks were killed, 6,025 by the members of another, while scores of between 4,000 and 5,000 were rather common, and a club that could show only 2,000 was indeed unlucky. And this is the way they shot. “Of fourteen members shooting on the Blank-Blank ponds, twelve had the limit by 10 o'clock.” Of the Weedy-Weedy club members “some obtained the limit in half an hour.” Isn't this as bad as the old market shooting days?

The writer has been guilty of market shooting. He has killed very many game birds, but never while shouting for the Other Man to be stopped in his shooting, or crying for laws that would shut everybody off but himself. Neither has he ever baited birds until they became as tame as barnyard chickens and required no more skill to kill than a hen coming to get her morning rations of corn, and then bragged of how many straight limits he had made.

While the man inside the fence was doing so much slaughtering, the man outside, the fellow made of common clay, “hardly averaged a duck to a gun.”

The same authority, in giving a résumé of the season, says: “Owing to the fact that some of the clubs do not keep records of their shooting, it is impossible to complete an accurate data of

the number of birds killed, . . . and *the figures were better not published even if available.*" I should say not. No, indeed! People would know then.

Do away with the reserved land as shooting grounds. Give every one a chance alike, but confine water-fowl shooting to the lakes, the bays, the rivers, the big waters, and soon the birds will learn to care for themselves in the far West even as they do in the country of the big lakes. No one will kill the limit in half an hour, and the tally of a shooting club will be under 900 rather than over 9,000. Besides, the ducks will breed locally as in days of long ago, when from Minnesota to New Madrid thousands of mallard, teal, and wood duck were hatched and taught to fly each summer and fall. Even in the Calumet marshes, now a part of the city of Chicago, bags of fifty and sometimes a hundred home-raised ducks were made on opening days.

Once more my authority tells me how the Bang-Bang Club wound up their season by having, on the final day, a mud-hen shoot—an annual event—at which it is estimated this time over *four thousand* mud hens were killed. What for? Sport? Game protection? And what was done with the dead birds? The coast mud hens are even less palatable than their Eastern kindred, and the writer has been told that on none of these mud-hen shoots, which are somewhat common, are the killed birds retrieved—simply counted and left where they fall. Think what a day to talk about! Four thousand birds killed! What sport!

"Those birds are no good; they are unfit to eat," says one, apologizing for the slaughter.

True, and isn't that the very reason why they should be permitted to live? All they are fit for is to skim over the water ahead of a shooter, dragging their legs and splashing as they go; to cluck and gabble as they feed on the seeds of aquatic plants, to sun themselves on some grassy bank, and to live. Why should anyone grudge them that little?

The writer once heard it estimated that in California there were upwards of 250 shooting clubs having enclosed or posted grounds and many of them bait-

ing their ponds. A conservative estimate would be a kill of 2,000 birds to each club; add to this cripples that die and dead not gathered, and we have a total that the Kankakee in its palmy days never equaled. This is why almost the first law passed should be one which would protect the water-fowl from such protectors. Isn't it always the way with some people? "Bar the doors to everybody but us."

Good Wardens Scarce

The trouble with this game protection business always has been to get wardens who are honest and competent. In the old days, particularly so far as the large cities were concerned, many were neither, consequently the laws were openly violated.

A certain firm of game dealers, doing business in a large Northwestern city, advertised broadcast, "Ship us your game. We, and we only, can send game East, and so obtain a good price," which was true, all except the good price. This firm grew rich by standing in with the powers that be and crowded their rivals out of the game business.

In another city the writer was packed and all ready for an all-winter shoot, when, early in December, he called on a middleman to whom he wished to sell his birds.

"Yes, I'll take them," the dealer said, when the price was named without asking, "How many?"

"Isn't there any danger we will fill you up?" he was asked.

"Not a bit of it," the man replied. "Send all you can kill or buy." Then said, "Come up the street a little way and I'll show you something."

The "something" was a cold-storage room filled with boxes of quail. "I have twenty thousand dozen of those boys here and in another place. They will not last through the holidays," he said, "and I am in the market for as many more."

"How about the closed season and the game warden?" I asked; then remarked, "They must stand you a little over two dollars a dozen."

He nodded.

"And it would put a crimp in your bank account if they were to be seized."

He winked, then, laughing, said, "There is more danger of being struck by lightning. You see, we helped get the chief warden his job, and—but never mind."

In the spring he told me his "handle" for the winter was over *fifty thousand dozen* quail, besides other game in proportion, a single purchase of contraband from a northern Michigan dealer politician being fifteen thousand partridges (ruffed grouse).

The writer only has the man's word for actual numbers, but from what he saw and from what others told him he believes there was but little exaggeration, if any. He also thinks, in these later days, there is much less of this business done, yet undoubtedly some, particularly in the East and Middle West. Where politics is supreme one is always suspicious of graft. Where an official obtains position, not from any great fitness, but because he helped elect some man, he would not be human unless he favored that man's friends.

As a consequence, all game wardens and their deputies should be under civil service rules, should be appointed only after a competitive examination, and should hold office during good behavior. This done, they will owe their places neither to politics nor politicians and will be fearless in arresting the man with a pull, doing so as quickly as if he were only a plain, everyday citizen.

A great benefit of having farmers on the side of game protection is that many less birds will be shipped from the small towns as cores for barrels of produce, or as poultry, eggs, and butter. Often kegs of butter have gone into Chicago in which the butter was but skin deep; cases of eggs of which only the two top layers ever saw a hen. The illicit game concealed therein sold to hotel or restaurant and was served as "broiled snow-bird on toast," or as "baked prairie owl."

If farmers were deriving even a little financial benefit from the preservation of game, Mr. Country Dealer could get nothing to ship in this way, unless possibly some boy smuggled him a few birds unknown to Dad; then the risk of shipping would be so great, it is doubtful if he would care to take the chance, for in a small town everybody knows what everybody else is doing and detection would seem almost certain.

With the farmers working side by side with other forces for game protection, with water-fowl shooting restricted to big water, with reserved lands made into homes and breeding-places for the birds, with a closed season over the entire nation for a short period of years, the battle would be won, the problem solved, and the Feathered People of America show such rapid increase that in a few years they could again be shot, this time in moderation, and there would be sport for rich and poor alike, with no favored class to monopolize it all.

WRESTLING WITH A BULL MOOSE

By ROBERT E. PINKERTON

IT is difficult to make any one believe that a man could wrestle with a bull moose, grasping the great antlers in his hands, and come out alive, or even uninjured. It would not be difficult were one to see Colonel D. Douglas Young, retired, of King George's Canadian army, the man who did it.

Colonel Young to-day weighs more than three hundred pounds, and he is

not tall. Neither is he exactly fat. He is just big. When he was nineteen years old he weighed 230, and none of it was fat. He was all-English boxer at twenty and champion single-sticker of the mother isle. No man weighing 230 could be those things and carry any surplus weight. He was an exceptional horseman, either in the saddle or with the reins, and has been shooting a lifetime. He commanded the Canadian

troops sent to maintain order on the Canadian side of the Alaskan line in '98 and piloted his detachment through the White Horse Rapids without losing a man.

To-day, after his retirement, the Colonel is not content to sit in a Toronto club and sip his Scotch. He has been superintendent of Ontario's newest game preserve, Quetico Forest, and is now supervisor of fisheries in Western Ontario.

The Colonel wrestled the first moose he ever saw. It was not a pugnacious spirit that prompted the encounter. There was nothing else for the Colonel to do.

Long ago, before there was thought of game preservation, Colonel Young was hunting caribou in Quebec. With a French-Canadian guide, he had gone north toward St. John's. There was no limit in those days, and when the Colonel saw a herd of caribou on a small lake, he shot six. He was a good shot, and he did it with nine cartridges, leaving one in his rifle. Hurrying across the lake after the retreating herd, he took off his coat, in the pockets of which were his extra shells. He reached the other side of the lake and entered the thick spruce. His guides had stopped by the dead caribou.

As soon as he had stepped into the brush, Colonel Young saw his first moose. It was not more than fifty feet away. Colonel Young fired and wounded the bull, which immediately charged him.

It was a typical North Quebec winter. The snow was six feet deep. The bull floundered toward the Colonel, who was trying to find another shell in the rifle or in his clothes. When he realized that his gun was empty, the bull was upon him, and there was nothing for him to do but grasp its antlers.

The first pressure of the bull's rush was too much for one of the Colonel's snowshoes, and the frame snapped. He

could not give ground, because he could not walk backward with the webs on his feet. He says that he did not realize the danger of the sharp hoofs of the forefeet because he knew nothing of moose, and he ascribes his ultimate escape to the fact that the snow was too deep for the moose to strike successfully. Anyone who has seen the Colonel's mammoth arms can understand that they had something to do with it.

As soon as he grappled with the moose the Colonel began to call for his guide. He braced himself with his disabled snowshoes as best he could and held the moose away. But he knew that he could not last long under the strain and increased his calls for help. The guide did not come, and the Colonel felt his strength slipping.

Then the saving idea came to him. Beside him was a spruce tree. Slowly the Colonel forced the moose sideways until the tree touched his right arm. Then, when the moose had momentarily eased the pressure, the Colonel released the antlers with his right hand, shot his arm around the tree and obtained a fresh grip.

With the antlers pressed tightly against the solid tree trunk, holding the moose was comparatively easy work, and the Colonel put more energy into his calls. Leisurely the guide approached. When he pushed through the fringe of brush and saw the moose, he was too astonished to move until his employer had gasped directions. Then he cut the moose's throat with his hunting knife, and the Colonel released the antlers.

Colonel Young does not believe he could have escaped as he did had the moose been able to get all four feet on solid ground. He says the six feet of snow made his success possible, although wrestling on big, awkward snowshoes is by no means easy. But a hoghead chest, Percheron shoulders, and arms like the legs of a 200-pound man played their part.



PICKING OUT A TRAIL ALONG A SLIDING, CRUMBLING BANK

WITH APACHE DEER-HUNTERS IN ARIZONA

By JOHN OSKISON

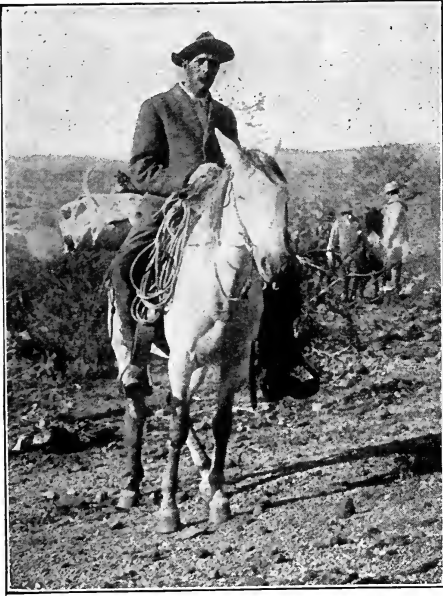
ILLUSTRATED WITH PHOTOGRAPHS

NOT often is it given most of us to take the trail Indian fashion with the men who have matched their wits against keen-scented, quick-eyed, swift-footed animals all their lives. The Indian does not hunt as does the white man, but no one can say that he does not give the game a chance. If anyone thinks otherwise, let him read Mr. Oskison's description of the region in which these red men hunt and note the steadfast persistence with which the trail was followed over all sorts of country. To add to the piquancy of the situation the principal figure in the party was a full-blooded Apache who was a stranger to his own people and their lives and language.

DR. MONTEZUMA sent me a letter from Chicago full of the most alluring phrases about Arizona—a letter I can heartily recommend to promoters as a model to arouse the interest of the sophisticated. Hear some of the doctor's candied words:

"We shall go to the Fort McDowell

Agency, where we will see the Mohave Apaches—the real primitive Indians of the West. They will entertain us where we shall have a chance to fish, swim, and live out of doors. They will provide horses for us on a great hunt and sight-seeing trip among the most picturesque scenery of Arizona. One week or ten days, the Indians will show us how to hunt and show us where battles were



HAYES COMING IN FROM THE HUNT

fought between them and Pima scouts and soldiers forty years ago. . . . Every step of the way we will be guided by the Indians, all of them related to me."

You may not know that the doctor is a full-blooded Apache, who was captured when a small boy and sold by his Pima captors to a white man; that this white man educated him; and that the doctor is one of the top-notch physicians of Chicago. Take my word for it, the doctor has learned how to prescribe for city-wearied folks!

Four of us (the first to arrive) gathered in Phoenix, the nearest and most convenient railroad town, three days before the hunting season opened. And next morning down from McDowell, thirty miles away, came the delegation of Apaches who were to act as our shopping guides when we started to outfit and be our hosts at McDowell—Charley, George, and Richard Dickens, and Yuma Frank, the chief. Charley had brought his two boys and his wife; somewhere Richard had picked up two friends, and out of the void sprang other welcoming Apaches who should have been at home under the sheltering wing of the agent. It was a brave party of fourteen Indians and four white men; and we entertained Phoenix by our marching

and countermarching that first day, until the evening's moving picture show was over and the Indians went back to their wagons in a feed yard to sleep the sleep of the well-fed and princely entertained.

Another day we waited in Phoenix for three others of our party, while the Indians hitched up and hauled everything we had bought out to the little store Charley Dickens keeps on the McDowell reservation.

While buying supplies we asked Charley Dickens "How many Indians are going on the hunt with us?" And Charley, looking dreamily out of the window of the lawyer's office in which we had gathered to make out our list of things needed, studied a moment and replied:

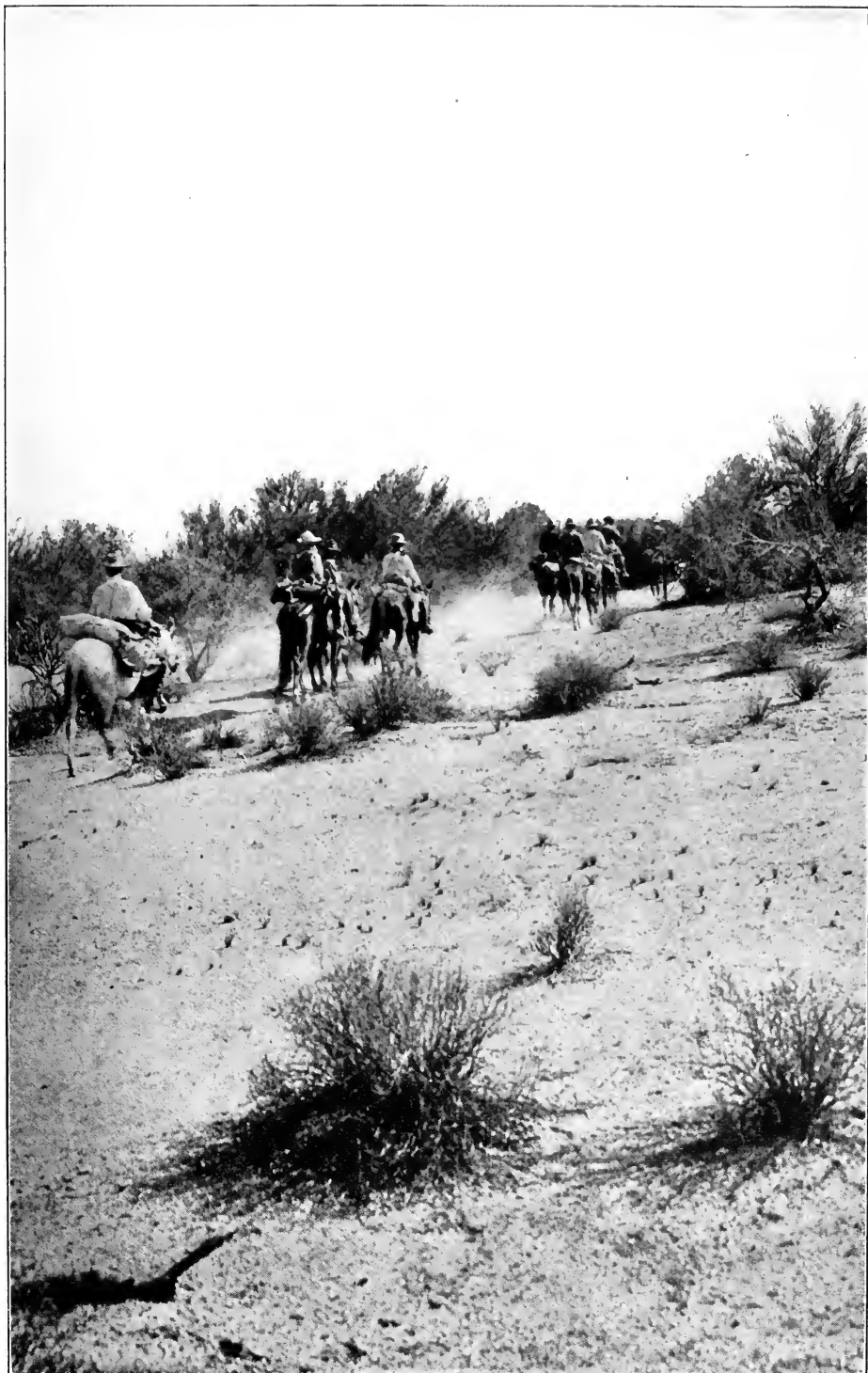
"I think it will be twelve, let's see—it will be me an' Richard an' George, an' Yuma Frank, an' Mike Burns, an' Cap'n Jim, an' Johnson, an' George Black, an' John Black, an' Jose, an' Frank Look, an' my brother-in-law, an' Tom Seama, an' Frank Richards, an'——"

"Charley!" interrupted Hayes, who was keeping tally with a pencil, "you've named fourteen already—how many more?"

"Oh, I guess fifteen, then, altogether," said Charley, abandoning his roll-call. And so we provided supplies for fifteen Indians and eight white men. One of the Phoenix newspapers said that we were to take the whole McDowell tribe into the hills on a great hunt—270 men, women and children—and when we read that paper we laughed scornfully. In our minds, we were to be a quiet, businesslike little party.

Dr. Montezuma had told us that there was to be a dance the night before we started for the hills—an old-time Apache dance of welcome. And when darkness came on the day the pioneer four arrived at McDowell, and we had finished supper, a great fire was lighted in the middle of the dancing ground. I believe that every member of the tribe came to the dance—the last to arrive being the Indian policeman and his wife, the policeman driving the agent's car, with the agent sitting beside him, and his wife in the back seat with the wife of the agent.

Then all night long, to the rhythm of



THAT MORNING'S RIDE TOOK US THROUGH LUXURIANT GROWTHS OF MESQUITE



THE LITTLEST BURRO HAD NEVER BEEN
PACKED BEFORE

a beaten drum and the voices of young men singing a galloping, stirring chant, the Apaches danced. They danced, their simple, primitive dance—two women, facing one way, on either side of one man who faced the other way, stepping rhythmically backwards and forwards. And at the end of each song, a war whoop from the young singers sitting on logs in the firelight.

Now and then Yuma Frank, the chief, would employ the time between dances to talk to the groups of Indians gathered about the fire. All night the drumming and the dancing went on—unweariedly, the women, advancing in couples, circled the fire at the beginning of each dance to tap a singer on the back—their signal that he was to be their partner. For it is the Apache woman who is head of the family, who chooses her man, who builds the shelter in which they shall live, and who leads in all social matters.

Heavy-bodied, straight-backed, their thick black hair hanging straight down

over their ears and neck, the women wore their brightest shawls, their fullest skirts (cut to the heel), and their softest moccasins. And those who were too old to dance, or who were burdened with the care of small children, camped in the edge of the firelight, wrapped (it seemed to me inadequately) in quilts and blankets against the biting chill of the October night. Slender, wide-hatted, and full of a sort of shy gaiety, the men wandered in and out of the firelight. Except those who sang, they stuck close to their seats on the logs.

Until ten o'clock we four visitors sat up to watch the dance. Then the Preacher Man—who has been a staunch Baptist for seventy-two years—remarked that he couldn't see much in that kind of dance—went to crawl into the blankets he had spread under a brush arbor built by Charley Dickens close to his store. Then "Gibby," the sybarite, put on his tourist cap and sank heavily upon his matted cot. But "Monty" and I watched until after midnight, until after the roosters down at the camps of some of the Indians had crowed and become quiet again, before we gave up the vigil. And every time a dance ended and the singers gave their shrill whoop, I woke. And my brain throbbed with the memory of the drum beats and the stirring rhythm of the young men's songs.

At daybreak, the Indians began to leave—wagons rattling away over the hard, dry roads, horsemen flashing among the mesquite trees, and those women who lived nearby footing it silently over the crest of the little mesa, their babies carried on their backs.

McCutcheon and Brice had been delayed again—Morgan and Hayes had stayed in Phoenix to bring them out. At noon they came, and they brought Grindstaf, also of Phoenix, with them. We were ready to start.

There were nine of us, instead of eight—we must have another horse for "Grindy." Then it was discovered that the gray horse and the small mule provided as pack animals could not carry the loads—of grub and bedding—piled up beside the store. The Indians questioned "Gibby" courteously about his

cot and mattress—and “Gibby” declared that he couldn’t do without them. They “hefted” the suitcase Brice had added to the pile and looked inquiringly at its owner; Brice, too, stood pat. I think that if they had laid hands first on McCutcheon’s war bag, he would have started a lightening campaign—I never saw a man on a camping trip more submissive and adaptable than John McCutcheon. But —

“Well, we get two more burros,” said Charley Dickens, and brother Richard spurred away toward a field to round them up.

That littlest burro had never been packed before—we watched the process with the simple enjoyment you see expressed on the faces of the audience when the naughty boy pulls a chair from under grandma; at the end, the littlest burro was quite buried under a mountain of bed rolls, resigned to follow his elder brother who staggered under the weight of the cot, the suitcase, and McCutcheon’s war bag.

Before we started, the camera fiends had to have their chance. We lined up—nine visiting hunters, and—fifteen Indian hunters? Fifteen?—we counted ’em—and there were twenty-seven!

“Say, Charley,” began Hayes, but the rest of us wouldn’t let him say it. The more the merrier—besides we couldn’t have driven a single one of the twenty-seven back if we’d tried!

“Well, I’ll be darned!” said Hayes. He was thinking of the grub. But he needn’t have worried on that score—behind the saddles of an even dozen of those Indians were tied grub sacks and cooking utensils. They meant to be with us, though they could not be of us; and we recalled what the Phoenix newspaper said with abated laughter.

It was nearly four o’clock when we got away from Charley’s store. We insisted upon the Preacher Man taking the lead on his gentle, flea-bitten roan. He is a little man, seventy-two years old, with graying chin whiskers, a smooth-shaven upper lip, a bald head, and the spirit of eternal youth gleaming in his eyes. He wore a straw hat—the kind you see bathers at the beach wearing to prevent sunburn; and he had turned up



MC CUTCHEON READY FOR THE FIELD

the brim in front. With a long straw in his mouth, a fierce red bandanna around his neck, elastics to hold up the sleeves of his flowing gray shirt, his vest flapping as he rode, the Preacher Man became the needed precipitate to bring all of us—visitors who had never met before, and Indians who were shy—into a quick comradeship.

“Don Quixote!” shouted “Gibby,” and Morgan added:

“Follow the tracks of the stout Rosinante!”

It was quite dark and there was a threat of rain in the sky as we came to our first camp on the night of October first. Half a dozen of the Indians, and all of the pack animals, had got there before us, for we had stopped often to shoot quail and adjust saddles. And blazing up beside a great log, illuminating the silver leaves of a giant cottonwood, was a roaring fire. The fire showed us the exquisite beauty of the scene—an oval of packed river sand as big as a basket-ball field, shut in by thick willows. We unsaddled and unpacked; the Indians cooked supper; and we ar-

ranged our beds in a great circle about the edge of the oval clearing.

As we ate, the big wind began to blow, and there was thunder—in the fire's glow the tall cottonwood swayed and rattled like a million voices chattering. Out of the gloom, which began where the willows grew thick, our horses stuck their heads—only the littlest burro had been left untied, for there was no grazing, and we meant to make an early start next morning.

John McCutcheon produced a box of cigars from his war bag—and Morgan led a procession past his sleeping place proffering the brand of friendship that won't rub off. Brice had cigarettes, and he passed them among the twenty-seven Indians. Twenty-seven of them accepted, saving their bags of Bull Durham

and packages of brown papers (a part of our supplies) against a time of greater need.

The rain drove us under our blankets and tarps; and it was past midnight before the clouds blew away and a great round moon sailed into view. I began to complain about an elbow I had inadvertently thrust into a pool of water which seemed to be slowly freezing. I was interrupted by McCutcheon, lying close at my right, who spoke in a small, tired voice as he dried his hair with a towel:

"Good Heavens, he complains about a wet elbow! Did you hear him, Brice?" Brice answered:

"I'm wet and sore and wide awake—I never learned to sleep in the bath tub!" After that "Monty" joined sleepily in



THREE OF THE CRACK HUNTERS OF THE EXPEDITION



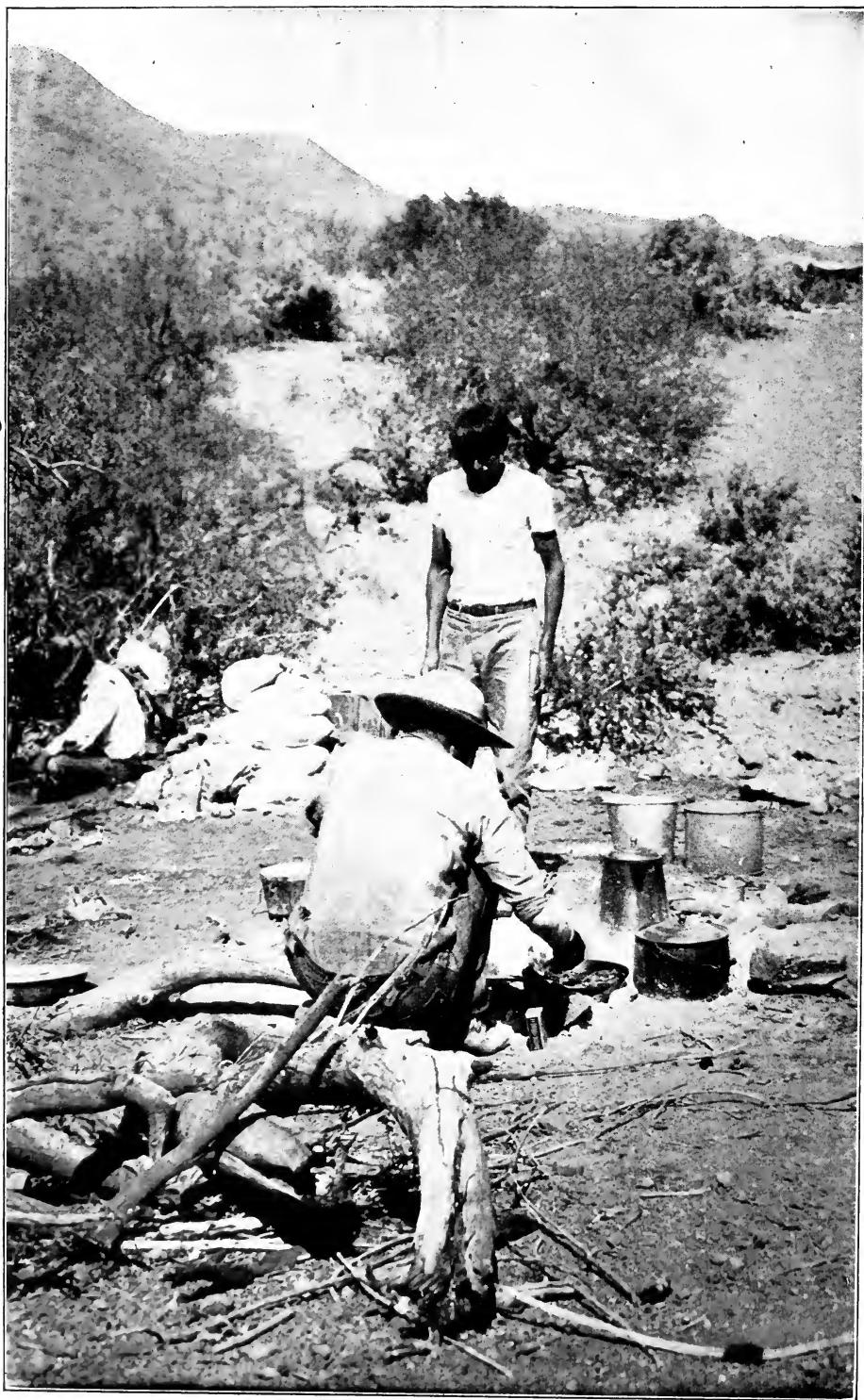
ADJUSTING THE PACKS AT CHARLEY DICKENS' STORE

the post mortem; Morgan, who had kept quite dry on his cot, said a heartless thing, and the Preacher Man reproved him in a tone which roused a sudden explosion of mirth from Richard Dickens, lying on the other side of the fire from me. After that, the other Apaches, who had lain quiet in their water-soaked blankets, began a fusillade of good-natured comment. One of them rose to pile wood on the fire; and presently the rest were squatting on the sand, their backs to the blaze, rolling cigarettes and chattering like a kindergarten. "Grindy" sat up, lit his pipe, and wanted to know what excuse "Gibby" had for sleeping and snoring on such a fine night of moonshine.

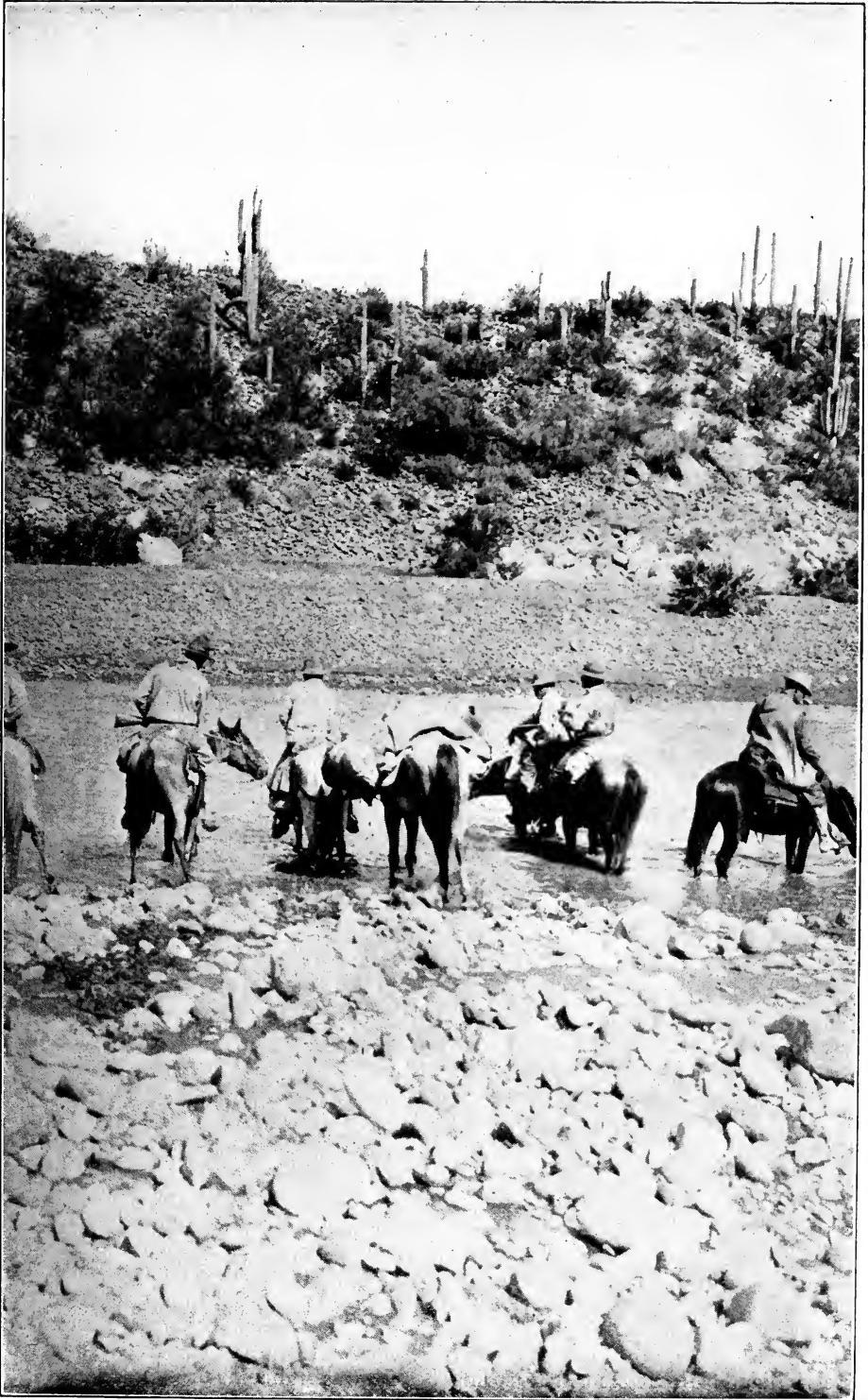
So we waked "Gibby." A great volume of meaningless swear words was flung at us as "Gibby" fell out of his comfortable cot to reach for a shoe. But Morgan had forstalled that move,

and "Gibby" had to promise to be good before Morgan would restore his foot-gear. McCutcheon requested "Gibby" to tell us all about his ascent of Mount Ararat the summer before. "Gibby" is a far-traveler, and likes to tell about what he has seen. Richard Dickens exploded again—that mirthful Apache has the quickest reaction of any joke-lover I know.

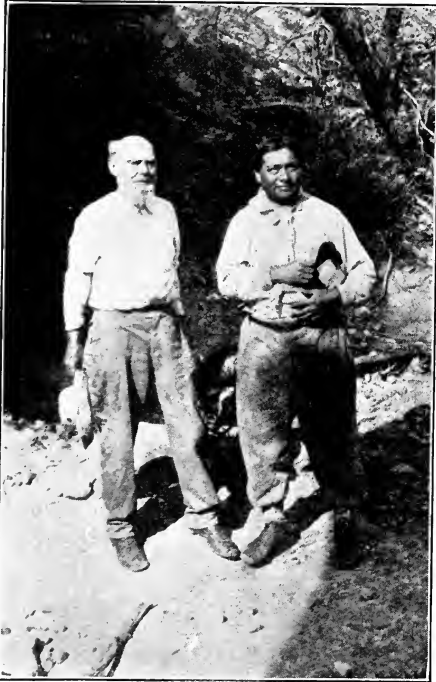
Long before daybreak we had breakfasted; our blankets were nearly dry by the time to pack up, for we held them before the blaze while the Indians cooked breakfast. One of my blankets was not a blanket, but a stuffed comforter covered with thin, cheap print stuff of a wonderful design. A great corner of that comforter had got wet and made a perfect "transfer" of its design on a spare shirt I was cherishing in my bed roll. Morgan begged me to give that shirt to the Preacher Man; he assured me that



THE INDIANS FORMED IN SMALL GROUPS, EACH BUILDING ITS OWN FIRE



WHERE WE STRUCK IT, THE VERDE IS A BROAD, RACING STREAM, ALMOST CLEAR



"MONTY" AND THE PREACHER MAN

Rosinante wouldn't shy at it, and argued that Don Quixote ought to be more brightly attired. Richard Dickens listened to Morgan with commendable intentness, but he couldn't quite get the point; pushing ahead to show the Preacher Man the trail up a spur of the rocky hills, Richard managed to convey the impression that it wasn't fair to indulge in jokes he couldn't understand.

That morning's ride took us up and up in the hills west of the Verde River, through luxuriant growths of cactus, over great stretches of cinder-brown lava rock, along a dim trail which dipped and rose with frightful suddenness, until, two hours after noon, we came to a corral and an unexpected spring.

It was on this trail that we became acquainted with the "strawberry" cactus—a thick-stemmed bush from two to five feet in height which bears clusters of silver-colored balls, nearly as big as tennis balls, set thickly with inch-and-a-half steel-hard spikes, barbed.

Whenever a horse touched one of those brilliant balls, it seemed to spring away from the cluster with a glad cry of relief, and sink its barbs deep in the flesh;

and then we had to get down, hold our squirming horse with one hand and brush the "strawberry" off with a stout stick held in the other. After brushing off the terrible thing, we had to pick out, one by one, the deeply imbedded barbs it had left behind. If it were put up to me to contrive a purgatory for my enemies, I should send them all on a thousand-year journey through the land of the "strawberry" cactus.

Richard Dickens was our guide; Yuma Frank and another Apache were piloting the gray horse and the excellent brown mule ahead of us; and John Black, Jose, "Sunny Jim," and one other were prodding the two burros behind us. Somewhere, scattered over the hills, were the rest of the twenty-seven, hunting deer.

It was about twelve o'clock, and we had dropped down into a pleasant stretch of fairly level ground. We had finally come out of the region of the "strawberry" cactus, and the rain, which had commenced again soon after we left camp, had ceased. Richard Dickens pointed toward the top of a ridge two miles or more away, and called our attention to three figures on foot. He said that they were his brother Charley, his brother George, and Frank Look. He showed us their horses, standing tied to some small trees.

"They got on track of one deer," said Richard. We watched them, tiny figures among the rocks, while we rode for half a mile perhaps, and then we heard the sudden, sharp crack of a rifle. Its echo came back from a hill at our right, whining and shrill. Then another crack of a high-powered gun, and another and another—the hills were full of sound. Richard saw the deer quartering down the hillside, leaping the rocks and dodging among the cactus like a gray ball of light. He turned his horse and spurred to a point where he would get a shot—though a long one—as the deer came down into the flat we had crossed. And as he spurred, he drew his rifle from its saddle scabbard; he flung his reins to the ground, dropped to one knee, and fired.

It was random firing, and Richard knew it. He stood up and began to yell to the group who were coming behind us

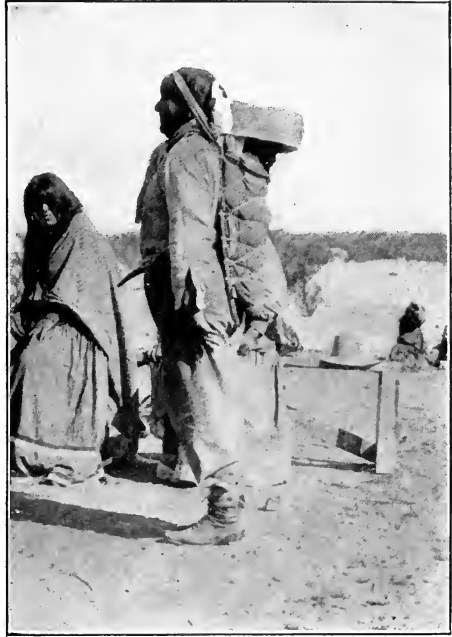
with the two burros. Then the three Indians on the hillside who had jumped the deer joined in the yelling; and we, standing stupidly beside our horses, rifles held aimlessly, watched the deer climb the very hill we had lately descended while we thrilled at the wild, exultant yells of the Indians who were after it. None of us fired a shot!

Just at the crest of the hill, the deer met the Indians who were with the burros; it swerved sharply, and exposed its side to their fire. There were six or seven shots, then Richard shouted to us that the buck had been killed. We raced back, most of us on foot, and found John Black, Jose, "Sunny Jim," and Richard hard at work skinning. They said that John Black had killed the deer; and when the meat was parceled out, John took the skin for his own.

Before the skinners had finished, and while the rest of us were getting back to our horses, more shots were fired by Charley and George Dickens and Frank Look; another deer came rocketing down from the hillside; there was another fusillade from the hunters gathered about the slain deer; but that second deer got away without a scratch. The Apaches are not good rifle shots.

At the spring, under the corral, we dismounted. It was two o'clock, and we were so hungry that we could have eaten saddle leather; some of us, too, were so tired and sleepy that we appealed to Charley Dickens to camp there for the night. But Charley watched the faint trickle of water from the spring for a moment, and shook his head. There would not be water enough for the horses. The best we could do was to unsaddle for an hour and eat. Fresh venison, Dutch oven bread, made without baking powder (the young man we had sent back for the forgotten baking powder had not yet caught up to us), and strong coffee—then some canned peaches. It was a delectable feast! But "Gibby" wanted pie—he asked Richard Dickens, very earnestly, why there was no pie. For a moment Richard was apologetic, then he laughed.

"I think you don't want pie, Gibson," said Richard accusingly, as he smiled up from his dishwashing.

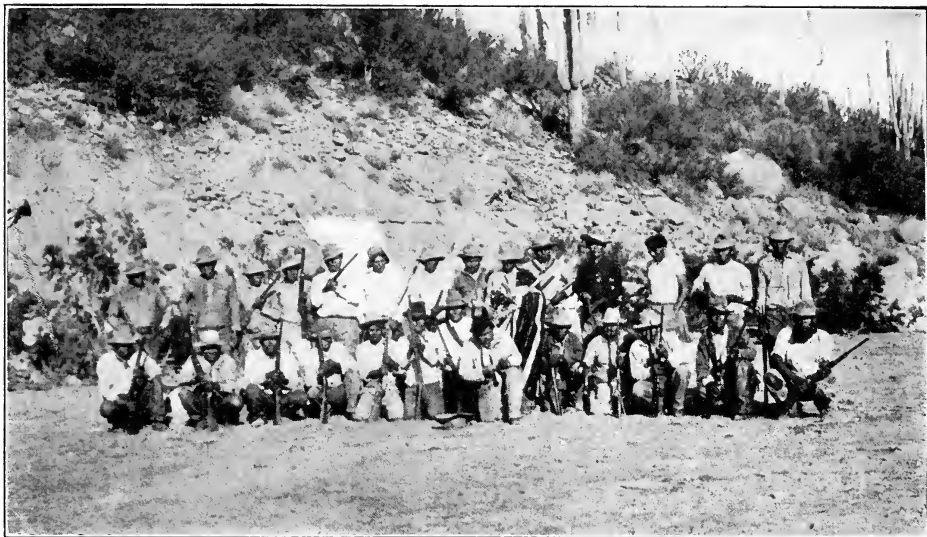


HEAVY-BODIED, STRAIGHT-BACKED,
THEIR THICK, BLACK HAIR HANG-
ING STRAIGHT DOWN

We saddled our horses again, rode over another rocky ridge, and then struck into a sandy wash, now bone-dry, which led us in an hour and a half to the Verde River. Then we were glad, indeed, that we had not camped overnight at the spring.

Where we struck it, the Verde is a broad, racing stream, almost clear; it runs between high cliffs set far back; and between the cliffs and the river spread borders of willows and narrow orchards of mesquite. Under the lee of one of the rocky bluffs we made our camp, and until sunset we swam and fished. The Indians started target shooting, picking out the short, barrel-shaped cacti growing in the rocks across the river to puncture with their shots; and for half an hour the river canyon rang with the sound of firing.

Again that night there was rain. It swept upon us in a fury of thunder and lightning; but we all slept soundly, indifferent to the occasional rivulets which found their way under the rubber blankets and the tarps we were learning to arrange properly. In the morning, after breakfast, we rolled up our beds, still



AT INTERVALS THE CAMERA FIENDS HAD TO HAVE THEIR CHANCE

wet, saddled our shivering horses, and started on a six hours' march to our permanent camp. Until we left the Verde, two miles away, the rain followed and drenched us; but when we mounted up a zig-zag trail from the river canyon to a tongue of rocky land running back for miles and miles to where the Four Peaks rose blue and wooded, the sky cleared as if by magic. Quail called in the mesquite far to the right of our trail; the sun came out warm; most of us had got over the worst of our saddle soreness; and we followed the tracks of the Preacher Man and his sturdy Rosinante with actual gaiety.

That day we began to get some idea of the true character of the horses we rode. They were not horses, but mountain goats! Along trails two handbreadths wide those ponies would trot, while we, gazing down across the rocks and cactus falling dizzily to the bottom of a gulch some hundreds of feet below, would hang desperately to our saddle horns. We were scared half to death, but afraid to show our fear.

All of the rocks in the world must have been piled up on the hills of Arizona at one time, and those titans who were given the task of scattering them among other states and countries got tired long before their work was done. I believe that a corner of a huge boulder

sticks out of every square foot of surface in all of the country we hunted over; and I know that if you ride or walk a mile you or your horse must kick and slide over ten thousand small stones.

All over that country, too, the prickly pear, the palo verde, the cat's claw (a deliciously green and delicate looking bush with the most hellish stickers on it that I have ever felt), the ironwood, the mesquite, and an infinite variety of cacti struggle for footing in the scant loam of the hillsides. Underneath these spiny growths, the succulent mountain grass grows; and it is to crop this grass that the deer leave the high mountains around the Four Peaks when the autumn comes.

Just when it began to be plain to all of us first-time visitors that nowhere east of the Verde lies a single square yard of level country, our horses scrambled out of a sandy wash to the top of a tiny plateau. Mesquite trees dotted it, like a farmer's back-yard orchard, and it was tramped bare by cattle. Beyond the plateau, a few yards up the wash, pools of clear spring water shone in the sunlight.

Charley Dickens smiled a relieved smile when he saw us all (I mean, of course, the nine visitors) assembled under the shade of the mesquite thicket. It was to be our permanent camp—"Monty" told us so as soon as he saw



IT WAS TWO O'CLOCK AND WE WERE SO HUNGRY THAT WE COULD HAVE EATEN SADDLE LEATHER

George Dickens begin to scoop a hole in the moist sand convenient to the fire Jose promptly built.

That day we had ridden ahead of all the pack animals, but when we came to our camping place we supposed that they were following close behind. So we sat down to wait for the grub with all the sweet patience of harried, famished wolves. One by one, the Indians drifted in from their detours across the hills, and they formed in small groups, each building its own fire. From their saddle packs they began to dig pieces of venison, almost black from its quick drying of a day, and stores of mesquite bean meal. "Monty" wandered among them, picking up a thick hunk of meat and a bowl of meal. He came back to us, his round, dark face shining with triumph.

Plastering his slice of venison on a bed of live coals, "Monty" began to tell us how good the mesquite meal was. I asked for a taste and "Monty" offered a generous spoonful. Before I could get it all out of my mouth, I had made up my mind that I didn't like it. I wasn't in doubt about that at all. Mesquite bean meal (made from the dried bean that grows on the mesquite trees, ground by hand, and mixed with water) has all of the repulsiveness of taste—and something of the same sickly sweetness—of a

Chinese dish I once tasted in a restaurant of New York's Chinatown. "Monty" assured me that the Apaches could live on this meal for weeks at a time and never lose strength.

As he turned his piece of venison on the coals, stooping heavily to do the trick with his fingers, "Monty" told us about his own boyhood among these hills, about how the old-time Apaches lived wholly on deer meat and the products of the trees and plants growing in the mountains and along the rivers.

"Monty" is a wonderful word-painter of the impressionist (I'm not sure that he's not of the futurist) school. We listened to his poetic improvisations concerning the old care-free life of his people until we began to believe that civilization is a horrid mistake. But when "Monty" had finished his broiled venison and his bowl of meal, he sought the shade of a mesquite, lay down and drew his hat over his eyes, and let us understand that he meant to get some rest.

It was nearly three o'clock—and we had waited for the pack animals for two hours. Released from the spell of "Monty's" oratory, we turned savage questions upon Charley Dickens; and Charley walked down the wash fifty yards to listen for the coming of the pack mules. Morgan then appealed to

Richard to go and find them and save us from starvation. Morgan was low enough to remind Richard, at this time, of the pair of eighteen-dollar chaps he had given him. So Richard caught his horse and rode away. Ten minutes later he came back accompanied by Mike Burns, Yuma Frank, and the four pack animals. Richard was laughing.

"What's the joke, Dick?" asked "Gibby." "Did those fellows stop to make some pie?"

"Naw!" and Richard broke out laughing again. Then Mike Burns, who is a graduate of a Kansas normal school, told us in forceful English how he had accidentally come upon the four pack animals in the bottom of a gulch with their feet sticking up in the air. And an hour later, when George Black and the other two young men who had been in charge of the pack train came into camp with a deer, we understood.

Across the wash the Preacher Man discovered a cave, the bottom of which was just big enough to hold his blankets, spread out, and which offered a natural shelf for the disposal of the contents of the handbag he had carried slung from his saddle horn.

Before we crawled into our blankets that night, two other deer were brought to camp—Johnson and Frank Richards had killed them. Somewhere back in the hills, each of those wiry, keen-eyed Apaches had come upon fresh deer tracks, had tied his horse, had followed on foot until the chance to shoot arrived, had skinned the deer, had carried it back to his horse, and had come silently into camp to eat supper and go to bed.

But that night we would not have it so—we gathered round the three who had killed—Johnson, George Black, and Frank Richards—to beg for details. Just where were the tracks found? How long was the deer followed? How many shots were fired? How far from their horses were they when the deer was killed? Charley Dickens was our interpreter; and at first he smiled tolerantly when we asked a question. But presently he and the hunters became actually interested in recalling the incidents. Not by what they said through Charley Dickens did the successful hunters stir us, but

there was something in the droop of their tired bodies and the gleam of their eyes which gave us to understand that hunting over those hills, following a deer until you get him, is a thrilling experience.

"Three deer to-day—by golly, that's good!" I think that was my classic comment; and from what the others said I judged that they were equally elated and incoherent over the good luck of the hunters.

"Who wants to go out with the hunters in the morning?" "Monty" inquired before we dropped to sleep.

"If I thought I could keep up I'd like to try it," answered McCutcheon. "How about you, Brice?"

"I'd like to try it," said Brice.

"Count me in, 'Monty,'" I urged. But to all of us I know that "if" voiced by McCutcheon loomed large. Coming to camp, we had followed a trail long used by the Indians and the cowboys when they rode into the hills; we had dismounted at times to lead our horses down and up grades that had not troubled the Indian riders in the least; and the walking we had done had shown us the awfulness of the going. Still, we three said that we'd like to try to follow the hunters.

As for Morgan, "Gibby," "Grindy," "Monty," Hayes, and the Preacher Man, the answer was "no." Only Hayes ventured to excuse himself—he had once strained his heart climbing, and he must be careful not to do it again. I am sorry, now, that we did not urge the Preacher Man to go out, for I'm sure that he would have got us out of our blankets in time.

As it was, we became dimly aware of sounds in the camp while it was still dark. The firelight flickered in our faces, and we heard the rattle of tin plates and voices subdued. It was cold, with the still cold of a frostbound world wrapped in darkness; and we were very comfortable under our blankets!

With dawn came courage to crawl out and stagger down to one of the pools in the sandy wash to bathe faces and hands. Beside the fire we found our breakfast cooked and waiting for us; but every Indian had gone.

(To be continued)

BUILDING A TACKLE BOX

By T. CASE

Just Take Almost Any Old Kind of a Box and Then Follow the Author's Specifications

I MADE my tackle box last summer, working mostly on the cottage porch, and having no bench but a camp chair or a corner of the dining table. Proud as I am of the result, I never open the lid without seeming to hear faint feminine echoes of "Such a litter," and "What a place to get about in"; and I realize that the job is one better suited for the workshop and for that period in the late winter months when an unnamed something drives every angler to the revision and improvement of his outfit. It is for those who may undertake a similar task at a more reasonable time that I give my experiences.

The object of building one's own tackle box is to have it fit exactly one's individual needs. I give the details of mine, not because any one else will wish to copy them, but because they may serve as hints and points of departure for making other designs.

In its primitive state my box was a rough board affair, 7 x 9 x 12 inches inside measurement. I found it in the Doctor's garage, and the Doctor, who has built himself a magnificent tackle case of leather and precious woods, condescendingly gave it to me when I hinted that it might be made into something that would meet my modest needs. Like many packing boxes made for shipping bottles, it had dovetailed corners, and these were probably useful in keeping the parts square and true during the process of construction. After the partitions are in and the canvas cover is on any well-nailed box would be strong enough.

The first step, after smoothing up conspicuous roughnesses, was to nail on the cover board securely and to mark where the box was to be sawn apart. I did this

so as to make two sections—a bottom section 4½ inches deep for trays, reel compartments, etc., and a recessed top section 2½ inches deep for tools, snelled hooks, and other light tackle. After marking the box all around, I sawed through the side intended for the back and screwed on the hinges, making sure that the center of the hinge pin came just over the saw kerf. I also screwed on the hasp in front, and then finished the sawing. Hinges and hasp were then removed until the two sections of the box were finished. Then the screw holes were found by pricking through the canvas covering with a needle, the fittings were replaced, and the box opened and closed perfectly true.

I have found by experience that it is not always easy to get equally good results by putting on hinges after a box is in two parts. Hinges, hasps, escutcheon pins, and other small brass fittings may be procured at most hardware stores and five and ten cent stores and of mail order houses. In order to secure a fine appearance it is best to refinish and relacquer them, as described below.

The inner edge of the sides of the box should be beveled a trifle, as shown in Figure 4, to make room for the heads of the brass nails or escutcheon pins that hold the edges of the canvas covering. At the outside edge, where the sides are not beveled, the canvas just about fills the saw kerf, making a good joint when the box is closed.

Next, both top and bottom sections should be lined with whatever cloth is selected for the purpose, firmly glued in. I used a smooth linen such as is sometimes employed in lining suit-cases. This looks well when first put in, but soils easily and does not hold the glue quite

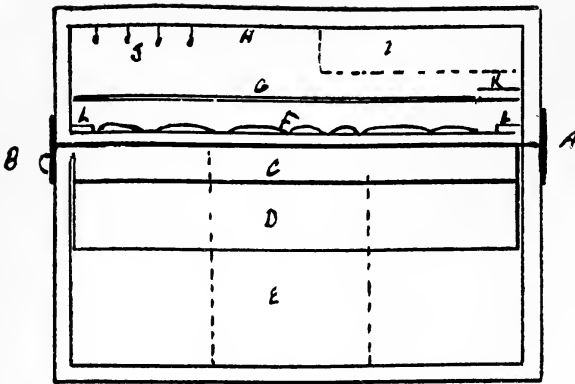


FIGURE 1

so well as a more loosely woven fabric. Possibly a man whose work was not giving offense to the domestic powers could secure helpful feminine advice on choice of material.

The bottom and the top sections of the box must now be treated separately. In my box the whole top of the bottom section is occupied by a shallow tray, $\frac{7}{8}$ inches deep. The plan of this is shown in Figure 3. Below this are three reel compartments, a smaller deep tray, and other compartments as shown in the accompanying diagrams, Figures 1 and 2. The permanent partitions, between compartments A, B, and C, Figure 2, are made of three-ply birch veneer $\frac{3}{16}$ inch thick, and are fastened in place with brads driven from the outside of the box. They should, of course, be filled and varnished before they are finally put in place.

For the trays I used mahogany and brass bottoms—an effective combination, though working mahogany is not always conducive to keeping one's temper. The sides and main partitions of the trays are $\frac{1}{4}$ or $\frac{3}{16}$ inch thick, the smaller divisions $\frac{1}{8}$. When it came to this point I was fortunate enough to have the use of a friend's trimmer for an hour or two, and with this I cut miter joints. These are to be

preferred, but if a good miter-cutting apparatus is not available a cut-in corner, as shown in the diagram, Fig. 6, answers well. The inside partitions are gained or notched into the sides about $\frac{1}{16}$ inch, and glued.

To make the gains quickly and neatly take the try-square and a sharp penknife and rule or cut squarely across at each side of the gain. Take out a chip by a slanting stroke from the middle of the gain to the bottom of this cut. Repeat the process until the gains are deep

enough at the edges, and clean out the center with a narrow chisel.

In order that small articles may be easily picked out of the compartments it is necessary that the bottom of the tray curve upward at the edges like that of a cash drawer. The outer lower corners of the crosswise partitions are rounded off. The thin brass bottom is bent upward around these curved ends of the partitions, and the edge of the brass slips into a shallow groove in the strip that forms the outside of the tray. The arrangement may be seen from Figure 5.

After the woodwork is put together make very carefully a stiff paper pattern of a bottom that will exactly fit, and cut the brass by this. Spring the bottom into place, first shaping the edges, if neces-

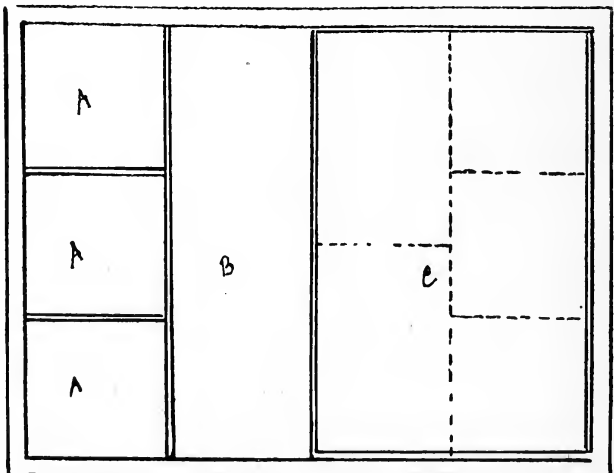


FIGURE 2

sary, by bending them around a base ball bat, an oar, or something of similar shape. When it is exactly in position scratch with a knife blade or a fine point along the inner edge of the end pieces and along both sides of the partitions. Remove the bottom and punch holes between these parallel scratches that indicate the position of the partitions. After the woodwork is varnished and the brass is lacquered replace the bottom, being sure to get it in exactly the original position, and fasten with $\frac{3}{8}$ inch brads.

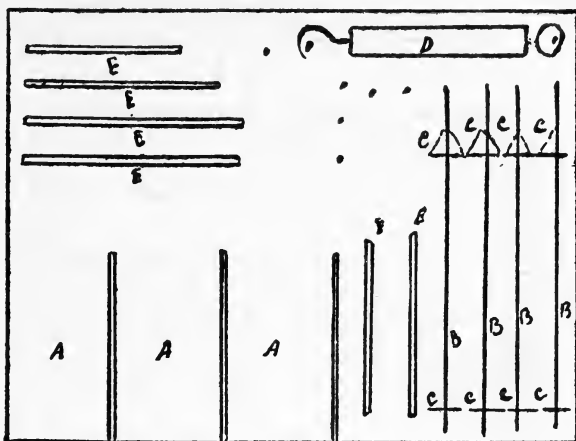


FIGURE 3

The wood should be filled before being varnished. Patent wood fillers may be bought in various colors and applied according to the maker's directions, but for small jobs I have found it more satisfactory to mix a filler of silex. Silex is a white mineral powder used by dentists in some of their mysterious processes and is inexpensive. To make a filler, mix the powder to a smooth paste with linseed oil, thin with turpentine, and for dark woods color with mahogany stain, or a bit of artist's oil colors. Brush well into the wood, letting the final brushing be crosswise, in order that the bristles may not wipe the paste out of the grain.

After the filler is fairly stiff, but before it sets hard, remove all surplus with a rough cloth, rubbing crosswise of the grain. Then varnish, rubbing down between coats with number 00 sandpaper, and taking the cheap-looking gloss off the last coat with a little pumicestone and oil.

To give brass the effective "brush finish" take number 0 or 00 sandpaper and

rub, always with parallel strokes, and not too hard until the metal is bright and marked with fine uniform lines or striations. Lacquer may be obtained of an instrument maker or a dealer in electrical fixtures. My own success in applying it hardly warrants me in giving advice to others. On small articles, such as hinges, it is easy to get satisfactory results, but on a large sheet like a tray bottom it is hard to avoid a patchy effect. I have learned, however, that the lacquer should be put on rapidly with a flowing stroke of a good quality camel's-hair brush; and that no matter how uneven the work looks, an attempt at retouching invariably makes it worse.

It is necessary that the recessed top section of the box be fitted with a lid which fits flush with the bottom edges, and which when the box is closed forms a tight cover to the tray compartments. For this I used three-ply birch veneering $\frac{3}{16}$ inch thick. In order that this may swing properly the backs of the hinges are screwed to the face of the lid,

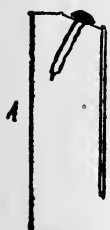


FIGURE 4

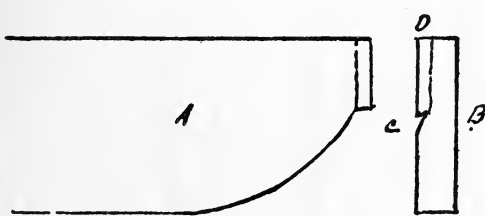


FIGURE 5

as shown in the diagram, Figure 9, and gains are cut in the edge to close over the other part of the hinge. A simple friction catch holds the lid in place, and a knob, which can project into one of the tray compartments, serves as a pull. The face of the lid is filled and var-

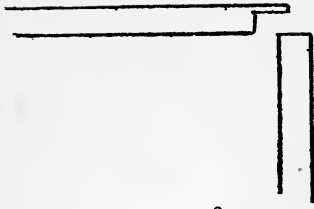


FIGURE 6

nished. The inside, or top, is covered with linen canvas glued on, and on this are tacked loops of linen tape for holding pliers, scissors, screwdriver, one-drop oil-can, and the other tools which the angler wants instantly at hand.

Narrow strips of brass with the ends bent up at right angles and drilled with holes to form bearings hold bobbins of a pattern that can be filled on the family sewing machine, and these carry colored silks for windings. (See Figure 11.) A narrow strip of wood $\frac{3}{16}$ inch thick (L, Figure 1; D, Figure 9) fitted around the outside keeps the edges of the canvas from fraying and makes a sort of shallow tray, so that tools cannot slip too far in their loops and interfere with the closing of the box.

To a man who has been annoyed by the tangling and curling of snells on hooks the most comfortable feature of the box is a leaf made after the general style of a Bray fly book. For this I tried to get thick sheet celluloid, but failing took what is perhaps equally good, a sheet of press or binder's board, covered with a smooth buckram and varnished. This is about an inch narrower than the cover and is hinged to a $\frac{3}{16}$ inch strip of wood $\frac{7}{8}$ inch wide, which is fastened at the back of the cover, about $\frac{3}{4}$ inch inside the lid. (See G, K, Figure 1.) This arrangement allows the leaf to open out over the lid.

The mountings of this sheet are of brass, and are alike on both sides, the same rivets passing through opposite fixtures. The general plan is shown in Figure 7. The strips at each end into which hooks are to be caught are made by taking strips of brass $\frac{1}{2}$ or $\frac{5}{8}$ inch

wide, punching a row of holes through the middle, and cutting lengthwise through the centers of the holes. (See Figure 10.) Some finishing with a file is of course necessary. To make the springs in which the snells are drawn is needed a spool of No. 26 or No. 28 brass spring wire, a vise, two blocks of soft wood, and a rod or mandrel with a hole at one end through which the wire can be thrust. I got satisfactory results with a cast-iron vise bought at a ten-cent store and the ramrod of a .22 rifle, but a mandrel of smooth steel rod and a heavier vise would be preferable.

To wind the spring, stick the end of the wire through the hole in the mandrel, give it a turn or two to hold it, and place mandrel and wire lengthwise between the blocks of wood in the vise. Turn the rod, tightening the vise as mandrel and coil sink into the wood, and being sure that the wire runs smoothly and squarely between the blocks. If it runs at even a slight angle the result will be an open, not a closed spring. Once the coil is properly started and the vise well tightened up there is nothing to do but to keep turning and feeding in the wire.

These springs are strung on strips of brass $\frac{1}{8}$ inch wide or a little less, with holes drilled at the ends and in the middle for rivets. Since the rivets pass through a pair of strips, one on each side the sheet, the holes should be accurately placed. In the Bray fly book the strips are bent down where the rivets go through, but I found it easier to block up with rings or washers made by cut-

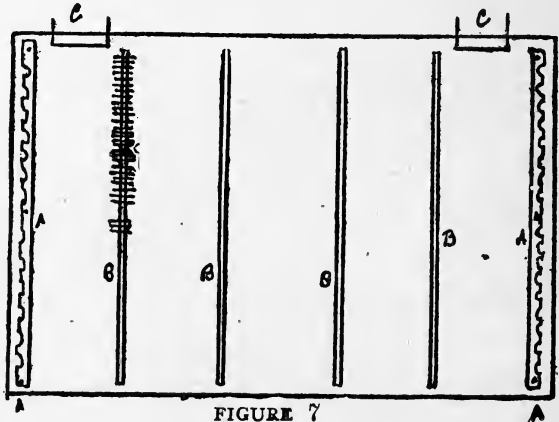


FIGURE 7

ting links from a small brass chain. Be sure that the blocking is high enough to allow the spring to slip easily on the strip. A similar construction is shown in the diagram of a spinner-holder (Figure 12).

Cut the springs about $\frac{1}{4}$ inch shorter than the distance between rivets in order to allow for spreading when snells are drawn in. Ordinary brass paper fasteners may be used to attach the hinges to the binder's board. I used four lines of springs, and notched strips for hooks at each end. The sheet, if completely filled, would hold six dozen snelled hooks, each of which is in plain sight, and can be instantly removed, or almost instantly replaced, with one hand. The inside of the top board of the box, behind the sheet for hooks is arranged to hold line winders, scales, wooden minnows, small spinners, etc. The general plan may be seen from the diagram, Figure 8. The compartments for wooden minnows have wooden sides $\frac{7}{8}$ inch wide bradded to the outside of the box, and the front is of transparent celluloid such as is used for windows in automobile tops. The line winders are strips of $\frac{1}{8}$ -inch mahogany notched at the ends to hold the line. The catches that hold them in place are the brass right angle screw hooks, to be bought at any hardware or ten-cent store, turned into the wood at such distance apart that the

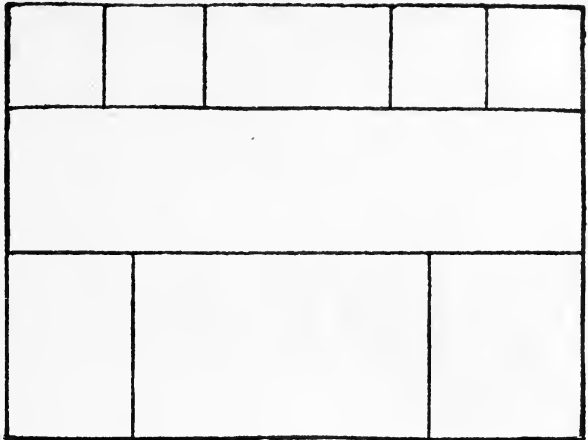


FIGURE 8

end of the horizontal just touches the next upright. To remove the winder give the catch a quarter turn. The holders for small spoons, etc., are made from the brass scraps left from the leaf for hooks. Sections of the coiled spring about an inch long are threaded on $\frac{1}{8}$ -inch brass strips $2\frac{1}{2}$ or 3 inches long, as shown in Figure 12.

To fasten the fixed end straighten out a little of the spring and heat it red hot for a moment to anneal it, and make it flexible. To prevent spoiling the temper of the rest of the spring slip a thin slice of raw potato, apple, or other moist substance over the free end to guard the coil from the flame. Give this soft end two or three turns, making a little coil through which the brad or escutcheon pin that holds one end of the strip in place can pass. This coil serves the

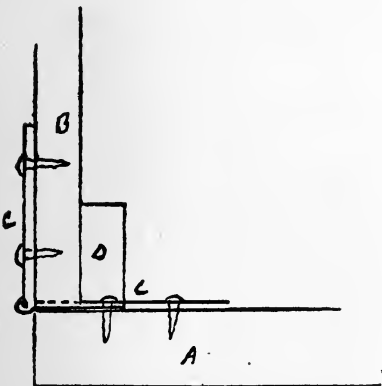


FIGURE 9

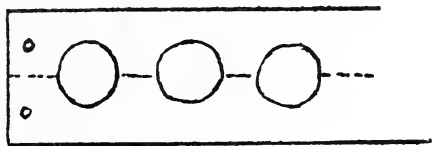


FIGURE 10

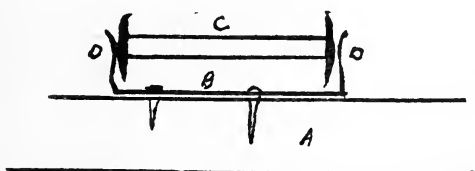


FIGURE 11

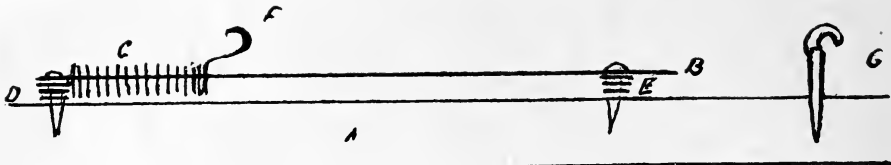


FIGURE 12

double purpose of a blocking for the strip and a fastening for the end of the spring.

Bend the other end of the spring to form a hook and set in line with the strip a small brass screw hook or angle. The spinner is stretched between this and the hook on the spring, is always in place, and is instantly detached.

As soon as the partitions which require nailing from the outside are all in, the box may be covered with canvas. A light duck, about six-ounce, is best. Set it in white lead mixed with oil to the consistency of very thick cream, and spread on the wood liberally. I rubbed it with the flat of my hand until I could see the white lead oozing through the cloth; but the cuticle would hardly have lasted for a much larger box, and the Doctor, who has had experience in covering canoes, tells me I should have used a rubber roller such as is made for mounting photographs. Bring the edge of the canvas up over the edges which come together when the box closes. Hold these and other doubtful places with small tacks, to be removed and replaced later with brass escutcheon pins.

After the white lead has set for a few days the canvas may be finished with two or three coats of a paint made by mixing white lead, the desired tinting color, and varnish. Green seemed the best color to match with the brass handle and protecting corners which were to be added later. For the canvas as well as for the wood work I used a quick-drying spar varnish, which a friend enthusiastically recommended this summer.

Of my various attempts at "making things" I enjoyed most the building of this tackle box, partly, I think, because the different operations of cabinet work, brass work, canvas covering, and finishing afforded so great a variety. Although I am the veriest amateur and have but a scant equipment of tools I found most parts of the work easy. As to the result—its practical convenience was a constant joy through the rest of the fishing season. It looks well, if I do say it. As it neared completion the domestic mutterings began to be mingled with hints about work boxes and silver cabinets; and even the Doctor has pretended to be envious of some of my devices.

EMERGENCY RATIONS

By HORACE KEPHART

*Their Good and Bad Points and the Real Nature of the Problems
That Experts Are Trying to Solve*

IN 1870 there was issued to every German soldier a queer, yellow, sausage-shaped contrivance that held within its paper wrapper what looked and felt like a short stick of dynamite. No, it was not a bomb nor a hand grenade. It was just a pound of compressed dry pea soup. This was

guaranteed to support a man's strength for one day, without any other aliment whatever. The soldier was ordered to keep this roll of soup about him at all times, and never to use it until there was no other food to be had. The official name of the thing was *erbswurst* (pronounced *airbs-voorst*) which means pea

sausage. Within a few months it became famous as the "iron ration" of the Franco-Prussian war.

Our sportsmen over here are well acquainted with erbswurst. It is their last call to supper when they have had no dinner and see slight prospect of breakfast. Besides, it is the lazy man's prop on rainy days, and the standby of inexperienced cooks.

Nobody can spoil erbswurst in the cooking, unless he goes away and lets it burn. All you do is start a quart of water boiling, tear off the cover from a quarter-pound roll of "dynamite soup," crumble the stuff finely into the water with your fingers, and boil for fifteen or twenty minutes, stirring a few times to avoid lumps. Then let the mess cool, and go to it.

It never spoils, never gets any punkier than it was at the beginning. The stick of erbswurst that you left undetected in the seventh pocket of your hunting coat, last year, will be just as good when you discover it again this year. Mice won't gnaw it; bugs can't get at it; moisture can't feaze it. I have used rolls that had lain so long in damp places that they were all mouldy outside, yet the food within was neither worse nor better than before.

A pound of erbswurst, costing thirty-two cents, is about all a man can eat in three meals straight. Cheap enough, and light enough, and compact enough, God wot. However this little boon has a string attached. Erbswurst tastes pretty good to a hungry man in the woods as a hot noonday snack, now and then. It is not appetizing as a sole mainstay for supper on the same day. Next morning, supposing you have missed connections with camp, and have nothing but the third of that erbswurst, you will down it amid tempests and storms of your own raising. And thenceforth, no matter what fleshpots you may fall upon, you will taste dynamite soup for a week.

In its native land, this iron ration is no longer popular—I am told that it has been thrown out of the German army. Over here, we benighted wights keep on using it, in emergencies, simply because we know of no better substitute, or because it is the easiest thing of its kind

to be found on the market. We all wish to discover a ready-made ration as light and compact as erbswurst, as incorruptible and cheap, but one that would be savory at the second and third eating, and polite to our insides (which dynamite soup is not).

Good Emergency Rations Hard to Find

Now I am not about to offer a new invention, nor introduce some wonderful good grub that has lately arrived from abroad. At the present time, I believe, all armies have discarded all the emergency rations that they have tried. And yet all of them are searching for a better one. Which goes to prove that a satisfactory thing of this sort is most desirable, but the hardest thing in the world for a commissariat to find. We wilderness prowlers join heartily in praying that somebody would find it; for we, too, like the soldiery, may be cut off from supplies, no telling when, and with the added dilemma, perhaps, of being lost and alone in the "big sticks."

So it is quite worth while to review the best that has been done along this line, show wherein the most promising experiments failed, and restate the problem anew—then let fresh inventive genius tackle it. And a few suggestions may not be out of place.

Beginning again with erbswurst, as the prototype of such foods: it is composed of pea meal mixed with a very little fat pork and some salt, cooked, so treated as to prevent decay, desiccated, and compressed into rolls of various sizes. It is about the same thing as baked beans would be if they were dried and powdered, except that it tastes different and it contains much less fat. I understand that the original erbswurst, as prepared by its inventor, Grunberg, included a good proportion of fat; but the article sold nowadays has so little of this valuable component (by analysis only 3.08%) that you can scarce detect it.

Theoretically this pea soup is highly nutritious, though less fit for continuous use as a sole diet than baked beans, even though the latter were desiccated. Practically it soon palls on the palate, upsets the stomach, and causes flatulent

dyspepsia or other disorders of the digestive tract.

The British army tried it, and Tommy Atkins let out a howl that reached from South Africa to London. The War Office replaced it with another German invention, Kopf's soup, which also had pea meal for its basis but had a higher content of fat (17.25%). This was superior in potential energy, but the after effects were similar to those of erbswurst. It was plain that an exclusive diet, if only for a day or two, of legumes and fat would soon put a man to the bad. England discarded the iron ration and placated Tommy with jam—a wise move, as we shall see.

In 1900 a new kind of emergency ration was introduced in our own army. This was made up of eight ounces of a meat-and-cereal powder, four ounces of sweet chocolate, and some salt and pepper, all put up in a tin can eight inches long and thin enough to slip easily into one's pocket. This pound of food was calculated to subsist a man in full strength and vigor for one day. Details of its preparation are here copied from official sources.

A Pound of Food

"The chocolate component consists of equal weights of pure chocolate and pure sugar molded into cakes of one and one-third ounces each. Three of these go into the day's ration.

"The bread and meat component consists of:

"(1) Fresh lean beef free from visible fat and sinew, ground in a neat grinder and desiccated so as to contain five per cent or less of moisture, the heat never being allowed to cook it in the slightest degree. The dried product is then reduced to powder and carefully sifted through a fine-meshed sieve, the resulting flour being the meat component.

"(2) Cooked kiln-dried wheat, the outer bran removed, is parched and then ground to a coarse powder. This yields the bread component. Sixteen parts of the meat, thirty-two parts of the bread, and one part of common salt, all by weight, are thoroughly mixed in such small quantities as to be entirely homo-

geneous and compressed into four-ounce cakes. Three of these go into the day's ration. The bread and meat may be eaten dry, or be stirred in cold water and eaten; or one cake may be boiled for five minutes in three pints of water, and seasoned; or one cake may be boiled for five minutes in one pint of water to make a thick porridge and be eaten hot or cold. When cold it may be sliced, and, if fat is available, may be fried. Three-fourths of an ounce of salt and one gramme of pepper are in the can for seasoning."

At first glance it might seem that the meat and bread components of this ration were essentially the same as the jerked venison and rockahominy (pulverized parched corn) that were the mainstays of our Indians and white frontiersmen in olden times. And it is quite likely that the inventors had those primitive foods in mind, seeking only to condense them still further without impairing their famous nutritive values. Practically, however, there is little resemblance. "Jerky" retains much of the meat juice, which gives it its pleasant flavor. Desiccated meat contains no juice, and its taste is altogether different. Pulverized, parched wheat is a sort of rockahominy, but in this case it was first cooked, then parched, and the flavor is inferior.

Finally the meat powder and grain powder were mixed and sifted into a homogeneous mass, compressed, and sealed up in an air-tight tin. One need not even taste such a product to know that it could not possibly satisfy the palate like the old-time preparations.

The emergency ration gave satisfaction for a time, but eventually there were many complaints that it was indigestible. There had been no such trouble with the food when it was fresh, but our army has seldom had any actual use for it, and the stuff deteriorated after long storage. Of course, in time of a big war this objection would vanish. The worst fault that developed was not in the food itself but in the can that held it, which was so thick and heavy that it made the gross weight of the article almost as great as that of the regular haversack ration, which cost much less and was more

palatable. For these reasons our emergency ration was ordered discontinued last year. Still the project has not been given up. Food experts of the Department of Agriculture are now at work trying to produce something that will meet all requirements.

As I said long ago, in my *Camping and Woodcraft*, the problem of an emergency ration is not merely one of condensing the utmost nutriment into the least bulk and weight. One cannot live on butter or peanuts alone, however high their caloric value may be. The stuff must be digestible: it must neither nauseate nor clog the system. When a man is faint from hunger (and that is the only time he will ever need an emergency ration) his stomach must not be forced to any uncommon stunts. And so I hold that a half ration of palatable food that is readily assimilated does more good than a full quota of stuff that taxes a man's gastric strength or disorders his bowels. And there is a good deal to be said for mere palatability. Food that tastes bad *is* bad, for nobody can work well on it.

Of course, an emergency ration is not intended to be used long at a time. It is not meant to interchange with the regular reserve ration of hard bread, bacon, or preserved meat, dried vegetables, coffee, sugar, and salt, that soldiers carry on their persons during a campaign. The iron ration proper is a minimum bulk and weight of unspoilable food that is complete in itself, packed in a waterproof and insect-proof cover, and it is never to be opened save in extremity when reserve rations have run out and supply trains cannot connect with the troops. However, this is the very time when men are likely to be exhausted and famished. It is the very time when their systems demand food that tastes good and that assimilates easily.

In this connection it is well to consider the peculiar merits of sugar as a component of the emergency ration. All old-timers know from experience that one has an unusual craving for sweets when working hard afield. Hunters and lumber jacks and soldiers suffered from that craving long ages before scientists discovered the cause of it, which is that

during hard muscular exertion the consumption of sugar in the body increases fourfold.

It may sound odd, but it is true, that when hunters or explorers are reduced to a diet of meat "straight" the most grateful addition that they could have would be something sweet. Men can get along very well on venison, without bread, if they have maple sugar or candy and some citric acid (crystallized lemon juice) to go with it. And there is good reason for this. Sugars have about the same food uses as starches, because all starch must be converted into sugar or dextrin before it can be assimilated. Mark, then, that sugar needs no conversion; therefore it acts quickly as a pick-me-up to relieve fatigue, while bread or any other starchy food would have to go first through the process of changing into sugar before it could supply force and heat to the body.

A great advantage of sweets is that every normal person likes them. Another is that they are antiseptic and preservative, which adapts them perfectly to use in rations that may have to be stored or carried a long time before using.

These are not merely my own individual opinions, although all my experience backs them. Since the worth of sweets in a sportsman's or soldier's food supply is commonly underrated, or even ridiculed, through sheer crass ignorance, let me quote from Thompson, one of the most eminent of our dieticians:

"The value of sweets in the adult dietary has of late years found recognition in armies. The British War Office shipped 1,500,000 pounds of jam to South Africa as a four months' supply for 116,000 troops, and one New York firm, during the Spanish-American War, shipped over fifty tons of confectionery to the troops in Cuba, Porto Rico, and the Philippines. The confectionery consisted of chocolate creams, cocoanut macaroons, lemon and other acid fruit drops. . . .

"An old-time custom among soldiers in the field is to fill a canteen with two parts vinegar and one part molasses as an emergency sustaining drink. . . .

"Sugar furnishes, in addition to heat,

considerable muscle energy, and it has been lately proved by Mosso, Vaughn Harley, and others, to have distinct power in relieving muscular fatigue.

"Vaughn Harley found that with an exclusive diet of seventeen and one-half ounces of sugar dissolved in water he could perform almost as much muscular work as upon a full mixed diet. The effect in lessening muscle fatigue was noticeable in half an hour and reached a maximum in two hours. Three or four ounces of sugar taken before the expected onset of fatigue postponed or entirely inhibited the sensation.

"The hard-working lumbermen of Canada and Maine eat a very large quantity of sugar in the form of molasses. I have seen them add it to tea and to almost everything they cook. Sugar has also been found of much service upon polar expeditions."

Many of our sportsmen, when going light, substitute saccharine (saxin, crystallose) for sugar, thinking thereby to save weight and bulk. This is a grave error. It is true that saccharine has enormous sweetening power, and that moderate use of it on an outing trip will probably do no harm. But the point overlooked is that sugar is a concentrated source of energy, easily and quickly assimilated, whereas saccharine produces no energy at all, being nothing but a coal-tar drug.

One fault of the concentrated rations hitherto tried was that they contained no acids. Owing partly to this omission, such rations generally were constipating and had a tendency to cause scurvy. It would be easy to supply the deficiency, in very concentrated form, by adding tablets of citric acid. One or two tablets of this acid added to a cup of sweetened water make a refreshing lemonade.

As a meat component for the emergency ration, I know of nothing better than pemmican—not the sweetened kind used by arctic explorers, but unsweetened, since the sugar item should be separate in the ration. Desiccated meat is disagreeable, and not nearly so nutritious as pemmican, which is already concentrated as much as meat should be. Pemmican also has the advantage of containing a proper amount of fat.

The main difficulty in compounding a good iron ration is in getting a concentrated substitute for bread. The Germans have been experimenting with flour or grits made from peanuts. It is claimed that a pound of peanut flour contains as much nutritive material as three pounds of beef or two of peas. It can be made into porridge or into biscuits. Its flavor is pleasant in either a cooked or a raw state. Peanuts are rather indigestible when roasted whole, and whether the flour is easy to assimilate remains to be shown.

Of course, a generous component of sugar and chocolate would largely offset a deficiency in bread, so far as energy is concerned. Still there should be something in the cereal or peanut line, for two reasons. First, because a food that digests quickly will soon leave a feeling of emptiness in the stomach. It does not "stick to the ribs" like one that takes several hours to digest. Second, the stomach craves bulk as well as nutriment—there should be something to swell up and distend it. This is important, for, if concentration be carried too far, it defeats its own purpose. If we could condense a thousand caloric portions of food into a single tablet, a man would not feel that he had eaten anything after taking it.

As for combinations, I think it is a mistake to mix meat powder with legumes or cereals and seal the mass up in an airtight cover. In such case, each food taints the other. The combination has a stale, nondescript taste, whereas each component would preserve its natural flavor if packed separately. It seems more practical, in the light of present knowledge, to put up the emergency ration in two or three separate small packets, each containing only such components as will not taint nor steal flavor from the others.

Waterproof paper is better than tin as a covering. The mere weight of the tin was a serious objection to our late U. S. A. emergency ration; and the can was hard to open, besides. The paper covering of erbswurst, by comparison, is much cheaper, easier to apply, weighs practically nothing, impermeable, and can be torn off with the fingers.

BALLISTICS OF CARTRIDGES

By CHARLES NEWTON

VI

The Results of Some Experiments in Trying New Arrangements with Old Calibers

WHEN the adaptation of smokeless powder and metal-cased bullets to rifles was followed by the adoption of this almost revolutionary development in ballistics, and we stood amazed at the flatness of trajectory, penetration, and power in proportion to weight of weapon and recoil developed, we naturally wondered what was to come next, and where we would stop. Those weapons, with their 2,000 f.s. velocity and consequent ballistic advantages, seemed not only marvelous but adequate for any purpose. But the far-seeing rifleman appreciated that the epoch thus opened was but at its beginning, that the powders were crude and unreliable, and that if this line of investigation and development did not show far greater results in the future, it would be a unique experience. Therefore, as soon as he had familiarized himself with his splendid weapon, he was at once moved by the desire to learn the limitations of the new force thus placed at his disposal.

The only sure method of ascertaining the exact size of a field is to try the surrounding fence, at every point, and to the best of our ability; otherwise we may some day be surprised to find an extra hard push in some direction has suddenly vastly widened our range and opened to us new fields, at times bearing "long grass" and other pleasant rewards. Hence this metaphorical fence has been long and earnestly tested during the past twenty years—and much that was good lay beyond. The problem was, and is, how much? Some points

have been the object of constant assault and have withstood it well; others have given way more or less; with the resultant more or less widening of our opportunities.

In view of the fact that many will never be satisfied, whatever stage of efficiency in our weapons may be achieved it seems well that our failures in some directions be chronicled, as well as our successes—since we often learn as much from failure as from success. One book for which the writer has long yearned is that which shall set forth the failures of the experimenting rifleman, and it is his purpose to here record some of these failures, as well as those efforts which resulted more satisfactorily.

It being the privilege of each to describe the results of his own efforts, this article will be confined to those cartridges designed by the writer during the past ten years, while he was earnestly testing the aforesaid fence.

It all began with a woodchuck—one of the common or garden variety of woodchuck—which so tantalizes the farmer's boy with its accurate judgment of distance as related to the carrying power of the aforesaid boy's rifle. The .30-30 and Krag cartridges were somewhat of a surprise party for the 'chuck, but their power rendered them a source of some actual, but vastly more fancied, danger to the community. What we wanted was a rifle which would drive a light bullet at the velocity of the Krag. We had to make .22 caliber metal-cased bullets on the kitchen table, but we did it and the close of 1905 saw us getting 2,150 f.s. velocity with a 66-grain bullet.

Then Uncle Sam speeded his gun up to 2,700 f.s., and the little .22 followed suit. As the .22 Savage High Power, alias "The Imp," it now needs no introduction to the American rifleman. The accompanying table shows its ballistics, and its eight-inch trajectory curve at 300 yards, and muzzle energy equal to the old .40-82, have well earned for it the appellation of "the biggest little gun in the world."

While this rifle was going through the natal delays in the factory we were still rubbing against the fence. The result was the production of a cartridge made by necking the Krag shell down to .22 caliber and loading it with the Savage bullet, and it appears in the table as the ".22 Special." This was tested for accuracy from muzzle rest, with telescope sight, by a gentleman in Colorado. The result was eight groups of five shots each, the largest $4\frac{1}{2}$ inches in diameter, the smallest $3\frac{1}{2}$ inches, and the average $3\frac{3}{4}$ inches. These are group diameters, not "mean deviations." This was the fastest load produced, beating out the .25 caliber with 100-grain bullet by 5 f.s. This load, when used on woodchuck, showed the remarkable fact that the higher the velocity given a bullet (mushroom, of course) the less flesh it would penetrate, other things being equal.

Naturally, different loadings were tried, giving various velocities. Up to about 3,000 f.s. velocity this bullet would shoot through a woodchuck crosswise; at this velocity and above it would not, but invariably stopped in the 'chuck if hit anywhere near center. But "it didn't do a thing to" that woodchuck. When he had stopped the 1,600 foot-pounds of energy of that bullet and entirely absorbed it he suddenly lost all desire for that last mad kick into the hole. The bullet could never be found, it having entirely disintegrated.

The next caliber which was thoroughly overhauled was the .25, it being the next larger in popular use. This was represented by .25-35 at a muzzle velocity of less than 2,000 f.s. for its 117-grain bullet. Loading it with 25 grains Lightning and the 86-grain bullet speeded it up to 2,550 f.s., but this would hardly do. The Krag shell was necked down

and gave 2,965 f.s. with the 117-grain bullet, but when we necked the Springfield shell down to .25 caliber and loaded it with the 117-grain sharp-point Reed bullet, the chronograph showed a muzzle velocity of 3,103 f.s. Let us examine the ballistic figures of this cartridge, shown in the accompanying table.

A fair subject for comparison is our popular model 1906 Springfield cartridge. Compared with this the .25 Special has over 400 f.s. more velocity at the muzzle, which alone counts for little. But it has a longer bullet, of greater sectional density, hence better retains its initial velocity. In power, that is actual striking energy, it has 49 foot pounds more than the Springfield at the muzzle, 142 pounds more at 100 yards, 198 pounds more at 200 yards, 234 pounds more at 300 yards, and 250 pounds more at 500 yards. As to trajectory, its maximum height, when shooting 1,000 yards, is but 8.53 feet as against 14.5 feet for the Springfield. As to velocity it has 1,016 f.s. at 1,500 yards to the Springfield but 1,068 at 1,000 yards. In other words, it has but 52 f.s. less velocity at 500 yards greater range. Therefore it is substantially as good a target cartridge at 1,500 yards as the Springfield is at 1,000.

Rifles for the New Cartridge

No factory has as yet undertaken the manufacture of rifles for this cartridge regularly, or to manufacture the cartridge itself, but the writer has made up a number of these rifles for Western men, who require a flat trajectory at long ranges, for wolf, etc., using Springfield, Mauser, and model 1895 Winchester actions adapted to the Springfield cartridge. Mr. Adolph, also, has made hand-made rifles and three-barrel guns for it, using the .405 Winchester shell necked down in double and three-barrel guns, where the rimless shell is impracticable on account of the extractor used, and the Springfield shell in the Mausers. Prophecy is always dangerous, but we venture the prediction that the ballistics of this cartridge, together with its light recoil, which is far less than that of the Springfield, in fact nearer that of the .30-30,

will ultimately lead to such a call for it that we shall soon see it, or its practical equivalent, regularly manufactured by our factories.

A modification of this load was made by using a 100-grain bullet, giving a muzzle velocity of 3,271 f.s., but as the 117-grain bullet is so much superior for practical use, ballistic tables for the 100-grain weight are not given. It works splendidly on woodchuck, but is too light for an all round big game cartridge.

Before dismissing the .25 caliber we must record our failure. We felt, as has many another, that "if a little does good more will do better" and we applied it to chamber room. We necked down the .40-90 Sharp's straight shell to .25 caliber, and loaded with powder up to 71 grains, but the best velocity we could get was but 2,850 f.s., with the 117-grain bullet. We concluded that there was a limit to the benefits obtainable from increasing chamber room.

The next caliber worked out was the .280, or 7 mm., which is its practical equivalent. Using a 7 mm. barrel and the 139-grain U. M. C. spitzer bullet, with a necked-down Springfield shell, we obtained a muzzle velocity of 3,034 f.s., but 16 f.s. less than the Ross .280, or about one-half the variation in individual cartridges. The 7 mm. is .005 inch smaller in diameter, across the grooves, than the .280, and this difference just compensates for the six grains difference in bullet weight, giving the same ballistic coefficient and consequent carrying power. Therefore the ballistic table for the Ross .280, already published, approximates very closely that of this cartridge, hence its ballistics are not given. Owing to its slightly lighter bullet, its striking energy is four per cent. less than that of the Ross. Its remaining velocity and trajectory are practically identical. The shells are, to the writer's mind, superior in form, more compact, smaller, and, owing to the smaller interior cross section, impose less strain on the rifle action. Likewise they can be used in any action which will handle the Springfield shell.

The Ross copper tube bullet is a splendid one, and owing to the fact that there are no soft-point spitzers made in this

country for the 7 mm., this cartridge was loaded with the Ross bullet, 145 grains weight, and shot from a 24-inch .280-barrel, giving a muzzle velocity of 2,885 f.s., or 165 f.s. less than the Ross. In considering these figures, however, it must be borne in mind that the 3,050 f.s. velocity of the Ross cartridge is obtained with a standard testing barrel of thirty inches in length. As indicating the difference in velocity due to the shorter barrel, experiments conducted by the London *Field* and reported in the issue of December 20, 1913, show that with the .22 high-power cartridge used in the regular twenty-inch barrel, a velocity of 2,734 f.s. was obtained, while when the same cartridge was used in the thirty-inch barrel it resulted in about 3,000 f.s. velocity, an increase of over 250 f.s.

Inasmuch as the powder used in the .280 cartridges is slower burning than that used in the .22 high power, the variation in length of barrel would give even more variation in results. Therefore we can readily see that this cartridge would equal the Ross in velocity if shot from the same length barrel. This cartridge works well through the action and magazine of the Springfield rifle in which it was used, without alteration of the rifle except as to the barrel.

The .280 caliber was also to record a failure. The 145-grain Ross .280 copper tube bullet was tried in a decidedly larger shell, the same as the "Adolph Express," later described. This was apparently another case of too large a chamber space, as the best velocity obtainable was under 2,900 f.s.

The .30 Caliber

The next caliber to be investigated, in point of size rather than of time, was the "old reliable" .30. For this a great variety of bullets were obtainable, as well as Springfield rifles and barrels. The result of this was "twins," or rather two cartridges, having the same chamber space, but differing in form. The first was made by necking down the .40-90 Sharp's straight shell to .30 caliber, and the second, made at Mr. Adolph's suggestion, by necking down a foreign car-

tridge, much thicker in the body, hence shorter, for use in repeaters. Both have the same powder space, both use the same bullets, and both give the same ballistics.

Mr. Adolph christened the first, made from the .40-90 shell, the "Newton Express," and the latter, made from the foreign shell, the "Adolph Express." He uses the Newton Express, which is a long, slender cartridge with a flanged head, in his double rifles and three-barrel guns, and the latter in his Mauser and Springfield repeaters, the cartridge being of the same length over all and having the same sized head as the Springfield cartridge. The column designated "Adolph Express" gives the ballistics of both cartridges.

From the table it will be seen that this cartridge, with the 150-grain service bullet, has everything except the .22 Special high power beaten in both velocity and trajectory, and the .405 Winchester decidedly beaten in power at the muzzle. At the longer ranges its superiority over the .405 becomes more and more marked, being over fifty per cent more powerful at 300 yards. It has more power than the Ross .280 up to 500 yards, likewise a flatter trajectory.

However, the premier sporting bullet in this cartridge is the 172-grain. This has practically the same energy at the muzzle as the 150-grain, and holds it much better. It has 900 foot-pounds more energy at 200 yards than has the .405, and over twice as much at 500 yards. It has fifteen per cent more power than the Ross .280 at the muzzle, and this proportion increases as the range is lengthened. Its trajectory is practically identical with that of the Ross at 500 yards, and the greatest excess of height within that distance is but .06 inch, or one-fifth of the diameter of the bullet. Its velocity is but 50 f.s. less than that of the Ross at the muzzle, and lacks but 2 f.s. of equaling it at 300 yards; beyond this point it is the faster.

Lieutenant Whelen says of it that: "The recoil is so light that good long range practice can be done with it, even by a light man." And this with a muzzle energy of 3,440 foot-pounds, or five per cent more than the .405, and twice

as much energy as the latter at 300 yards.

The Adolph Express, with the 220-grain bullet, is primarily a cartridge for extreme long range. At 1,500 yards it has as much velocity and fifty per cent more energy than the Springfield, model 1906, has at 1,000 yards. This gives something to "buck the wind."

The 190-grain "Adolph Express" is a compromise between the 172-grain and 225-grain weights, superb for long range, but inferior to the 225-grain; a good sporting bullet, but inferior to the 172-grain. However, the bullets are easily procured in this country, which counts for something, the 225-grain bullet having to be imported. This shell will also take any of the other weights of .30-caliber bullets with correspondingly good results.

The above covers the more important types of special cartridges designed by the writer. The purpose of these cartridges is to furnish something better than any factory product for some particular purpose; in other words, specializing as far as possible in each direction. Some are adapted to extreme long-range target work, others to game shooting at short range and others to game shooting at long range, and within the limits of power developed, which in the case of the Adolph Express reaches well above that of the most powerful American-made rifle, the .405 Winchester, the rifleman who is desirous of owning the very best weapon for any particular purpose can find his wish gratified, provided he does not object to using hand-loaded cartridges. One notable result obtained in the working out of this series of cartridges was a pronounced reduction of recoil in proportion to energy developed.

Americans cannot be said to be always discontented. Many are the rifles which have been pronounced to be "Big enough for the biggest game." This has been applied to the muzzle loader, the .44 W.C.F., the .45-70, and to the later high-power cartridges as they came out, in succession, up to the most powerful of them all, the .405 Winchester. This statement, however, represents but the individual opinion of the weapon as meeting the individual wants of the user

and the field of the rifle abroad is vaster, both in its actual requirements and in the power deemed desirable to meet given requirements. Therefore, while the American, prior to the smokeless powder era, termed the old Sharp's buffalo guns "coast defense," the foreign sportsman was using rifles of 10, 12, and 8 bore commonly, and occasionally 4 bores. Since the smokeless powder era our foreign friends have substituted .450, .500, .577, and .600 caliber cordite rifles, giving muzzle energies up to 7,000 pounds and butt plate energies which certainly secure for them respect, as witness the reports of the users of the

.450 cordite, the smallest of those mentioned, when used in a rifle of 12 pounds weight.

While we have in this country no use for rifles of the terrific power of those mentioned, the problem suggests itself that, inasmuch as the reduction of caliber and increase of speed to obtain a given power result in a vast reduction in recoil, the same principle might be applied to these gigantic "elephant guns," with good results. It was, and a subsequent chapter will show results obtained.

The following table shows the ballistics of the cartridges discussed in this article:

Range.	Bullet.	22 Sav. H. P. 68 gr. C-.26	.22 cal. Special 68 gr. C-.26	.25 Special 117 gr. C-.464	7mm Special 139 gr. C-.44	.30 cal. 150 gr. Adolph C-.389	.30 cal. 172 gr. Adolph C-.491	.30 cal. 190 gr. Adolph C-.487	.30 Adolph 225 gr. C-.632
Muzzle	Velocity, ft. sec.....	2800	3276	3103	3034	3208	3000	2745	2610
	Energy, ft. lbs.....	1190	1625	2504	2848	3445	3440	3192	3470
100 Yd.	Velocity, ft. sec.....	2453	2891	2891	2814	2950	2804	2559	2470
	Energy, ft. lbs.....	911	1268	2176	2456	2910	3010	2774	3060
	Trajectory, ft. ....	.052	.038	.04	.042	.038	.043	.051	.056
	Time, Ft., sec.....	.114	.098	.100	.103	.098	.104	.112	.118
200 Yd.	Velocity, ft. sec.....	2131	2537	2689	2605	2707	2618	2379	2333
	Energy, ft. lbs.....	687	959	1884	2106	2445	2631	2394	2723
	Trajectory, ft. ....	.242	.174	.173	.181	.166	.185	.219	.238
	Time, Ft., sec.....	.246	.209	.208	.213	.204	.215	.234	.244
300 Yd.	Velocity, ft. sec.....	1833	2208	2496	2406	2477	2439	2206	2202
	Energy, ft. lbs.....	510	740	1626	1793	2040	2287	2052	2430
	Trajectory, ft. ....	.666	.451	.417	.442	.409	.44	.532	.562
	Time, Ft., sec.....	.408	.336	.323	.333	.320	.333	.365	.375
500 Yd.	Velocity, ft. sec.....	1341	1631	2133	2030	2049	2100	1880	1949
	Energy, ft. lbs.....	272	401	1182	1279	1395	1685	1482	1913
	Trajectory, ft. ....	.246	1.70	1.35	1.46	1.37	1.44	1.74	1.77
	Time, Ft., sec.....	.784	.653	.583	.605	.586	.598	.66	.665
1000 Yd.	Velocity, ft. sec.....	869	943	1383	1288	1223	1395	1246	1413
	Energy, ft. lbs.....	114	136	491	514	495	739	646	990
	Trajectory, ft.	20.1	14.90	8.53	9.49	9.73	8.76	10.89	9.86
	Time, Ft., sec.....	2.24	1.93	1.46	1.54	1.56	1.48	1.65	1.57
1500 Yd.	Velocity, ft. sec.....	641	694	1016	973	928	1032	975	1087
	Energy, ft. lbs.....	62	73	269	290	285	408	399	585
	Trajectory, ft.	71.8	46.37	30.47	33.85	35.6	30.5	36.9	31.3
	Time, Ft., sec.....	4.26	3.82	2.76	2.91	2.98	2.76	3.04	2.80

TARPON AND THE MOVIES is what Mr. A. W. Dimock calls the story of his experiences in landing a leaping tarpon on a moving picture film. It will appear in the May OUTING.

FINN AND FINIS

By LADD PLUMLEY

The Duty of the Good Fisherman Is Not Ended When He Has the Fish In His Basket

UP on the Neversink there used to live a long-legged bear hunter. That man could walk almost as fast as an ordinary mortal can run. It is a great thing to have long legs for stumping around through the mountains, and the Catskill hunter could cover twenty miles of bear country and be ready for twenty miles more.

It is to be regretted that my Neversink friend did not have a heart as big as his legs were long. In his bear-hunting he used steel-traps. Those torturing contrivances should be made unlawful, but the hunter of long legs looked upon all bears as his enemies to be slaughtered by any method whatever. He set steel-traps every fall, and in November there were always bear hides drying against the sides of his woodshed, and the neighbors for ten miles around had bear meat.

One October I was up in that country with my wife. The weather had turned to what was really uncomfortably hot, and during the heated spell a young bear took a chance with one of the long-legged hunter's steel-traps. The hunter was a generous old fellow, and knowing that my wife had never eaten bear meat, he brought over to our boarding-house a nice chunk of the poor young bruin. But I had my doubts as to the manner of the death of the bear.

"Did you shoot him?" I asked.

"Wall, yer see, it were onnessary," replied the hunter. "Bein' as how we've had such a peculiar spell of hot weather, that thar b'ar fit hisself to death."

"How was that?"

"Jes' fit hisself to death," replied the hunter. "Th' clog on th' trap got cotched between two little birches, and it were entirely onnessary ter use a rifle."

"You found him dead?" I pursued.

"Dead ez a porcupig under a dead-fall," the hunter replied.

It is "onnessary" to say that we thanked the hunter, took the meat, but did not eat any of the bear that was caught in the cruel jaws of a steel-trap and had "fit hisself to death." The meat may have been all right for human nutriment, but most of us would hardly care to make a venture.

Many fishermen are as careless as was the Catskill hunter as to the manner of the death of their quarry. I have actually known a trout angler to say that he likes to hear his trout flopping and thumping to their end in his creel. As he puts it, "I know when my creel shakes and I hear 'em floundering that for sure I've caught something." And a bass fisherman whom I know throws his catch into the bottom of his boat, where they flop under a midsummer sun on the boards until they struggle and gasp to a wretched end.

Maybe a deer that has come to its death by drowning would be as good to eat as one that had died quickly and painlessly with a bullet through the heart or head. For one I doubt it. And I think that most sportsmen would prefer to eat steaks cut from the latter. And the gasping to the death in air of a trout or bass is strictly analogous to the drowning of a deer in water. Yet I suppose very few would pause before eating to consider how a fish met its death.

I do not know that with the smaller fish it has ever been proved that the flavor is really impaired by a lingering termination of its life. But salmon fishermen will tell you that among guides there is a riverside prejudice against the flesh of a salmon that has not been killed

and bled immediately after the use of the net or gaff.

But leaving aside for the moment all questions as to the flavor or healthfulness of salmon, trout, or other fish that have been quickly despatched after the lifting from the water, there is much, very much, to be said as to the cruelty of the practice of leaving the finned game to a lingering, gasping torment, until death mercifully brings the end. Because the object of our sport of angling is really the death of the fish that is pursued, there is no reason why that death should not be given to the game in an expeditious and merciful manner.

If this is scientifically done, then we have the best reason for believing that there has been no real cruelty connected with our sport. For under natural conditions almost every fish of river, stream, or lake must die a more or less cruel death. Among the dwellers of the water such a thing as an end caused by old age would be almost an impossibility.

The Humane Way to Kill

Let us examine the methods for the humane killing of fish. And, although this may not be a particularly pleasant subject, yet as the sport of angling, as has been said, is the endeavor to kill fish, then the actual killing should be a part of the streamside or lakeside technique of every fishing sportsman. And he should know how to practice this part of his art, just as he should know how to practice other parts of his art, and should know a means for killing his fish in a manner that will be the quickest and that will inflict the least possible pain.

After netting their trout some fishermen place their thumbs in the mouth of their fish and bend the head far backward, thus breaking the backbone at the base of the skull. There can be no question but that this mode instantaneously ends the life of a fish. But for some of us the process is peculiarly disagreeable. Then, too, a large trout has sharp teeth; and the angler's thumb, if not protected with a glove, may suffer to an extent. Also, every angler prefers that if possible the trout in his creel shall present an attractive appearance, and trout that

have had their backbones broken, as has been described, are not very sightly; they almost immediately begin to discolor near the head, and if left long in the creel will soften at the place of rupture.

Against this practice there are also other arguments. For rather esthetic reasons trout are generally cooked with their heads left on the bodies. When trout have been killed by breaking the backbone at the base of the head, the process of frying or broiling frequently causes the heads to drop quite away, thus injuring the appearance of the fish when served on plate or platter.

There can be no question that breaking the backbone of trout or other fish ends its life mercifully, but a heavy blow on the base of the skull is equally painless, perhaps even more so. Be an animal small or large, finned or legged, of necessity such a blow must either stun or kill.

To practice the latter method, the trout fisherman can carry in his pocket a heavy fishing-knife. He will need a stout knife for many purposes. The one I have carried for years is, for me, an ideal tool. It is made of the best of steel, has a long handle, and weighs three ounces. It has three blades: a long, thin blade suitable for cleaning fish, a short, stout blade which is good for cutting down saplings for poles to disengage flies from the limbs of trees, and a smaller blade for those uses where such a blade is appropriate.

With this fairly heavy knife a trout can be instantly killed. To effect it, the trout is grasped firmly in the left hand and with the closed knife the right hand strikes a sharp blow at the base of the head of the fish—where the skull joins the backbone. It is better to deliver two or three blows after the first to make certain that the trout is not only stunned but that it is killed.

Within the method that has been described it will be found that on a hot day the trout in the creel will remain firm much longer than if their backbones had been actually broken. And when the trout are cooked the heads have no tendency to fall away, and at the table are entirely presentable and are not beheaded fish. As to the mercifulness of the

death: from the moment the blow has been given, if given correctly, the fish has surely lost all sensation.

If fishing from a canoe or from a boat, or if angling for very heavy trout—say upwards of two pounds—a stout, heavy stick, about a foot or so long and preferably cut from a green sapling so that it will not break easily, is better for ending the fishing battle than a heavy knife. Some anglers carry such a weapon in their creels and make use of it in preference to a pocket-knife. My own practice is to use my knife for ordinary stream work and a stick for Canada lake angling, or, generally, for very heavy trout, such as are sometimes caught in the Lake Superior regions, and for sea trout in Nova Scotia and Prince Edward Island.

The humane killing of other fish than trout—bass, pickerel, and pond fish—can be effected with a stout piece of sapling such as has been described, or, if preferred, with the large blade of a fishing-knife. The latter method for pond fish is sometimes more convenient. As pond fish are not generally cooked with their heads, and as the coarser and larger fish are the better when they come to the table after they have been bled at the time of death, the backbone of such fish can be severed with a knife just at the base of the brain. If this is carefully and quickly done death is quite as instantaneous as death caused by a blow of knife or stick.

Killing the Big Fish

To kill such monsters as muskellunge and salmon, it is usual to use a heavy cudgel in the same manner as has been described for smaller fish with a stick or knife. Scottish anglers frequently administer the blow or blows with a stone held in the hand. Afterwards it would seem to be the usual practice in Scotland to “crimp” the salmon immediately after killing. Stoddart says, in his “Companion,” “Crimp the fish immediately on its being killed, by the waterside, making the cuts slantwise and at a distance of two inches from each other; separate also the gills, and, holding it by the tail, immerse the body in the stream for the space of three or four minutes, moving it

backwards and forwards, so as to expedite the flowing off of the blood.” Elsewhere, Stoddart refers to “crimping” (cutting) such large fish as pike in the same manner that he describes for salmon.

But “crimping” salmon at the riverside and at the time of killing injures their appearance. Therefore, on many American salmon rivers the guides bleed the fish in some other manner. The guides in some parts of Newfoundland are so careless in respect to the appearance of the fish that they sometimes separate a salmon into two pieces, making the separation at about the middle of the fish. Doubtless this is done not only to bleed the salmon, but to make it easy for transportation to camp or boarding-house. At any rate, there seems to be a consensus of opinion among salmon fishermen that bleeding the fish at the time of landing it with gaff or net, and immediately after killing, very much adds to its keeping qualities and increases the flavor when brought on the table.

It might be thought strange that smaller fish of the salmon tribe, the various species of trout, are not frequently bled immediately after they have been caught and killed. If any one cares to make the experiment, I think that he will discover that even a small brook trout is the better for having been bled at the streamside. Some of us know what a wonderful fish a trout can be if cooked a few moments after being caught, and it is not unlikely that the high flavor is due to the almost immediate letting away of the blood before it has a chance to coagulate in the veins. For those who have not tasted trout that are put into the pan fifteen minutes to a half-hour after they have taken the fly, they have an Epicurean experience still coming their way and one well worth the trial.

The actual killing of the glittering trophy is not pleasant to “rub in,” but we who make it our sport to pursue to the finish the brave little warriors of the water should attempt the task of seeing that the end comes with the very minimum of pain. Among anglers perhaps there is a little thoughtlessness in this regard. It is no wonder. The young fisherman is instructed how to cast his

bait or flies; he is told how to handle the tethered quarry after it has taken the hook; and he has much said to him as to how to land or boat the finned knight when the battle in the water is well-nigh over.

Frequently there is nothing said to the novice about what it would seem must be a somewhat important subject to the vanquished of the spots or the scales. It might be almost thought that when the net envelops the fish, the performance were over for him, and that dragging to the grass or sands ended all.

But the most important event is yet to come, and the event which the brave battler of the gills has done his sporty uttermost to avert.

It is hoped that this brief paper may call attention to the thoughtless and needless cruelty of leaving fish in boat or creel to linger and gasp away to a slow and suffocating end. To make amends to the Creator, who has placed at our disposal the beautiful tribes of river and lake, surely the least that we of the wand can do is to make their fishy exits as quick and painless as possible.

CARE OF GRAVEL TENNIS COURTS

By R. N. HALLOWELL

How to Get the Court in Shape in the Spring and Keep It So All Summer



T first thought the matter of maintaining gravel tennis courts seems a trifling one, but in nine out of ten cases, serious mistakes are made by the caretaker and much inconvenience results before the details of watering, raking, brooming, and rolling are thoroughly mastered. After a week of training an average laborer will be found quite capable of taking care of gravel courts in a satisfactory manner. But it is a mistake to suppose that even fair results may be had from a man who has not been carefully taught the particular methods involved in the work.

The first problem that presents itself in the spring is that of getting the courts in condition for the use of the players who want to round into form early in the season. At this time the ground will be more or less soft and moist and will continue so for some weeks, so that it is out of the question to expect to develop a very fast playing surface before the first or the middle of June. Unless the court is the exception it will be found to be covered by a layer of fine pebbles that have worked to the surface during the winter. These must be

swept off before rolling is attempted.

When the stones have been removed the court should be tested for high and low places, the best method being to flood the area and carefully note the spots that are in need of attention. A smooth surface may often be secured merely by using the rake and broom and sweeping a small amount of gravel from the raised places to those that are depressed. In case the depressions are so decided that this is impossible gravel may be applied, a little at a time, until the surface is brought to a perfect grade.

About the middle of May it is highly desirable to make use of a one to three-ton steam roller or a horse roller. A three-ton tandem steam roller in the hands of a competent engineer can accomplish wonders on a tennis court in the course of two hours. When the steam roller is at work a laborer should be on hand to smooth out all inequalities with the rake and broom and to water lightly with the hose. Under no circumstances should the roller be allowed on the surface of the court until it has dried out to the extent that it will not "pick up" when the roller passes over it.

For a high-grade gravel court the use of a lead tape is almost indispensable.

The nails used should not be less than three inches long nor more than four inches apart if a line that is absolutely true is desired. After the tape is laid it is usually painted with a white lead paint. A coat of paint is not absolutely necessary at the outset, however, because a new tape is very shiny and readily seen by the players.

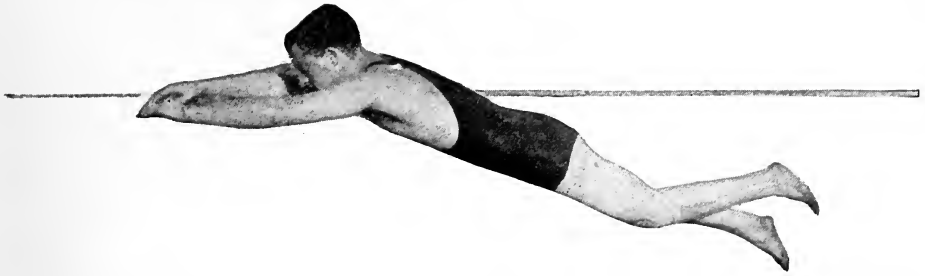
Much time will be found to have been saved if the work of watering and rolling is carried on about as follows. The space is first wet down lightly with a stream from a three-quarter inch hose, using the medium spray on a single court for about fifteen minutes. The surface is then allowed to dry until it is almost dusty after which it is worked over with a broom and every inequality brushed out. Lastly it is rolled with a hand roller of moderate weight. If the brooming has been well attended to one rolling will produce just about as satisfactory a surface as two or three. The tapes are then swept off and the height of the net verified. For this last purpose it is very convenient to keep a measuring rod on hand with a nail in it to indicate the proper height for the top of the net.

One of the most common of the complaints from the players is that with reference to the dust. The dust nuisance may be overcome by the use of a

great deal of water; not, however, without the water having a tendency to render the court a trifle "slow." A treatment for dusty courts that has been found cheap and effective consists in application of calcium chloride. This salt, which costs less than a cent a pound when purchased in quantities, requires to be applied with considerable care; otherwise a dark brown, overmoist, and dirty surface will result.

If several hundred pounds are shoveled on at a single application, as has often been recommended, the gravel will become wet and sticky and the court will be out of service for five days or a week, a very undesirable situation at the height of the playing season. Four hundred pounds of calcium chloride will keep a court free from dust for a season and, if applied as follows, not a day need be lost from play and the players may be spared the inconvenience of dirty balls, rackets, and shoes. A solution of five pounds of the salt and ten gallons of water is sprinkled over each court with the aid of a watering pot daily. This application is so small as to show no tendency to "slow up" the court and small tendency to soil balls or rackets. In addition to the applications of the solution, a watering with the hose should be given daily, five to ten minutes being sufficient for this purpose.





BUD GOODWIN, HOLDER OF ONE MILE AMERICAN SWIMMING RECORD, ILLUSTRATES NARROW THRASH OF CRAWL HE USES IN DISTANCE WORK

THE SWIMMING STROKE OF THE FUTURE

By L. DEB. HANDLEY

ILLUSTRATED WITH PHOTOGRAPHS

It Is the Trudgeon Crawl That Has Put Hebner, Frizelle and McGillivray at the Head of the List

SOME eight or nine years ago, when the crawl swimming stroke was beginning to win recognition in this country and our watermen were devoting close study to it, Frank Sullivan, one of Chicago's leading instructors, conceived the idea of combining with it some of the features of the trudgeon, in order to try out a theory which he had formed.

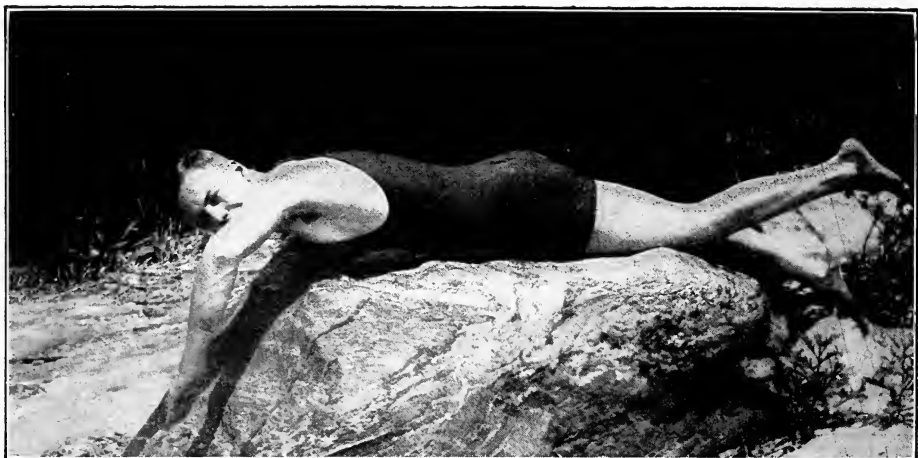
It may be remembered that, at the time, the majority firmly believed the action of the crawl too punishing for distances beyond one hundred yards and thought it useless except in sprinting. Sullivan, however, felt confident that by making the slight change which he had in mind the stroke would become available for all purposes. It was his plan to introduce into the leg drive of the crawl—which is an alternate up and down thrash of narrow scope—the distinctive scissors kick of the trudgeon, then universally favored for the longer courses. He proposed to time it with the pull of the top-arm, as in the latter stroke.

Sullivan's contention that this combination would yield results was based

on good logic. He reasoned that since the leg drive of the crawl was solely responsible for its sprinting superiority over the trudgeon and only inability on the part of the crawl exponents to hold it for the needed period to cover the quarter, half, and mile prevented its proving best in all-round work, the addition of the scissors kick would reduce the effort and overcome the difficulty.

"Once momentum is imparted to the body by the trudgeon kick," he argued, "it should take but very little power to keep it under way. A mere fluttering of the feet will do it. Thus, with no appreciable expenditure of energy, the swimmer should maintain the acquired speed between kicks, avoid the check incurred in the trudgeon, and advance smoothly and continuously."

The theory was worth a trial, anyhow. But when it came to finding the wanted material for this practical test Sullivan faced an unexpected barrier. None of the successful contestants he approached would consent to adopt the unknown stroke, even as an experiment. It was too risky. They might lose their speed instead of increasing it.



THE LEG THRASH OF THE CRAWL IN SPRINTING

Realizing that there was no hope of interesting the better swimmers, Sullivan decided to take the bull by the horns and use green recruits. He persuaded four boys under sixteen who could not swim at all to let him teach them, and he put them at the new stroke, which he named the trudgeon-crawl.

It was a pure gamble, with the odds heavy against him, for natural ability plays an important rôle in the production of a champion, whether in swimming or in any other branch of athletics. Still, it was the only road open to him under the circumstances, and being eager to ascertain the value of his views, one way or the other, he took it.

A remarkable thing happened. Before one year had elapsed all four of the novices had developed into most promising swimmers. At first they figured only in handicap races, but conspicuously, for they improved so rapidly that their allowances could not be cut fast enough to keep them from winning. Then they began to score in important scratch events and before the second season had drawn to a close they were bidding for honors in the championship field.

One of them, Leslie Chiville, made his mark in Marathon swimming and retired not long ago; another, Richard Frizelle, captured a number of district and national titles, then migrated recently to Central America. But the other two, Perry McGillivray and

Harry Hebner, are to-day the greatest pair of all-round swimmers in this country, probably in the world.

Within the past twelve months McGillivray has wiped out the standards created by Charles M. Daniels at 110, 440, 500, and 880 yards, while Hebner, besides establishing world's records for swimming 50, 100, and 150 yards on the back, recently shattered Daniels' world's figures for the furlong, lowering them from 2 minutes 25 2-5 seconds to 2 minutes 21 seconds.

Even when taking into consideration the advantage enjoyed by Hebner in accomplishing the latter feat, he having made ten turns and Daniels only eight, the new mark shows fully two and two-fifths seconds below the old one, for it is estimated that one second at most can be gained at each turn. And let it be added that Daniels himself spoke of the quoted 220-yard performance as his best, while competent authorities looked upon it as the most difficult of all international records to dispose of. Hebner, then, may now be credited with the fastest bit of swimming ever done by man.

Coming to the point, it was the trudgeon-crawl which enabled McGillivray and Hebner to exhibit such sensational speed. Both still use it. True, the clever coaches who have handled them since Sullivan left Chicago to assume the post of instructor at Princeton University, and particularly William Bachrach, the man who has gradually



DRIVE OF THE TOP-ARM

brought them to their present state of wonderful efficiency, changed their style slightly and improved their form. But one feature of their strokes has remained unaltered, the leg drive taught them during their novitiate, the chief characteristic of the trudgeon-crawl.

To the casual observer the leg thrash of both McGillivray and Hebner may appear similar to that of scores of racing men who use the crawl, but the close student of swimming will notice at once, sharply emphasized, a more vigorous snap of the legs as the top-arm finishes its drive, rhythmically marking the time and showing that a narrow scissors kick is then taken, in accordance with the principles which govern the trudgeon.

Weighing these facts in the balance, does it not seem logical to conclude that the trudgeon-crawl is the stroke of the future?

Of course, swimming history is being written so swiftly, nowadays, that there is no telling how soon new discoveries may come to upset all calculations, yet the evidence in hand strongly supports the belief that this variety of crawl will at least outlive all other types of stroke at present in existence.

In the writer's opinion the great swimming of George Hodgson, of Canada, holder of the 400 and 1,500 meter Olympic titles and records, is another proof of the superiority of the trudgeon-crawl, although partisans of the trudgeon cite it as their principal argument in favor of the stroke they advocate.

Hodgson's method of swimming, in fact, bears only faint and remote traces of the stroke to which Trudgeon gave his name. The action of both arms and legs is different. This is just another illustration of the frequent errors of nomenclature incurred through the unfortunate custom of classifying strokes at their first appearance, then retaining the names in spite of alterations which practically make them unrecognizable. The system is hard to improve because the process of evolution is usually marked by so many slight changes that to tabulate each would be even more confusing, but it is decidedly unsatisfactory as it stands.

In this case, for instance, Hodgson is supposed to swim the trudgeon on the strength of his using a double over-arm action and a scissors kick, although the movements of the arms are no longer the same and the kick has been completely remodelled. It is with this kick that we are chiefly concerned, however.

The type shown by Trudgeon is now obsolete. It called for drawing the legs up toward the chest, bent hard at the knees, then throwing them wide and bringing them together with strength. Where do you see at present such a kick? Certainly not in the competitive field.

As to Hodgson, he opens the legs but little, almost straight at the knees, and does not draw up the thighs at all. A marked difference already. But what deserves special attention here is that



HARRY HEBNER

Reputed to be the fastest all round swimmer in the world. Holds all the international back stroke records and recently lowered the free style 220 yard standard considered by experts the best on the record lists.

he allows his feet to cross in snapping the legs together, so that they must pass again a moment later in order to get into position for the next drive. And in passing the second time, on the return, the young Canadian makes the movement with some vigor; the legs don't float back, they are driven. Actually, then, another kick is performed.

Dissecting the Crawl

Consider, now, that any crawl thrash, when dissected, is found to be composed of a series of drives, each in itself a narrow scissors kick; that in the trudgeon-crawl one major drive, or scis-

sor, is taken, and one or more minor ones; that Hodgson uses one pretty wide scissor and adds a narrow one. Is the claim unwarranted that the Canadian's stroke more nearly resembles the trudgeon-crawl than any other type?

In taking up the trudgeon-crawl two things should determine the number and width of the kicks, or thrashes, to be made: the distance in sight and the characteristics of the individual.

In sprinting a mere accenting of the scissor will prove best, for one of greater scope may establish a drag. On the other hand, the following drives may be made almost as full, so as to give a strong, continuous impetus. As the distance increases, however, the scissor may be gradually allowed more scope, while



PERRY MC GILLIVRAY

National all round swimming champion of 1913 and American record holder at 110, 440, 500, and 880 yards.

the accompanying beats should steadily be made smaller and less powerful. Over the longer courses a rather good opening is advisable in the kick, but the minor drives should be just a fluttering motion of the feet, as already indicated.

This, in a general way. For the rest, the swimmer must decide for himself just how fast and how wide to make the thrash. Obviously, a man with unusually powerful legs can adopt a type of action quite beyond his weaker rival. The question can only be solved by experimenting.

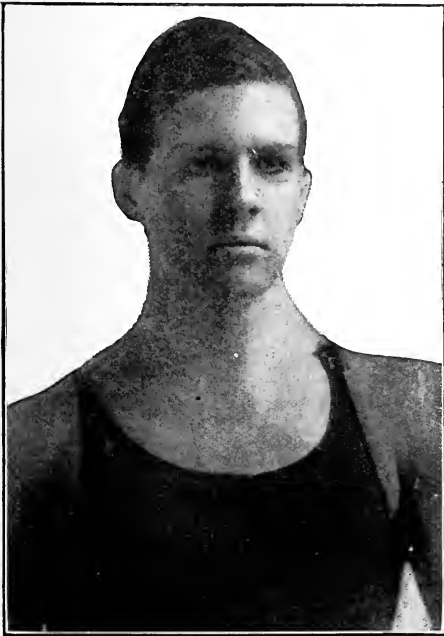
The Arm Stroke

Although the arm strokes of trudgeon and crawl are alike, it may be well in concluding to say a word about them. The arms drive alternately and practically equidistantly; that is, as the one is about to catch, the other should be



FRANK SULLIVAN

Now swimming instructor at Princeton University. Inventor of the trudgeon-crawl swimming stroke.



RICHARD FRIZELLE

National 440 Yard Swimming Champion of 1912.

finishing. The hands dip in front of the head and close to it, then push forward under water, so that by the time the arms are comfortably outstretched and ready to catch the hands are a few inches below the surface and the arms at such an angle that the applied power at once becomes effective.

With a vigorous, even pull, the arms are then swept under the body and carried to within touch of the thigh, when the muscles are completely relaxed, the elbows bent and lifted, and the hands brought out of water without jerking. From here the arms are thrown forward above the surface, still bent at the elbow and raised, so that in passing beyond the head they may be in the right position to make the slanting entry mentioned above.

TOO MUCH OF A GOOD THING

By CHARLES ASKINS

*The Sad Truth of a Hunter Who Could Have Been Happy with
Either "Were Either or T'other Away"*

IT was early September, and after a long, hot summer, the cane was rustling under nearly spent but still refreshing breezes from frostier lands. The home-bred woodducks were strengthening their wings daily on the long stretches of Little River, and a few Northern teal had come down to pay us an early and protracted visit. Cat squirrels chattered from every pin-oak tree, and the "red" deer were polishing their horns on the rough bark of the sweetgum.

Having noted where many game animals went down to the river to drink, I resolved that my best chance to bag either turkey, panther, or bear was to hide in the edge of the cane, with a clear view of the bar and river, and there wait. A bear is sure to go to water over some certain path, his habits being as regular as the clock. I found a comfortable seat with my back to a tree and meant to remain until something worth while appeared. In any event, I could not have hunted through the tangled cane with any expectation of success—every wild thing would have heard me rods away.

Along in the afternoon I could hear my bear thrashing around in the brush back of me, but he seemed to be taking plenty of time about coming to the river for a drink. Now he broke a canestalk with a snap as clear as the crack of a rifle, again it was the gentle shaking of a blackhaw tree, the berries of which I had sampled myself more than once. His dilatoriness did not worry me, for I said to myself: "You can't get me that way, old fellow. I have all the time that you have, probably more, because I expect to live longer."

I rubbed my back against the tree until the moss fitted more smoothly, dug

my feet into the sand as a brace, and thought well of the world. What a wonderful city of wood-folks this was around me, with its homes and houses, its streets and water-courses, its bosses and his followers, but the great body honest, self-respecting wood-citizens. How busy they all were, and how man-like the vanity of every one! Having detected a badly concealed trap, the coon says, "Now, if that had been any other coon he'd have got his foot into it sure." The wild drake quacks a warning when the eagle's shadow hovers over the stream, and, with his flock safe around the bend, chuckles to them softly and a wee bit boastingly, saying, "With any other leader you would be no better than dead ducks now." The red-headed bear over in the cane doubtless knows that a woods-loafer is waiting for him under the big tree, and he cracks his own bear joke as he snaps the cane.

Having a corn or two that hurt, I concluded to pull off my shoes and dig my toes into the cool sand. It was queer, but the moss on that tree felt as soft as a cushion when I sat down there, and now some kind of a knot had appeared right between my shoulders. I pulled off my coat and placed it over that knot.

Maybe I went to sleep and maybe I didn't, but I had sat there like the stumpy knee of that old tree a very long time; the weather wasn't too hot and it wasn't too cold; the wind fanned me and sung from the tops of the cypress trees; there was peace in the great swamp woods, and I remember a feeling of perfect indifference as to whether bears and panthers ever were killed or not.

Of a sudden I was wide awake, con-

scious of having received a severe peck on my bare foot. Then I saw an amazing thing: lifting his head to peck again, close enough for me to reach out my hand and touch him, a great black gobbler stood before me, his eyes gleaming into mine in a friendly way. Followed a confused rush and swirl of dark figures! The gobbler's broad wing struck my hat off; a creature as large as a horse chased across my extended legs, and the rank smell of a bear was in my nostrils.

Too stunned to move hand or foot, I saw the Black Gobbler clear the underbrush with a roar of powerful wingbeats, and, after a half-comical, half-snarling grin at me, the Red-headed Bear plunged into the cane, which snapped and bent as he tore through; then, vibrating, demoniac, ventriloquent, there came a wailing, feminine cry from across the river—the yell of the Timber Lake Panther. He had been watching the whole tableau from across the river and now voiced his disgust.

I never caught a glimpse of him, though, but I picked up my rifle and went home. Major Jones was unable to get any particulars out of me.

It was cotton-picking time in the Yazoo Delta, and every man, woman, and child above the age of eight was busy in the fields. As a visitor, and the only man of leisure about the plantation, Major Jones gave me three tasks which to me were most congenial. He wished me to kill the Black Gobbler, the Red-headed Bear, and the Timber Lake Panther.

The Black Gobbler was a notorious bird. He had escaped from some rivermen, hunters who had come down from the north on a flatboat. They had used him as decoy, staking him out in the woods and shooting the wild birds which he called. He was an immense gobbler, wary and wise, and knowing beyond others of his kind. No man could call him, none had ever been able to stalk him; he knew every device of the turkey hunter, and fully understood the fatal nature of firearms. He was half-wild, half-tame. Anybody could get close to him provided he had no gun, but, goodness! that big fellow knew guns.

What provoked the Major, though, was that Black Gobbler had stolen all the turkey hens on the plantation that spring, coaxed them off to the woods from which they never returned. Consequently the genial planter was without his customary roast turkey. My strict instructions were to kill this gobbler, whereupon the hens might come back with their broods.

There are plenty of black bears in the swamp country lying between Little River and the Yazoo, but usually they remain in the depth of the forest, rarely seen unless chased by dogs. This red-headed fellow, however,—he was called red-headed because his head was a reddish tawny, while his body was jet black—had taken to ranging on the plantation. He didn't seem to have any actual meanness in him, had never hurt anyone, but was full of mischief, and from too much familiarity with them had lost all fear of the negroes.

Twice he had chased Uncle Ben's black brood out of the cotton field. He had entered the yard where Jonas, the coon-hunter, was finishing up a hard day by chopping stove-wood one evening, and after the wood-chopper had thrown his axe at him retaliated by charging the man, who barely escaped with a split coattail as he bolted through the door. Bill Evans was riding home from town one night, when the bear suddenly sprang into the road in front of him, so frightening the old white mule that he pitched his rider over his head and ran away. Bill didn't know what happened after that, for he struck his head on a stump when he fell. The Red-headed Bear was marked for slaughter—fear of him was demoralizing the field hands.

The Timber Lake Panther had his den in the impenetrable canebrakes bordering the lake of that name. From one darkey he stole a pig, from another a sheep or a calf—almost nightly there were marks of his visit somewhere on the plantation. Moreover, he was considered dangerous. He had a most trying habit of following the people in the dark, squalling as he came, and the poor blacks dared not pass through the woods after sunset. He just had to be killed, the

Major declared, and the task was turned over to me. I elected to campaign against the bear first, and the result has just been detailed.

Being in the employ of the United States Government, I was called away shortly after that, and did not get back until a few days before Thanksgiving. I learned that the turkey, panther, and bear were still "footloose and free," but just at that particular time the Major was longing for turkey—nothing but the Black Gobbler would satisfy him for a Thanksgiving dinner.

I made up my mind that the best chance to secure the veteran was to "roost" him, to find where he had gone to roost and be there in the morning before he awakened. Knowing his range, I put on a pair of waders and splashed out into the swamp woods, where I waited for him to "fly up." You know a wise old turkey like that will always roost high and invariably over the water. The noise so large a bird will make in mounting to a tree can be heard fully a half mile on a still evening. At last I distinctly heard his flight, and from my knowledge of the ground could select the very clump of cypress trees in which he would be found in the morning. Satisfied that my opportunity had come, I went home to wait as patiently as possible for daylight.

Any man who has tried it will bear me out that it is never so easy to be up and out at three o'clock in the morning as he thought it would be when he made his plans the night before. The Mexican's *mañana* appeals to you as good horse sense about an hour before sunrise, when the north wind begins to whistle and there is ice in the washbowl. Nevertheless, I was in the edge of that swamp, two miles from the house, long ere it was light.

As I waded through the water, here but a few inches deep, I heard something or someone softly following. Of course I stopped to listen, and, equally of course, the thing halted, whatever it was. When I moved on it came after me, pat, pat, pat, not many yards behind. Exasperated, I whirled with gun at shoulder, but there was only blank darkness and dead silence. It was provoking to be stalked

like a ewe lamb and not be able even to bleat.

By and by, in one of the halts I made trying to see him, the animal purred like a big cat, and that was what he was—the panther. I wished I wasn't there or the panther wasn't there or it was a trifle lighter. I wondered if the scoundrel wasn't just about fool enough to jump on a man even when he had a gun. The Major had a nag with claw-marks on her hip, made by this very brute since my last experience with him, and one of the blacks was on the horse at the time it happened. You may be sure that I was careful not to trip or fall, for that might be a signal for him to close in.

It is one thing to hunt a cowardly brute like a panther in daytime and another thing to be stalked by him on a dark night. He might pass me, climb a tree, and I couldn't see him until he fell on me like a battering ram. Besides, I wasn't out for panther that morning, but for turkey, and I never like to shoot the things I didn't start after. It was better to go on than to stand still, so I held my course, but nobody could say that I didn't keep a sharp eye on my back trail, and I fully resolved to see that the Major put hounds after this impudent scamp right away, fully intending to fill his yellow hide with buckshot as soon as he was treed.

Presently I reached deeper water, and the rascal stopped with a slight squall, at which my turkey gobbled from his cypress perch. I went on, both relieved and elated. I was convinced that the puma would not take to deep water, cold as it was that morning, and I now knew exactly where to find the turkey.

One cypress towered above the others, and I knew that was where the gobbler would be, though I could not see him. Under the group of trees lay a great log, and with infinite caution, taking care not to make a sound or a splash, for the gobbler was awake, I made my way to the log and crawled upon it, confident that I had the Major's Thanksgiving turkey. It was still too dark to shoot, that darkest time before dawn when the sun drives the night out of the sky and down among the trees.

While sitting astride the log waiting for daybreak, I was startled to see a dim figure crouched on the other end about fifty feet away. I knew it wasn't a knot on the log, for it moved a trifle with a distinct rasping of the bark. Here was more trouble! Had that miserable panther followed me anyhow? It didn't look like a cat—sat too erect. Could it be the bear? That mischievous red-headed brute wasn't much afraid of anybody. I believed it was he, but—it might be a man. Others were anxious to kill the Black Gobbler as well as myself. Like me, he might be undecided as to whether his *vis-a-vis* was man or beast, and he, too, might be waiting to find out before he shot.

Whichever it was, bear, panther, or hunter, the fellow knew I was there and was waiting for me to open the game. If I shot at the figure I might kill a man, and, on the other hand, he was liable to mistake me for a bear and blaze away. Should I speak to him and it wasn't a man, the creature would escape by sliding off the log into the black darkness, and the turkey would hear my voice and fly away. I had always wanted to kill a bear, and a better opportunity would never come. Wasn't it worth while to take the risk? No. I dare not chance shooting a human being.

I could see nothing for it but to wait for light, and waiting was dangerous. If the figure was that of a man, and if, getting impatient, he concluded to take a crack at me, I couldn't believe that he would hit me elsewhere than right in the stomach, tearing a hole as big as my hat. I knew that I should fall off the log into the water, which would run through me from end to end. My stomach sickened with the notion. I had a dozen buckshot in one barrel of my gun, plenty to kill a bear, but too many to put into a man. I speculated as to what kind of a gun and load the other fellow had—a rifle wouldn't spoil one's looks so badly at the funeral.

All this time I knew in my heart that it could be nothing but a bear, that malicious, red-headed, black imp of a bear. I had my gun covering him with the hammers raised, but could not detect a

single outline which would absolutely prove him to be either bear or human. He sat erect without sound or movement, and, daring neither to run nor to shoot nor to yell, I sat tight and shook till the log quivered.

The coming day lightly touched the tops of the tall cypress. Glancing up cautiously, keeping one eye on the bear or the fool hunter—if such he was—I saw the Black Gobbler, light glinting on his feathers where the wind ruffled them. He was almost above me and easily within range. Nothing prevented me from shooting him except the bear, but I wanted bear worse than I did turkey. He had scared me and I resented it. Wait a minute, you black villain, till the light comes down!

All at once there came a wailing, laughing, crying, crazy yell from behind and in front and all around me. It beat down on me, glued me to the log like a cowboy to a bucking bronco. Certain the beast was right above me, that he was preparing to spring, when I did move I went up as suddenly as jack from his box—my only thought to kill the beast before he landed on my shoulders. I couldn't see the panther, never did see him, never knew precisely how close he was to me.

At the puma's scream, quick as a flash, with a loud *whoof, whoof, whoof*, the bear plunged off the log into the black swamp-water. I ran to his end of the log, but, swimming low, passing behind trees, I couldn't catch the least glimpse of him—never saw him again until long afterward.

Disturbed and indignant at all the uncalled-for commotion beneath, the turkey let loose a tremendous gobble and then fairly shook the tree as he launched his forty pounds of solid turkey flesh into the air. As he crossed an opening between me and the brightening sky I noted that he was jet black, that he was as big as an airship, and that his wings roared like a cyclone.

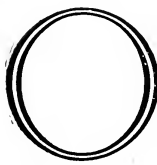
As I waded home, empty-handed, hungry, and highly exasperated, I could think of nothing but what would have happened had either of the others been away.

NIGHT CASTING FOR BASS

By A. E. SWOYER

ILLUSTRATED WITH PHOTOGRAPHS

The Ambitious Fisherman Need Not Stop Just Because the Supply of Daylight Is Exhausted



ONCE upon a time some ardent fisherman, with a bravery akin to that of the man who first ate an oyster, reasoned that since bass were night feeders he ought to be able, by risking the ridicule of his fellows, to do some good work with his trusty casting rod between the hours of sunset and sunrise; to this man we owe the introduction of the newest form of angling. In short, his experiment was a success, and from that time on reports of big catches made by the "moonlight" fishermen have been of common occurrence.

The sport of night casting opens up a vista of pleasant possibilities to the busy man tied to his office in the daytime and hence deprived of the "plop" of the well-cast lure and the music of the singing reel; under the new conditions he can close his desk with a clear conscience at the end of the day, drop a few "plugs" into his pocket, and seek the nearest lake or river with every prospect of having a few hours' fun.

And it is fun, believe me; the mystery and quiet of the night, the coolness, the sense of aloofness from all ordinary cares—above all the outdoor sounds and smells would well repay him even if he failed to catch a fish. To connect up with a big one (and not only does the catch run larger than in day fishing, but because they are invisible even the smaller fish seem to you potential record breakers); to know that bre'r bass is putting up a fight for his life somewhere out in the dark, your knowledge of the battle's progress being conveyed to you along the tingling line—there's nothing like it!

Perhaps you've tried the game, and if so nothing that I can say will increase your interest; if you have not, it may be that a few words as to the modus operandi will do no harm. At first glance, this sport might seem closely akin to daylight casting, implying the same methods and lures; to a certain extent this is correct, and the same skill and much of the same tackle which have won success in ordinary casting will prove effective in the newer style. On the other hand, the darkness—for even moonlight is not essential—introduces other factors whose consideration will add much to your comfort.

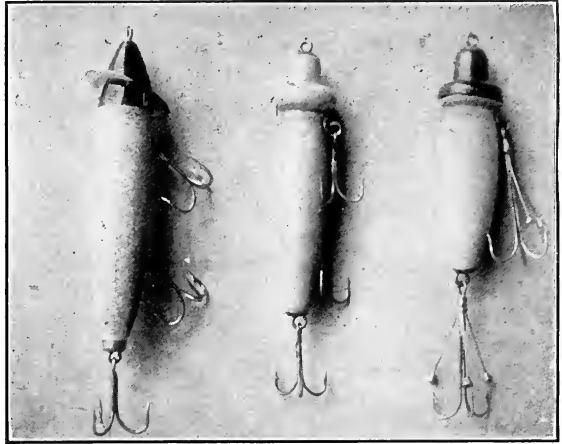
Thus, while the ordinary lures will work well as far as connecting with the fish are concerned, they are going to cause you unlimited trouble in casting among the pads and close to the weedy shores which your quarry frequents. It is sometimes hard enough to place a lure exactly where you wish even when you can keep your eye on it, but when you've got to cast with only your sense of distance and direction as a guide! Furthermore, you will at least double your proportion of backlashes, the difficulty of untangling which is increased by the darkness; with an underwater bait this is either going to mean mighty quick work or a deal of stump pulling.

But as at night bass usually feed near the surface and in shallow water, some type of surface bait will not only prove the most effective but will float itself and your line while you are untangling a snarl; besides, to lessen the difficulty of directing your casts, as well as to make their lures more effective, many manufacturers have placed luminous

baits of this type upon the market. Such lures may be placed with comparative nicety, which is the fundamental principle of good casting, and they serve as a guide not only during the progress of the fight but when the time comes to use net or gaff as well.

Several lures of this style are illustrated, and may be taken as typical; the one with guarded hooks may be cast into the thick pads or rushes where large-mouth bass are apt to be found without danger of fouling. The luminous quality of each of these is due to the paint with which they are coated; to secure the proper effect of this finish one must expose them to light (not bright sunshine) for half an hour, and then leave them in an open box until ready to begin casting. Non-luminous baits of other types may be used with success, also, although their handling is attended with more or less difficulty.

In a preceding paragraph mention was made of the increasing tendency to backlash in the darkness; should you intend to do much night casting, an investment in an anti-backlash or self-thumbing reel might well repay you. Apparatus of this kind is fitted with interior brakes whose application is governed entirely by the speed at which the bait is taking out the line; as it slows up—either due to the pressure of a strong wind or as the end of the cast is reached—the action of the brake is increased, and the reel kept from overrunning. About the only possible way in which standard makes of this type may be fouled is when the line is wound unevenly upon the reel, thus causing the line to pile or slide and bind a coil or so



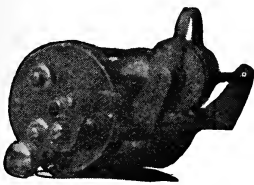
SOME TYPES OF LUMINOUS LURES FOR NIGHT FISHING

in beneath; to avoid this, spoolers or even-winders to be fitted to the front of the reel are on the market, and do the work more or less satisfactorily.

The illustration shows the writer's self-thumbing reel with spooler attached, which has proved an effective combination—although one which he would not recommend for daylight use as robbing the sport of a desirable element of uncertainty. At night you don't have to worry about giving a bass a fair show—he'll take it!

So much for the tackle—now for the method of handling. Long casts are unnecessary and need not be attempted, but the boat should be rowed or paddled gently to the feeding grounds where the angler may either cast to the rise, if the bass are jumping, or else cast into likely spots as in everyday work. The boat should be a wide, flat-bottomed affair and but one man should cast—as much as possible from a sitting position and from the end of the boat farthest from the oarsman. A standing position is a menace to safety, while the greatest possible distance between caster and oarsman is none too far—several burrs of treble hooks actuated by a powerful arm and a short, stiff rod will make a horrible wound, and should, therefore, be treated with the respect accorded to a can of nitro-glycerine.

Even with a luminous bait your strike will have to be governed largely by instinct, and for this reason a large pro-



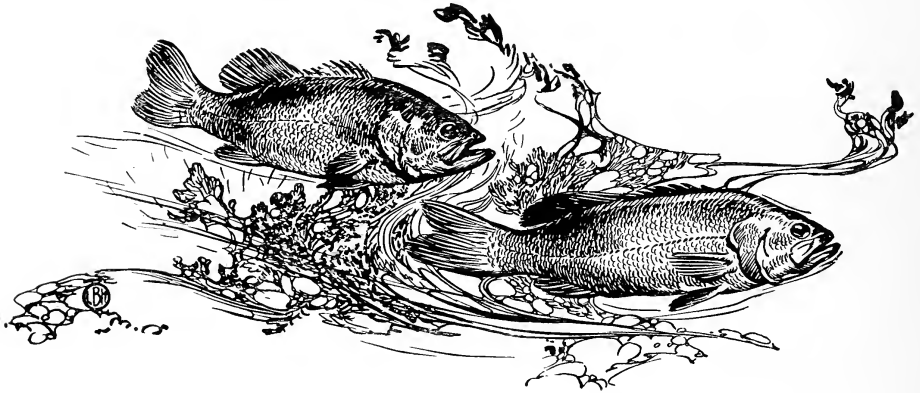
A SELF-THUMBING REEL WITH SPOOLER ATTACHED FOR NIGHT CASTING

portion of the fish striking are eventually lost; this simply increases the sport. To offset this disadvantage, should you consider it such, is the fact that at night the bass are feeding and not playing; the result is a savage, whole-hearted smash at the lure that will send a tingle up your action arm and make you think that you've stuck the rod into a buzz-saw. More skill, too, must be exercised in playing your fish, and a false move with the landing net is to be avoided; the safest plan is to exhaust your fish entirely before making any attempt to land him.

Night casting is effective at all seasons, even during the sultry weather of July and August, when the day fisherman finds difficulty in winning a strike; they

may lie half-dormant in the deep water during the day, but at night enter the shallows to feed. Moreover, in those lakes where bass are known to exist but where they refuse ordinarily to take an artificial bait they will often respond to this newer method of angling.

The new sport is well worth a trial to the fisherman who is in search of both fish and thrills; it is not in any way taking advantage of the bass, for the odds are even more in favor of the latter than in day fishing. At any rate, the busy man may thus enjoy his favorite sport under ideal conditions and without the necessity of asking "The Boss" for a day off—and we all have a boss, you know, whether it is ourselves or another.



In the May OUTING Mr. Oskison tells how he hit the trail with one of the Indian hunters and paid in fatigue and dust and hunger and thirst for his deer.

TWO FISH AND TWO FISHERS

By WILLIAM C. HARRIS

*Both Sides of the Struggle That Ensues When Craft Above Meets
Craft Below*

THE article which follows is in the nature of treasure trove. It has lain for many years buried and unknown in the editorial files and now comes to light as fresh and readable as when it was first put on paper. There have been few writers on fishing who could endow that sport with the quiet charm and acute sense of perception that were the secret of the wide popularity of Mr. Harris, and no apologies are due or offered for the late appearance of the article which follows.

TWO meditative black bass lay at the bottom of a three-foot pool, side by side, under the protecting shadow of a shelving rock. Meditative, because in that thoughtful, self-appreciative mood, the keen enjoyment of which, by mortals, is often marred by the slightest movement of a muscle.

The bass lay still, but conscious, their tails silently seesawing the quiet waters; their pectoral fins gently waving up and down, as if to the music of some submarine melody.

One of these two basses knew a thing or two beyond his brethren of the pools. He was the heftiest of them all, and a sort of patriarch among the in-dwellers of the rocks and riffles. They knew and called upon him as Old Scales, and many a young fish had a narrow escape from the pan, when heedless of the old fellow's sage counsels.

His companion, or pool mate, Young Fin, was some years his junior; in fact, his spawn-child, and was content to bask, or rather lave, in the consciousness of Old Scales' knowledge of the ins and outs of fish life.

Above

The day was getting old, and here and there the irregular hills on the western

side of the pool threw dark bands of shadow upon the bright surface of the water. It was the hour for sentiment and fishing.

Two anglers stood upon the eastern bank of the pool, beyond the reach of the shadows of the hills, with the glare of the sun broad upon the bronze and lily of their respective faces. Behold the Master and the Tyro!

Both were young; indeed, it would be hard to tell over which the most years had passed, as they stand a little back from the margin of the pool, preparing their tackle for the work that lies before them.

The Master, he with the bronzed cheek, leisurely inserts the line through the rings of each section of his rod, and joints and lines them alternately, while the Tyro nervously and clumsily joins all the three sections, and then roughly pulls his line through the guides, his rod arching like a hard-drawn bow, and the delicate tip bending under the strain, with breakage danger not far to leeward. He is nervous for fear his companion get the first cast upon the likely pool before them, in whose cool depths repose in kingly content Old Scales and Young Fin.

Without the capacity of originating a nomenclature, mankind would have been Babel-ruined forever; hence our tyro is

known as Tuck, and he of the bronzed aspect as Gill.

Tuck, having joined his rod and adjusted his line, takes from the breast pocket of his coat an overgrown pocket-book, whose bulging sides indicate its well-packed contents. He calls it a fly-book; Gill says it is a hybrid between an old woman's reticule and a butcher's passbook.

As Tuck opens it and takes from a pocket a cranky coil of silken gut we see an ample store of feathered lures within, ranging in color and size from the diminutive gray gnat to the half-ounce rainbow bass fly; the latter made by a crack fish tackler, and sold with a guarantee that it is sure to kill, which it would be certain to do were it to hit the head of a bass either in or out of the water.

Tying his leader to the handline with a knot as big as a horse-fly, Tuck selects three of the largest bugs in his book, and with eager hands loops them, six inches apart, to the gut of his leader, which, owing to its dryness, dancing and dangling in the air, coils around his hand. Determined to have the first cast, Tuck steps hastily to the brink of the pool, then, raising and throwing his arm behind him, and bracing every joint from shoulder to finger end, with a stiff, rapid movement he slaps the tip of his rod into the water, and line, leader, and flies, bunched and knotted, are sent with a great splash, *kaslosh*, on the quiet bosom of the pool.

"Tuck, old boy, hold up there!" cries Gill, who, with his back to the pool, is quietly making up his delicate cast of flies. "Hold up, don't throw stones into the water, you'll scare every bass away."

Below

If it be the power of fish to chew the cud, and I sometimes believe that this happy gift of blended action and repose is within their reach, Old Scales and Young Fin were certainly in that happy state of contentment with things below, and ignorance of things evil above, when they were suddenly startled by the tumult of the water caused by Tuck's first cast.

No old fish, true to his instincts, but

has a danger hole for refuge in times commotional, and Old Scales, in a flash, was imbedded, body and tail, between two rocks overhung with river grass. Young Fin, with no wise precautionary measures, darted hither and thither, bereft of all sense, except the one acutely startled by the splash of Tuck's cast. He at last found quiet and apparent safety in the channel of the river.

The pool, which a few moments before was alive with fish, became in an instant as dead and barren as a burned prairie. Not a fin was to be seen. Even the circling water beetle had disappeared from the surface, and the silvered minnow from the shallows.

Ten minutes passed and, one by one, its scaly denizens peopled again the waters of the beautiful pool. Old Scales, with the caution of years upon him, was the last to find his way to the sheltering rock, where Young Fin was found as happy, and as forgetful of the past, as the veriest fry that ever was spawned.

"I guess that noise was made by a hawk who nipped a young one from us," said Old Scales, as he stiffened the rays of his dorsal, a sure sign that his spirits were slightly perturbed.

"I think so, too," was Young Fin's reply, made from courtesy, backed by the knowledge of the throat capacity of Old Scales, who had been known on lesser provocation than an uncivil answer to swallow an offensive youngster.

"Come back, you young fool," cried Old Scales, as Young Fin darted upward like a streak of lightning at the rough semblance of a May fly which appeared on the surface of the pool. "Come back, I say; can't you see that great rope dragging the bug 'gainst stream? Come back!" and Young Fin halted, cast a wistful eye upward, turned tail and floated once more stationary under the protecting fins of Old Scales.

"Don't do it," replied Old Scales, as Young Fin asked tearfully for a snap at a black bug above. It was the last of a dozen or more that had lit with a thud upon the waters, and the youngster was getting hungry. "Don't do it," repeated

Old Scales. "Don't you see that man up there with a stick and a string? Don't you see him? He's right there with the sun on him. He's got dead bugs to his string. Can't you see him throw 'em?"

Above

"I threw no stone," replied Tuck; "it was my confounded leader and flies, that seem to be all tied up in a knot. Can you account for it, Gill?"

"Certainly! You did not straighten your leader by putting it in the running water of the rift, which you should have done before adjusting your rod and line. Bring me your cast of flies and let me see them."

Tuck bundles up rod, line, flies, and leader, the three latter in an inextricable tangle, and makes his way to Gill, who exclaims as soon as the half-ounce flies loom up in Tuck's leader:

"Why, man, do you intend to brain your fish instead of hooking them, that you use these heavy weights?"

Taking the jumble in hand, Gill soon unravels it, and quickly replacing the big gorgeous flies with three hackles, tied Palmer fashion, thick and bunchy, but not too heavy, in color, black, brown, and gray, he dismisses Tuck with a word of advice:

"Try these, Tuck, and try also to unjoint yourself when you make a cast. In the forward cast use your wrist, not your shoulder, and don't be in such a hurry to recover your line. There, go about your business. I can't teach you, no man can teach another how to cast a fly. So go, and be happy and do your best."

Gill wades quickly across the river to a favorite hole, where he knew the copery beauties ought to be.

Tuck goes back to his old pool and splashes its bosom most industriously, but without a rise. At last Tuck gives up in despair, and wades across to Gill, who has depleted his pool of all the biting fish it contained.

"I say, Gill, I can't catch any over yonder; suppose you try it."

"Not I, Tuck—at least not for half an hour. You have either driven every fish out of that pool or made them so shy they will not rise. Let them rest for a

while, and I will see what I can do."

So saying, Gill passed over to an adjacent rapid, made a cast, got a rise, and landed a skittish pounder after a play of a few minutes, during which, in his frantic efforts to loosen the hook from his mouth, the bass came out of the water three times.

"I do really believe, Tuck, that a pound bass gives more sport and fights harder and with more spirit than the big fellows—those six-pounders that we hear so much about, but never catch. I have never landed a bass with a fly that weighed over three pounds, and I don't believe that anyone else ever did out of Pennsylvania waters."

Humming a tune in accord with his deep convictions, Gill repeated his casts with varying success until the allotted half hour of rest for Tuck's pool had expired. By this time the shadows had broadened upon the face of the river, and the hush and beauty of a calm twilight was silently spreading over the water and the hills.

"If fish are to be caught, this is the hour, and here is the place," said Gill, as he noiselessly waded into the rapid at the head of the pool, where Tuck had exhausted muscle, and fly-book, and patience without success.

"Why do you go out of your way to reach the east bank, when you can get such a lovely cast from this rock?" asked Tuck, as he saw Gill make a wide circuit in order to reach the right bank of the pool.

"Move gently, Tuck, and I will explain. Although it is twilight, my rod, in the act of casting from the western bank, with the setting sun behind me, throws a shadow over the water, a slight one, to be sure, but sufficiently dense to alarm a suspicious fish; hence I intend to make my casts from the eastern bank, where the reflected light that comes from the west will fall upon me, so that no shadow of self and rod will be seen by the wary fish."

Gill had now reached the spot desired, and was quietly examining his tackle, tightening the rod joints, testing the gut of his leader, and making up a new cast of flies, of which he used only two. He neatly looped to his leader a black hackle

as a stretcher, and a gray and black one as a hand fly, placing them about thirty inches distant from each other. These flies were of his own make. They were ugly, but good. He had a seven-ounce split bamboo, about ten feet long, and he used a nine-foot leader.

Going above the rapid, his first cast, about twenty-five feet, was across its head, then inch by inch he corduroyed the rift with the drift and skitter of his bugs. No fish. When his flies reached the foot of the rapid, where it lost itself in the pool below, he stepped farther back to make a longer cast, rightly judging that the greater the distance the greater the security from the keen senses of the bass.

It was a beautiful throw—at least fifty feet—with the black hackle fluttering through the air, hovering ere it fell, like a feather, upon the deepest patch of shadow that rested on the bosom of the pool.

A break in the water—a splash—little white caps here and there—a turn of the wrist—and the fight began.

Below

The growing twilight above had darkened the pool below, and the dusky forms of Old Scales and Young Fin could scarcely be traced as they lay side by side, under the hanging rock. The old one, grown suspicious from seeing the big body of incautious Tuck on the bank, and the awkward trailing of his line in the water, has restrained himself, as well as Young Fin, from wandering in search of food, until both of them began to feel the gnawings of a growing appetite.

Not an insect had alighted on the face of the pool, nor a bug, nor a worm, had drifted down from the rapid above.

Suddenly, Old Scales expanded his great dorsal fins, raised his body almost perpendicular, and then, with head erect and eyes bulging to the full in their sockets, he seemed to be straining soul and nerve in hungry expectancy. He had seen the fluttering hackle which Gill had so deftly thrown over the pool, as it

poised in the air. At last it fell upon the water. With the speed of light Old Scales struck the lure and the cruel barb was in his throat.

Above

The fight began. Out of the water at least three feet, with his big head shaking like a terrier's when killing a rat, Old Scales came thrice, seeking and now and then getting, a slack line, but only for a moment, for the obedient rod took up the spirit and the skill of its holder. It seemed to be gifted, in its yielding resistance, with an intuitive foresight of every movement of the fish.

Old Scales had been there before, and had conquered, and he fought the harder from his knowledge of the past, trying every fish-dodge known under the water.

At last, finding that coming out of the wet did not avail, he went down and staid there. He sulked.

Gill, like all other experienced anglers, knew well that this trick meant rest—recuperation—and that when the fight was renewed his fish would contest it inch by inch with all of his original skill and vigor.

What was to be done?

Strike the hook deeper and deeper into the sulking rascal! The only response is a succession of tugs from the fish, only to be compared to the sturdy, persistent jerks that a dog gives when one attempts to take a cloth, or a rope, from his mouth.

Startle him with a pebble or two thrown into the pool?

He only settles himself deeper and deeper until the bottom is reached, and stays there.

There is but one resource left, and Gill avails himself of it. He puts his tackle to the test, and by main force drags Old Scales from his lair. No sooner does he feel the tightening strain upon him, than once more into the air he springs, but being skilfully met, and tightly held, he can do no more than surge and surge across the pool in desperate efforts to free himself.

"Ah! one more, if a last chance," he gasps, as he draws his muscles taut, in

his struggles to reach a rock, which lies a few inches under the water.

No you don't, Old Scales; that dodge is known, and you can't rub your nose against a rock or press the silken line around its sharp angles.

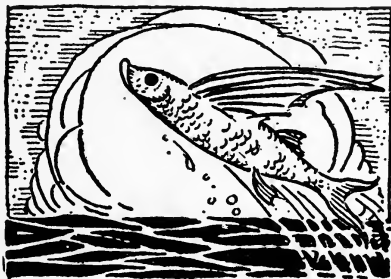
Gill, having tried the strength of his tackle and found no failure there, holds

his fish well in hand, and after a few more wild efforts Old Scales floats upon his side and surrenders his knightly spirit, to animate, if such can be, some lordly salmon, or great leviathan of the deep. They could not own a greater. The Master Craftsman had conquered, above and below.

A NEW WRINKLE FOR THE FISHING KIT

AMATEUR fishermen may be divided into the "fussers" and the "anti-fussers." Those who, like myself, belong in the latter category and yet find workable and fairly sightly tackle an essential to the joy of the day will appreciate this little scheme. *Dental floss*, if taken on the fishing trip, will find many uses. It is cheap, purchasable anywhere, ready-waxed, strong, and flat.

As an emergency or even permanent rod-wrapping it can be applied with a quarter the expenditure of time and trouble demanded by ordinary rod-silk; is waterproof, much more durable, and presents an attractive semi-transparent appearance. It is usable even for emergency fly-tying and for any little repairs requiring wrapping, even so serious a matter as a broken rod.



HOW TO BE HEALTHY IN CAMP

By J. CLIFFORD HOFFMAN

ILLUSTRATED WITH DIAGRAMS

Common Sense Measures That Every Camper Should Take to Insure Freedom from Disease

THE average camper, particularly the novice, who goes to the country, into the woods and along the streams for an outing or in search of health, loses sight of the fact that sanitation there is just as essential as about the home. The out-of-doors is the greatest panacea for tired muscles, nerves, and brain, but indifference and a tendency to carelessness on the part of the camper is liable to make his surroundings a menace.

Since there is no organization among camping parties in state or nation, statistics are not available of sickness and death directly traceable to unsanitary conditions. A cursory investigation in one's own neighborhood will show a number of such cases each summer, and when an estimated aggregate is considered the disease and mortality rate will be found to be exceptionally high.

Camp sanitation in the United States Army has been making great strides of late, as witness the recent Government reports, which show that in a year there have been but two cases of typhoid fever among 30,000 men in the field, and both of these with doubtful histories. From this the civilian camper can draw a valuable lesson. A well-groomed and healthful camp does not entail more labor than will add zest to the outing. Ordinary watchfulness and a few simple devices easily constructed are all that is called for to keep a camp healthful.

The selection of a good camp site is of prime importance and calls for good judgment and care. In a general way the following principles will govern:

Choose a location convenient to an abundant water-supply of unquestioned

purity. Investigate the source of this supply, and if it is found to be contaminated with surface drainage that cannot be readily prevented, or if the slope of the ground or pitch of rock strata indicates that there might be seepage from barnyards, cess-pools, and the like nearby the site is undesirable. If the water-supply is a spring or well otherwise uncontaminated except by surface drainage the pollution can be stopped by building a rim of puddled clay several inches high around the spring or well or on such sides from which the drainage comes. A gutter around the uphill side which will lead the objectionable water away from the spring or well will also answer.

The site should be high enough and with such a slope that storm-water will drain off readily and, if the weather is warm, so located that there will be a free circulation of air. It should not be in proximity to marshes or stagnant water because of the dampness and the mosquitoes. Porous soils underlaid with gravelly subsoil will insure a dry camp at all times. A site on clay soil or where ground-water comes close to the surface is damp, cold, and unhealthful, as are likely to be alluvial soils and ground near the base of hills. The dry beds of streams are undesirable because of the danger of freshets. A site moderately shaded is always better than a dense woods or where vegetation is thick.

Whenever possible avoid old camp sites. If about to pitch tents on such ground, however, thoroughly clean the place of all refuse such as straw, paper, leaves, tin cans, etc., and burn the rubbish before the tents are erected. Pay particular attention to the burning over of old sinks and places where organic

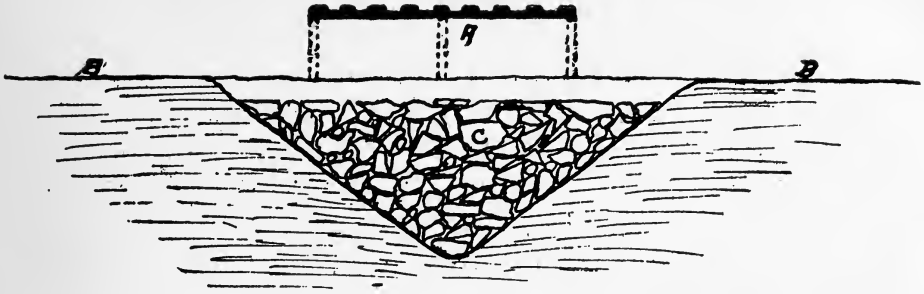


FIGURE 1

Cross Section Plan of Camp Fire and Incinerator.

A—Fire Jack. B—Surface of Ground. C—Broken Stone in Pit.

refuse has been deposited. Old camp sites are often permeated by the elements of disease, which persist for long periods, hence too much care cannot be taken in the cleaning up.

Granted that a sanitary camp site has been selected, it is necessary to keep it so. The greatest sources of contamination about the camp are the kitchen and the soil sink. Flies and mosquitoes are the instruments which carry disease. The source of contamination is also the breeding-place of flies and mosquitoes, wherefore if the kitchen and the sink are kept clean there will be no flies and no disease.

The carefree life in the open is apt to make the camper indifferent as to where the offal from the kitchen is deposited and in what condition the sinks are kept, just as long as his senses are not offended. Fire is a positive destroyer of germs and that upon which germs thrive. Burn all solid kitchen refuse and dispose of the liquids in seepage pits carefully screened from flies.

The camp-fire is the best means of disposing of all solid kitchen refuse, and, if properly constructed, can be utilized to get rid of the liquids as well. Such a camp-fire can be constructed as follows:

Dig a trench of a width so that the firejack—sometimes called buzzacott—will rest firmly on the edges without danger of caving in when the weight of cooking utensils is upon it. Make the trench about a foot longer at each end than the length of the firejack and slope the bottom from each end of the trench toward the middle to a depth of from eighteen inches to two feet. This will make a trench somewhat like a basin. Fill in with large stones—slate or stones with many seams should be avoided—to within a few inches of the top of the trench, this to be determined by the height of the firejack and the size of the wood to be burned. Upon these stones build the fire.

With such a fireplace all kitchen refuse, liquid and solid, can be poured into the trench at each end. The liquids will

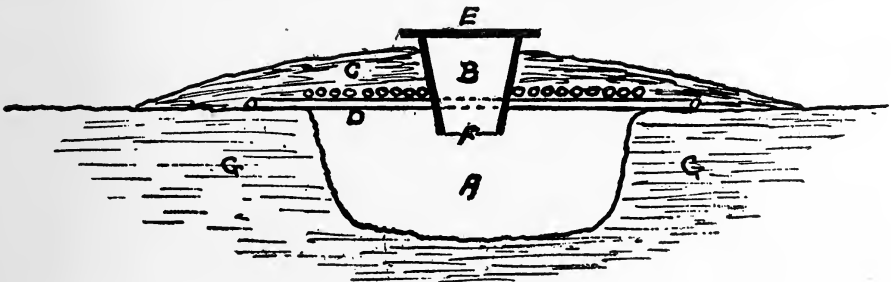


FIGURE 2

Cover Excreta. I—Muslin or Board Screen Around Seat

A—Pit. B—Wooden Funnel into Pit. C—Earth and Sod Covering. D—Sticks Forming Support for Covering. E—Lid over Funnel. F—Screen. G—Porous Earth.

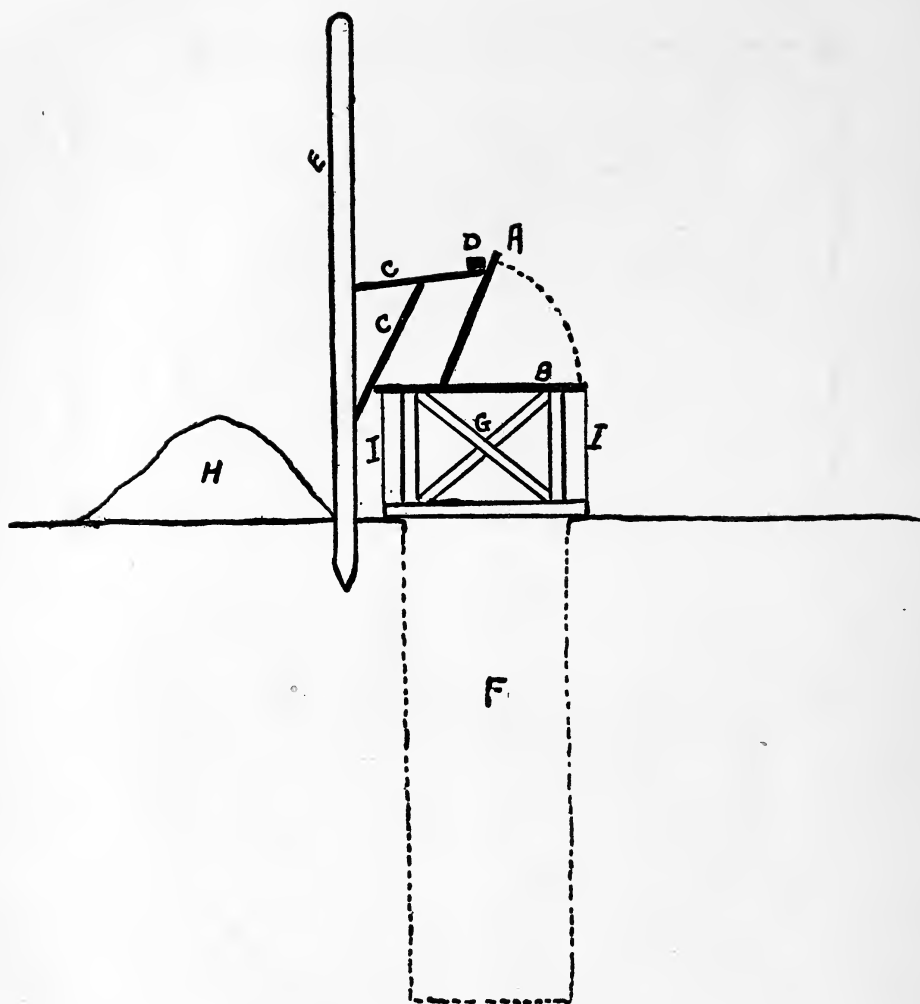


FIGURE 3

Cross Section Detail of Sink Seat with Self-closing Lid.

A—Self-closing Lid. B—Seat. C—Supports for Back Rest. D—Back Rest. E—Post to Support Screen. F—Trench. G—Braces to Support Seat. H—Earth Taken from Pit and Used Again to Cover Excreta. I—Muslin or Board Screen Around Seat.

go to the bottom into the interstices between the stones, and will be evaporated without smothering the fire. The solids, which will remain near the top, will be burned.

A similar fireplace can be used when a firejack is not at hand. The trench should then be made just wide enough so that the kettles can span it and the spaces between the kettles can be filled in with stones and clay, leaving a flue underneath in which the fire burns. The draft in such a fireplace will be improved by erecting a clay or stone chim-

ney at one end of the trench. It is obvious that a similar fire trench will answer when the cooking is done in kettles suspended from a pole. Many campers use old stove tops which are supported by clay or stone walls, erected on three sides, upon which to do their cooking. Such a stove can be used as an incinerator by digging a hole inside the walls and filling it up with stones to the required height.

When a camp range is used dig seepage pits in which to dispose of liquid waste. Place these in porous ground if

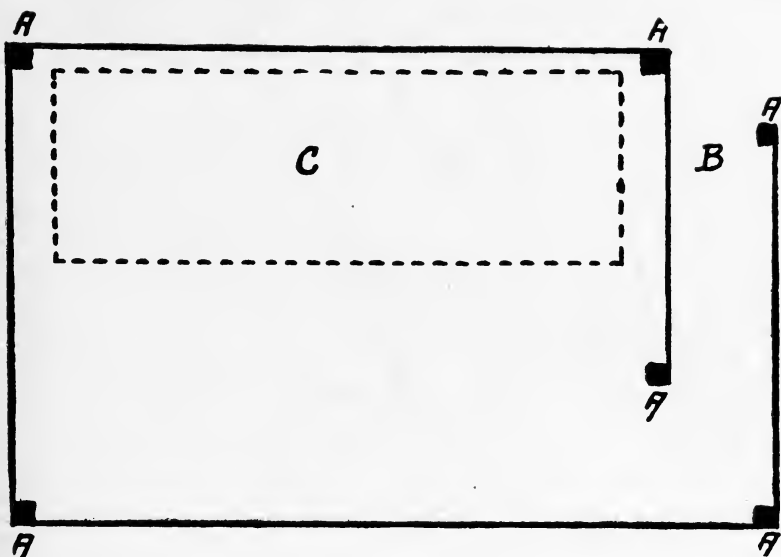


FIGURE 4

Plan for Screen about Sink.

A—Posts. A to A—Muslin Screen. B—Entrance. C—Sink Trench.

such is to be found, and where they will not endanger the water-supply. The size of such pits will depend largely upon the number of persons in the camp. To construct a sanitary seepage pit simply dig a hole of the required size and cover it with sticks laid closely together over which place sod and earth, leaving an opening through which to pour the water. Provide the opening with a wire screen—if this is not available a piece of burlap or other coarse cloth will answer through which to drain the water to remove all organic solids. Always keep the opening in the top of the pit covered with a board, stone, or piece of sod. Burn the solids collected by the screen in the range or a fire kept burning for that purpose.

When canned goods are used to supply the table always burn the cans before disposing of them. The indifferent cook who throws these cans indiscriminately about the camp is responsible for the presence of many mosquitoes. These pests breed in stagnant water, and just a small amount in a tin can is an ideal place for their propagation. If these cans are thrown together on heaps or loosely about the ground they soon gather water from the rains, or even from the dews, and the mosquitoes get a start.

Throw all tin cans into the fire. There whatever of foodstuff remains upon them will be burned and in a short time the solder of the joints will melt so that there remain but loose pieces of tin, which can easily be flattened out and which no longer will form receptacles for the lodgment of water.

If no one has prepared the camp site in advance of the arrival of the party, the first thing to be done after tents are pitched is the construction of the soil sink. This is a matter of great importance, and to slight any precaution in its proper construction is to court sickness and death. The most serious diseases contracted in camps are spread from human excreta.

Locate the sink where it will not pollute the water-supply, either by seepage or overflow, where it will not fill up from surface drainage, out of sight of the camp if convenient, and where the slightest odors will not permeate the area occupied by the tents. The size of the trench will depend upon the length of time the camp site is to be occupied and the number of persons in the party. For ten or more it should be at least six feet deep and about two feet wide.

Provide the sink with seats and back-rests of poles or better material if at

hand. In camps extending over long periods in summer steps should be taken to have seats covered with muslin down to the ground and provided with self-closing lids, since open pits are dangerous during the fly season. A piece of board over the hole in the seat, fastened at the back with a hinge made of iron, leather rope or coarse canvas, will make a lid. If the back rest is so placed that when the lid is open it is at an angle with the seat of less than ninety degrees it will always close automatically by gravity.

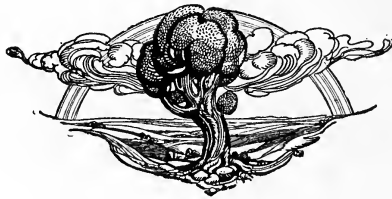
The danger from flies, however, can be greatly reduced by covering the excreta with earth. Lime, if available, and the wood ashes from the fire should also be placed in the pit every day. The entire area of the trench should be burned thoroughly by means of combustible sweepings from the camp such as straw, leaves, and grass. Sprinkling the soil in the trench every day with oil is an excellent sanitary measure, and oil on the material burned in the trench will aid greatly in making the fire do the desired work.

Clean up the camp-ground every day. Keep the kitchen tent well screened from flies and the foodstuffs in cool

places where the flies cannot get at them. Pay particular attention to keeping the milk free from contamination. Thoroughly ventilate the tents inside every day by raising the walls so that there will be a free circulation of air. Expose blankets to air and sunlight at least an hour every day if it is possible. Fill up pools of water that may form about the camp. Insist on a free use of boiling-hot water when washing the dishes, particularly if granite-ware dishes are the ones used.

When leaving a camp site which is likely to be occupied soon again by another party you owe it to your neighbor to clean up the place thoroughly before departure, just as you would expect a householder to clean the premises before moving out. Such would be a golden-rule policy.

All this may appear like piling a lot of seemingly unnecessary labor upon the camper, but when it is summed up it will be found that it all amounts to less than it seems. In fact, all measures here suggested entail only enough labor to add zest to the outing and give one an appetite which will not be gained by lounging about and letting one's health take chances.



TRAIL SONG

By CHARLES BADGER CLARK, JR.

A I! our cheery riding-trail to Any-place,
 Trail that beckons on across a world of shining space—
 Bird in sunny skies, we love because we're wise—
 Stirrup-leather singing and the sun across her face!
 Ai! my dreary riding-trail of tender lies,
 Steely blue above me where a hungry buzzard flies—
 Snake among the dust, we love because we must—
 Stirrup-leather creaking and the wind across my eyes!

THE FIRST COLLEGE PITCHER OF CURVES

By WILLIAM G. MURDOCK

Edmund Davis, Who Introduced the Drop and the In-Curve at Princeton Nearly Fifty Years Ago

FOR some years after the game was played such a thing as a pitcher curving a ball was unheard of. It is frequently asserted that A. J. Cummings, the famous pitcher of the Excelsiors of Brooklyn, was the first pitcher to do this. Cummings did use a curved ball as early as 1867, and he was probably the first well-known professional pitcher to pitch curves after the baseball convention in the spring of 1867 made a ruling that pitchers had to deliver the ball with a straight arm movement; that is, they would not be allowed to bend the arm at the elbow, a ruling which delayed the adoption of our modern methods of pitching for ten years. At this time all balls were pitched underhand and not thrown as they are to-day.

One of the best-known pitchers of that time was McBride, of the Athletics of Philadelphia. He had a very effective underhand ball, but in delivering the ball he bent his arm at the elbow, and his friends asserted that the ruling requiring a straight-arm delivery was brought about by the clubs which could not easily hit his balls. McBride, however, was able to adapt himself to the new ruling and continued to pitch successfully for the Athletics for several years longer.

The most famous college pitcher of that day, and undoubtedly the first pitcher to use curved balls intelligently and successfully, was Edmund Davis, of Princeton. In the spring of 1866 Davis began to develop several styles of curves which afterward made him famous. He had been raised on a farm near Milton, Pa., and was sent to the Edge Hill Preparatory School at Princeton. Here, for

the first time in his life, he saw round baseball bats. At home he and his companions had always used flat paddles with which to bat balls, and Davis soon figured it out that if a speedy ball with a fast perpendicular rotary motion were pitched, the ball, upon hitting the round bat, would very probably be deflected either upward or downward and the batter easily put out.

With this idea in view he worked hard, practising until he could pitch an effective ball with enough of a curve to puzzle all the batters on his school team. In the summer of 1866 Davis attained that ability as a pitcher to which he aspired. After returning home from Edge Hill he practised daily pitching a ball against a brick wall for the purpose of acquiring such control over, and giving such a twist to the balls that he could tell just how they were going to bound if hit fairly. In this way he developed a drop ball and an incurve over which he had complete control.

Before returning to Princeton as a freshman he organized a ball team in Milton in the summer of 1866 to play the teams from the surrounding towns, and he had the satisfaction of proving that his theory of pitching was correct, as the opposing teams could do nothing with his delivery, the batter striking six or seven inches above his drop ball, and his incurve, when hit, usually resulted in the ball going straight up in the air, so that either he or the catcher could get it.

For several years after baseball was introduced at Princeton the games were confined to the different teams in the school, matches being played every week.

The first game with an outside team was played with the Orange team at Orange, on October 22, 1860, which resulted in a tie score, each side getting forty-two runs. The first game with another college was not played until four years later, when the Nassau team, as the first Princeton team was called, defeated the Williams College team at Princeton on November 22, 1864, by the score of twenty-seven to sixteen.

When Davis entered Princeton in the fall of 1866 there were six different baseball teams in the college, and he was given a trial to see which of the teams he could make. To the surprise of everyone the diminutive freshman was made the regular pitcher of the first team, displacing a senior who had been the acknowledged leading pitcher for two or three years. One of the first important games in which Davis pitched was the Freshman-Junior game, which was played shortly after he entered college, and in which the Juniors did not succeed in batting the ball outside the diamond. From that time his position on the first team was assured.

Presbrey, in his "History of Athletics at Princeton," published in 1901, in speaking of Davis says, "All members of the Nassau nine of '66-'67 who are yet alive are firm in their statements that curves were first pitched at Princeton by Davis," and that "during the winter Davis would pitch in the long hall at the west end of North College where the students gathered to watch and to attempt to catch the balls he would pitch."

At that time "live" balls were used, that is, balls which had a good bit of rubber in them, and when they were hit fairly they went far and fast. No gloves were used, and such a thing as a catcher's mask was unheard of, consequently injuries from foul tips and thrown or batted balls were more fre-

quent than they are to-day. The pitcher in those days was handicapped by some of the rules of the game which have since been changed, and the odds were greatly against him and in favor of the batter. Balls were called against him, but the batter could let three good ones go by before a strike would be called.

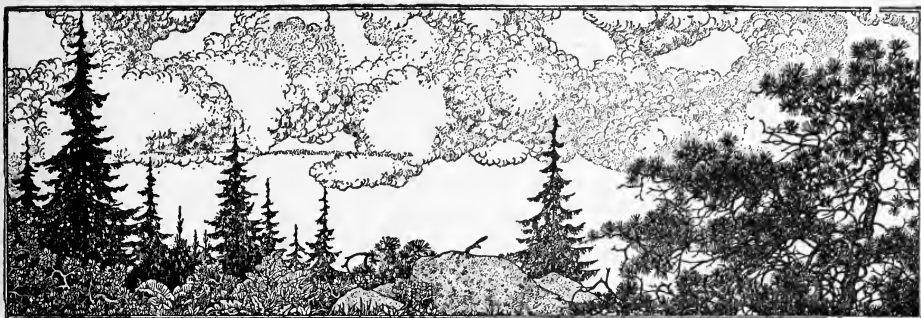
The batter had the privilege of calling where the ball must be pitched, whether knee-high, waist-high, or shoulder-high. The games were long, and as there were no foul strikes the strain on the pitchers was great. Whenever Davis was in the box the opposing batters would endeavor to wear him out by not striking at the balls.

Davis continued to pitch effectively at Princeton every week until June 1, 1867, when in the game between Nassau and Camden, whose players were mostly of the Athletics of Philadelphia, after three balls had been pitched the rule prohibiting the bending of the arm at the elbow was enforced against him and he was ruled out of the box. That was the last game in which he pitched at Princeton against an outside team, but during the summer vacations he pitched for the team of his home town of Milton where many victories over the teams from neighboring towns were credited to him.

After Davis quit pitching at Princeton it was eight years before another pitcher there used curves, which from that time was recognized as the only effective style of delivery.

The name of Edmund Davis may be unknown to any of the present-day baseball players outside of Princeton and Milton, where he is still living after many years of an active and successful career as a business man and banker, yet he is one of the men whose name should always be associated with the development of the great game of baseball.

The next instalment of Mr. Griffith's story of his **TWENTY-FIVE YEARS IN BIG LEAGUE BASEBALL** will deal with the Milestones of the Game. He has seen it grow from practically nothing to its present huge proportions and knows the various stages that have marked its development.



IN MOCCASIN TIME

By ROBERT E. PINKERTON

Pleasures of the Footwear That the Red Man Made Famous

IT means something more than just putting on the lightest, easiest, warmest footwear ever made—moccasin time. It brings with it the swish and creak of snowshoes, the desire for great and satisfying physical exertion, the long, swift run at the tail of the husky-speeded toboggan. The peculiar, alluring odor of the Indian tanning quickly passes from nostril to brain and arouses desires and impulses that may have been slumbering for generations. The moccasin is something more than a shoe; it is a token, a fetish, a symbol. It leads, rather than carries, to the northland.

In the forest country the moccasin is a necessity as well as a pleasure. Last Winter there were four months without a thaw, four months of dry, clean, feathery snow. When the first cold and snows of October come, the shoepeacs and cruisers' shoes are laid aside for the leather-topped rubbers. In dry weather there is a return to the shoes, and then, in November, comes a cold snap and snow, and for half a day moccasins may be worn.

Mercury's feet were never more winged than those of the man who first steps out in the light, soft, pliable affairs. A fly would not be crushed beneath his feet, he is certain, so soft and light are his footfalls. On the trail a mile is easily added to the hourly total.

After the heaviness of stiff leather and rubber, buckskin is feathery.

And then, in December and later, when it is forty and fifty below, the unrestrained, uncramped foot remains as warm on the trail as it was beside the red-hot heater. Even in the lowest temperatures there is not a suggestion of chill during the long dash with the dogs.

There are many sorts of moccasins, and there are few good ones. The average purchaser can hardly do better than to buy the factory-made affair, although he must pay a good price to get anything that will wear. Such moccasins are linen-sewed, and the best of such sewing will not withstand the strain of the trail. For the short journey they are adequate.

The Indian-made moccasin is better, but harder to get. Indian moccasins of a sort are on sale at any trading post or north woods town, but most of them will wear out in a week or two. It is only the man traveling over a wide country who knows just where he can buy efficiently tanned buckskin or moosehide, just which squaws can furnish durable footwear. The best moccasins will be sewed with animal sinews. They will not rip, even after the soles have been worn through. The usual Indian tanning robs the hide of all life and makes it thin, dry, and shoddy. There are a few Indians who can make won-

derful leather by using the brains of the deer in tanning.

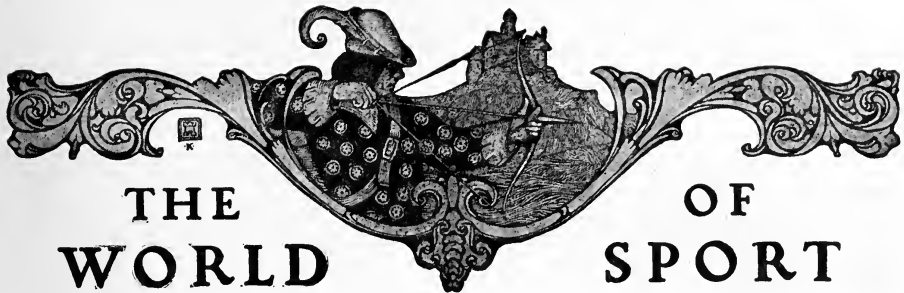
Most Indians make moccasins with cloth tops. In many ways these are an advantage. They keep out all snow, and there are no stiff uppers to be rubbed into shape and chafe the ankles the morning after a wet day. The cloth will wear and tear in the brush, though I once wore a pair every day for five months. They were cloth-topped buckskin and cost one dollar.

Two pairs of hand-knit socks within a pair of moccasins are sufficient for any weather. The wearer must be careful in selecting moccasins that fit to attain the maximum warmth, however. It is not on the thickness of the leather,

but upon the freedom of the foot's movements that warmth depends. The fit must be snug, but there must be ample room for the foot to spread and bend. A tight moccasin means frosted feet. A loose one robs the foot of its sureness and fleetness.

There is no compromise between the soft moccasin and the waterproofed footwear. Oil-tanned leather is impossible in cold weather. It becomes stiff as steel and so slippery it is dangerous. But even with wet moccasins the traveler will be warm if he keeps moving. For that reason, and because of the wear of the trail, one or two extra pairs should be taken to provide dry footwear in the morning.





THE WORLD OF SPORT

Fish Color-Blind English anglers have been aroused by a letter to the *Times* by Sir Herbert Maxwell on the value of color in salmon flies. Sir Herbert's contention is that there is no real reason for using gaudy colors for salmon, inasmuch as that fish has no sense of color. From the standpoint of fifty years' experience as a fisherman he says: "I should be perfectly willing to use no flies except those composed of the feathers of native game birds and barnyard fowls, dyed or undyed, with silk and tinsel to smarten them up to human, if not piscine, vision." This opinion is especially pertinent in view of the argument that has centered around the prohibition of the importation of plumage into this country. Many good trout fishermen have predicted the end of real trout fishing as a result. Fly fishing is the only really sporting method, they argue. Good trout flies can be made only from the prohibited feathers, most of which are obtained from other countries. Therefore, no more flies and no more fishing. Perhaps we may discover that the trout is not so discriminating in the matter of color as we have thought.

What Is the Lure Dr. Francis Ward, an English angler-scientist who has made experiments to determine the relative values of various kinds of flies, and particularly the appearance of the flies when viewed from the underwater position of the fish, concludes that it is not the color but the flash and light of the fly that attracts the fish. As he says, "The only use of feathers is that by their movement in the water they

suggest to the fish that the 'fly' is alive." The reason that one fly is more deadly than another on certain days or in certain water is explained by the more lifelike character of its flash or reflection. The same fly, as experiments have demonstrated, will have an entirely different appearance from different locations during the same cast. Flash apparently is only partially, and frequently not at all, a matter of color. In fact, the general tendency of all colors under water is to simulate the shade of their surroundings as a result of reflection and refraction. That at least is the opinion of Dr. Ward, based on numerous experiments.

Coach on the Bench The Football Rules Committee has solved the problem of the coach on the field by restricting him to the bench on the side lines. That is, he may not follow the play up and down the field, as in the past and watch his team from a position only a little less advantageous than that of the referee. This is a good step and probably as long a one as was safe to take, at least at this time. Of course, it might have been possible to put him off the field entirely, perhaps up in the press stand; a coach might find a far worse place from which to see what his team is really doing. The new rule will not prevent a coach from sending in substitutes as he chooses, whether for purposes of actual substitution or to carry instructions to the quarter-back. This is an evil that can hardly be eradicated by rules. Its elimination must await the growth of sentiment against it. Now and again even good coaches discover to

their sorrow that a quarter-back who knows his business is frequently a better judge of the next play than the expert on the sidelines. A poor quarter-back will probably make a hash of his big crisis, no matter how specific his instructions from headquarters may be.

Rights of the Coach From the standpoint of the coach, that gentleman has certain rights that the Rules Committee was bound to recognize and respect. On his shoulders rests the major responsibility for the formation of the team. If this is doubted consult the alumni of any college at the end of a disastrous season. Nine times out of ten it was the coach's fault, of course. Usually the undergraduate sentiment is the same, and probably stronger. That being the case, the coach must be given as free a hand as is consistent with the general good of the game in working out his problems. The big game is the trial by fire for him, no less than for the players on the field. He stands or falls by the outcome. Then common fairness demands that the support which has been permitted the team all through the season should not suddenly be withdrawn in the crisis, especially since no jot or tittle of condemnation of the coach will be abated in case of failure.

One Important Change If it were possible to minimize the emphasis now placed on the work of the coach throughout the year, it would not be a matter of so great importance where he sat during the game. But there is no indication that this is likely to happen. A few coaches are able to efface themselves without damage to the team, but they are few. One result of this estimate of the necessity of the coach is the constant shifting and piling up of rules to which we have been subject. This year only one other change was deemed necessary in the football rules in consequence of this steady pressure of the coaching staff in devising new plays that are possible under the rules as they find them, but this one change throws the situation out in bold relief. Last fall Notre Dame demonstrated to the Army how the forward pass might be effectually

guarded against interception in case the receivers were all thoroughly covered by the defense. The expedient was the simple one of throwing the ball on the ground for the loss of a down, the ball going in play at the old position. The Army noted this maneuver and used it against the Navy. It was then entirely permissible under the rules. The Rules Committee also noted it, and have now prohibited it. Henceforth the pass must be attempted, or the passer runs the risk of being downed for a loss behind his own line.

Need of Fewer Rules It is to be regretted that rules are necessary in such complexity and with such constant shifting and variation, but under present circumstances it is unavoidable. It is one of the penalties we must pay for keeping the game fluid and progressive. The alternative is a static condition with the ever-present danger of a decay in interest consequent on the reduction of the game to routine methods and principles. The great danger in reliance on rules is that we may expect them to accomplish more than can ever be secured by law. It is an American tendency to expect to make men good by passing laws to punish them for being bad. Examples will spring to mind at once. Morality in sport, no less than in business, can hardly be brought about by passing laws against immorality. Amateurism and the proper attitude on the playing field are matters of the spirit rather than of rules, and the really effective laws are those which are but crystallizations of the spirit. Too often a new rule is merely an added temptation to break or evade it. We must have them, of course, but let us have as few as possible.

Against Four-Mile Rowing Coach Courtney—"The Old Man" to thousands of Cornellians the country over—is opposed to four-mile rowing. He believes that the average student must choose between insufficient preparation for this gruelling contest and neglect of his studies. Our own idea exactly, and we are glad to hear Courtney speak out so plainly. Any way you look at it, it is

too hard an event for most of the young men who take part in it, and if statistics were carefully taken we should be greatly surprised if four-mile rowing did not show a higher proportion of serious injury and strain than football, despite the condemnation that the gridiron sport has received at various times. Not only is it too hard, but there is no fun connected with it. This is a more serious objection than may appear on the face of it. On the other hand, a two-mile race or a mile and a half is not so brutally hard as to obscure the natural pleasure that comes to a healthy, well-conditioned man from a contest of any sort. If you don't enjoy your sport, half the good of it is gone at one stroke.

Too Much Intercollegiate Sport Another statement that is credited to Courtney is rather surprising as coming from a man who makes his living by coaching a varsity team, but none the less appears sound in principle. He says: "We have arranged at Cornell for this year eighty-six races and games (presumably he means intercollegiate). Have you ever stopped to think of the amount of time it takes to prepare the teams and crews for those games and races and to play the games and row the races, many of them out of town? Sit down for a day and figure it up and see if the faculty is not justified in saying that if the boys gave more time to their proper work and less to their athletics the university could turn out better men." In other words, a pyramid is a highly commendable form of construction, if we don't make the mistake of standing it wrong end up.

Baseball Too Tame The Melbourne (Australia) *Age*, having viewed a game between the two American teams on their recent visit to the Antipodes, has no very high opinion of America's favorite sport. In fact, it finds it rather suggestive of a large garden-party. "It reminds the Australian onlooker of his first open-air picnic. It is not, to tell the truth, the kind of pastime over which a crowd, other than an American crowd, would be expected to get excited. It is not calculated at this stage to supplant either cricket or foot-

ball as a means of making a Melbourne holiday." There's an old adage about one man's meat being another man's poison, and adages are sometimes truthful. After all this isn't half as harsh as the things an American baseball reporter could find to say about a cricket match. And there you are.

Support the Boy Scouts An appeal for funds is being made by the Boy Scouts of America in order to carry on and extend the work of this organization. There should be a wide and generous response. The Boy Scout movement has passed through its formative stage and is now an accepted part of the training methods of the boys of the land. It is sound, healthy, and progressive in its aims and in the men and methods it has enlisted in their prosecution. The old bogies that were conjured up against it at the outset have disappeared and now its problem is one of extension and support.

On Opening Day There is really only one thing that many of our good and faithful readers are thinking about at this time of the year. The first of April is approaching—sister date—and the ice is out of the streams. The big fellows may not rise very well so early in the season, but to wet a line on opening day is still a sacred duty. What matter if the air is raw and cold with more than a hint of departing winter as the shadows lengthen in late afternoon? Who ever heard of a fisherman catching cold—or caring if he did? Perhaps the ice still clings to the banks in the deep shade or the brook runs dark and roily with snow water from the hills. What of that? Cold and hunger are nothing compared with the possibility of someone else lording it over you with a full catch while you sat snug at home because the weather was unfavorable. Better a dozen poor days than one good one missed because you were too lazy or soft to be at your post on the first possible day.

Fishing Just for Fun Others may write of the technique of fishing, of rods and flies and casting and playing and the rest. The list is end-

less and the call not to be finally answered ever. For us, we know nothing of this side of fishing, except by observation and hearsay. Men there be who can tell you to a fraction of an inch how far to carry your rod on the back cast and describe to a hair the exact turn of the wrist that drops the fly lightly on the water to the undoing of the unsuspecting trout that lurks below. We know that this is true because they have told us; but the instruction has left us unchanged. Our method is still the same bungling fling that it was in the beginning. And sometimes we catch fish and sometimes—more times—we don't. But always we have fun. This is not to say that the scientific angler doesn't enjoy himself also. Probably there is no joy in the world so keen as that which lies in knowing any subject to the uttermost cranny—and sometimes beyond. This statement is offered in a purely conjectural spirit. It has no basis of experience in our own case. But as for the fun of fishing; that we know to the last line. Good method or bad, good luck or ill, wet day or dry, fishing is fun and don't you forget. Don't be kept at home because you don't know all there is to know about the way to do it. Get out and try, somehow—anyhow. The other man may catch more fish and catch them better, but he won't catch any more fun.

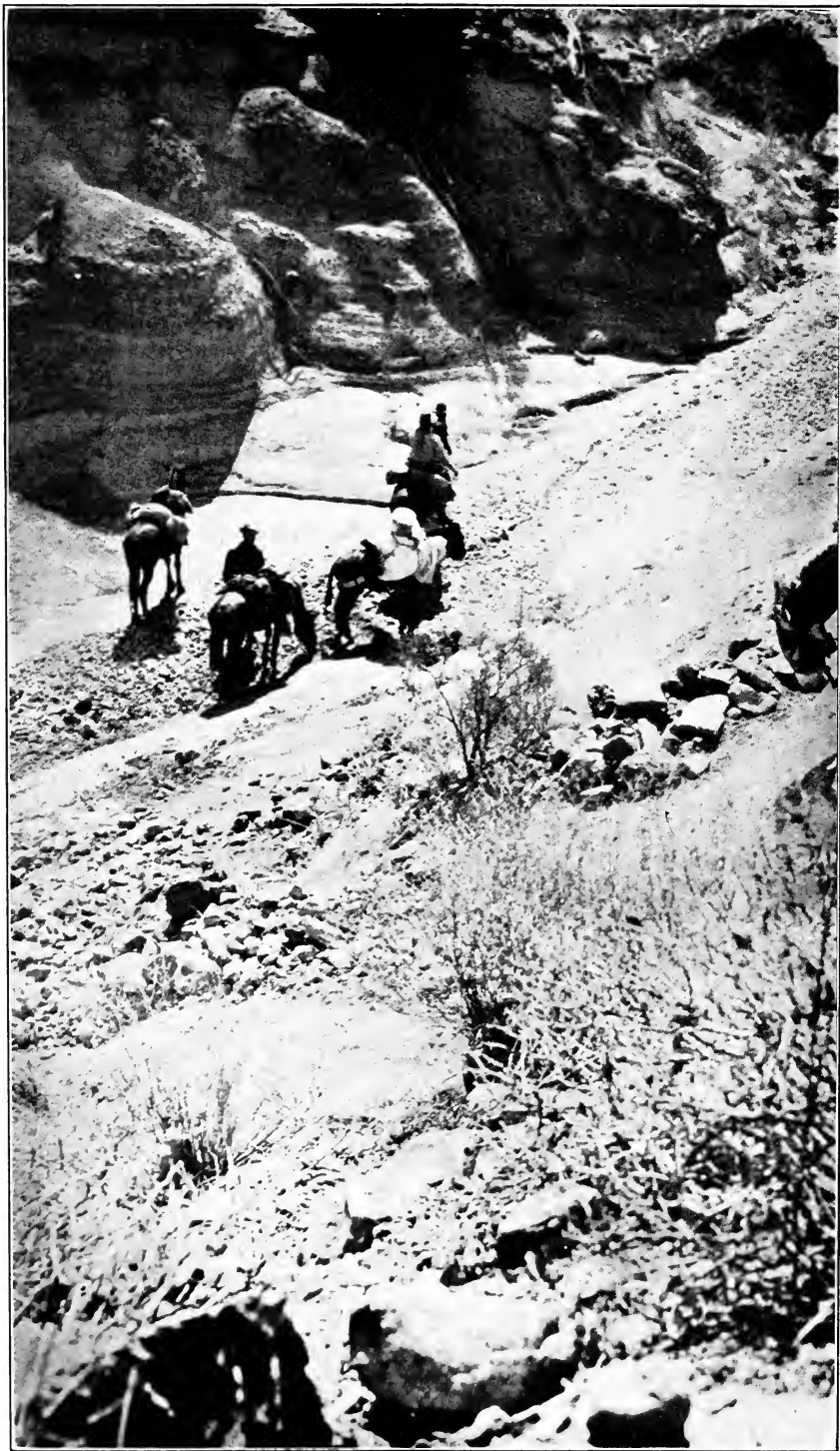
Sport for Every-one The old style gymnasium drill has received another grievous wound in the house of its friends. Columbia University has decided to try the experiment of substituting instruction in rowing, swimming, track work, and basket ball for the class drill on the floor of the gymnasium hitherto required of freshmen and sophomores. The new plan started off with a rush so far as the interest of the students was concerned. Doubtless baseball and soccer will be added to the list in the appropriate seasons. The squads will be under the direction of the university coaches in the respective sports, and at least one-half of the required gymnasium period must be spent in some one of the sports named above. There are numerous good points to this plan. In the first place, it should go

far beyond the stereotyped gym drill in the interest aroused. If there is anything in the shape of exercise more dull and spiritless than the work of the average class of this sort we have yet to know what it is. Games of the sort prescribed should be better for all round development if proper instruction is supplied. Finally the ultimate result should be to raise the general level of athletic performance and spirit. One great difficulty in university sports of the organized variety is to secure the backing of intelligent interest. This method should insure it.

Better Motor Boats The principal point that struck the close observer at the recent Motor Boat Show at Madison Square Garden was the higher quality of the boats and engines displayed in comparison with former years. As a reflection of the healthy growth of the sport the Show was interesting, and indicated that those who take to the water for pleasure are becoming more "boat wise" and discriminate in their judgment. The character of the boats showed beyond a doubt the prevailing drift from the high-speed, lightly built open boat or hydroplane to a more substantial craft, and especially toward the small cruiser. This is a healthy sign and shows that power boat men are getting to be more appreciative of the pleasures of cruising, and want a boat in which they can take long trips along the coast or inland waters with safety and comfort. The whole trend of cruiser design was toward a more seaworthy, comfortable and easily handled type of craft. There were almost no speed boats exhibited at the show, and the fast runabouts for day use were of a much more substantial character. In fact there were no *bad* boats at the show this year, which can not be said of shows of the past. The greatest amount of pleasure to be derived from any boating is in navigating the craft yourself and getting into unfamiliar waters. To do this, something more than a smooth-water speed creation is wanted. The boatbuilders and engine manufacturers are waking up to this fact, and giving to the boat users the kind of a craft that they want.

THE GOLFER'S PRAYER

GIVE me a day of clear sunshine and crisp wind, a turf that springs like velvet beneath the feet, and a green that plays fair with a rolling ball. Grant that my brassey may clip the ball clean from a fair lie and that my niblick may not fail me in the hour of need. Help me to pitch my approach shots fair to the green and lay my long puts dead to the hole. Above all give me strength of will to keep my eye on the ball and my temper under a firm check. Then will my partner bless and praise my name forevermore, nor will I find that all the matches have been made up the day before.



WHEN YOU GO HUNTING DEER WITH THE ARIZONA APACHES, THE TRAIL TAKES YOU FAR INTO THE HILLS AND AMONG CANYONS THAT ARE HUGE SLITS IN THE TORTURED EARTH; THIS ONE WAS CALLED BY THE INDIANS "DEVIL'S CANYON"

Illustration for "With Apache Deer Hunters in Arizona," page 150.

OUTING



IN BACK OF BEYOND

By STEWART EDWARD WHITE

ILLUSTRATED WITH PHOTOGRAPHS

II

HITTING THE TRAIL FROM NAIROBI

LAST month Mr. White outlined the character of his recent travels in German East Africa which carried him into unknown hunting fields. He told of the general character of the country, the advantages that it offers for the sportsman and naturalist, and the reasons for its having remained unexplored and unknown until this late date. Now he takes up the tale of his actual travels. It is preëminently an American expedition, outfitted and handled in plains and mountain fashion, rather than according to the methods of the British safaris that have made British East Africa famous.

EVERYTHING being as near ready as human-forethought could make it, we left Nairobi in the first part of July. It took us all the morning to get our men and donkeys under way, and we followed gaily a-mule-back a couple of hours later. Once clear of town our way led us out to a rolling, wooded, green country of glades and openings, little streams and speckled sunlight. Forest paths branched off in all directions. Natives were singing and chanting near and far. There were many birds.

Toward evening, we passed a long safari of native women, each bent for-

ward under a load of firewood that weighed sixty to one hundred pounds. Even the littlest little girls carried their share. They seemed cheerful and were taking the really hard work as a tremendous joke. We passed them, strung out singly and in groups, for upwards of half an hour, then their road turned off from ours, and still they had not ceased.

After a pleasant nine-mile ride we camped at a spot at which it had been arranged we were to meet guides to take us across the waterless tracts beyond N'gong. In order to be good and ready for said guides we next morning ate breakfast in the dark, and sat down to wait. About eight o'clock they



THE SUBMARINE DONKEY EMERGES

drifted in. Then, of course, as usual in Africa, we found that the track we were on and had been advised to take was all wrong. Therefore, after a long council, we headed at right angles for the Kedong. It was a park country all day with forests, groves, open meadows, side hill *shambas*, or native farms, and beautiful, intimate prospects through trees. Kikuyus were everywhere.

Everything went nobly until about ten o'clock, when we came to a little boggy stream, insignificant to look at, and unimportant to porters, but evidently terrible to donkeys. We built a causeway of branches, rushes, earth and miscellaneous rubbish, and then set in to get our faithful friends to use it. Right there we discovered that when a donkey gets discouraged over anything, he simply lies down, and has to be lifted bodily to a pair of very limber legs before he will go on. Luckily, these were small donkeys; we lifted most of them. After a time we topped a ridge and came out on rolling grass hills, with

lakes of grass in valleys, and cattle feeding and a distant uplift that marked the lip of the Likipia Escarpment.

At two o'clock, we made camp in the high grass atop one of these swells, and all afternoon we worked busily remedying defects in our saddlery, riveting, sewing and cutting. That night we heard again our old friends, the fever owls.

Daylight showed us a beautiful spectacle of lakes of fog in the shallow valleys below us, and trailing mists along the hills, and ghostlike trees through thin fog. We stumbled for a time over lava débris under the long grass. At the end of an hour or so the sun had burned the fog—and dried our legs. We came to the edge of the Escarpment and looked down at the Kedong. Atop the bench we saw our first game—a herd of impalla and twelve zebra. Then we went down twenty-four hundred feet, nearly straight. We did not do it all at once—not any! Not until nearly sundown! The men went all right, but

the donkeys were new to the job, the saddlery not yet adjusted, and we ignorant of how to meet this sort of trouble. We had to adjust packs every few minutes, sometimes to repack.

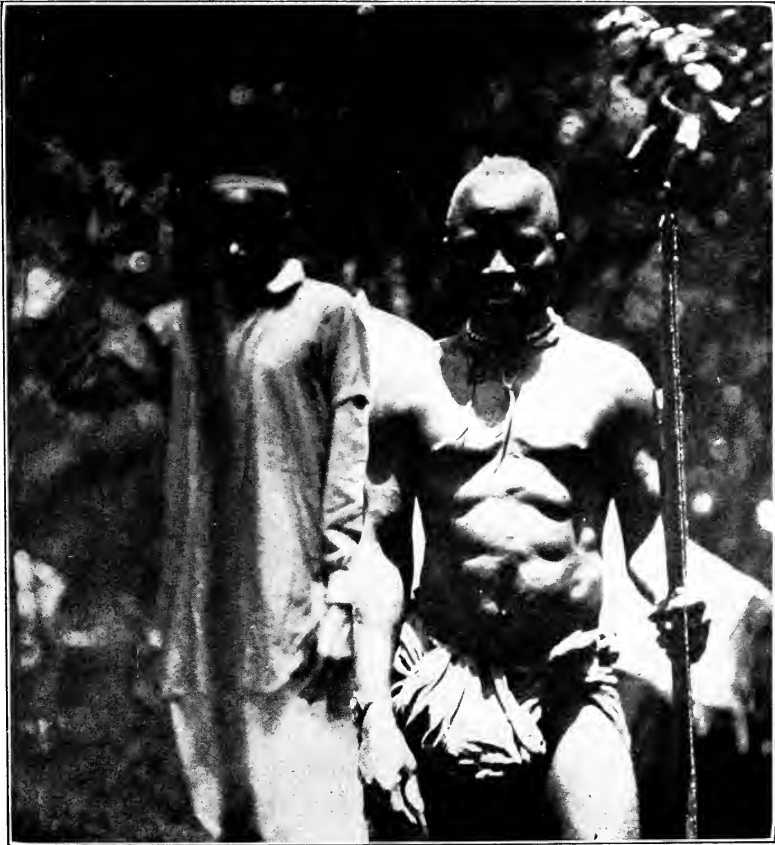
About noon some of the beasts lay down and refused to get up. We unpacked them and took off their saddles. They stretched out absolutely flat and looked moribund. We thought three of them dying. Not a bit of it! They merely wanted to rest and had great singleness of purpose. After half an hour they arose refreshed, but promptly lay down again when we suggested they carry something. So we drove them on light, and left their loads by the trail to be sent for later. We got in about sundown very much fagged out and sent porters back for the loads. They had had a hard day's march doing their own job, but started off most cheerfully.

Some of them were out all night, but they did not grumble. I think everybody had enough travel that day. The donkeys fairly mobbed us, begging to be unpacked, sidling up insistently and suggestively.

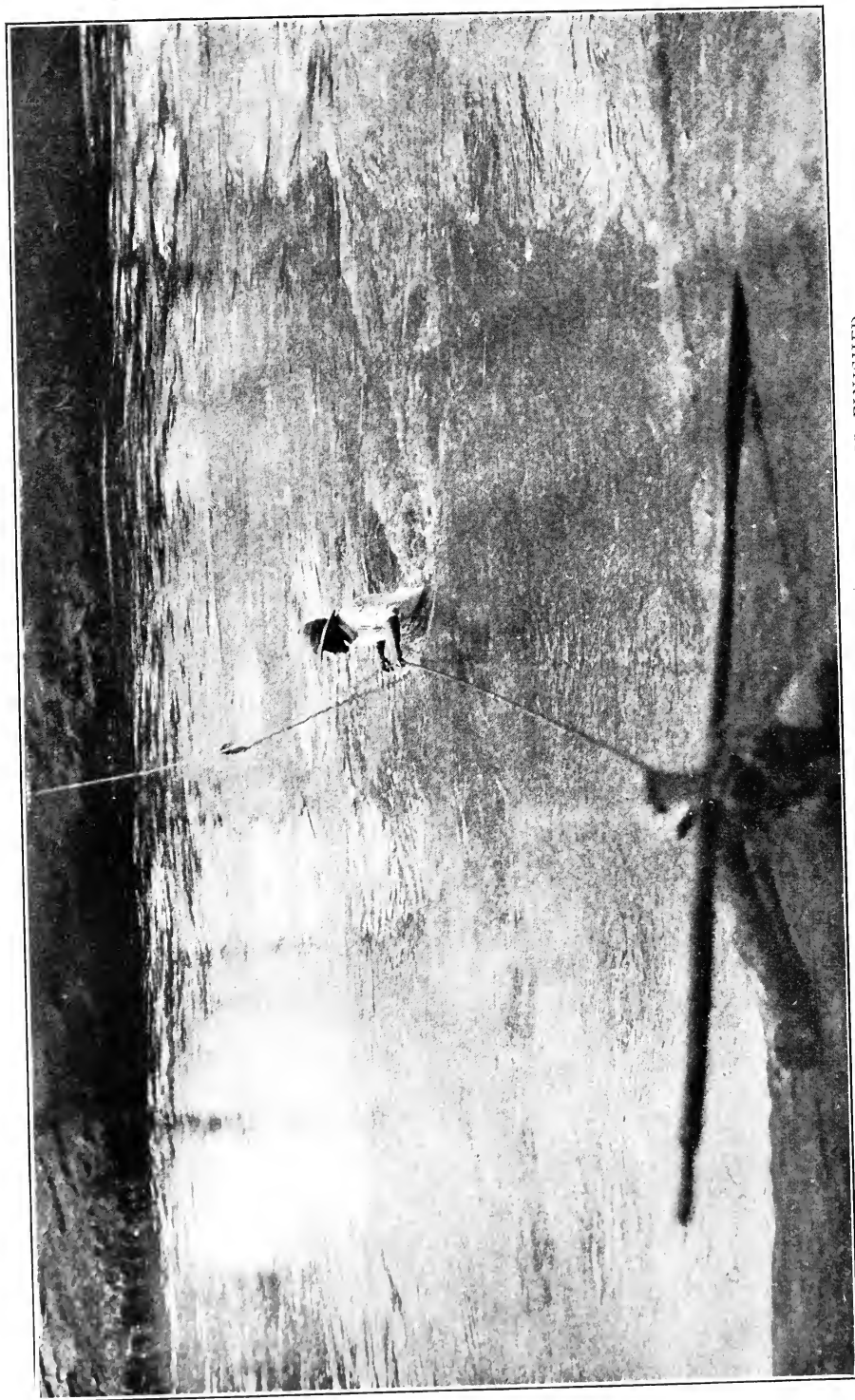
As a consequence we made a short march next day around the base of an old volcano called Mt. Suswa. I went ahead of the caravan with Kongoni in order to get some meat, and had quite a conversation with him. We exchanged all the news of the last two years. Kongoni was, as usual, very courtly.

"Now," said he in conclusion, "when you were here before you shot well. See that you shoot well now."

It is always amusing to listen to native comments. Thus, this morning, while making up loads, I overheard M'ganga scolding a porter preparing my box for the march.



OUR GUIDE FOR BUFFALO



CUNINGHAME CROSSES AFTER THE DONKEY FERRYAGE IS FINISHED



CROSSING LOADS ON THE N'GOURAMANI

"If you put that meat on that box, it will smell; and the *bwana* will say something; and he'll say it to *me!*"

For two days now the travel was through a broken, Arizona-like country of buttes, cliffs, and wide, grassy sweeps. Against Mt. Suswa, we saw many steam blowholes like camp fire smokes. Footing bad, being broken lava in tall grass, but the donkeys traveled well. Perhaps they are getting used to it—or perhaps we are! They want to lie down in every sandy place; and if they succeed we have to unpack and get them on their feet. Beginning to see game herds here and there, and it is pleasant to encounter them again.

In the Land of Bad Water

The water is in holes or rock tanks, and is green and very bad; in fact rather awful. Sun fierce and strong. Cuninghame and I crawled up the stream bed until we found a natural bower and there we ate and sat until the heat of the day had passed. One of the boys, out looking for better water, found a fresh lion lair, so we made the donkeys very secure by pitching all the tents in a circle, and tethering the beasts in the middle.

With our small outfit we had not planned to keep night fires; it is too much to ask of tired men; but one of them, Sulimani by name, was once an askari, and he has taken it on himself. To this end he has deserted his tent mates and sleeps in the open by the fire. Periodically as the blaze dies down, he arises, buckles on a cartridge belt, seizes his gun, puts a stick on the fire, lays down the gun, takes off the cartridge belt, and stretches himself out to sleep. It is very amusing, but he must have his little routine.

Our last march before reaching the N'gouramani, or Southern Guaso Nyero river was a long one, down one of the Arizona-like interminable scrub slopes, miles and miles wide. Beyond and above the bordering escarpment, we could see the Narossara mountains.

The men as well as ourselves knew this was to be a long, hard march, and they were all improvising songs the bur-

den of which was "*campi m'bale, campi m'bale sana.*"—"Camp is far, camp is very far," to all sorts of variations of tune and words; but not of sentiment. We saw little game until within four or five miles of the river. Then appeared Robertsi, zebra, kongoni, one herd of oryx, ostrich, many warthog, and six giraffes. Also of the bird tribe brilliant bul-buls, hornbills, mori, and many grouse. Near the river were hundreds of parrots.

Owing to the length of the march we were very glad to get to the river, but our joy was modified by the fact that it was in flood. It was here nearly a hundred yards wide, and up to a man's chest, with a very swift current. A rotten old rope spanned it. By means of this we crossed several men, who pulled over our own sound rope and strung it between two trees. I was to take charge of the farther end, and the moment I entered the water the men set up a weird minor chant to the effect: "The *bwana* is entering the water; the *bwana* is in the water; the *bwana* is nearly across; the *bwana* is out of the water." They tightened our new rope by song also:

Headman (sings) Ka-lam-bay!

Men Huh!

Headman (sings) Ka-lam-ba!

Men Huh!

Headman Kalambay oo cha Ka la fa

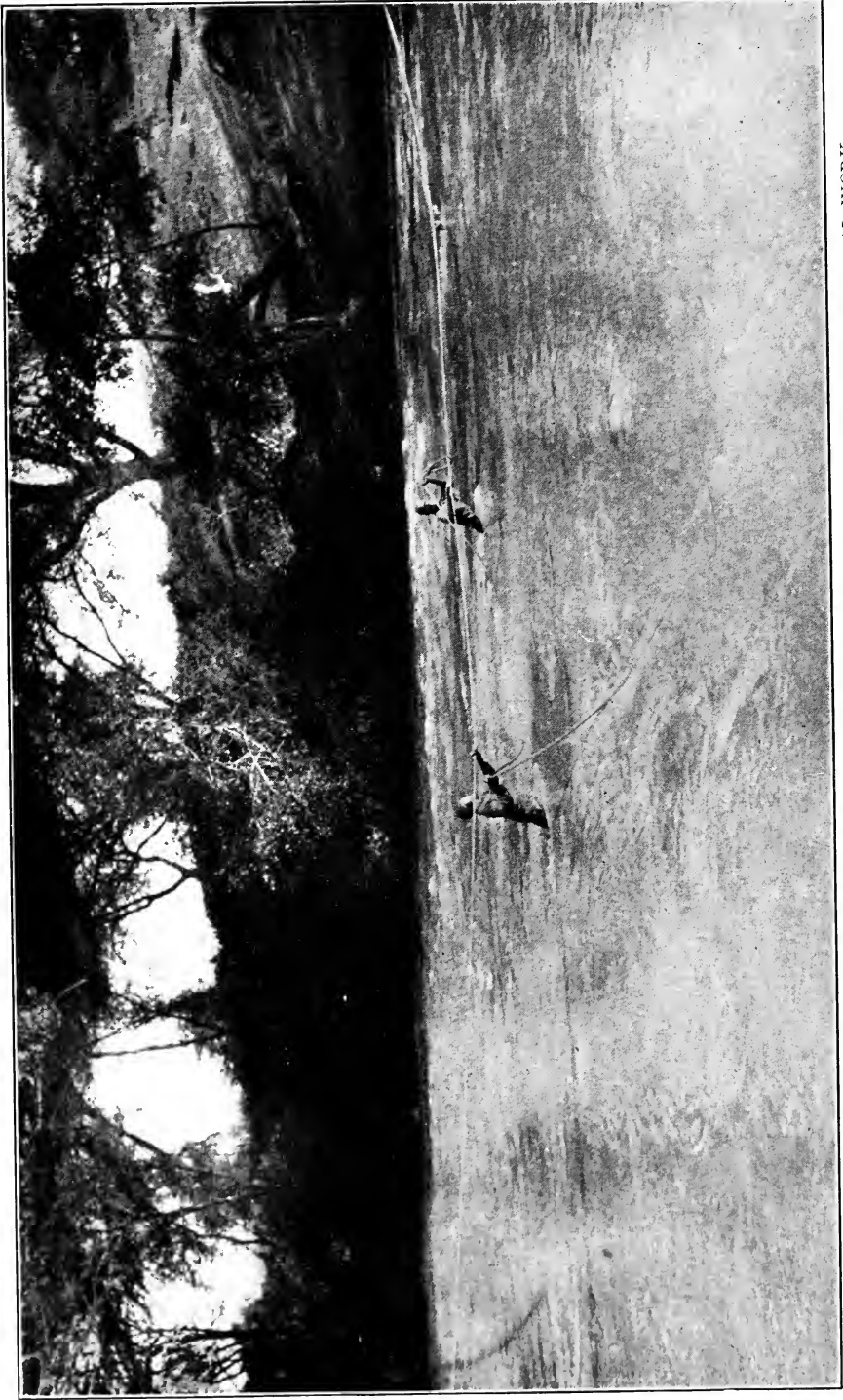
Men Hu-a-ay!

The pull comes only at the very last word, but it is a good one. On the cable we strung a snatch block and a light line, and thus by stringing the loads to the block we pulled them across. The donkeys we left until the morrow. We were tired. A long march and the handling of seventy loads one at a time is some work.

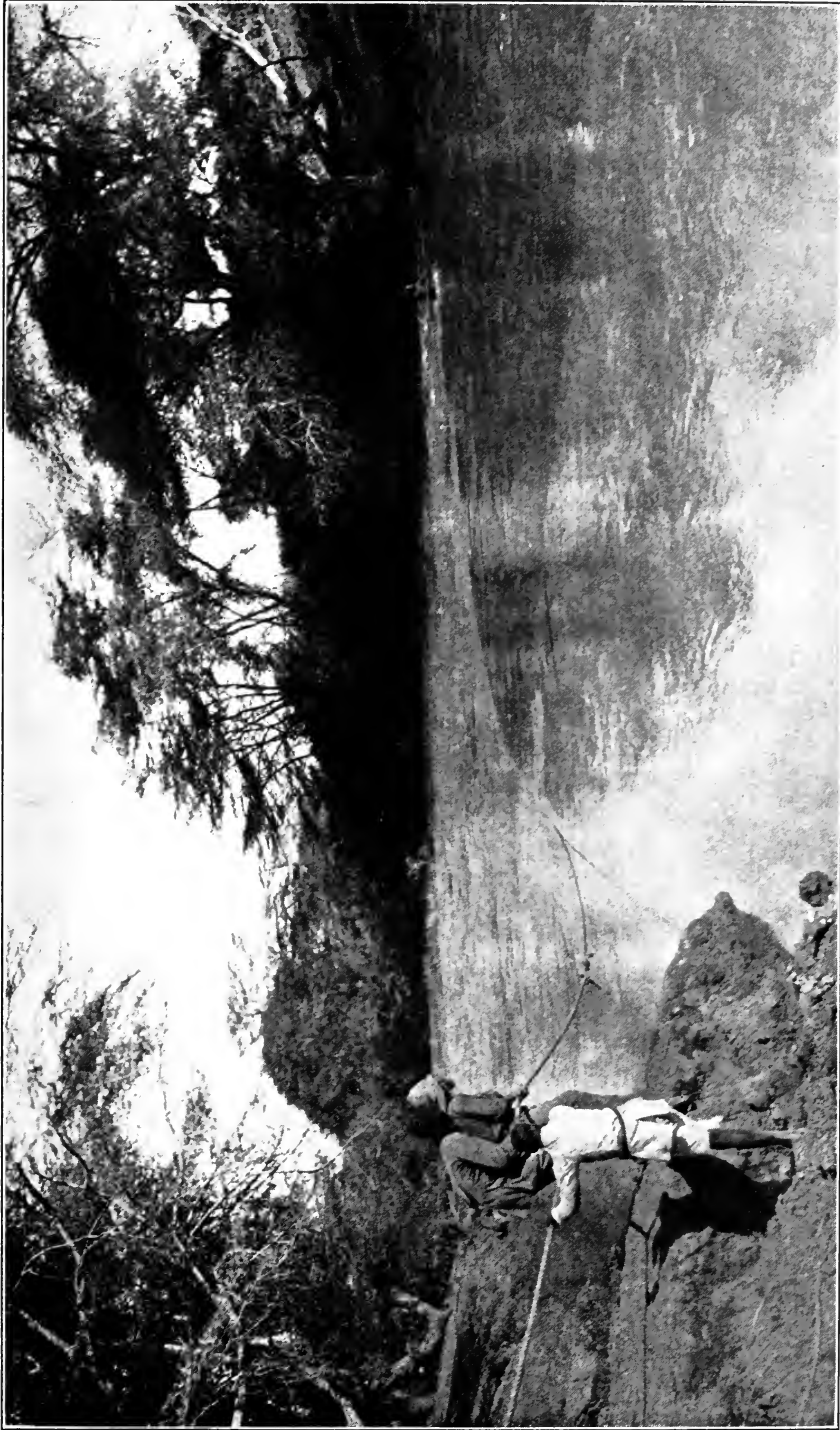
A night's rest put us in shape again to tackle the river. Leaving Cuninghame to rig the tackle, I took a three-hour jaunt down stream to get meat. Game was scarce in the little strip between the Escarpment and the river, but inside an hour I had my *hartebeeste*. Saw in all three waterbuck, fifteen kongoni, twelve zebra, one dik-dik and some impalla, and heard lion and hyena. Game birds, however, were in swarms. At every



TIGHTENING THE CROSSING ROPE AS THE DONKEY SLIPS INTO THE WATER ON THE OTHER SIDE



CARRYING THE SOUND ROPE ACROSS THE N' GOURAMANI RIVER, TO BE READY FOR THE REAL WORK



IT WAS NEARLY A HUNDRED YARDS WIDE AND UP TO A MAN'S CHEST, WITH A VERY SWIFT CURRENT

step I flushed grouse, quail, guinea fowl, or pigeons.

At nine o'clock we were ready for the serious business of the day. The method was as follows: Cuninghame and half a dozen huskies hitched a donkey to the end of a long rope, the other end of which was held by myself, across the river. Then they lifted that reluctant donkey bodily and launched him in. I tried to guide him to the only possible landing-place fifty yards or so down stream. This was easy enough with the two mules—I merely held tight, let them swim, and the current swung them around. Not so donkeys! They swim very low, the least thing puts them under, they get panicky, they try to return, they try to swim up stream; in short, they do everything they should not do. Result: about twenty-five per cent. went across by schedule, the rest had to be pulled, hauled, slacked off, grabbed, and hauled out bodily. Some just plain sank, and then we pulled in hand over hand as fast as we could haul under water, in the hope of getting them over before they drowned. We succeeded, but some were pretty groggy. One came revolving like a spinner, over and over.

Each animal required individual treatment at the line, and after two experiments with the best of the men, we decided I'd better stick to that job. Talk about your tuna fishing! I landed twenty big donkeys in two hours!

Then we had lunch; and to us, out of the blue came the German trader, Vandeweyer's man, Dowdi, saying that his master's donkeys and loads of sugar had been camped twenty-two days waiting for the river to go down so they could cross, and would we cross them? Now, besides doing a good turn to Vandeweyer, we had counted on hiring some of these same donkeys for a short time to help us across the mountains with *potio* (provisions), which obviously we could not do if the beasts were on the wrong side of the river. Dowdi told us there were twenty-five, so we took on the job. The men crossed the loads by the cable and Cuninghame and I went to submarine donkey fishing again. Muscularly it was hard work, but actually it was

rather fun, with a dash of uncertainty and no two alike.

After we had worked an hour or so, more donkeys appeared. Instead of twenty-five, they proved to be forty-seven. Wily Dowdi had lured us on! We got quite expert. The moment the line was hauled back by means of a cord, Cuninghame clapped on the hitch, the donkey was unceremoniously dumped in, and I hauled him across any side up he happened to be. We had long since got over being tender of these donkeys' feelings! My men received him, yanked him to his feet, and left him blowing and dripping to take care of himself. We crossed twenty-one in the last hour! In all sixty-seven donkeys and two mules.

Remained only to reclaim our tackle, and we were ready for to-morrow's march.

Up the Likipia Escarpment

This we began good and early—6:10 to be exact—and the first step of it was the surmounting of the first bench of the Escarpment. It was here a cliff something over a thousand feet high; formidable looking enough. However, we struck a Masai track and so went up rather easily. On the way we met four Masai runners, their spears bound in red indicating that they were the bearers of messages. At the top we journeyed through a steppe of thin scrub and grassy openings, with occasional little hills. Passed some Masai villages, with the fair ones seated outside polishing their ornaments while the naked children and the dogs played around them. Shortly after saw some Roberts' gazelles far down the valley to the left, and got lured away after them. In the course of my stalk I passed thirteen giraffes, very tame, that looked on me with mild curiosity, and then made off in the loose-jointed Russian-toy manner of the species.

Got my meat after some difficulty, and took up the trail of the safari. This led us across the plains, through a low pass, and into a pocket in the hills just like some of the little valleys in our coast range. A dry wash ran through it, but



ON THE CABLE WE STRUNG A SNATCH BLOCK AND A LIGHT LINE, AND THUS BY STRINGING LOADS TO THE BLOCK WE PULLED THEM ACROSS

some holes contained enough water for our purposes. The mountains round about were covered with chaparral. In this, rather to our surprise, we saw zebra. In fact later we found a great deal of plains game in the brush hills, driven from the plains by the increase of Masai cattle. Cuninghame thinks that the future of the plains game in British East Africa is just this, and not extermination. If so, good-bye to the millionaire safari! Too much work and skill required! And, incidentally, the zebra, so conspicuous in the plains, is *very* hard to make out, even near to, in the brush. Protective coloration chaps, please take notice! Even the natives often overlook them at distances of less than one hundred yards!

At three o'clock Cuninghame and I sauntered up into the hills to pick up men's meat, if possible, and to see what we could. A few Granti in an opening and two giraffes were about the size of it until late, when we made out a herd of zebra on the mountain opposite. I sneaked over, stalked within range, and missed through the bush. The herd clattered away up the side hill, dodging in and out the brush. I caught a glimpse of a darker object, and when the thing hesitated for a moment I took a quick sight and had the luck to bring it down dead. It proved to be a fine old bull wildebeeste that had strayed off with the zebra! Another plains animal in the hills!

Leaving the men to take in the meat, we went home along the very top of the ridge, enjoying the cool sunset and the view far abroad over the land. On this top we found impalla and kongoni in numbers! They, too, had deserted their beloved flats, in this instance for the very top of the ranges. This evening the camp, which has been rather silent of late, burst into many little fires and the chanting of songs. Meat once more was

roasting and frying and broiling, and everybody was happy!

Another day's march through a rocky, brushy pass and out over high rolling grass hills brought us to the Naróssara River. Saw a great many zebra in the hills, but no other game until we had emerged into the open country. Then we came across occasional scattered herds of wildebeeste, and one small lot of eland. I made a long and careful stalk in good cover to leeward of one solitary wildebeeste, but he was very wary and was frightened away by the birds. However, by careful work I managed at last to get within two hundred and forty yards, when I hit him low in the shoulder. He ran some three hundred yards, but then went down.

While we were preparing this trophy, M'ganga came with reports of eland in the next valley. Cuninghame and I at once set off and found our cow lying under a tree and guarded by several hundred zebra. To get within range we had to slip down the side hill, practically no cover, taking care to be seen neither by her *nor* the zebra. We took much time and got as near as we could. She was lying down, facing away from us, and to get her I had to hit about ten inches of spine. Rested up from the crawling and tried the shot. Had luck and hit the exact spot.

Got in to Vandeweyer's trading boma about one o'clock, and camped in our old place. Vandeweyer has shaved off his beard. He still trades with the Masai, and tames chickens to sit on his shoulder. We had a talk, got some trade goods of him, and had him to dine. Cuninghame opened the one box of cigars in the outfit. Vandeweyer's dog has a litter of puppies down an old warthog hole and refuses to bring them up.

Note.—The steeper the hill the louder the porters sing. Whence do they get their breath?

(*To be continued*)

The next instalment of IN BACK OF BEYOND carries the party through some hard mountain climbing that barred them from their Promised Land.

THE NEW SPORT OF AQUA-PLANING

By L. THEODORE WALLIS

ILLUSTRATED WITH PHOTOGRAPHS

A Game That Gives All the Fun of Flying without the Danger or the Cost



THE PRIMARY POSITION

WITH the price of aeroplanes and flying boats beyond the reach of ordinary beings, it is good to know that the wonderful sensation of shooting through the air and skimming the surface of the water may be

enjoyed in another and much less expensive manner by the use of the water-board or aquaplane. This sport is just coming into its own, and there follow a few details concerning its mechanics and possibilities.

The "plane" (five by two and one-half feet) can be made by putting side by side two or three ordinary boards and fastening them together by three cross-boards or cleats, which, of course, appear on the upper side when the plane is in

through a kneeling to a standing position, feet wide apart near center of the plane, and hands grasping the "reins."

The throttle is gradually thrown wide open, the boat attains top speed and he's off at over twenty miles an hour,



THE ROCKING MOTION

use. Next bore a hole at each of the two forward corners and attach "reins" and towing rope as shown in accompanying photographs.

With the board in position behind the boat, which is moving forward very slowly, the rider dives overboard, approaches the board from the rear, and lies out upon it with a hand grasping it on either side near the front. Then, as the speed of the boat increases and the board begins to ride more nearly parallel with the surface of the water, he rises

shooting along so fast that only the back edge of the board brushes the water and momentarily expecting to lose his balance and be swept off the plane. These expectations are often fulfilled at first.

Such was the initial experience of all of us who tried this "water-tobogganing" at Camp Mishe-Mokwa last summer.

However, practice and increasing confidence soon made it possible to hold the position just described almost indefinitely, precarious as it was, and experiments



HE'S OFF, AT OVER TWENTY MILES AN HOUR



BROADSIDE PROGRESS OUTSIDE THE WAKE

by way of departure from the primary position were next in order.

By pressing down with the left foot and pulling up with the right hand it was found possible to make the board skid to the right, and by reversing the pressure, i. e., pressing down with the right foot and pulling up on the left "rein," the board would slip rapidly toward the left. With this knowledge came the first "stunt"—an alternate right and left short skid, producing the rocking motion familiar to us through watching a slack-wire performer. Inasmuch as this was a near "tip-over," with, sometimes, only one corner of the board touching the water, it proved amply exciting, especially on "rough" days.

Once the man at the wheel had a

bright idea; veering suddenly to the right, he threw his "trailer" across to the edge of the wake so that he slid down on the outside of the right stern wave and found himself traveling sideways just as fast as he had gone forward a moment before (with the towing rope now at almost right angles to the course of the boat.) This sensation was so entirely novel that he lost control just long enough to let his front corner get under and, for an instant, all one could see was spray.

We picked him up and he tried it again with more success; this time he found that by using the "sideways skid" pressure he could get back into the middle of the wake and ride easily again. Broadside progress outside the wake



A PURE CASE OF NERVE AND BALANCE



SPREAD EAGLE

proved to be so exhilarating that we soon learned to get there without the help of the boat's swerving, although, in rough water, we did not always get back.

Constant practice gave automatic balance,—almost.

The next question was, "Can we stay on without the hands holding the 'reins'?"

The first affirmative answer was the "Spread Eagle" (knees bent, arms wide and "reins" held in teeth). Picturesque, but difficult!

Soon the "reins" were dropped altogether, and then, with nothing to hold to and a constantly shifting and uncertain base upon which to stand, it became a pure case of nerve and balance.

To be a good swimmer is necessary for both fun and safety if one is to ride on the water-board. Another requisite is full and flexible control of the motor-boat by the man at the wheel, who must see to it that the propeller is not revolving when taking aboard a swimmer.

In the event of a cramp, or other emergency, it is well to have on board the boat several life-preserving pillows,—I say pillows advisedly, since they can be thrown or scaled more accurately and for a longer distance than the other more conventional forms.

With these cautions strictly heeded, the sport of aquaplaning at once becomes as thoroughly safe as it is wonderfully exciting, exhilarating and healthful.

A decorative border with a repeating floral and leaf pattern surrounds the text. The border is composed of a top and bottom horizontal strip, and two vertical strips on the left and right sides, all connected by small floral motifs at the corners and midpoints.

THE FIRST HUNTERS

By WALTER PRICHARD EATON

DRAWING BY WALTER KING STONE AND PHILLIPPS WARD

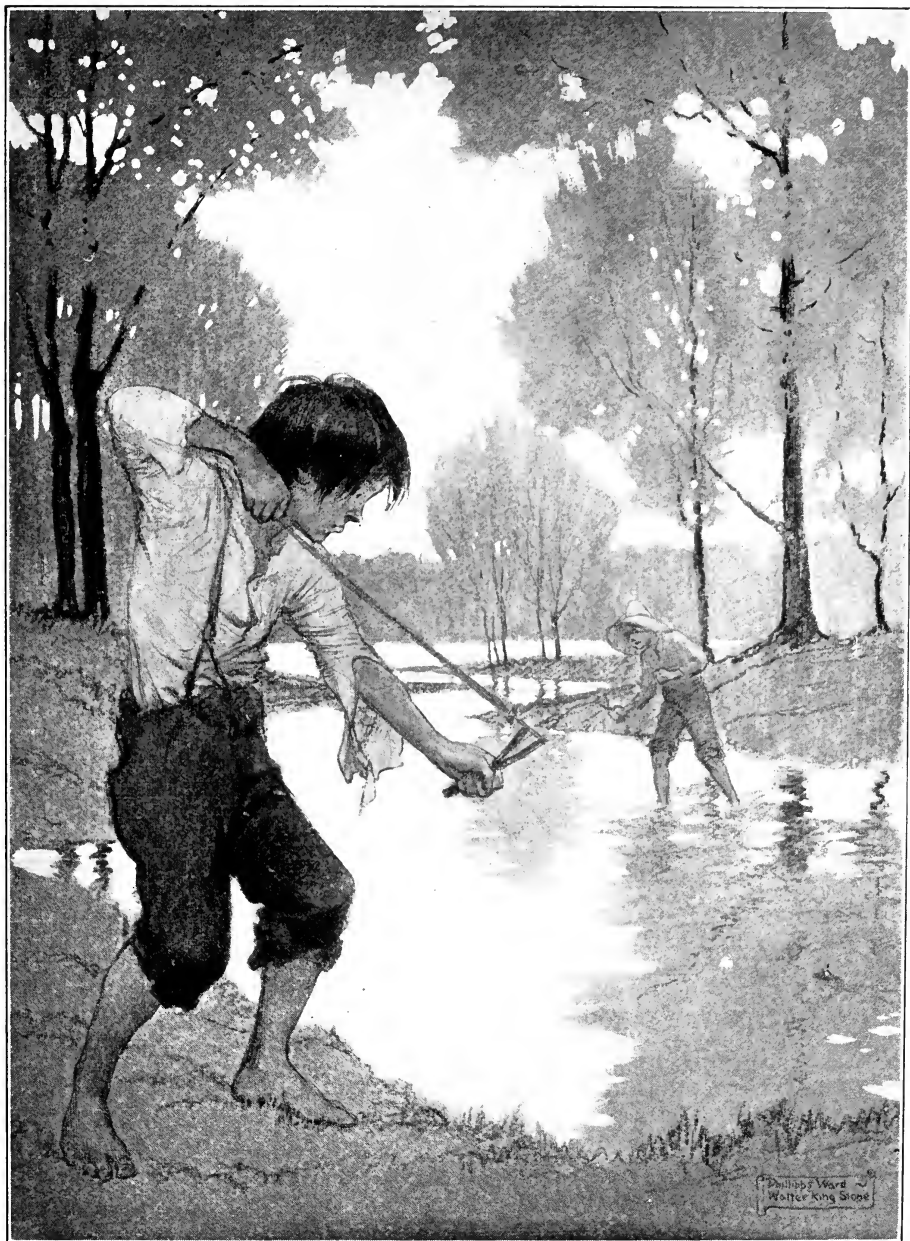
IT is hard to say when a country boy begins his first hunting. Living close to nature, the instinct to hunt, that most primitive of all instincts, allied directly, of course, with the sensation of hunger (though we to-day can realize it only with our brains), manifests itself in his very early years. The country boy often carries a gun when the weight of it bows him, and the kick of it is prodigious. I can remember my old muzzle loader laying me flat on my back. But earlier than guns, he carries less deadly weapons, and chief among them are—or used to be—slings.

What has become of those old slings? I rarely see them any more, and I never hear our boys exclaiming when on a walk through the woods, as we used to exclaim, "Oh, there's a dandy crotch!" Then out would come a knife, and the perfect Y was severed from the sapling. There was a marvelous shop, kept by a no less marvelous old maid with a deep bass voice, where we purchased slates, marbles, toy soldiers and sling elastic. This elastic was half an inch wide, thick, gray in color, and possessed a powerful snap.

Two strips of this elastic, a foot or more in length, were lashed to the ends of the crotch, and a leather pad, cut from an old shoe, was made fast to hold the missile—often David's missile, a brook pebble, often a round lead bullet made in grandfather's bullet mould, less often buckshot bought by the pound. Such a sling was not to be despised. It would throw a bullet two or three hundred yards, and kill a bird, a frog, or a telegraph wire insulator, with ease. Insulators were a breed of game we hunted on our way to school. The more serious work was done on Saturdays "up at Duck"—which meant Duck Pond, where the bull paddies basked.

You know, of course, that first warm evening of spring when your ear is suddenly serenaded by the shrill *phce, phce, phce* of the Pickering frogs! That was a sign that the hunting season had begun. At the first opportunity we were at Duck Pond, the lower end of our sling crotches grasped firmly in one hand, the leather holding the missile pinched firmly between the thumb and forefinger of the other, our eager eyes fixed on the shining rocks and the weeds inshore. "Paddy got drunk," the bullfrogs were supposed to say. "Paddy got drunk" would suddenly come like a taunt from the waters of the pond. A green head, two bulging eyes—and then the snap of elastic and the splash of water about the poor fellow. Sometimes he disappeared with a startled *glug*; sometimes he floated out, white belly upturned, his hind legs spasmodically twitching, to be drawn in with a pole in triumph.

There was legend that frogs' legs were good to eat, and I seem to remember at least one attempt to test the truth of it. We built a fire, and in a frying pan purloined by Frank Nicholls we set several legs to sizzling. But I have no recollection that the experiment was repeated. Perhaps the art of cooking them is French. At any rate, I am sure we did not hunt the bull paddies primarily for food. We were small boys with destructive slings, and they were simply available live things to be fired at. Some of us get over such instincts in after years. Others don't. There remains much of the boy in every hunter.



A GREEN HEAD, TWO BULGING EYES, AND THEN THE SNAP OF ELASTIC



"YUMA FRANK," CHIEF OF THE MCDOWELL BAND OF APACHES, HEADED THE PARTY OF TWENTY-SEVEN INDIANS THAT WENT INTO THE HILLS. IN THIS PICTURE HE IS WAITING TO FIND OUT WHY CHARLEY DICKENS IS SHOOTING OVER THERE WHERE THE HILL CUTS THE HORIZON

WITH APACHE DEER HUNTERS IN ARIZONA

By JOHN OSKISON

PHOTOGRAPHS BY JOHN T. McCUTCHEON

*In Which the White Men Take to the Hills and Trail Their Deer
Indian Fashion*

AFTER breakfast, Morgan and "Gibby" and "Grindy" spent two hours in a housewifely rearrangement of their sleeping places, stretching a tarp over their cots against the rain (which did not come). To assuage our keen disappointment, "Monty" and the Preacher Man proposed to lead McCutcheon, Brice and me to the top of a mountain three or four miles away, to get a view of the country. But I induced "Grindy" to come with me quail shooting instead; we went up the wash from our camp.

There were plenty of quail—the top-

knotted mountain variety that can run faster than you can walk, that can hide quicker than a mouse, and are harder to kill than anything I have ever tried to shoot. Hunting them turned out to be a series of dashes down precipitous, rocky slopes and painful, slow toiling up again. I said to myself that if the deer hunters had a harder time following the tracks of the bucks than I had in chasing those agile and loud-voiced quail, it was truly no game for a tender-foot.

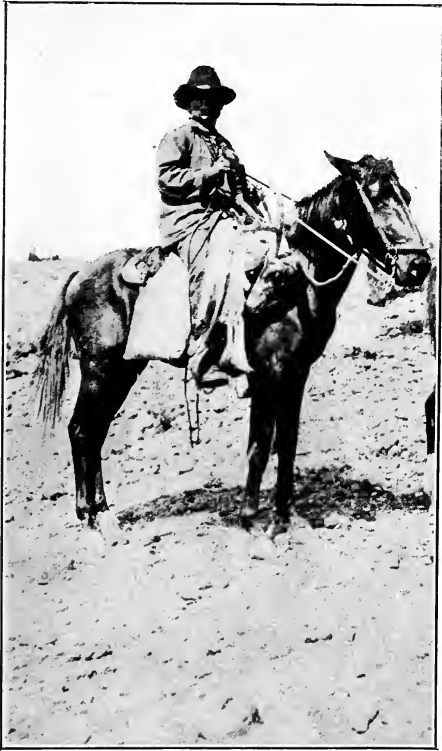
"Grindy" and I parted soon after we struck the first bunch of quail, and after a while I ceased to hear him shooting. But I kept on, toiling up the slopes of



HERE IS JOHN BLACK, WITH THE GRAY HORSE THAT LED THE PACK ANIMALS. ONLY ONCE WAS JOHN TEMPTED TO LEAVE HIS JOB; THEN THE GRAY HORSE AND TWO BURROS TUMBLED INTO A NARROW GULCH

the high hills, kicking an occasional rabbit out of the cactus, scrambling down slopes so steep that I hated to look to the bottom. I forgot that noon had come and gone; and the sun was getting pretty close to the hills in the west before I finally dropped into the wash which led back to camp.

I had bagged seven quail and two rab-



FRANK LOOK WAS ONE OF THE YOUNG APACHE HUNTERS WHO GOT A DEER

bits; I was sore and tired; and I found out that "Grindy" had been back in camp for hours. Some of the deer hunters had returned (the day's score at that hour was three), and they watched me empty my hunting coat pockets with a sort of parental tolerance. Then the Preacher Man, recalling his boyhood hunting days on an Illinois farm, set to work enthusiastically to clean and cook the quails and rabbits. At supper, while the Indians broiled their venison and tore their thin tortilla bread with their fine white teeth, we feasted on what I had bagged. And it all seemed

worth while! We ought to have been humiliated over being left behind to guard camp, but we weren't. We were having the time of our lives!

Now the fifth day of our hunt was nearly like the fourth; Hayes and the Preacher Man did the quail hunting in the morning, and Morgan and "Gibby" in the afternoon, while "Monty," McCutcheon, Brice and I went away into the hills carrying a desperate hope of finding a deer. Instead of a gun, "Monty" carried a pair of field glasses.

The four of us climbed for a mile up the sloping backbone of a rock-strewn mountain before "Monty," resting while he mopped his dripping brow, outlined our hunting plan. Old Mother Hubbard proposing to start a game of ring-around-a-rosy would have seemed more congruous to us at that moment. "Monty" certainly doesn't seem to be built for chasing deer over the hills of Arizona!

But we followed, soberly and promptly, the directions he gave; Brice and I kept on up the backbone of the mountain, while McCutcheon and "Monty" swung away to the left, along its flank. All of us were to meet in a "saddle" of the ridge—then proceed farther according to developments.

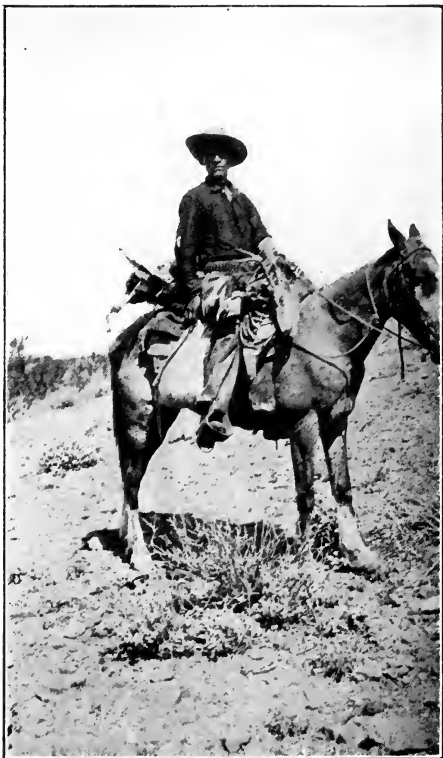
Brice and I arrived first; and as we stood on the wind-swept ridge waiting for McCutcheon and our field general, we searched with our eyes the splendid canyon below us, to our right, and the mountain which rose beyond it. My eye caught a ribbon of white sand at the canyon's bottom, close to some cottonwoods, and just as I was about to call Brice's attention to it, I saw three four-footed animals cross it, single file. I grew excited and tried unsuccessfully to point them out to Brice before they were lost to sight. I felt sure they were deer.

When "Monty" arrived, we trained the field glasses on the canyon's bottom, but my deer had long since passed out of sight. The thing to do, said "Monty," was to spread out and go after them. He thought that they must have come down to a water hole, and he believed that they would climb up the mountain sides after they had drunk.

To McCutcheon, "Monty" assigned

the job of patrolling the top of the rocky ridge on which we stood. Brice was to go half way to the bottom of the canyon with us, and then scout along in the direction I saw the deer taking. "Monty" and I would go down to the water hole, pick up the tracks, and give a high-class imitation of Apaches trailing deer.

We followed a wash to the bottom of the canyon—a rock-lined and precipitous spout down which, after a heavy rain, you could picture a volume of water almost literally falling the six or seven thousand feet to the racing flood below. Here and there, as we slid and rolled and scrambled, we came upon sheer precipices from ten to thirty feet in height; and around these "Monty" picked the way. Brice we left on a sort of plateau. Eager to pick up the trail, I plowed on ahead, clambered across a half acre of huge granite boulders, and came out on the ribbon of white sand.



HIDE, HEAD, AND HORNS WERE THE EVIDENCE OF JOHNSON'S SKILL AS A HUNTER



BRICE RETURNED FROM THE HUNT WITH A SETTLED SMILE OF ENJOYMENT ON HIS FACE

And across the sand ran a broad, plain cattle trail!

"Monty" came up to where I stood, legs shaking from the hurried climb; and mopped his face. I pointed hopefully to the tracks of some calves, but "Monty" merely said:

"Nothin' doin'—let's take a look up there." He pointed up the mountain-side, directly at a towering mass of rocks and cat's claw bushes Brice and I had agreed was inaccessible.

"The hunters nearly all went over on the other side of that mountain this morning," said "Monty," "and they may run a deer over to this side. We'll work our way up toward the top, and then along the side."

"All right," I agreed meekly, and waited for "Monty" to pick the way. He is heavy and short, but there is a wonderful power stored in his stocky frame; we climbed, turning and twisting to get around those forbidding walls of



TO THIS CAMP, HIGH UP IN THE HILLS, FOR FIVE WEARYING, HAPPY DAYS IN OCTOBER, NINE VISITING HUNTERS AND TWENTY-SEVEN APACHES CAME AT NIGHT FOR FOOD AND SLEEP

rock, pulling ourselves up with the aid of cat's claw bushes, the spiked branches of scrub palo verdes, and crumbling projections of soft, red rocks. We crossed a dry water course, gashing the mountainside, to get upon a rounded swell where the grass grew thick and high; and when we got there found that we must inch along its side with infinite care to keep from sliding to a painful death among the rocks we had left.

"So this is the way the Apaches hunt deer!" I gasped, lodging my rifle against the first conveniently projecting rock I had found in half an hour, and looking back at "Monty" who was holding to a bunch of grass with one hand and mopping his face with the other.

"We get around this knob," he said placidly, "and we'll have a fine view of the whole mountain."

"All right," I agreed, and began to struggle on. After a year or more of that heart-breaking sliding and climbing, I came out on a cattle trail.

"Well, I'll be darned!" I said. I had a picture of old bossy cows leading their young calves up and down this mountainside: they came and went from grass to water, and I wondered how it was that the cattlemen had got a successful cross between the white-faced

Durham and the Rocky Mountain goat. None other, I felt sure, could survive among those mountains.

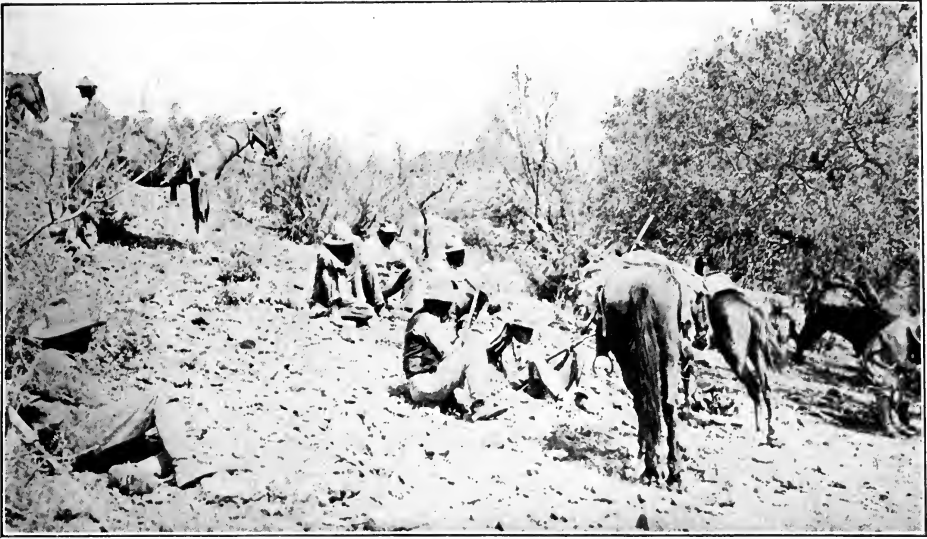
"Look! There's one of the boys," said "Monty." Far up, and ahead of us, standing clear against the sky on the top of the mountain, was an Indian. "Monty" waved his hat, and the Indian waved his gun. We sat down to wait.

There is a satisfaction in merely sitting down that transcends every other satisfaction in the world. I know it positively. When every fiber of your body is sore and stretched, when your eyes are dimmed with the sweat of a toiling, persistent effort, when your breath comes in short, inadequate gasps, and your legs are trembling, you sit down without the least reluctance.

"'Monty,'" I observed weakly, "if I ever get away from here and back to camp, I swear that I shall never make another threatening move against the deer of Arizona."

"We'll take it easy for a little while," said "Monty". He uncased his field glasses to search the opposite mountainside for Brice, and then began to scan the slope on our side for the deer the hunters might have run over toward us.

Ten minutes passed, and then some miracle of restoration swept over me. I



DOG-TIRED AFTER FOUR HOURS OF HILL-RIDING, THE INDIAN HUNTERS CAME TO A GROVE OF MESQUITE AND A SPRING FOR NOON CAMP

felt fresh and buoyant, my eyes took in the rocks and the yawning canyon with delight—the reflection that I had come over them successfully elated me. My breath was coming regularly, and I had stopped thinking about Hayes's unfortunate experience when he strained his heart climbing.

For another half mile we climbed, quarteringly, crossing other cattle trails; and then we heard shots.

"Wait here—the deer may come right over to us," said "Monty," dropping behind a clump of prickly pears. And for a quarter of an hour we waited. Then we moved on again, climbing until we were able to look over the top of the ridge on which we had left McCutcheon and on across the billowing ridges clear to the high swells which rose fifty miles beyond the Verde.

There were more shots, and we dropped to earth again to wait. And this time, as we waited, I realized that I was really tired. How many miles back to camp it was and how we were to get down from that mountainside and across that other rock-studded ridge I did not know. I looked at my watch to find that it was nearly one o'clock. Breakfast seemed a long way past, and the next meal a longer distance in the future.

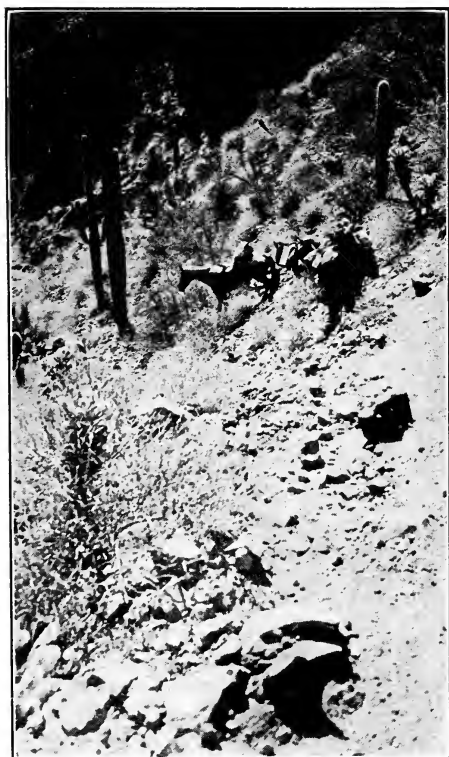
"Monty," I ventured, "how would you like a thick steak, rare, and a plate of French fried potatoes just now?"

"Well, I guess we might as well get back to camp," said "Monty," unemotionally. So we followed a cattle trail down to a beautifully clear water hole in the bottom of the canyon. We stopped down there to drink copiously before tackling the climb we thought would bring us to the top of the ridge on which we had left McCutcheon.

When we had climbed up nearly to where we had left Brice, and failed to find him, there came riding toward us John Black and Richard Dickens—Richard mounted behind John. They were on their way back to camp; and Richard dismounted to pilot us. All thought of Brice and McCutcheon left us when Richard began to lead us around that ridge, over the shale rock which scattered like loose snow underfoot, across cliff-faces where the trail pinched out and left only casual sloping footholds.

And when we had rounded that ridge, lo, there was another! But Richard let us rest a few minutes before we tackled that; and he also took my gun to carry.

About four o'clock, we came in sight of the camp—half an hour later I was posing beside one of the pools as "October Morn." "Gibby" saw me and



A BIT OF TRAIL DOWN WHICH THE
WHITE HUNTERS LED THEIR HORSES

rushed for his camera—he swears that he has had that picture made into a lantern slide, and that he came near throwing it on the screen at a lecture he delivered before a woman's club. Anyway, that was the most satisfying bath I have ever taken.

And the broiled venison, the slice of thick bread, the bacon and quail, the raw onion, the hunk of yellow cheese, the half can of peaches, and the tin cup of black coffee which followed the batch—Shucks!

I felt insolently fit. I told "Monty" that I was going out the next morning with some of the Apache hunters if I had to get up at midnight in order to trail them. McCutcheon and Brice, who had beaten us to camp by half an hour (they, too, had had their hard fight with the rocks and canyons), declared that they would go also. McCutcheon and I went off to shoot quail until it was too dark to see.

There is a sense of elation, of trium-

phant joy, of a wonderful uplift of spirit following a day of effort like that, when you know that you have stood it like a man, when neither tobacco nor the usual after-supper session of joshing seems worth while, when the reaction which comes throws you on your blankets dead asleep, when after two hours of unstirring slumber you wake to straighten your legs and pull the blankets over you, when your blood runs like wine through your veins when tired muscles seem to recover their spring almost before you give them a chance to relax.

You know that you are not yet the city's victim! You know what utter content must be the portion of those Indian hunters who come trudging in as the dusk creeps down the canyon, fling off their heavy burdens of deer meat, wash their hands, and squat silently beside the fire to eat and drink. You hear them talking about the day's hunt as they roll cigarettes, and you wish that you could understand their clear-cut, desultory sentences.

"You fellows ought to have been with us!" It was Brice (who later confessed that his highest ambition is to write a book) that addressed this illuminating remark to the five who had stayed in camp or scouted over the nearby hills for quail. And, somehow, Brice seemed to have said all there was to say, so inarticulate had we become. No words then at our command could express what we felt, deep down, as the stars came out. But Brice, McCutcheon and I were positive that we wanted to go out with the Indians next morning. So "Monty" spoke to Charley Dickens about it that night.

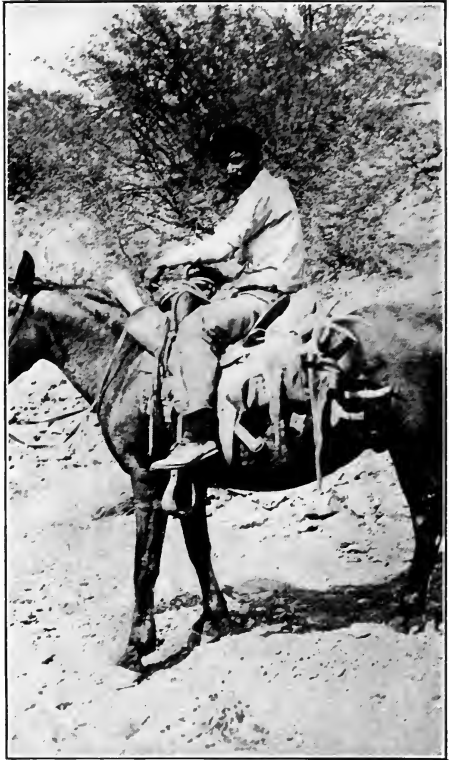
As soon as it was light enough to see, next morning, our horses were rounded in from the hills, and the three of us saddled and started after the three Indians who were to be our tutors. George Dickens led off, Charley Dickens (who had caught up the excellent brown mule) came next, and I shoved my roan pony in behind Charley. Behind me rode José, and then McCutcheon and Brice.

Up the steep hillside spurred George Dickens—where the grade was less than twenty per cent, George urged his horse

into a fox-trot. Early morning is the best time to get out after deer.

About a mile from the camp we came to a hill so steep that I did not believe it possible for a horse to carry a rider down; yet George Dickens took it without slackening the fast walk he had forced his horse into; and Charley kept close at his heels.

"Well, here goes!" I muttered, as I forced my little roan down the faint trail. He groaned and slid, and we were safely down; he began to paw his way up the steep bank on the other side, and then I dismounted. But I hustled along, breathing gaspingly; also, when I got to the normal hillside going, I scrambled aboard and whipped my roan forward. José had passed me and was trotting just behind Charley Dickens. I looked back to see that McCutcheon and Brice had dismounted to lead down the hill. I waved to them to come on before I passed out of their sight over another hill.



RICHARD DICKENS, AN APACHE WHOSE SENSE OF HUMOR IS KEEN



THE AUTHOR AND "GIBBY" BEING PHOTOGRAPHED BY MCCUTCHEON

The three Indians led me over two more rocky hills, and I came up to them as they were dismounting where the backbone of a long ridge swayed and broadened. Here the ground was soft and free from stones. Two or three stunted trees grew out of this oasis—palo verdes, whose green bark and strong spikes suggested cactus—and under these there were likely to be found deer signs.

George Dickens was scarcely off his horse before he called, in a low-pitched tone, to Charley, and pointed to tracks. Tying their horses and drawing their guns hastily out of their saddle scabbards, the Indians tumbled down the hillside in the direction the deer had taken.

I came plunging forward, and ranged alongside Charley, with excitement and questions bulging out all over. Charley took time to whisper:

"Three—three of them!" And there was a sort of singing note in his

voice, a rapid flinching and unveiling of the jet black of his eyes. He flashed three outspread fingers toward me to make sure that I understood that we had by a fortunate chance come upon the tracks of three deer.

"All bucks—big fellows!" added Charley, and as I slid noisily down over some loose stones and came to a sudden stop in the granite bottom of a wash, Charley held up a hand; he admonished me gently:

"You walk easy—make no noise!"

Up the steep hillside which seemed to lean toward us, he sprang with the silent grace of a cat. My heart was pounding with excitement and the sudden effort, as I followed; and it may be that I actually did not make as much noise as I had in coming down the hill.

George and José were leading, stooping swiftly now and then to verify their guess that the three deer were following a twisting, easy way (not easy, either, but the least difficult) up the steep slope. At the top, they came to a stop, and Charley joined them in rapid reconnaissance. In a minute they were plunging back down the hill to the bottom of the wash we had just crossed.

On the Trail in Earnest

Down there, a careful study of the ground was made; and then the three Indians came together for a whispered conference. At the end, George and José set off toward the north, while Charley motioned me to follow him; and as we climbed the steep slope again, Charley took time to explain:

"Two go off that way"—he pointed to where George and José were speeding across another hill—"and one go this way; we follow him."

So Charley Dickens and I set out on the track of one big buck, with the beating hearts and the shining eyes of two schoolboys on the way to the swimming hole for the first time in early summer. I had never in my life shot at a deer; Charley has tracked down and killed scores—yet I believe that he was quite as excited over the prospect of coming upon this one as I could possibly be.

"He's fresh track!" Charley kept repeating, turning now and then to make sure that I was keeping close up.

We came to a sloping expanse of bare rock, where the tracks of the buck were lost. Charley followed the course he thought the deer must have taken, but when we came to the other side, where there was dirt enough to show a track, it was not to be found. Charley shook his head impatiently, then started to climb among the loose rocks and cactus. But no track was there, so he came racing down to scout over the lower ground. And all the time I followed as close at his heels as I could.

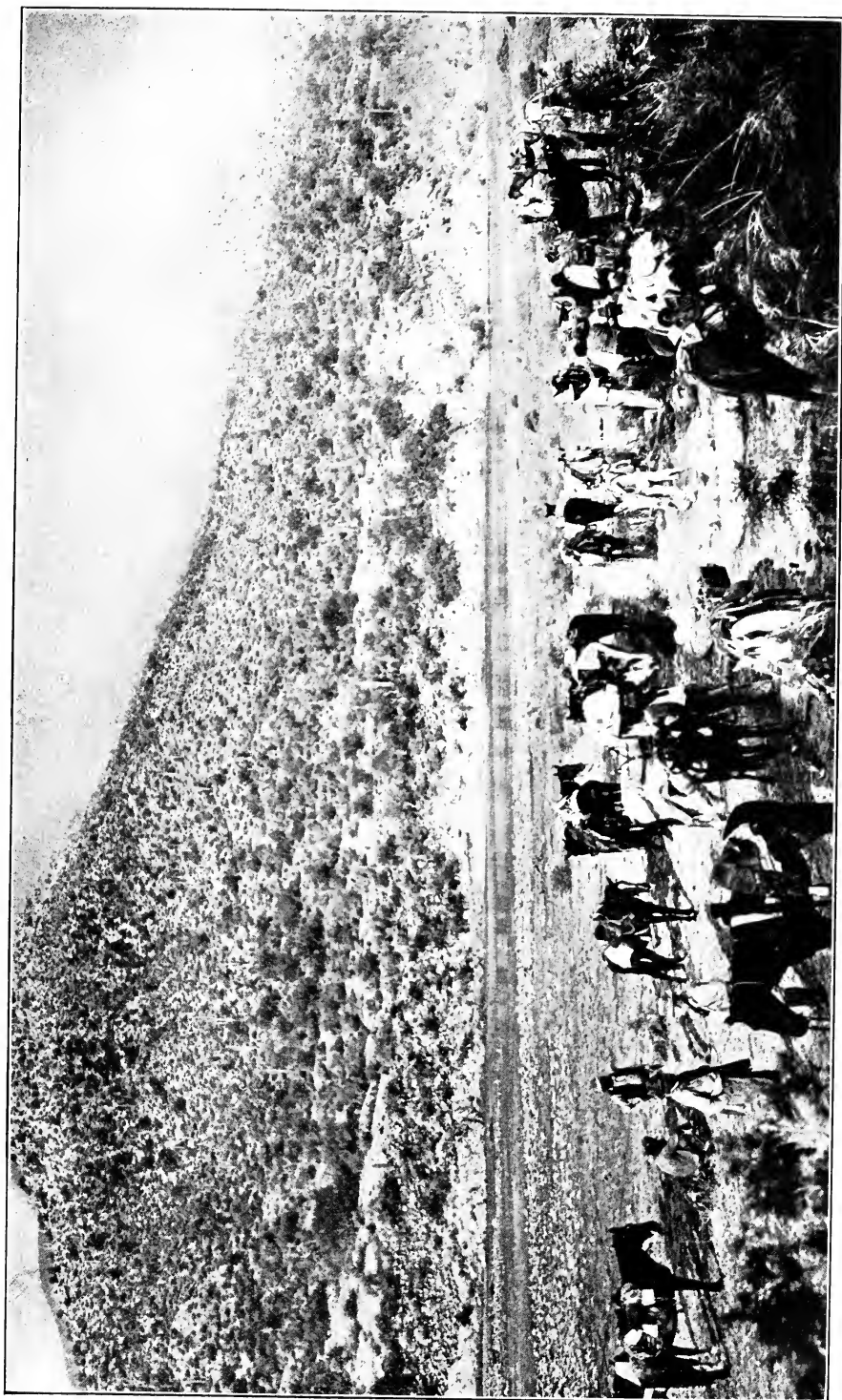
Far down went Charley, but did not find the tracks. Up again, then, and up and up, until I thought that we must be going straight to the top of a towering peak which was throwing its shadow across the hills we had crossed. At last Charley turned toward me with a smile and pointed a lean brown finger; I came up panting, and stooped to note the faint, delicate outline of a deer's foot.

For a time the tracks followed a level cow-trail, and I was given a chance in some measure to recover my breath. A breathing spell was granted me, too, every time Charley crept, bent low, to the top of a ridge. I followed his example, stepping slowly and softly until we had scanned all of the country opened up to view by topping the ridge.

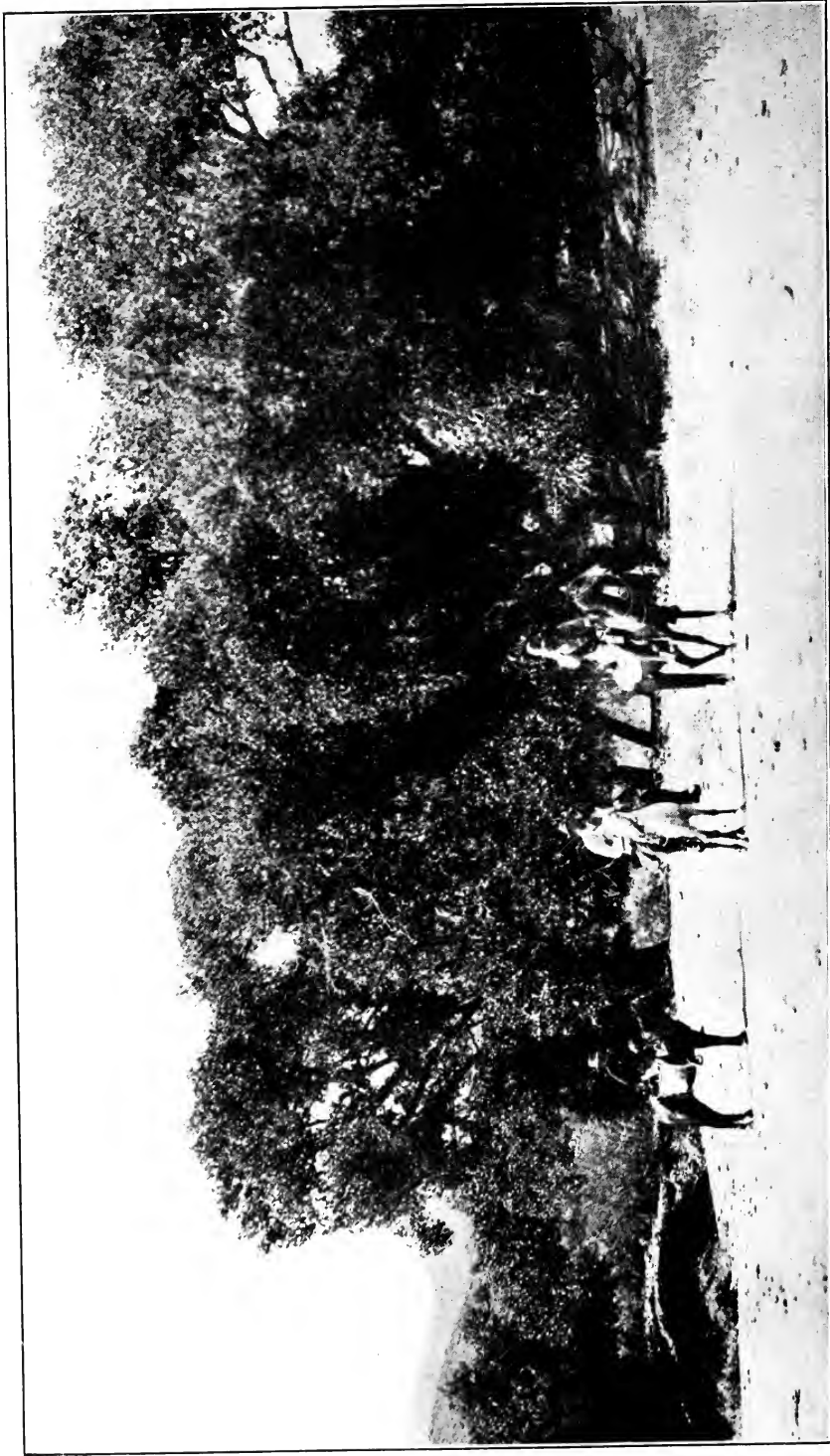
We had followed the trail for perhaps an hour, when we were introduced to a series of meanderings; the tracks led us far down toward where the plunging dry washes ran into a main wash, and then took us up and up to the good grazing near the top of the high peak.

Charley Dickens is about one inch over six feet; I should say that he has a twenty-six inch waist, and that he weighs about 155 pounds. He was born among the hills, and he moves among the rocks, over whatever grade he meets, with the ease and thoughtless sureness of a mountain creature. Keeping alongside of him, hour after hour, I found was a different matter from trailing "Monty". I needed more breath than I seemed to have with me that day.

But fate was kind—just as I decided



THE CAMP ON THE VERDE RIVER SUGGESTED ONE OF THOSE HIGHLY ORGANIZED "SAFARIS" AFRICAN HUNTERS WRITE ABOUT. WE HAD THE NUMBERS, BUT WE LACKED THE ORGANIZATION; THE APACHE THEORY ON A HUNTING TRIP IS THAT EVERY FELLOW OUGHT TO BE ABLE TO LOOK AFTER HIMSELF



HERE ARE THREE MEMBERS OF THE WHITE COMPANY OF HUNTERS ON THE WAY BACK TO CHARLEY DICKENS'S STORE ON THE MCDOWELL RESERVATION. LEFT TO RIGHT, THEY ARE: "GIBBY," HAYES, AND BRICE; BEHIND THEM ARE THE LOVELY, ORCHARD-LIKE STRETCHES OF MESQUITE, WITH THE VERDE RIVER COMING DOWN FROM THE FAR HILLS

that I would quietly drop behind some sheltering palo verde and go back to camp when I had recovered my wind, Charley would lose the tracks. Whenever that happened I stopped dead, trying to make Charley believe that I was astonished at the twistings of the deer's trail. And sometimes, before Charley had picked up the tracks again, I would be so far recovered that I could make a bluff at searching the ground for signs.

Then (I think that it must have been in the third hour of our pursuit) I actually found the trail! I called Charley by a hissing whisper and a wave of my hand. Thereafter, each time we lost the dim tracks, Charley would send me one way to search while he went the other. To me that was the highest compliment I could have been paid; I exulted, though it cut out my resting periods. Thereafter when I set out to examine my allotted territory—breath whistling from my lungs and sweat all but blinding me—I prayed to the gods of luck to help me find the tracks if they happened to be on my side.

I made a good record—only once did Charley come into the territory I had scouted over and pick up the tracks after I had missed them.

So we went, hour after hour, with just enough time for creeping to the tops of ridges and reconnoitering the valleys to save for me a remnant of breath. The shadow of the tall peak became short, and was lost altogether. We had left our horses at a quarter to seven o'clock, and it was now a quarter to twelve.

We were getting higher and higher all the time, following what seemed to be a perfectly random trail. Every now and then Charley's brown finger would jab one of the delicate outlines of the deer's foot, and he would whisper exultantly:

"He's very fresh—maybe, over that hill!" Then we would creep, rifles snuggled close under our arms, to the top of another ridge, to stand motionless while we scanned the rock fields mounting ahead of us.

It was nearly one o'clock; we had climbed almost uninterruptedly for half an hour; the blood was pounding, mon-

strous drum-beats, in my head; I had loosened my woolen shirt to the last button and rolled its sleeves back as far as they would go; I was sweating so that my eyes were bathed by the acrid flow; every muscle in my body was shrieking for release from strain; and I was thinking with envy of the good fortune of McCutcheon and Brice in being left behind before the trailing began. Then we lost the tracks.

Charley, choosing the most likely ground, swung to the left and waved me toward the right. I stole a few seconds for breathing before I began my search. My trembling legs took me very slowly up and across the rocks—I was hoping that we would have to search a long time before we came upon the tracks.

I looked around for Charley, after a minute. He had gone over a ridge and was out of my sight. Right there I was tempted to lie down flat on my back and bid good-by to the chance of ever seeing a deer; but some obstinate spirit of protest against giving up urged me on. I stumbled ahead, to cut the trail of the deer twenty feet behind Charley, who was climbing along the side of the ridge which led straight up to the top of the high peak.

The Game in Sight

Then, suddenly, I saw Charley drop to one knee, his rifle came up to his shoulder with a steady, thrilling swiftness; the whining crack punctured the silence of the hills; and I heard the rattle of hoofs against stones three hundred yards ahead and above us.

Full into my view, broadside on, scrambled the big buck. Mine was the second shot—Heaven knows where the bullet went, for I could no more fix the bead of my rifle sight on that gray, antlered creature mounting toward where the sun was rimming the top of the high peak than I could have stopped to recite Scott's poem.

Turn and turn, as fast as we could throw the loads into our guns, Charley and I fired, the crack and echo of the shots mingling in a kind of maddening roar of sound. My last bullet (Charley told me later) struck just behind the

deer as he went across the ridge square into the sun.

As the deer disappeared, I began to shove more cartridges into the magazine of my rifle, running to speak to Charley in a voice choked with excitement.

"I think," said Charley, shoving his broad hat back and reloading swiftly, "my first shot hit him here." He jabbed the extended fingers of his left hand against his hip. And when he had finished reloading, "Come on, I think we get him now!"

Then up toward the top of the ridge, toward the peeping sun, toward the spot where the glorious buck had topped the rocks, began to run that lank Apache! He ran—actually—up a mountainside which seemed always rearing backward as if to hit us in the face, so steep it was.

And I tried, gaspingly, despairingly, to follow. Within fifty yards, I found myself stopped dead, with the last atom of breath gone and with every muscle balked. I tried pulling myself up by grabbing the cruel cat's claw bushes, indifferent for the moment to their scratches; and for a few more yards I struggled on in Charley's wake.

I stopped, breathed with my mouth wide open a few times, then tried stepping along the hillside, on the level. That was all right—I found that I could move in that way. After that, I climbed again—for perhaps twenty feet—rested for a moment, then tried the level going. All the time Charley was steaming on, getting farther and farther away from me. Just before he came to the spot where the deer had stood when he fired first, Charley looked back and with a beckoning wave of his hand, directed me to circle the ridge over which the deer had disappeared.

"All right!" I tried to shout, but I found that I couldn't spare the breath for the words. So, as fast as I could go over the stones, I began to swing around the hill toward the left, picking out the level way with the sure instinct of the utterly tired climber.

Presently, to my amazement, I found myself able to run. Yesterday's miracle of rejuvenation was being outdone to-

day! I know that I shall never have a moment of more unadulterated joy than the one in which I discovered that I could run along that steep mountainside. I had dug deep down to at least a third reservoir of physical stamina, and—

Charley appeared on the top of the ridge, far above and to the right. He waved to me violently, and I understood that the deer had turned in my direction and headed for the bottom of a dry wash which yawned almost canyon-like in size and depth at my left.

A few steps farther along, I came upon the trail of the deer—a splash of blood on a rock, tracks which went unsteadily.

Charley was coming down the hill with the speed of a young avalanche—I resolved that he should not beat me to the bottom of that wash, anyway, and I began to plunge ahead recklessly. Fortunately there was a long "slide" of loose stones for me to plunge down upon—they carried me twenty feet at a leap, giving way before the violent shock of my impact instead of sending me rolling.

Charley was still fifty yards or more behind me, and I was within thirty yards of the bottom of the hill, when straight ahead I got the flash of tossing horns as the wounded buck began to hobble quarteringly up the opposite slope. He was not forty yards away, he was going slowly, broadside on; the quiet assurance that he was our meat helped to steady my gun as I turned it upon him.

Bringing Home the Bacon

My shot beat Charley's—his kicked up a spatter of dirt just over the shoulder of the deer which had plunged and slumped when my bullet struck him. Before he half tumbled and half slid to the bottom of the granite-lined channel of the wash, the velvet smoothness of his side was stained by blood. Down in the bottom of the wash, the buck struggled feebly, and Charley, rushing down beside me, was about to fire again when I begged him not to spoil the skin with another bullet.

I assume that there is a hunters' law

which disputes my title to that deer; but I am no hunter, and I know that I fell to and helped Charley skin and pack it over the hills to the horses with all the delight of a new owner. I have the horns over my desk now, and I look upon them as my own trophy, even though I know that except for Charley I should never even have seen the deer. So indifferent to some details do we become, and so tenacious of others—I have actually found myself wondering at times whether Charley might not have been mistaken in thinking that his first bullet crippled the deer, and whether it might not have been that last shot of mine (as the deer disappeared over the ridge into the sun) which set him on three legs and made him at last our victim.

No, he was not all my deer; but do you imagine that I admitted it when, liberally stained with blood, I rode into camp with Charley to pose while McCutcheon and "Gibby" trained their cameras upon me! After I had changed my shirt and eaten a thick venison steak; after the weariness had gone from my body, "Grindy" (who had made a record shooting quail that morning, and wanted to go out again) asked me to go up on the hills with him and chase a big bunch of quail he had located. Morgan saved me from refusing.

"You give me a pain, 'Grindy'!" he broke in scornfully. "Let McCutcheon take his own gun" (a beautiful 20-gauge quail gun which all of us except its owner had been using) "and go with you. Why, 'Tsan-usdi' is a deer hunter!"

George Morgan's sarcasms do not wound—they are delivered with such a wide-eyed stare and such an apologetic smile as take out the sting. This one actually soothed. I waved my hand deprecatingly, and in a few minutes "Grindy" and McCutcheon were on the way to the hillside where the quail called defiantly. Then George wanted to know the truth about the killing of the deer. Charley assumed an air of having forgotten altogether just how the deer did meet his end, and nodded his head loyally whenever I asked him to confirm a statement. Finally, I took out of my pocket the flattened bullet Charley had found under the skin—the one which had tumbled him into the bed of wash. I put it into George's hand and asked him to verify my statement that it fitted my gun.

"Now, are you satisfied?" I demanded; and I think he was almost persuaded. Anyway, when Hayes, "Gibby," "Grindy," and Brice began to question my right to the title of deer-slayer, George came to my assistance.

"'Tsan-usdi,'" he asserted (using with delicious unction the Indian name my Cherokee relatives gave me when I was a small boy, and which I had revealed to him in an unguarded moment) "killed that deer! He has established his claim to my satisfaction; and as his counsel I ask the court to put a stop to this persistent heckling by counsel for the prosecution." Then "Monty" and the Preacher Man, constituting themselves a court of inquiry, ordered all proceedings stopped. With Morgan's help, I won my point—the deer was mine.

(The End.)

The international preliminaries in lawn tennis for the Davis Cup begin in July. Therefore, read E. B. Dewhurst's article in June OUTING on THE BIG FOUR OF THE TENNIS WORLD.

TWENTY-FIVE YEARS OF BIG LEAGUE BASEBALL

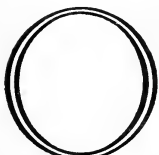
By CLARK C. GRIFFITH

ARRANGED BY EDWARD L. FOX

II

MILESTONES OF THE GAME

THE development of baseball, as Mr. Griffith shows, has been marked by two broad tendencies. On the playing side, most, if not all, of the changes have been directed to the speeding up of the game and the sharpening of the attack. From the standpoint of managers and owners there has gone on at the same time a steady movement toward making the game more stable and profitable commercially. What are the prime changes from year to year that throw these tendencies into bold relief? Mr. Griffith answers this question in the article which follows.

 OF course a subject like baseball is possible of division in many ways, and I am not positive that I have located its milestones properly. Nevertheless, I prefer to divide baseball into two parts. I like to think of what happened before the formation of the American League in 1901 and what happened after that date down to the present day.

Such a division will do nicely if we are only considering the vital things in the moral development of the game. By that I mean the attitudes of crowds, players, and club owners toward their profession. In this respect the changes since 1901 are remarkable. But to locate other milestones, we must use certain points of interest, which date the organization of the American League. I have read not a few histories of baseball. To trace the development of the commercialism of baseball, however, is different from simple history. This commercial development I shall consider later. Also, I shall tell what I know of the scientific development of the game, of the changes in the style of play, in

fact everything I can remember that has not to do with dollars and cents.

The baseball of to-day is approaching pretty close to the ideal. The reason for this is that everybody concerned in it has developed a sense of sportsmanship utterly lacking in the past. Despite its professionalism I have noticed a clearly defined spirit of "the game, for the game's sake." I have seen this manifested not only in players, but in owners, umpires and fans. But more of this later.

I began in baseball, professionally that is, around the end of the eighties. Before that, a number of important changes in the technique of the game had occurred. Let us consider them chronologically. In 1863, the "Call Ball" rule was adopted. That shortened the playing time of a game. Six years later a catcher used a glove for the first time. He was Allison, of the Cincinnati Reds. Three years later there came the "bunt," that offensive play which is the basis for much of our modern attacking strategy. I believe that a man named Pearce, of the Brooklyn Atlantics, is credited with the discovery of the play.

Then in 1879 came the first catcher's mask used by John Twyng, of Harvard, and that further quickened the game. Everything was tending to speed up baseball. In 1882 the ball that *rolled* foul was called foul. In 1884 overhand pitching was officially allowed. You see the game was becoming more difficult. The opportunities for doing things successfully were being cut down. That meant that games were constantly being played quicker. The whole trend was for speed, more speed.

That was natural. It is trite to say it, but America has been striving for speed in everything. This includes baseball. The smart player of to-day is much faster than his rival of twenty years ago. I say twenty, not twenty-five, for it was in 1894 that modern baseball began.

All teams to-day are developed along the lines of speed. I know that is the system I use at Washington. I have even carried it to the extreme of not permitting my men to run long distances in the spring training camp, instead making them sprint. The old ball players could run and hit and throw as well as the men of to-day. But the whole game was not as fast. The old players did not think as quickly. They weren't trained to. There was none of the lightning-like strategic moves that you see in the parks to-day. To be sure some of the old timers were just as foxy, but they were foxy as individuals not as teams. They did not work together along tricky, speedy lines.

That is, they didn't until 1894. Well do I remember that year. Like all the other clubs, except one that we didn't know about and which opened our eyes the first games we had with them that season, we were playing straight-away baseball. We were pounding the ball, and running and fielding at high gear. But we lacked team work. This team I speak of had suddenly come into the possession of team work. They were the Baltimore Orioles.

I recall a game we had with them. McGraw, Kelly, Robinson, Gleason, and more of those foxy old timers were on the Baltimore team. We met them with our old style, straight-away game.

There came an inning with Kelly on first and McGraw at the bat. Kelly raced down to second. Our shortstop hurried to cover the bag, when to our amazement McGraw hit the ball, driving it cleanly through the gap in the defenses that our shortstop had left. Kelly kept on running until he reached third with McGraw safe on first. We called it a fluke. A few innings later, however, this same play was duplicated; then we knew there was something new in baseball. It was "the hit and run."

That was only one of the many strategic plays that the Baltimore team developed and that changed the entire game. They pulled all sorts of intricate, clever little plays. They even went so far as to reconstruct the baseball field at Baltimore to suit their purposes. Before practice one day, I discovered that the base path from home to first was graded down hill. Obviously this was for the benefit of Baltimore's offensive tactics. They had a number of fast runners and, as I learned in a game that afternoon, the down hill baseline had been built to increase their speed. They uncovered a sensational series of bunts, invariably beating out the ball to first.

Making them Roll Safe

That same day we were marveling why so many of their bunts fell safe. You know, the bunt is an extremely difficult play. To tap a ball so that it rolls tantalizingly along the third baseline, just out of reach of the pitcher and the baseman, requires some pretty delicate work. All the Orioles' bunts went right in the same place, the same groove. It occurred to me to look at that part of the field, too. I discovered that from the foul line the ground sloped down to the infield. In other words, those foxy Orioles had erected a ridge so that it was difficult for any of their bunts to roll foul.

To repeat, that transformed baseball. Soon all the teams were doing the Baltimore stunt, not changing the typography of their diamonds, but playing scientific baseball. Led by Tenny and Long, Boston soon got into Baltimore's class. So did Chicago, of whose men

Lange and Dahlen specialized at tricks. There began an era of "foxy baseball." It started foxy pitching. Before that most pitchers had gone up and mowed down the batters by sheer speed or variety of curves. Now, pitchers began to use their heads more. "Brain pitching" came to be favored. This sort of pitching interested me, and I think I can say with all modesty that I got as much out of it as anybody.

I have often been asked how those old teams, Boston and Baltimore, would do if they were placed in competition to-day. Boston would be a well-balanced ball club, even to-day. Not Baltimore. The Orioles were not an all-round strong team. They were weak in the pitcher's box, in the outfield, and at first base. Because of the tricks they used, unknown at the time, they were able to show head and shoulders above clubs that were just as strong. You can see what would happen to the Orioles to-day, being a poorly balanced team and facing clubs that knew all the tricks they did. With Boston, however, I would call the Orioles the great modern ball club. Neither one, however, compares with the Philadelphia Athletics of to-day.

Let us consider for a moment the really great baseball clubs. After these teams came Brooklyn. The Superbas, you may remember, raided Baltimore and took away nearly all the stars except McGraw. Then Pittsburgh, with that wonderful pitching trio, Tannehill, Phillipi and Chesbro, was a great ball club. So were the Boston Americans, when they had Parent, Ferris, Freeman, Dougherty, Criger and Dineen. The Chicago White Sox had a wonderful club, powerful in the pitching box with Walsh, White, Smith and Altrock. Going to pieces they gave way to Detroit's team of terrific sluggers, that smashed their way for three successive years to American League championships. Understand, I am only mentioning *great* ball clubs, so next come the Chicago Cubs and when that machine went to pieces, there is the Athletics. Unless I am wrong the Athletics have a few more years as an unusual club. They have *natural ability*, which is the underlying reason for their success.

I have observed a decided change in the attitude of crowds. As I said, a keener sense of sportsmanship appears to have been developed in the baseball fans of the country. Let us go back to 1894. I recall how the Baltimore crowds acted when Tebeau led his Cleveland team against the Orioles that year. It was nip and tuck and Tebeau's tactics were aggressive. On more than one occasion his team was stoned and egged. I have seen ball players come out of parks, their uniforms smeared with decayed vegetables, eggs, and lumps of sod. I have seen them cut by flying bottles. All this has changed. Not in the last twenty years, but since the formation of the American League.

In the old days, a crowd of 12,000 was remarkably good. To have 20,000 people in a ball park was unheard of. Indeed the largest park twenty years ago held only 15,000 people. You know that a crowd of 40,000 is not uncommon to-day. I do not think that the attitudes of crowds wholly changed until after 1900. Indeed it was since then that the Alderman of St. Louis had to pass an ordinance making the throwing of bottles in ball parks a misdemeanor.

What the Crowds Want

Club owners realize to-day that they are obligated to guard and protect their patrons and players. In a theater, if you hiss an actor you are invariably thrown out. You ought to be. So it is with baseball. If a man in the stands persistently abuses a player, he is put out of the grounds. This is only something recent, but it marks the final step in establishing baseball as a decent profession. Crowds to-day demand great talent. They want to see a great ball game. They want their pets to win. If the home team loses, however, they go home more or less satisfied provided they have seen a good game of ball.

In Washington, for instance, whenever Cobb, Baker, or any other star comes to bat, he gets a big hand from the crowd. That is significant. The Cobbs and Bakers are playing against the home team, yet Washington fans applaud. So it is with all other cities.

The crowds of to-day are not narrowly partisan in that they will not applaud good work by another team. In other words, they have developed the sense of sportsmanship.

I have observed that it is only in those cities where there is a peculiar mixture of foreign blood that this is not true. I mean especially Cincinnati. Cincinnati was about the last city to get an idea that such a thing as sportsmanship in baseball was possible. I know they were the last city to give up the practice of running players out of town. Indeed, I doubt if they've given it up yet. I know that for days there was a group of fans who got together, sat in the same place, and hissed and hooted every move that Steinfeld made. They succeeded in driving him out of Cincinnati. Of course, this turned out fortunately for "Steiny" as it landed him a berth on the championship Chicago team. I managed a ball club in Cincinnati, and I know. When they get a man down there, they jump on him. The psychology of Cincinnati baseball crowds is a fearful and wonderful thing.

In following the development of umpires, I can see no very significant changes. Umpires have always been fearless. When I broke into the league I heard a story of Ferguson, a player who finished as an umpire. One day an angry home team mob surrounded him and threatened to kill him. Ferguson seized a baseball bat and shouted "I'm only one man to your thousand, but if you don't think that I can protect myself, just pitch in and give it a trial!"

The old timers spoke of Ferguson as the nerviest umpire of his day. I think the best exhibition of nerve that I know of was given by Joe Cantillion. He was umpiring a game of ball in Detroit one Saturday, and he was mobbed. He was told that if he showed up at the park on the following day, he would get worse. Cantillion showed up. And because there was a disturbance he forfeited the game against Detroit in spite of what the home crowd had threatened; then he faced them all down.

I dare say just as plucky things have been done by present day umpires. I know that Billy Evans has been mixed

up in some pretty close escapes. I have heard he was the victim of a bottle throwing affair that nearly ended in a fractured skull. Yet Evans came back and faced that same crowd the next day.

Technically, umpires haven't improved. That is, as a class. Some are better, some are worse. They have some umpires to-day who are worse than any I ever saw in the old days. The reason is that they are using twice as many as they used to, and there are not enough good ones to go around. Men like Gaffney, Lynch, and Sheridan, I recall as being especially good umpires.

An Umpire Has No Friends

I want, however, to say a word for the umpire. Baseball fans do not realize his peculiar position. An umpire's first requisite is nerve. I have never questioned that in one of them. I have only questioned their ability. The umpire's is an extremely undesirable position because he must isolate himself. He has no friends. That is, no baseball friends. I do not think the average fan knows that an umpire is not allowed to associate with players. When he is traveling around the circuit he must keep to himself. He rides in another part of the train; he stays at a different hotel. When he is not working at the ball park, he cannot keep the company of the players. If he happens to speak to anybody in his hotel lobby, it may be some fan who has a grudge against him. On him there is a curse. He is one of the loneliest men in the world.

To hold an umpire's job takes spirit. To stand the gaff, he must be game. If he isn't game, he will look for alibis and try to square his decisions. If he does that he's lost. He can never please everybody. Everybody says he's "rotten," newspapers included. Put yourself in his place. How do you imagine it would feel? I wish to emphasize the fact that none of us, managers, players, or friends, give the umpire the credit that is due him.

It was Ban Johnson who changed things for the umpire. Before the American League, \$2,100 was a high-water mark as an umpire's salary. To-

day, the best of our American League umpires receive as much as \$4,000. Among the many other wonderful things that Ban Johnson has done for baseball is to systematize the umpire problem. He has done his utmost to secure the best umpires obtainable. He has raised their pay and their standards. He has been scrupulous in keeping them apart from the players,—a very important thing. By association an umpire might become unconsciously prejudiced in favor of a certain player. But more than anything, Johnson was the first man of power in baseball to stick by his umpires, and to back them up in any thing they did. Did you ever hear of an American League umpire being intimidated?

Origin of the Scout

It was Johnson who conceived the idea of scouting for umpires just as players are scouted for. This scouting system is a very new thing. In the old days, and by the old days I mean not ten years ago, organized scouting was unknown. Men did not tramp the country looking for promising players. We heard about youngsters or read about them and then sent somebody out to sign them. During the early years I had charge of the New York American League Club I never paid a scout a nickel. All the men I got from the Yankees were picked out of the bushes. I was either tipped off to them by friends, or I read about them in local papers. But I judge every fan understands to-day the modern scouting system.

To-day, baseball is a big profession. As a profession it is a thousand per cent better than when I started. Then it was full of "rough necks." It was common belief that to be popular a player had to be a "rounder." Not until the formation of the American League did things begin to get really better. The present generation of ball players is as clean as any other profession. I can best compare them to civil engineers. There are many reasons for this, many college men have entered the game. But that isn't the basic reason.

A word about college men in baseball. Ten years ago it was considered more or less disgraceful for a man with a college education to enter baseball. Now many college men look forward to baseball as a profession. They do this for a very good reason. In contrast to the fellow who comes up from the lots, they have two angles on the game. They can either play until they are about thirty years old and make enough money to set them up in business or their chosen profession; or if they fail, they can still go back to their profession without having suffered the loss of much time. They can either win, or remain as they were before they took the chance. The college man in baseball cannot lose.

But the real reason for the change in baseball as a profession is a far deeper thing. Perhaps I can put it best by saying that the modern ball player has the spirit of a soldier. He has a pride in his work that you do not find anywhere outside the Army or Navy. He is as loyal to the honesty of the game as the soldier is to the flag. He is proud of the game. If you were to ask a ball player of to-day to throw a game, he'd probably knock you down. Twenty years ago—if you happened on the right man, he would have listened to you, and asked how much there was in it for him.

Baseball is a melting pot for character. I have seen all classes take it level, which is, pride in the profession. I have seen the rankest "kids"—and I have one in mind, a fellow who could do anything, a rat picked up off the lots—get into professional baseball to-day and be changed completely. By association with the men around him, the "kid" in this instance developed honesty and pride. I would trust him if he were on my club with anything.

To-day, ball players work with harmony. If one man finds out a weakness in an opposing pitcher, he tells it to his team mates. He doesn't keep it to himself so that he can star individually. There is a wonderful spirit of corps in baseball to-day.

The status of the manager has changed. In the old days he used to be sort of a watch-dog. One of his functions.

was to see that certain players kept sober. A man who doesn't observe strict training rules has about as much chance in baseball to-day as would a blind man. Managers have no use for the "rounder." I recall one manager who used to spend his evenings following his players about town. To-day, the players will come to the manager instead of avoiding him. They have confidence in him. They not only discuss baseball, but often personal affairs, and seek his advice. Obviously the manager of to-day has to be a little more than a watchdog.

As far as the playing of the game is concerned, he has become a decided factor. At all critical stages he must absolutely be ready to direct the play. In the last analysis of crucial games, it all devolves on him. Do not get from this that baseball teams of to-day are merely machines. I never believe in subordinating the individuality of a player. I know that Connie Mack doesn't either. As I often say to my men, "Any time a man drops his guard, hit him! Don't wait to be told." By this I mean that if there is ever a hole shown in the front of the opposing team, take advantage of it.

Before pointing out certain important steps in the development of baseball commercially, it may be wise to consider some statistics that are significant.

Twenty years ago, the rent of the Chicago park was \$3,500. To-day it is \$15,000. I remember when the Polo Grounds, including Manhattan Field, rented for \$10,000. To-day I'm given to understand that this property costs the New York club \$70,000 a year. In the old days it used to cost us \$10,000 a year for traveling expenses, that is, to play the out-of-town games. The individual cost per man was figured at \$2. To-day, the average bill is \$27,000. We stop at \$4-a-day hotels. The best of trainers, rubbers and railroad accommodations are engaged. In the old days, men had to rub themselves. Now it has come even to the point where if a critical series is impending, we do not trust our players to riding in public conveyances. There might be a meeting with some overkeyed fan. We do not take chances. We engage taxicabs

to carry our men from railroad station to hotel, from hotel to ball park.

When Philadelphia and Detroit were having such a race of it for the pennant a few years ago, there was not a little bad feeling caused by Cobb's unintentional spiking of Baker. During those closing games in Philadelphia, Manager Jennings, of the Detroit team, took the utmost precaution to keep his players in strict privacy. I would do the same thing if such a situation arose this year with the Washington club.

Beginnings of Big Business

But the days of \$10,000-a-year traveling expenses didn't come for a long time. The first significant step in the commercializing of baseball was the tour of the old Cincinnati Reds. Harry Wright, his tour with the Nationals failing, conceived the idea of organizing a baseball team in Cincinnati and putting it on an out-and-out salary basis. So the Cincinnati "Red Stockings" were formed with an open salary list. Wright decided to uniform his men in knickerbockers to make them distinctive from the amateurs who played in long trousers. He also imported players by the wholesale from the East, thus establishing early the non-resident principle upon which all our professional teams of to-day are founded. Another big step toward a sound business basis for the handling of his and other teams to come was in Wright's making all his players sign contracts. These bound them to give their exclusive services as ball players to the "Red Stockings" between March 15 and November 15, 1869. For this period they were paid an average of \$100 a month, absurdly small when one considers the salaries of to-day. But as a matter of fact the entire annual salary list of Wright's team was only \$9,300, or less than some managers of to-day, who do not even play, receive.

As a money-maker baseball began to boom. Meeting with instant financial success, the "Red Stockings" soon went on tour, playing everywhere before big crowds. They crossed the continent. The whole country watched them. Newspapers began to show their scores on

bulletin boards and Harry Wright became the first baseball impresario.

After this successful tour, there came five black years—1871 to 1876—that almost killed the young business. Gamblers infested baseball. The country became "baseball crazy." Hundreds of diamonds were laid out, hundreds of dollars taken in at the gate, hundreds of dollars paid the players for throwing games the way gamblers wanted them to go. Disgusted with the situation, the few remaining amateur teams had passed out of existence and by 1871 baseball passed into the hands of the first professional league—the National Association. So far as solidifying the business basis, introducing system, clearing and defining professionalism were concerned, this was a great step forward. But there was the parasite of gambling eating out everything clean and decent that was in the commercialized baseball of the "Red Stockings."

Slowly at first, then swiftly, the attendance at games all over the country began to fall off. Respectable people would have none of baseball. Gate receipts grew smaller and smaller. A number of clubs closed their parks. The owners lost money. From the pulpit preachers began to storm against baseball. Political reformers made it an issue. Editorials in newspapers warned against it. Of the visit of A. G. Spalding's clean players to a middle Western town the local newspaper wrote:—

"They comported themselves more like Christians than like professional ball players."

Demoralization had set in. What had promised to be a thriving business was toppling and would have fallen, had not the little decent element left in baseball seen the need for instant action. But they did—A. G. Spalding, W. A. Hulbert, Harry Wright, and others—and in 1876, they planned and executed a coup that snatched baseball from the hands of the gamblers and delivered it to the National League, an organization of their own conception, which laid the foundation for the great business that baseball is to-day.

When William Hulbert, whose money was invested in the Chicago team asked

Spalding to bring his championship Boston club out to Chicago, Spalding replied:—

"Not for a million, while those gamblers are out there."

That set Hulbert to thinking. He saw that baseball in the hands of the players had been a failure, and had let in the gamblers. He realized that the failure would be irretrievable unless baseball was immediately put into the hands of clean principled and able business men. After the Chicago and Boston teams had played their series, Hulbert and Spalding got together. After days of conference, they conceived the idea of the National League. It was to be a combination of the owners of the largest ball clubs, its purpose to make baseball a solid business, conducted on uniform rules and with one central governing body, the National League. It was organized in 1876, all the club owners agreeing to bar out the gamblers, to disqualify players who associated with gamblers, to dismiss any club that failed to fill a schedule date and to observe all rules regarding the breaking of contracts and the jumping of players.

Evils of Free Competition

Under this centralization, baseball began to prosper. By making attractive schedules, advertising their dates in advance and filling the dates with clean baseball in clean parks, the National League club owners began to make money. In fact, they made so much money that by 1880 other shrewd business men had seen the opportunity and were putting teams and leagues in the field. By 1881 the competition of one of these leagues—the American Association—had become intense. Players of the National League were breaking contracts and jumping to the American Association and vice versa. The players went where they were paid the most money, and to hold them the club owners boosted salaries all out of proportion. Obviously expenses began to overbalance receipts, and in 1883, the American Association suffering as well as the National, an armistice between the two organizations was declared.

This resulted in the drawing up of the National agreement—a document that gave to baseball the necessary executive machinery. It bound the different organizations to a code of rules for the settling of all inter and intra league disputes. It established the player as the property of the club to which he was under contract and forbade any other club to acquire that property until the holder was done with it. Reasonable limits were placed upon salaries. Perfect co-operation between the different leagues was secured and the administration of this new machinery was placed in the hands of an executive body called the National Board.

Then fighting began. In 1884 and 1890 the players revolted and formed independent leagues, each of which

lasted one year. This showed that beyond all doubt baseball had to be in the hands of business men. The players could not run it. Then came the next step in 1891, when the National League took four of the American Association clubs into partnership, thus increasing its own circuit to twelve cities. This the National League enjoyed until another group of men saw their opportunity, went after it, and got it—the men of the American League.

From my experience as a player, a manager, a club owner, I have seen all phases, considered all sides of baseball. I can honestly say that the present high standard of the game, its increasing spirit of sportsmanship, is due more than anything to the organization of the American League under Ban Johnson.

THE PRAIRIE DOG

By G. F. RINEHART

HE plats a town upon the plain
 And booms it in advance of man,
 Without a thought or hope of gain,
 By giving lots to all his clan.

Erect he stands upon his feet,
 Alert with ever-watchful eyes,
 Nor cares he for the county seat,
 Nor bonded railroad's coming ties.

Ambition has no charm for him,
 Proud peer of socialistic clan;
 No office-seeking fad nor whim
 Could make of him an alderman.

Without the selfish greed of men,
 No fortune does he hoard and save;
 He lives contented in his den,
 And, dying, finds a ready grave.

O how I would love to be
 Such a lucky dog as he!
 Never has oppressive cares,
 No one stabs him unawares;
 No one smothers him with lies,
 No one takes him by surprise.
 O how I would love to be
 Such a lucky dog as he!

SENSIBLE OUTFIT FOR AMATEUR HIKERS

By WILL C. STEVENS

ILLUSTRATED WITH DIAGRAMS

The Things to Take and Not to Take to Make Your Walking Trip a Success

HIKING over country roads and woodlands is a delight to an ever-increasing army of city men. The desk man who works in store or factory gets but little opportunity to indulge in this sport, except at vacation time, and it seems especially adapted to him, for by selecting the proper route he may get a pleasant mixture of wilderness, rural life and summer-resort pleasures.

It is a splendid physical and mental recreation, if properly indulged in, giving moderate and sustained exercise, interesting experiences, and valuable information gained in a pleasant manner.

We have nothing to do just now with routes or equipment for hunting or fishing. It is assumed that the vacationist wishes to get his pleasure principally from the exercise of walking and from the adventures and scenery and from the experience of sleeping and preparing his meals out of doors. The suggestions offered are designed especially for the man who has but two or three weeks at his disposal and who wishes to equip himself properly for that length of time.

The experience from which the following suggestions are drawn covers the north central section of the United States, but as the same general conditions exist in many other localities, the ideas may be equally applicable over a considerable area.

Do not spend a lot of money on an elaborate outfit. You will be more comfortable and less conspicuous in ordinary clothes, which will be just as practical

if properly selected. You probably possess most of the essential articles. If you travel in the heat of summer, avoid woolen underdrawers and woolen outer shirts. Any authority who disputes this has never suffered from hives or prickly heat, or he would change his mind.

Get the drawers full length and of balbriggan, and be sure they fit. Balbriggan dries almost as quickly as wool and is far cooler. Your knees will become chafed from dust and perspiration if you wear knee-length drawers.

Your undershirt should be of very light-weight wool if you can wear it, or of ribbed cotton. Exercising in the hot sunshine will make you perspire freely about the waist and upper body, so you need an absorbent covering there, and one which will protect you from the chill of a sudden cold wind. Wool is best for this purpose.

A nice shirt of this kind is the sleeveless, buttonless, snugly fitting athletic jersey. It absorbs freely, is easily cleaned, does not wrinkle and will serve as part of a bathing suit if necessary. Have it light in weight, however, for you will be miserable if your body is continually smothered in its own heat.

The dark blue or black chambray shirt with the soft collar attached cannot be excelled for the outer shirt. It is sometimes called "the working-man's shirt," and if dark in color will not show the dust or perspiration stains at the waist or arm-pits. The wool army shirt, so much affected by hunters, is too hot.

Let the trousers be light in weight also, but they should be of wool and dark colored. A sound pair that has

seen its best days is just the thing. Either suspenders or a light belt may be used to support them. Suspenders are apt to chafe your shoulders, but they allow loosely fitting waists, which give coolness and muscular freedom. Have flaps on the pockets, arranged to button in the contents.

Wear a soft hat with a fairly wide brim, and replace the leather sweat band with one of cloth. Flannel is good. Sweaty leather poisons the skin and does not hold on your hat as well as cloth. A cap does not give sufficient air space above your head to break the force of the sun's rays.

Have the stockings fit perfectly, of lisle or cotton, and either fast color black or with white feet.* They should be light in weight, but heavy enough to be absorbent and to form a slight cushion for the feet. Do not wear an elastic garter that encircles your leg, for it will retard the circulation which this form of exercise stimulates. A safety pin answers the purpose perfectly.

A "hiker's" shoes are really the most important part of his outfit, and are the feature most often neglected or misjudged by the amateur. They will make or mar your outing, and do it in a hurry, too.

Don't make the fatal mistake of wearing heavy, cumbersome, high boots, of the "storm" variety, thinking you will look picturesque. You may succeed in this effort, but the expression on your face after a ten-hour, twenty-mile ordeal will make you a fit model for a picture of intense disgust and misery. They are hot, they hurt, and they don't help. Their only purpose is to protect against thorny bushes and deep mud and for this purpose leggings are better and can be removed when not needed.

It is almost, if not quite, as fatal to wear new shoes, for these will chafe your heels, skin your toes and tire your ankles. As the Irishman said, "any-one of those miseries is two too many."

Have them of ordinary height, reaching above your ankles so as to keep out pebbles, waterproof them if you wish,

although this makes them hot, and have them sound with only a medium thick sole. Above all things have them well broken in to the action of your foot. Remember that the success of this form of outing rests primarily on your feet standing the strain, so help them all you can. Your feet will probably become swollen and fevered anyway, but a cold bath will cure that.

Your shoes and stockings *must be right*, or it will be "back to the fire-side" for you in a hurry, with the women folks rushing for arnica for their poor, frail boy.

The reader will have observed that all the clothing so far recommended is best adapted to hot weather, and it is intentionally so. Most of the weather you encounter or select for this kind of an outing *is* warm and walking with a burden makes it seem still warmer. If you feel too cool, you can warm up by exercising, but if you are too warm you cannot cool off without trouble and danger.

The Uses of the Sweater Coat

To provide against cold winds, for protection after a cold or exhausting swim, and for use on damp or cold nights, carry a good sweater *coat*. You can hardly get it too thick. When you *do* need extra warmth, you need it quick and plenty.

An ideal garment of this kind has a shawl collar and is of a weave known as "Shaker-knit." The shawl collar keeps the neck and base of the brain warm, two sensitive points. Have your sweater pure wool in any event, and of a coarse weave, so that there will be plenty of the tiny air chambers in the texture which help so greatly in giving or retaining warmth.

Do not bother with a coat of any kind. It will be useless and in the way.

Opinions differ as to the best way of preparing for the night when you are sleeping out of doors. Some favor carrying a silk "A" tent, which is so collapsible that it can be crushed into the pocket. Any tent which is small enough to be portable by a pedestrian is sure to be "stuffy," it shuts away your view of

* This is contrary to the usual advice, which is heavy wool for the feet.

the stars, and serves no theoretical purpose but shedding rain and keeping out mosquitoes, both of which it does with poor success in practice.

It is a lot more fun to be right out in the open when you sleep, and you can be made perfectly safe and comfortable. You need a woolen blanket, a rubber cloth, a piece of mosquito netting, and some kind of a bed.

Your wool blankets should be of pure stuff, of full size, clean and fluffy, and of a dark color which will not show dirt or attract insects. It need not be heavy weight, for here again the tiny air chambers in the fabric will do much to keep you warm, and if the suggestions regarding the bed, later on, are adopted, you will have sufficient extra covering to make up for a light weight blanket.

Your rubber cloth is satisfactorily supplied in the army "poncho" sold by most sporting goods houses and army

salesrooms. It has a slit cut in the center to admit the passage of the head, but the slit is protected with a button flap which makes the surface practically unbroken if you wish to use the cloth on your bed, or as a tent in case of rain.

Oilcloth may be used, but it cracks easily from heat and usage, tears and frays quickly from wear, and is not as waterproof as rubber.

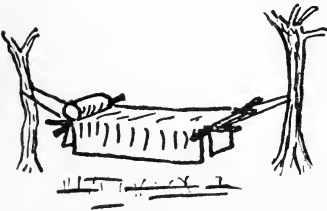
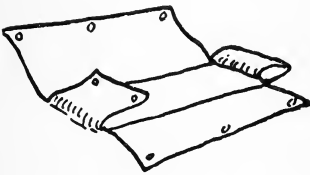
This cloth serves a number of useful purposes. It may be worn while walking to keep off the rain or break the force of the wind; it may be spread over a mattress of wet leaves or grass, or on your bed; you can sit on it if the ground is wet, or use it as a wind break after your camp is established. The army "poncho" has eyelets along all the edges so that the cloth may be easily tied in any desired position.

Mosquito netting may hardly be considered as a blanket, although one old-timer once remarked that he thought it "kept out the coarsest part of the cold."

It is essential to peaceful sleep, however, for mosquitoes can keep you awake all night, their stings are often poisonous, and long walks are so fatiguing that sound sleep is very necessary.

Black is preferable. White attracts insects and other colors are poisonous.

Arranged over the head of your bed with the help of sticks forced into the ground, with the edges falling on the bed clothes or tucked in, it works excellently. While you are moving about on your feet, drape it over your wide brimmed hat so that it falls all about your head, and tie or tuck the edges snugly about your neck. This, with the protection afforded by your clothing and carbolated vaseline on your hands, will give you ample pro-



A BED ROLL WHICH IS ALSO HAMMOCK AND EASYCHAIR

tection in almost any northern locality.

One of the cleverest and most useful articles ever devised for out of door sleeping is the bed roll herewith described and illustrated.

It weighs little, costs little, may be made at home, and serves its purpose excellently. In addition to its value as a bed, it is also a knapsack, pack cloth, hammock, and easy chair. In one form or another it is in wide use among "hikers," campers, and men whose life takes them into the open.

It should be made of mattress ticking or light canvas, preferably tan. It consists of a strip six feet long with loops or hems on the long edges. These permit the insertion of long poles, cut at the camp ground, which rest on parallel logs or mounds of stone or earth, which lift it off the ground, making it springy and keeping it dry.

If you do not mind the slight added weight, this simple style may be improved on in many practical ways.

Make the strip twelve feet long, instead of six. Fold over one end until you have a compartment eighteen inches by the width of the goods, which should be about three feet. Then sew together two of the open edges, and you have a place to store your small articles. If this compartment is padded with leaves or grass at night, and folded over until it rests on the main section, it makes a good pillow.

Three feet of material at the bottom may be folded over the sleeper's legs, thus preventing him from kicking out his feet during the night, to serve as mosquito bait. Eyelets placed in the two corners of this flap will enable you to tie it securely in position by means of a connecting string run under your body.

Another addition which will prevent you from becoming uncovered during the night, from restlessness or the wind, is in the form of two strips or "wings," sewn on the two edges of the central six feet. These may be folded over your body, and tied if necessary by strings running beneath the bed. If the top "wing" is folded in the direction of the wind it protects you from its effects.

By placing sticks between the two long poles, you get a practical hammock,

a sure enough luxury for a man who is "roughing it."

With a little practice, one may also arrange the sticks so that a serviceable steamer chair is obtained.

When you break camp remove the padding from the pillow, insert your cooking utensils, roll your wool blanket up in the canvas, and you are packed. This pack may be in the form of a long roll, to be worn across the body from shoulder to hip, as the soldiers wear it, or it may be arranged to sling from your shoulders with straps, or to carry in the hand. Fold and tie on your sweater coat and rubber cloth separately, so they will be easily and quickly accessible.

Cooking utensils depend somewhat on the amount of food you must prepare at each cooking, on the game-producing qualities of the country, and on how far you stray from civilization with its supplies of partially prepared foods. It is here assumed that the vacationist will keep within fairly easy reach of farms or villages.

All You Need for Cooking

A two-quart pail with a cover, a large cup, a deep soup plate, all of seamless metal; a small frying-pan of ordinary or government style, and a knife, fork and spoon meet all requirements when pieced out with what Nature can supply. Slabs of clean wood or bark make excellent plates, a sharp stick makes a good fork, a spoon is easily made of wood, and most fish and game may be cooked in a mud casing or broiled on a stick. These makeshifts do the work required of them with surprising success, and make you feel like a real woodsman, to say nothing of enabling you to boast of your cleverness to "the boys" when you get back home.

How to cook and what to cook are big subjects, and well worth study by those needing the information. Several good books are published, devoted particularly to the preparation of food in the open. Horace Kephart's "Camping and Woodcraft" is among the best.

It will be sufficient to point out here that the exercise of walking stimulates the action of the appetite and bowels and

uses up lots of energy, so that nourishing, digestible food is very necessary. A constant or generous diet of canned goods or greasy food will quickly upset your stomach and weaken you.

Building good fires and making them do as you wish under all conditions is a fine art only to be acquired by experience. A few hints will help, however. Never try to cook over a fire that is flaming or smoking. Let it burn down to coals, running a second fire to supply hot coals if necessary.

In building any fire lay on your sticks crisscross, so as to allow air to freely circulate. This supplies the draft and is the very life of the fire. Build up a little tower first, with your paper or leaves free from weight, and lay on your larger sticks after the fire is going well. Always start the fire with dead, dry wood.

For a cooking fire, arrange two logs or two rows of earth or stones about ten inches apart and a foot high, in a long trough. If you use logs, bank them well with earth so they do not begin to blaze. Then put your coals in this trough. You then have a good "fore-and-aft" support for your cooking utensils, and you have plenty of room to work conveniently on several "messes" at once. Two forked stakes at either end of the trough, connected by a pole, afford a frame for supporting the wires or notched sticks on which you may hang your stew and simmering pails.

For a fire for heat, you need not chop up your sticks. Place the ends on the fire so that the sticks resemble the spokes of a wheel, and keep shoving the sticks up as they burn off. In leaving camp always put out your fire. This is an unwritten and important law of the open.

A hiker has need of a strong sheath-knife, but it should not be of the conventional "Bowie" pattern. The point on this knife is too long for skinning or slicing. It is designed for stabbing, and it is extremely improbable that you will meet any cave men or lions, and if you *did*, you would be a "goner" anyway.

The blade of a sensible, useful knife should not be over six inches long; it should be thin and not too highly tempered, and should be blunt-pointed. An ordinary butcher-knife or a steel table-

knife that can be kept sharp will be better than the usual hunting style. If you carry it in a sheath at your belt, be sure that it slips down tightly or is fastened in, so that it cannot fall out when you bend over.

If you plan to eat and sleep outdoors, a good hatchet or hand-ax is a positive necessity. In choosing between a sheath-knife and a hatchet take the hatchet and put a little more work on your pocket-knife. This is a tool on which you can sensibly afford to spend enough money to insure getting a good one. The head should be of the curved edge variety and should weigh one and



GOOD TYPE OF HATCHET AND KNIFE FOR THE HIKER

one-half or two pounds. It should be of high-grade steel and have a flat top. The style sold for household use, with a beveled edge, is poorly fitted for the work you will use it for. The handle should be about eighteen inches long and should be curved like the handle of a large ax. It may help your grip on it if it is bound with tape or twine.

Unless you are in a locality where you use it continuously for clearing a path, carry it in your pack. If you do carry it in a sheath at your hip sling it from your shoulder with a strap, for it will give you a stitch in your side if you hang it from your belt, and it will be liable to catch in bushes. If you carry your ax and knife or other tools on a belt, provide a belt for that purpose alone, and let it sag well down over one hip. This relieves your waist of the weight and strain. Swell a loose handle tight by immersing the ax-head in water. A carborundum stone is an excellent sharpener.

Do not worry too much over possible mishaps, and carry a lot of remedies. The chances are that you will suffer only from blisters and sunburn and lameness, and cold water will take away most of the fatigue or foot fever.

Carbolated vaseline is an ideal, all-round remedy for most of your other troubles of this sort. It is antiseptic, healing, allays pain, soothes sunburn, and lubricates a skinned heel to perfection. It also discourages insects who are bent on a bite or two, prevents or allays the inflammation of a blister, and does countless other useful things.

Wrap a bottle or large tube of this medicine in a yard of clean cotton sheeting, for bandages, tie up the package with a generous amount of cotton string, add a good-sized needle for puncturing blisters, and you have as efficient an emergency kit as you will probably need. In pricking a blister, begin your puncture a little distance from the raised skin, which will thus remain unbroken and will not become raw.

Of course you will wish to become sunburned, but try to pick it up gradually. Vaseline smeared on the skin will prevent it. The moment you feel your face or neck begin to burn, arrange your handkerchief or hat so as to shade that part; for that is Nature's warning that that spot is beginning to "cook," and that means a lot of pain and a raw spot later on.

Some "hikers" like to carry a canteen in order to insure a supply of drinkable water. This is a good idea if you travel far from a source of supply. Frequent drinking while on the march is unwise, however, and a tiny, round pebble held in the mouth will stimulate the flow of saliva and will do much to relieve your thirst. If you drink frequently while exercising you will first be bothered with "cotton mouth," then with the stomach, and then with biliousness or fever. When you do drink, drink moderately, and of water that is not exceedingly cold.

You will need a stout pocket-knife and a small coil of soft, stove-pipe wire, the latter for binding shelter poles, or hanging pails. A watch is not at all necessary as a rule, but may be carried, and should be fastened to your clothing with a string.

Many sportsmen have had satisfactory results from the "safety" match which strikes only on the box. They have the advantage of being small and of not igniting accidentally. On the other

hand, they are useless, though dry, if the box gets wet, though they may be ignited by friction on glass, which you probably will not have. In any event carry them in a moisture-proof carrier, either a screw-top box or a suitable bag with a drawstring.

Carry your money in special holders, your change in a purse, and your reserve fund in a pocketbook attached to your clothing. Most sporting goods furnishers have a special article for this purpose, which has compartments for coins and bills, which snaps shut and can be pinned or buttoned on the inside of the waistband.

Don't carry a lot of paraphernalia for improving your looks. Our forefathers kept clean for centuries before soap was invented, by using lots of water, and so may you. The warm sunshine is an excellent towel, and your hair will not stay brushed ten minutes anyhow. The articles necessary for a complete toilet do not weigh much, however, nor are they bulky, but try to limit them to razor, soap, comb, and towel.

Most sporting publications and automobile houses can supply you with reliable maps of any desired region. The Geological Survey of the United States has maps showing the contour of the country, the location and extent of waterways and forests, and the location and character of roads, for almost every part of any state.

Varying conditions found in various parts of the different states, the dependence the "hiker" wishes to place on fish and game, and the probability of his finding places where he will wish to "dress up" will possibly necessitate additions or alterations to the outfit just suggested, but this is a sensible equipment with which the traveler may form the basis of his plans.

Do not try to break any records on a trip of this kind. Enjoy the scenery and the country life, rest often, watch the birds and the clouds, and breathe deeply of the pure air, and you will return to your daily occupation vastly benefited in mind and body.

Above all and beyond all, brother "hiker," do not lug along a lot of "junk," and wear easy, sensible shoes.

GOING FISHING WITH THE MAJOR

By C. A. CAIN

To Say Nothing of the Shaggy Dog That Barked with Joy When the Major's Float Went Under

WHEN the major asks a friend to go fishing with him, why it is that man's lucky day. The other day the major asked the editor to go down on Lynn creek and spend the day with a hook and line. The editor accepted with joy and came back at dark with a dozen little "bull-head" catfish and a heart made whole again from the sunshine and the major's philosophy.

The fishermen stopped at the old Lynn place, fourteen miles south of town. It is quite a place, this old Lynn farm. Colonel Lynn came to the state from Kentucky in 1859 with the major's father. The old Kentucky colonel looked at the hills on one side of the creek and at the meadow lands on the other side and swore that "this was the finest spot in the State." No prairies or bottom lands for him. He wanted a place that looked as if it had been picked from a Kentucky landscape and this spot was made to order. He set stakes and settled down. He died there and his grave by the creek has been covered with plum tree blossoms for forty summers as a token of the resurrection.

Colonel Lynn's daughter still serves Kentucky dinners at the old place.

At table rock, where the creek runs over a flat rock formation at the lower end of the Lynn farm, the fishing used to be fine. The fishing hole just below this rock is a classic in the annals of the neighborhood that have to do with fact and fiction about the catching of fish. Indians used to camp at table rock and catch fish for breakfast. And after

them came Colonel Lynn and his friends. And then the men who buried Colonel Lynn fished at table rock. Now these men are old and their sons fish there. Now comes the major and "wets a line" where his father used to fish.

Small wonder that the major forgot what law was or judges had been when he landed at table rock the other day. He wore a flannel shirt and his coat lay on the bank. He smoked a pipe and talked philosophy instead of politics. The lines were smoothed out of his face by the wind and sun. The memories of fifty years of bygone fishing days of the flat rock came up out of the water and talked to him and he answered in that forgotten tongue now unknown to all men but him and a chosen few.

Some one asked the major at dinner time why he went to table rock when the fishing was better up the creek.

"I like to hear the water talk and fuss as it falls over the rock," replied the major.

In the afternoon the major and the editor wandered up the creek, away round the bend to a place the major chuckled reminiscently about when he mentioned it in blissful contemplation. "Best fishing hole in the world," he said. "Bull-heads there will swallow your bait, hook and sinker."

It was a noble place to fish. Water dark and deep. Big trees growing right at the edge of the stream with their roots stretching along the bank to form a fine seat for a lazy fisherman. The major perched himself in a giant crotch formed by two of these tree-roots, called for a fishing worm, baited his hook, loaded his pipe and threw his line far

into the creek. He looked like a pirate chief of the old South Seas, crouched in the cross trees of his ship, looking for a Spanish sail.

The sun was hot and the major's chin sank forward contented on his chest. He told a story about a famous coon dog of that locality and how, years ago, this dog engaged in fierce battle with a coon at this very spot.

The major's cork went under and he pulled up a crawfish. His remarks were concise, emphatic, clear and to the point.

Then followed a happy little discourse upon Alexander Hamilton, his life, work, and writings. Thomas Jefferson came next, and then John Quincy Adams in the swirling procession of the major's fancy. The editor interpolated a few remarks about D'Artagnan and Captain Brazenhead. A little breeze blew up the creek, and the sun grew hotter still. It was such a scene as John Boyle O'Reilly delighted in when he wrote:

"And I long for the dear old river,
Where I dreamed my life away."

It was a perfect afternoon in the early springtime, ideal for any fisherman, whether farmer boy leaving his chores to catch a "mess" for supper, or city man on a grand day's vacation seeking to be young again. The trees that lined the creek had budded out just enough to lace the water and the bank with light and shadow. There was a seductive smell from the rich brown earth.

The influence that they call fisherman's delight was abroad in the land. Men leave offices and stores to find it. They cannot tell why or wherefore, but at certain seasons certain men forget about family and money and business and every pleasure that the town has to offer and go to seek a creek bank and the gleam of sunlight through the trees and the ripple of water under the hand of an April wind, and the siren influence of a cork that bobs and flutters and sinks like a message and a token from the unseen that is more to be desired than aught else.

And just about this time the major got another bite. He pulled out a bull-head that weighed a pound, and the sat-

isfaction in his face was worth a farm and a city lot and a sea-going yacht to see.

Then the talk on that creek bank drifted back to Hamilton and Jefferson and Franklin, the founders of the republic. The bull-heads in the water seemed to know that the major was weighing heavier subjects and they waited before sampling the worm on his hook.

Still another page of history was turned back in the big book. Frederick the Great marched again into Silesia. Time moved on with quick feet and the French revolutionists cut off the heads of the Bourbons. Napoleon came upon the scene and stabled his horses in every capital in Europe. The editor joined in with the major and between them they carried the great little Corsican from the Bridge of Lodi to St. Helena.

There came a bull-head and grabbed the worm on the editor's hook. A jerk, and the bull-head was flapping on the bank, but perilously close to the water. The fish slipped the hook and the major dropped his pole and pipe and clapped his hat down on that twisting fish as a boy traps a bumble bee. It was great work and quick as when a cat catches a mouse.

And the little old creek slipped along in the sunlight. The fishermen could hear the water lapping the bank.

The World Forgetting

The major is assistant United States attorney for this state, and accounted the noblest and best Roman of them all. But the other day, down on Lynn Creek, he was only a man in a flannel shirt who sat in the forks of a big tree and fished earnestly for bull-heads and talked in retrospective fashion about old statesmen and coon dogs and grape-vines and mulberry trees and why some blackbirds had a red feather in their wings.

The major had brought his brown shaggy dog along on the trip. This dog came and sat by his master and watched his master's cork. The cork shivered and moved erratically. The dog barked and trembled with excitement. The major's cup ran over with happiness. This was a prince among dogs. The

major missed his fish in pride of his dog's interest and understanding.

The afternoon wore on and the bull-heads grew shy and more shy of the major's bait. Then did he shift from milk worms to crawfish tails and caught a likely fish instantler.

The sun dropped a foot or two. The voices of the world seemed far away. The major, as he sat and watched his cork and admired his dog, might have been an Indian chief of the Shawnees who flourished here before the white men came. No chief who ever stole a pony or made a squaw dig a garden fished so wholeheartedly as did the major.

At this time came the story of Carthage. Few people know that Carthage is the oldest settlement in this part of the state, but the major, who keeps as close tab on the country as he does on the town, knows it, and he told about it the other day on the banks of Lynn Creek, while his brown shaggy dog watched his cork for him.

Beauregard had not yet made up his mind to fire on Fort Sumter in those days of which the major spoke. And Carthage flourished as did its namesake of old when Cato used to worry the Roman senate about the threatening aspect of its greatness.

There was a well in the center of Carthage, U.S.A., also a blacksmith shop, a store, and a few houses. Then, one day, a horse fell into that well. The good people of Carthage counseled together what to do, remove the horse or fill the well. They filled the well, and

Carthage was destroyed, destroyed as completely as its namesake on the African coastline of the Mediterranean Sea. A country road and an apple orchard now hide the new Carthage as effectually as do the sands of the desert and the shadows of Rome's ancient wrath hide Carthage of old. Ill-fated town of a new world to bear such an unlucky name and to have a citizen who owned such an unlucky horse!

The story ended about the time the major's cork went down, and no one had time to sigh for the vanished glories of any Carthage. The major landed his fish, looked at the setting sun, sighed, and prepared to go.

We drove home in the early twilight and the brown dog made friends with every big and savage dog on the way and whipped every little and fretful dog. The major gloated over the intelligence of a dog that knew enough to sit still on a creek bank and watch a cork and bark when the fish bite well.

It was a great day. Anyone who is lucky enough to win the major's favor can go to Lynn Creek with him and see table rock, and eat Aunt Sally's old Kentucky dinner, and see the plum blossoms, and hear the water sing its eternal song among the shallows, and grow young again while the major catches bull-head fish and talks philosophy as old as the stars as he sits on the banks of the creek discovered by Colonel Lynn, of old Kentucky.

And, in addition to all this, he may be favored enough of the gods to win the friendship of the shaggy brown dog.

WAR BAGS is what Mr. A. W. Warwick calls his article in the June OUTING on a new device for packing your personal outfit on camping and tramping trips. It is the result of his personal experience.

THE FINE ART OF BARRATRY

By DAVID A. WASSON

Showing that the Deliberate Wrecking of Ships Is Not so Rare a Crime as Has Been Claimed

IN October, 1909, the New York power yacht *Senta*, Captain John Albert Fish, owner, was burned to the water's edge in Long Island Sound, off New London. She was insured for \$15,000, and the underwriters paid up without complaint.

Why should they complain? Captain Fish was ostensibly a yachtsman and a gentleman, and credited with an honorable career. He had taken part in the Matabele war, fought under Lord Roberts in the Transvaal, helped defend Ladysmith, and been of the force that relieved beleaguered Mafeking. He had received a Victoria Jubilee medal for distinguished service, sailed the seven seas in ships of all kinds, written insurance on his own hook in New York. It was not for the underwriters to be suspicious.

So Captain Fish, being an ardent yachtsman and not wanting to be out of the game any longer than necessary, immediately bought from one Thomas Sloane of East Orange, N. J., a somewhat larger auxiliary schooner yacht, paying for her just \$1,500 in coin of the realm.

Exactly a year later the *Senta II* was destroyed by fire in the harbor of Edgartown, Martha's Vineyard. An oil heater was responsible for the mischief, said Captain Fish, and he dared not fight the fire because of the large amount of gasoline on board. Moreover, the fire occurred at a very inconvenient time, in the middle of the night, with a number of guests aboard. It looked as though Captain Fish was running in extremely bad luck.

But some of the guests were unkind enough to recall that the explosion of the oil heater had followed the alarm. And

just before, as it happened, Captain Fish's automobile had gone up in smoke too, and for it he had been paid \$3,500 insurance, though the car had not been an expensive one.

Thereupon the District Attorney began to prick up his ears. As a result Captain John Albert Fish, rolling-stone and soldier of fortune, instead of being paid his \$15,000 insurance on the luckless *Senta II*, was placed on trial in the United States District Court in Boston in December, 1913. As a further result a jury convicted him on January 21, 1914, though his lawyer promptly appealed the case and Fish was released on \$10,000 bail.

The offense charged against Captain Fish was not arson; it was barratry,—a word which is Greek to an astonishingly large number of intelligent people.

Barratry has been called the rarest of crimes. The mariner's profession, therefore, would seem to be the most scrupulous of all callings. His healthy, clean, open-air existence, statistics seem to agree, conduces to a wholesome view of life and consequent upright living.

It is a pretty fancy, this of an Utopia 'twixt azure sky and crystal surges. It is a shame to shatter it. But the plain truth is that barratry is the rarest of crimes only because it is the hardest of detection. The blackguard who decides to make away with a ship or her cargo at the expense of the underwriters doesn't labor under the disadvantages of his brother malefactor, who touches off his house with oil-soaked rags.

On the high seas there is no block-to-block surveillance by the police. There need be no disconcerting witnesses or incriminating accessories to pop up and spoil carefully rehearsed testimony.

There must be at most only a satisfied crew, and often the skipper can get away with it alone. Nothing is easier, for proof consult Robert Louis Stevenson. There is little doubt that numbers of vessels are wrecked deliberately each year. There is no denying that there are many shipmasters afloat who would, like Kipling's Sir Anthony Gloster, "run her or open the bilge-cocks, exactly as they are told."

But failing to prove it the underwriters must pay up, suspicious or not. Their only satisfaction may be that of the company which, as it paid a policy on an old hooker strangely cast away two days after she was insured, grimly asked "Why this delay?" Just how seriously the crime of barratry is regarded is shown by the penalty for it prescribed by the Federal statutes: "Imprisonment for life or any term of years."

Off the Course That's All

Barratry at its best is a fine art. A friend of the writer could unfold an instance of it, which would be likely to start underwriters' eyes star-like from their spheres, up-end locks *à la* fretful porcupine, and all the rest of it. But there would be little use in it all. The underwriters found nothing tangible against the owners of the vessel, and paid with as good grace as do any of their ilk who accept marine risks and lose. The writer's friend has got over the mortification of being called a good-for-nothing lubber. He has recovered from his impotent rage at being made the scapegoat. For it all happened thirty years ago.

To-day the writer's friend is a Boston business man. At that time, before this country had lost its enthusiasm for things nautical, he was cooling his adventurous young blood with a berth as able seaman aboard a trim little American bark. The bark was fully insured. They were running eastward in Long Island Sound one fine, clear, moonlight night. With a part cargo of coal aboard as ballast they were bound from New York for Boston, where they would load lumber for South America. It was the mate's watch. The writer's friend was

at the wheel. He was carefully steering the course given him by the skipper.

As time went on the course began to look queer to the young helmsman. He confided as much to the mate, who called the seaman a meddling young cub. The young cub insisted that the course wasn't right. The mate said reluctantly that he'd speak to the skipper about it. He went below, spoke to the skipper, and stayed below speaking to the skipper,—and then the bark piled up on Sow and Pigs Reef at the entrance to Vineyard Sound and was totally lost.

It was all perfectly plain; a stupid seaman had balled up the course and run her ashore. Very deplorable, of course; a fine little vessel, and all that, but one of the fortunes of seafaring; and there you are. The writer could give names and dates, but he would only bring a libel suit about his ears. In the courts everything was settled in shipshape fashion years since. So what would be the use of stirring it up again?

This was barratry at its best, but as few equally skilful and successful jobs become positively known, the innermost intricacies of their consummation can seldom be described. Instead the annals of the American merchant marine hold only the details of a few bungling attempts of the commission of the rarest crime.

The case of the little coasting schooner *E. H. Pray*, of Pembroke, Me., was a famous one, but one remarkable for its stupidity; the more so as the perpetrator was suspected, like Captain Fish, of having been a professional barrator. The late Mr. John F. Baxter, of the Baxter Wrecking Company, of New York, first saw the dismasted schooner afloat in the North River and sent a tug out to her. A wrecking pump was put aboard, and she was run ashore and partly freed of water.

Then it was found that holes had been chopped in her deck, and that her sides and bottom were bored full of auger holes. Her name and official number had been removed, and for some time her identity was a mystery. Finally an unduly talkative person turned up in the person of a disgruntled cook. It developed that Captain Melvin Clark,

who was also her owner, had brought her out from Maine with a cargo of lime; bought a worthless old schooner, the *Guide*, and transferred the *Pray's* fittings and gear into her.

One dark night they had scuttled the *Pray* in the Hudson, cargo and all. But the lime casks burst, the lime slacked, and the *Pray* came to the surface. At that the artful skipper abandoned the *Guide* and fled for parts unknown. The authorities never got him, and he is said to have died in the West lately.

Before his death he saw the error of his ways. Back in Kittery, Me., where his deserted wife lived, the natives still chuckle over the only letter she got from him, and which became public property. It ran: "I would give half what I'm worth to see you again, and the other half to know why you were fool enough to marry me." All of which the prospective barrator may reflect upon.

The master of the steamship *General Meade*, of the old Merchants' Line, no doubt thought himself a marvel of cunning and sagacity. At any rate his mode of operation was a little unusual. The *Meade*, bound from New Orleans to New York with a cargo of cotton, stranded on a Florida reef. A bargain was made with the wreckers, and after the *Meade* had been lightered of some of her cargo she came off the rocks. So little was she damaged that she proceeded to New York under her own steam, the skipper perhaps expecting to be commended for his skill in saving the big craft at all.

However, it happened that her owners had thought there was little excuse for her going ashore in the first place, still less for the expensive contract with the salvors. When the *Meade* reached port Mr. Frederick Baker, her agent and a member of the famous firm of William F. Weld & Co., boarded her just as the master was getting ready to go ashore. Once there the astute agent lured the captain to his stateroom, locked the door, and frightened him into disgorging several thousand dollars, his share of the job from the wreckers. The captain had planned to make a prompt getaway, letting the job "go hang."

Unfortunately the burden of his ras-

cality fell upon the underwriters even then. There was no proof that the skipper had run his vessel ashore intentionally, much less of criminal collusion with the wreckers. The latter argued that there was nothing wrong in giving the captain a commission, and their heavy claim for salvage was eventually recognized.

There are few people who have not heard of the case of the American brig *Marie Celeste*, which in 1872 was inexplicably abandoned in calm weather off the Azores by a crew never after heard from. Few, however, know that she ended her career many years later at the hands of the barrator.

Last Days of the Marie Celeste

On her last voyage she cleared from Boston for Port au Prince, Hayti, ostensibly with a cargo of valuable general merchandise, insured for \$30,000. When within a few miles of her destination she went ashore near Miragoane and became a total wreck. Her captain, Parker, promptly sold the cargo, sight unseen, to American Consul Mitchell, for \$500. Mitchell saved it at some trouble, but lived to wish he hadn't.

The weak line in this chain of knavery was the testimony of one of the seamen. He swore that he was steering a safe course when the captain ordered him deliberately to head for the rocks. The master's bribe of liquor failed to close his mouth; indeed caused the whole scheme to collapse.

When the underwriters' agent arrived on the scene to investigate, he found several funny things about the cargo. One case shipped as cutlery and insured for \$1,000 contained dog collars worth \$50. Barrels supposed to contain expensive liquors were full of worthless dregs, a consignment of salt fish insured \$5,000 was rotten, and other articles mentioned in the bill of lading proved to be in keeping.

Consul Mitchell, not only duped, but outlawed, stood not on the order of his going, but cleared out for the tall timber. The captain of the brig was tried in the United States District Court in Boston, convicted and sentenced to a

long term in prison, where he died three months later. The various shippers were adjudged guilty of conspiracy, and one of them, unable to bear the disgrace, committed suicide.

The man who commanded the bark *L. E. Cann* was a wily rascal, for he chose to abandon his vessel off Cape Hatteras. That dread headland is the undoing of more good ships in a year than any other on the coast, and the sinister propensities of tide and wind off its hungry sands have frightened crews of better vessels than the *Cann*. When the captain and crew reached shore in small boats they reported that the bark had sprung a leak and foundered at sea while bound from a Central American port to New York with a cargo of coffee in her hold.

But the *faux pas* in this conspiracy was that the captain miscalculated the specific gravity of hay and shavings; for the coffee bags were found to be full of these valuable commodities when the waterlogged derelict, with her bottom full of auger holes, was picked up and towed into Hampton Roads some time later. Had the master stopped to reflect that his cargo would have made a better bonfire than ballast, all would have been well.

Not Well Enough Wrecked

A man who thought his share of the swag hadn't been big enough made ducks and drakes of the brilliant scheme of a trio of confidence-men who not long ago reached a southern port in a dinghy and announced that their craft, the schooner yacht *Calliope*, had sunk sixty miles off Frying Pan Shoal, N. C., in a heavy gale. The unsuspecting underwriters dutifully paid up, but regretted it a short time later when the third member of the "shipwrecked" crew reappeared and intimated that there might have been something shady in the affair. An investigation showed the *Calliope* hauled up in a creek in Albemarle Sound. Just so near had she come to meeting an honorable and tragic end off-soundings. Incidentally, the yacht, like Captain Fish's two unfortunate craft, was insured for the

modest sum of \$15,000, while a third as much had bought her.

The Gloucester fishing schooner *Twilight*, bound home with a cargo of fish from Bay of St. Lawrence waters, sank suddenly off Beaver Harbor, Nova Scotia. Not until some time later, when she was raised, contrary to expectation, was it found that she had been scuttled by a rascally captain. Luckily the discovery was made before the insurance company paid over the \$3,000 policy, which it may be safely assumed was her full value. The *Twilight* lived long after this affair, and a few years ago, while in the coasting trade, sank with all hands in the course of a thirty-mile trip in the Bay of Fundy.

Another instance of the rarest crime in the Gloucester fleet was that furnished by the fishing schooner *Pocumtuck*. She stranded near Ship Harbor, Nova Scotia, and was abandoned to the underwriters. They condemned her and authorized the skipper to act as their agent and sell her on the spot for whatever he could get. The bereaved master, however, pocketed the small receipts of the sale and made himself scarce. From that it was an easy step to the discovery that she had been run ashore purposely. The vessel was insured for \$2,652, while her value was given as \$3,000; but there are few so unsophisticated as to believe that those concerned expected to lose \$348 in the wreck of the *Pocumtuck*.

Some five years ago the little schooner *Fortuna*, a Maine coast packet, was wrecked off Portland Harbor, her crew reaching port in the yawl-boat. They told a harrowing tale of hardship brought on by the *Fortuna's* stranding on a jagged reef while running in for shelter, and indeed the story seemed a perfectly reasonable one.

But there was one untoward occurrence, and the least of its results was that it blasted the skipper's hopes. Several weeks later the hull of the *Fortuna*, which her master had fondly believed was safely ballasted on the bottom of Casco Bay by her heavy load of dry fish, drifted ashore on Cape Cod, over a hundred miles away. Her cargo had worked out of the hold, the schooner had

come to the surface, and there was the usual discovery—her bottom was full of auger-holes.

But in case the regulation auger-hole, torch, and ran-her-ashore-purposely types of barratry begin to pall, there's another less hazardous and more gentlemanly kind. The trouble with this brand is that it takes a good while to get rich out of it, but for the skipper who doesn't care to take too big chances it is highly recommended. Be it known that barratry includes every breach of trust committed by a shipmaster.

Not a hundred years ago the three-masted schooner *Ellen M. Mitchell*—she's wrecked now and her skipper is afloat in another craft—arrived off Portsmouth Harbor, N. H., with her headsails blown away. An obliging tug-boat, and the writer was a guest aboard at the time, pulled her into port for the reasonable sum of \$5.

"Receipt me a little bill for fifty, will you, Cap?" asked the schooner man with a wink.

"I ain't doin' business that way," said the tug captain virtuously.



COOKING THE BEANS IN ADVANCE

LAST December we gave a recipe for cooking beans at home and taking them so prepared in advance into the woods or on that fishing trip. A reader in Pittsburgh, Mr. James K. Bakewell, has tried the plan and has this to say of his experiments:

"In making the experiments twenty ounces of baked pork and beans without tomato sauce were dried for twelve hours in a warm oven, with the door open to prevent cooking. This removed the moisture but not the grease, and the beans were thoroughly stirred and allowed to stand in the pantry for thirty-six hours, at the end of which time they were dry and hard and ready for use. But, to make the test more perfect, they were allowed to remain in the food-bag for four days. This drying reduced the bulk of the beans nearly one-half and the weight from twenty to eight ounces.

"These dried cooked beans may be

prepared for the table as follows: Place a half pint of the dried beans in the middle of an eighteen-inch square of cheese cloth, gather up the corners and intervening loops and tie with a piece of white string, thus forming a bag much too large for the beans. Place the bag of beans in a vessel of warm water and allow them to soak for half an hour or more.

"Remove the bag from the water, drop it into a kettle of boiling water and allow the beans to boil in the bag for ten minutes; but the water should be well salted, to restore the salt removed by the soaking. Take the bag from the kettle, open the bag and serve the beans. Or, if baked beans are desired, place the beans with a couple of pieces of boiled pork or bacon and a little hot water in a pan and bake until brown. The beans should retain their shape, and I have found them equal to if not better than beans taken directly from the can."

AT HOME WITH THE NO-SEEUMS

By A. L. WOOLDRIDGE

A Sad Tale of a Tenderfoot and the Humble but by No Means Insignificant Fly

THE next time any one comes to me and says: "Bill, I know a place where there's speckled trout so thick they'll wear you out taking them off the hook—a place where it's cool and where you can sleep at night far from the madding throng," I'm going to make business for the man who owns the glass carriage that usually heads the procession and goes slow. I'm going to demonstrate the process of self-elimination as it can be demonstrated by a man in earnest.

I had one of those alluring tales whispered in my ear during the season past—whispered at a time when the city was hot and the air sticky and humid and every one was sweltering in the fearful heat. "Pudge" Hobson sang this siren song to me, and "Pudge" and I don't speak now. If I ever get the opportunity, I'll kill him yet. He came into my office that afternoon and talked something like this:

"Bill, you owe it to yourself and to your family to take a rest. While the wife and the kiddies are down at Atlantic City, let's you and I take a little run up to the north shore of Lake Superior. We'll go to Duluth, take a boat out of there, and hit it up the Brule. You know the signs you always see in summer, 'It's Cool in Duluth!' Well, that's so, Bill. And furthermore, there's trout in the Brule River, like there ain't anywhere else in the world.

"Bob Galloway and Hank Orbison have just come back and Hank told me they caught up to the limit the law allowed each day, and caught 'em by ten o'clock in the morning. We'll get a camp outfit and a guide in Duluth and for

two weeks we'll just lay round camp and fish and smoke our pipes, and rest and read magazines and come back here feeling like different men. This town's too infernal hot for any man with moral tendencies. Let's go up where there's almost frost at night."

That's the tale this brute sang into my receptive ear. And I, untutored in the woods, listened.

"Pudge," I said, "I couldn't catch a fish in a sack, even if it was in a pan and poured out. I was never introduced to a fish in my life except at the butcher shop. I wouldn't know the manner of approach among strange fish. I wouldn't know what to say, much less what to do."

"Leave that to me," Pudge replied. "I'll teach you. I'll take you to where there's the best fishing on the known globe."

Of course, I went. I locked my desk, took my two weeks off,—the two I was to have for vacation, and "Pudge" and I climbed in a sleeper that started for the "head o' the lakes."

"Aha! Fie on thee, O busy Care!" I exulted as we drew away from the lights of the city. "Swelter, you slaves!" I shouted gleefully as we passed the pumping station by the reservoir.

"O Lordy! O whitened sin!" I think now as I reflect upon those exultations. "O idiot that I was! O 'Pudge!'"

Every time I let my thoughts return to that trip, I want to murder some one in cold blood. Mind you, what happened up on the Brule isn't Pudge's fault. Let me say right here and now in open meeting—let me rise like a fully accredited delegate from the Ninth Ward with a large white badge on my coat lapel—let me rise and pay my respects to

the Brule. It is a great fishing stream; it is so full of trout that on good days it keeps you busy taking them off the hooks, or flies, and it probably does afford as wonderful trout fishing as any stream in America.

But—and I say it with full knowledge whereof I speak. But! there are other things on the Brule which I am going to tell about, but which “Pudge” didn’t mention to me. If he had, I probably wouldn’t have been so wild to get there and eventually so wild to get away. But to continue my story:

“Pudge” and I got our camp outfit and a guide in Duluth—a half-breed Chippewa named “Jim.” He claimed to know all the good trout holes on the map, and, to tell the truth, he did. “Jim” agreed to take us to the places where the trout held mass meetings, introduce us to the most promising and influential leaders, and assist in the massacre, for \$2.50 a day. So we took him on. “Pudge” had a note to the general manager of the steamboat line, who agreed to stop the ship at the mouth of the Brule to allow us to get off, and we left the Zenith City at ten o’clock in the morning. A cool wind was blowing over the great lake and we sat for’rd to enjoy its freshness and mutually feel sorry for the fellers plugging away back home. We got into camp by night, stretched our tent, and had a good dinner cooked by our guide. Afterwards, we built a strong fire and sat around to smoke.

O! those were glorious hours! It was the first time I had felt cool and contented and tired in a month. We let “Jim” fill us up with wonderful stories of life in the Minnesota and Wisconsin woods, and sat and talked till eleven o’clock. The fire was burning low. The night birds and the night noises were lulling us into a state of drowsiness. The little waterfalls in the Brule at our feet sang songs of adventure that was to come and the night wind sighing through the pine trees made us glad of the peacefulness.

“Jim” broke the silence:

“Bring any ile?” he asked.

“I never drink,” I replied firmly.

“No! no!” he urged. “Ile for mosquitoes and No-seeums.”

I looked at “Pudge” blankly. I thought we had bought all of Duluth when we finished paying the bill for outfitting. But I guess we hadn’t. “Pudge” didn’t know anything about “ile” for mosquitoes and to buy any sort of a present for such a pest was something entirely beyond my usual manner of procedure.

“But,” I began wondering, “what are these ‘No-seeums’ that Jim speaks about?” I had never heard of such reptiles or animals, or whatever they were, before. So I turned to our guide and remarked:

“Jim, what kind of ‘ile’ do you usually bring mosquitoes, and what is a No-seeum?”

The Chippewa looked disgusted. I had tried to keep him from discerning that I was not an old timer in the woods, that I didn’t know all about nimrodding and Izaak Waltoning and other outdoor hardships. But I was willing to concede ignorance of mosquito “ile” and of No-seeums.

“Ile keep away ‘skeeters an’ No-seeums,” Jim replied.

“But what’s a ‘No-seeum?’”

“You find out ‘morrow mornin’.”

I know now what a “No-seeum” is. I learned up there on the Brule. It became a sort of packing-house product for them. I’ve tried to find out something about No-seeums in the books since I came home. The scientists who are up on bugs say that a fly is “a two-winged insect of many species”; that a flea is “a small blood-sucking insect of the genus *Pulex*, remarkable for its agility and irritating bite”; that a mosquito is “an insect of the genus *Culex*, the females of which puncture the skin of men and animals, causing great cutaneous irritation and pain”; that a gnat is “a small stinging winged insect of several species, allied to the mosquito”; that a tick is a “parasite that infests dogs, sheep and one species attacks men.” But nowhere do the books tell of the No-seeums. Hence, this definition now to be given cannot be disputed authoritatively:

“A No-seeum is a species of guerrilla gnat having two stingers in each foot and nine in the head. It carries in its flight a poisoned stiletto and a two-tined fork with which it attacks anything

that moves, doing great execution. A No-seeum is carnivorous, devoid of morals, and frequently is consigned to a hotter world than this by irate fishermen. But it has never gone."

That gives some idea of what a No-seeum is. You couldn't send through the mails what the fishermen think they are. Such language has no place in print. I remember full well that morning up on the Brule when I met up with my first one. I was rigging up my new nine-dollar fishing pole when something kicked me just beneath the left eye. A bump came up immediately.

"Pudge!" I called, "either somebody kicked me in the face or else I've been shot."

Pudge came to my side and started to look at the wound when he suddenly ducked his head and staggered backward.

"What'd you do that for?" he asked, turning red in the face.

"Do what?"

"Stick me with your knife!"

"I didn't touch you, sir. I wouldn't strike a friend, especially with one of my lamps going to the bad."

"Well, look at my forehead. I guess that bump just took root and came up like a mushroom, all of its own accord, eh!"

"Honest, Pudge, I didn't touch you. I had called to you to come look at me when——"

I clapped my left hand onto my right, dropping my nine-dollar fishpole, reel and all, and wheeled around to glare at Jim. The halfbreed was cleaning up the breakfast dishes, his hands immersed in a pan of water. I knew he couldn't have thrown anything at us. A grin was on his face, however, and we suspected him.

"Jim," I said gravely, "I can enjoy a practical joke as well as anyone and I'll stand for anything within the bounds of reason. But if I catch you up to any more of your medicine-man tricks, I'll throw you in the river."

"'Smatter with eye?" Jim asked, looking at my swollen optic.

"That's what I say," I retorted. "What is the matter? Did you throw something?"

"Huh! No!" Jim replied. "No-seeum git yo'."

The truth was out. Running loose, right there in those woods were some sort of flying devils, armed with forks, sabres, stiletos and cutlasses, and war had been declared.

"How can you tell when they're going to call?" I asked of Jim.

"Feel 'em."

"Don't they say anything, send in a card, remark about the weather, or do anything of that sort? How can you tell 'em when you see 'em?"

"No-seeum," said Jim bluntly.

We stood there blindly fighting imaginary spots in the air. Every now and then Pudge would let out a howl and clap a hand to some part of his head or start suddenly rubbing his wrist. It all became ludicrous. By the time the sun was up good and warm, we were leaning up against trees, our hands in our pockets to keep them from being eaten off or stung off, whichever the No-seeums were up to.

"I dare you," I said to "Pudge," "to take your hands out of your pockets and go fishing."

"You go to Texas!" Pudge replied hotly. "I'd give a twenty dollar bill for a bottle of that 'ile' Jim tells about."

The half-breed was still grinning.

The No-seeums apparently looked on him as a hardened character, because they didn't seem to bother about him at all. Suddenly Pudge shouted:

"Bring the gun! Quick!"

"What is it?" we asked breathlessly.

"I just saw mine! I hit at 'im but missed, and he's dancin' away there just out o' my reach."

A respite from the bandits came a little while later and we got to the river to fish. The trout were literally eating the flies alive, too, that morning. Yet, for every strike we got from a trout, we received two kicks or bites or stings from the No-seeums, and I never spent a more miserable, perspiring forenoon in all my life. Along about sundown that evening, the No-seeums withdrew for rest. Unquestionably, they had put in a hard day. Then Pudge and I surveyed each other. His face looked as though it had been painted, then put up by the fire to dry, as

it was all puffed out in spots. He said I looked like a punctured pneumatic tire.

But there we were, up against it. I have never taken a vacation in a nest of hornets, but if anyone gives me the choice of them or the No-seeums, the hornets for mine! There is this advantage, that no self-respecting hornet will come and insert his stinger in your cuticle, causing that "cutaneous irritation" the bug-men tell about, without letting himself be seen. He isn't that kind of a bee. We were wondering what we should do to relieve the situation, when Jim said:

"Me make ile 'morrow mornin' dat keep away No-seeums. Yo' go sleep an' no worry."

Honest, we wanted to fall on his neck. Any man who could make an "ile" that would keep those marauders off of us, was entitled to first prize, or else the gold watch or sack of flour. The pleasure of having some annointment on us that was too much for the No-seeums would be worth any kind of money. We slept that night with all the confidence in the world in Wonderful Jim—our guide.

Early next morning, before time for the bugs to be moving, I got out and walked up the river about a mile. I wanted to feel the dew on the grass and I wanted the air to cool my puckered face. I wanted to meditate upon what a good time I was having. I thought of Bob Galloway and Hank Orbison back at home, probably spending their evenings at Munchauenhause's garden with mugs of that beverage which has foam on top, sitting before them, while a band played and cabaret dancers made merry. Then I thought of myself up on the Brule with a half-breed Chippewa, Pudge Hobson, and the No-seeums. I sat down at the side of a little waterfall and watched the trout leap for flies.

It was glorious there in the early a. m., before the No-seeums got to work. I hated to go back to camp, but an innate habit of eating food acquired in the early part of my life drove me back. I loitered on the way, picking wild berries and watching the squirrels jump about in the trees. About a quarter of a mile from the tent, I met Pudge coming after me. I noticed that his face

and hands were covered with a yellowish substance of some kind, and I remarked:

"Got some arnica?"

"Arnica, nothin'!" Pudge replied. "That's some of Jim's 'ile.'"

He came closer and I got a smell of something that was awful. Pudge being to the windward, I instantly surmised that the smell came from him and from the stuff Jim had smeared on him. I've smelled glue factories when the weather was hot, have sniffed limburger when it seemed at the point of disintegration, and have been near escaping acetylene gas, but those odors were as fragrance from lilies of the valley compared with what Jim had handed to Pudge.

"Go way!" I yelled. "Go bury yourself! Go fall in the lake! Jim's put up an awful trick on you."

"No, no," Pudge expostulated, following me toward camp. "That's the stuff that keeps the No-seeums away."

"They got nothing on me," I replied. "It'll keep me away, too. Until you go wash, don't come near me."

As I entered camp, Jim started toward me with an empty can and a swab made from a stick and a piece of cheesecloth. I grabbed up a stick of wood and turned.

"You just dare poke that swab at me and I'll break every bone in your head," I essayed. "I got a wife and family back East and I want to go home some time. If I went back with that smell fastened to me, they wouldn't let me in."

"It wear off," Jim assured me.

"Not off of me, it won't," I retorted, "cause you're not going to get it on me."

And he didn't. All that day I fought No-seeums while Pudge went about with his odor and was not molested. I noticed at dinnertime, however, that Pudge was a little pale around the ears and he remarked that he guessed he'd not put any more on next morning.

I promptly offered prayer.

That night I took a blanket and slept out on the ground to be away from Pudge, and next morning I caught a boat back to Duluth. Pudge came on in

the afternoon after the tent was packed. We paid Jim for full two weeks' work and went to a doctor for a prescription. The medical man wouldn't let Jim come in, but I got the recipe for insect bites while Pudge got a bath. On the way home I told him of the delightful time I'd had on the vacation trip he planned for me and of how I hoped to be able to do as much for him some day. Pudge got peeved and we hardly spoke to each other by the time we got

back home. I haven't seen him since.

We found the fishing on the Brule all it was said to be. There's trout there till you can't rest. And anyone who is curious can go find No-seeums in the same locality. Other fellers have been there who were not bothered at all. It may be that we got there on Homecoming Week or while a national campaign was on, but at any rate we got there when the No-seeums were not away on visits.

SQUAW WOOD

By C. L. GILMAN

*Camp-Fires Are Made of Wood, and the Woods Are Full of It,
but There Are Ways and Ways of Gathering It*

FINDING firewood for wood fires in the wooden woods would seem to be a simple matter. Yet only last summer a party made up of university professors sent an embassy of two in a canoe, through the rain, across three-quarters of a mile of northwoods lake to the landing of The Man from Tennessee to negotiate for fuel.

He admits that he thought they were kidding him, and declares that his small son, sent to the cabin for his gun, was half-way back before he realized that they were in earnest. In all gravity, avers this transplanted mountaineer, these collegians explained to him that the timber where they were camped had been wet by the rain and that, unless he should confer some dry wood from his shed upon them they were like to suffer both cold and hunger.

Personally, I believe every word of this story, for I've seen some few examples of how foolish folks can act about wood myself. More than once I've watched some man born, raised, and grown gray in the woods shoulder a five-pound, double-bit ax and go surging through the underbrush in quest of a suitable stub on which to display his prowess—and I've kindled a fire, got the

pot boiling, and laid by enough wood to get breakfast from the lot he broke off and trampled into convenient lengths on his way. Were it not that I don't wish to seem to exaggerate I would say that they have "busted off" enough for a lunch fire also, but desiring to keep strictly within the facts, I'll merely play the bet for supper and breakfast.

Then, on the other hand, there's a camp site across the river from the shack where transient Indians have played one-night stands since time out of memory, where they camp yet, on the average of one party a week while the canoeing lasts. There is at least one fire to each of these encampments.

Yet from no single one of them have I ever heard the unmistakable whang of an ax cleaving wood. The squaws go out and get it with their hands—and they don't wear gloves to do it, either.

The female of the Ojibway species may be neither lovely to look upon nor brilliant in conversation, but as a hewer of wood, with the hewing left out, she is absolutely and entirely there.

Rotten pine logs, so soft they disintegrate at the kick of a moccasined toe, yield her fat pine knots, fair nuggets of resin. She shoves over the popple saplings which have been drying since Wau-

bose, the rabbit, girdled them during last winter's starving time, and breaks them across her knee. She can spot the dead branch hanging low on the spruce or jack-pine, and kept dry in the wettest rain by the living branches above it, as far as the average tenderfoot can see the tree. She knows that any progressive alder clump produces a half-dozen finished sticks of dry firewood a season. She's onto the virtues of birch bark for kindling like a boy scout. And she's a willing worker when it comes to dragging windfalls and driftwood to where they can furnish a solid night fire.

"Squaw wood" the progressive lumber jack who essays the rôle of a guide in the summer-time calls her plunder in high disdain. And the trustful tenderfoot, who regards him as a sort of cross between the late esteemed Nathaniel Bumpo and the well-known D. Boone, likewise snorts, spits on his hands, and slams his ax against a rock.

Much has been written, sometimes in prose and sometimes in rhyme, and always knee-deep in sweet, sticky sentiment, about The Woodsman's Ax. But the fact remains that the durned thing weighs from two to six pounds all the time, raises blisters most of the time, and lops off a foot or two once in so often.

It is a vital article of equipment for the man who must chop new portages across virgin country in summer or provide chunks for the camp stove in winter. But in a country of trails, in the summer-time, a little study of "squaw wood" will enable one to eke out a fairly comfortable existence without it.

Unlike a stove, and the habitual ax-man always thinks in terms of "stove lengths," a camp-fire is not particular about the size or shape of the wood it burns. Anything light and loose enough to handle and dry enough to burn impresses it as fuel.

With the brittle sticks which can be broken across the knee for the cooking flame almost every camper is familiar.

Nor are those slightly heavier pieces which must be "busted over a rock" strangers to ordinary camp routine.

But the cooking fire is only the beginning of the possibilities of "squaw wood." Drag in two wind-felled logs, logs as heavy as two men can handle, and cross them over the cooking fire when supper is done. By the time the dishes are washed the fire will have cut them into four logs. Cross these four logs over the fire, and by the time the good-night pipes are smoked they have become eight heavy chunks. And eight heavy chunks, stacked on the coals, will cast a warm glow into the opened tent-front all night and leave enough embers to kindle the breakfast fire.

Not all windfalls can be handled thus. Some, like one which figured through three days of a November camp in the snow, can only be handled to where one end rests in the fire and must be pulled farther in as that burns off. In fact, so wide a field for the exercise of judgment and ingenuity does reliance on "squaw wood" afford that its use might almost be classed as a sport by itself.

The habit of using "squaw wood" is one which grows. Or rather, one who practises it at all so rapidly develops skill in discovering wood which requires no modification by the ax that he quickly, though imperceptibly, loses interest in that tool.

First he leaves it sticking in a stump. Next he neglects to take its muzzle off. Finally, he leaves it at home, along with the cook stove, and goes rambling off through a snowstorm to camp with his pack lighter by the difference in weight between a one-pound tomahawk and a five-pound ax. He'll use the tomahawk to carve the bacon, blaze trails, drive tent-pegs, cut pot-hangers, and dismount his gun.

But when he wants fuel for his fire he'll stretch out his bare hands and take what he needs from the forest's bounty of "squaw wood."

Early in June England and America meet again in polo.
Read the June OUTING and you will find an answer
to the question, What makes polo the greatest game of all?

THE TOP-NOTCH OF OUTDOOR PHOTOGRAPHY

By R. P. HOLLAND

ILLUSTRATED WITH PHOTOGRAPHS

WE have published many articles dealing with the art of outdoor photography. We have presented many photographs showing what can be done. If our luck holds we expect to publish many more. But we would call especial attention to the article which follows. It is the work of a man who is at once an amateur with pen and camera. This is said in a spirit of highest praise for the world holds no more admirable person than the gifted amateur. Mr. Holland approached the game first from the standpoint of the sportsman. His first hunting was with the gun, and he is still far from being a deserter from the ranks of the devotees of the double barrel. But he has found a pleasure in the camera like none that comes to him from the gun. The two games supplement each other—save that that of the camera is a much more difficult art.

THESE are no game laws for the man that hunts with a kodak. Most of us have read this several times in our lives, and those of us who always read the advertisement section of the magazines before we undertake the magazine proper have become very familiar with it indeed. This is meant solely to catch the eye of the big-game hunter, and we always associate it with such. The first thing most people think of when wild game photography is mentioned is an inquisitive looking deer with ears cocked forward toward the camera, standing out in bold relief against an inky black background. There may also be a few pure white tree trunks in the picture, but for that matter the deer in these pictures generally has white antlers, so why not white brush, trees, and boulders.

Haven't we all read about the flash-light game until we feel thoroughly competent to go out with flash gun and jacklight and do the trick ourselves?

In all big game photography the trick is to find the game, then get close enough to take the picture. The taking of the picture itself is a minor detail. But when a man goes out to take pictures of birds, especially on the wing, he will find that the difficult part is not to find the birds but the taking of the picture. And as for getting your subject close, you have the big game camera hunter shoved clear off the map. You must have Mr. Bird where you can almost reach out and touch him if you want a real good picture.

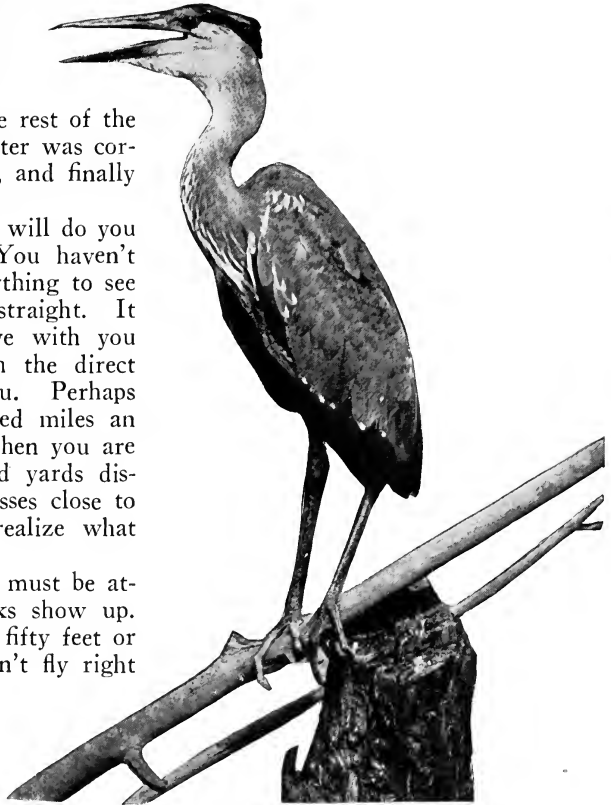
Most any duck-hunter would be glad to take you and your camera along on a duck hunt where the ducks are thick. You can sit and watch them go by flock after flock. They are in range for the shotgun, for your friend is killing them, but they are too far for you. If they are thirty yards or over they will only make specks on your film, so you might as well hold your fire. Then when you have about decided to risk a long shot anyway, a flock of spoonbills will whip by you out over the weeds, scarcely fifty

feet away, and a pair of mallards trailing them will nearly knock your head off. You shoot with your noiseless gun, and wonder all the rest of the day if the speed of the shutter was correct, if the focus was right, and finally if you hit them.

Only a direct view finder will do you any good at this game. You haven't time to look down into anything to see if your machine is steered straight. It takes all the eyes you have with you to see those ducks through the direct finder as they whiz by you. Perhaps they are traveling a hundred miles an hour. That isn't so fast when you are a spectator from a hundred yards distance, but when a duck passes close to you, going his best, you realize what speed is.

All such matters as focus must be attended to before your ducks show up. Set your focus for forty or fifty feet or closer, and if the ducks don't fly right for you, that is your misfortune. You can't change your focus at the last minute, because your game will not wait for you. As for shutter speed, the faster the better. It reminds one of the old duck-hunter who advised the beginner "to shoot ahead of 'em; if you miss 'em, shoot farther ahead of 'em; if you still fail to connect, shoot still farther ahead of 'em." That's the way with the shutter business. It must be fast, the faster the better.

I believe it is impossible to get any results with a shutter that works slower than 1/300 of a second. And at this speed a duck would have to be going very slow or the wings would be sure to blur. The shutter that I have had the best success with works up to 1/2000 of a second and I have taken good sharp pictures with it wound up to the last notch. However, this speed, unless the light is very strong, will always give thin negatives, and I find it more satisfactory to work at between 1/1000 and 1/1500 of a second on ducks and geese and birds that attain a high rate of speed. Of course the diaphragm must



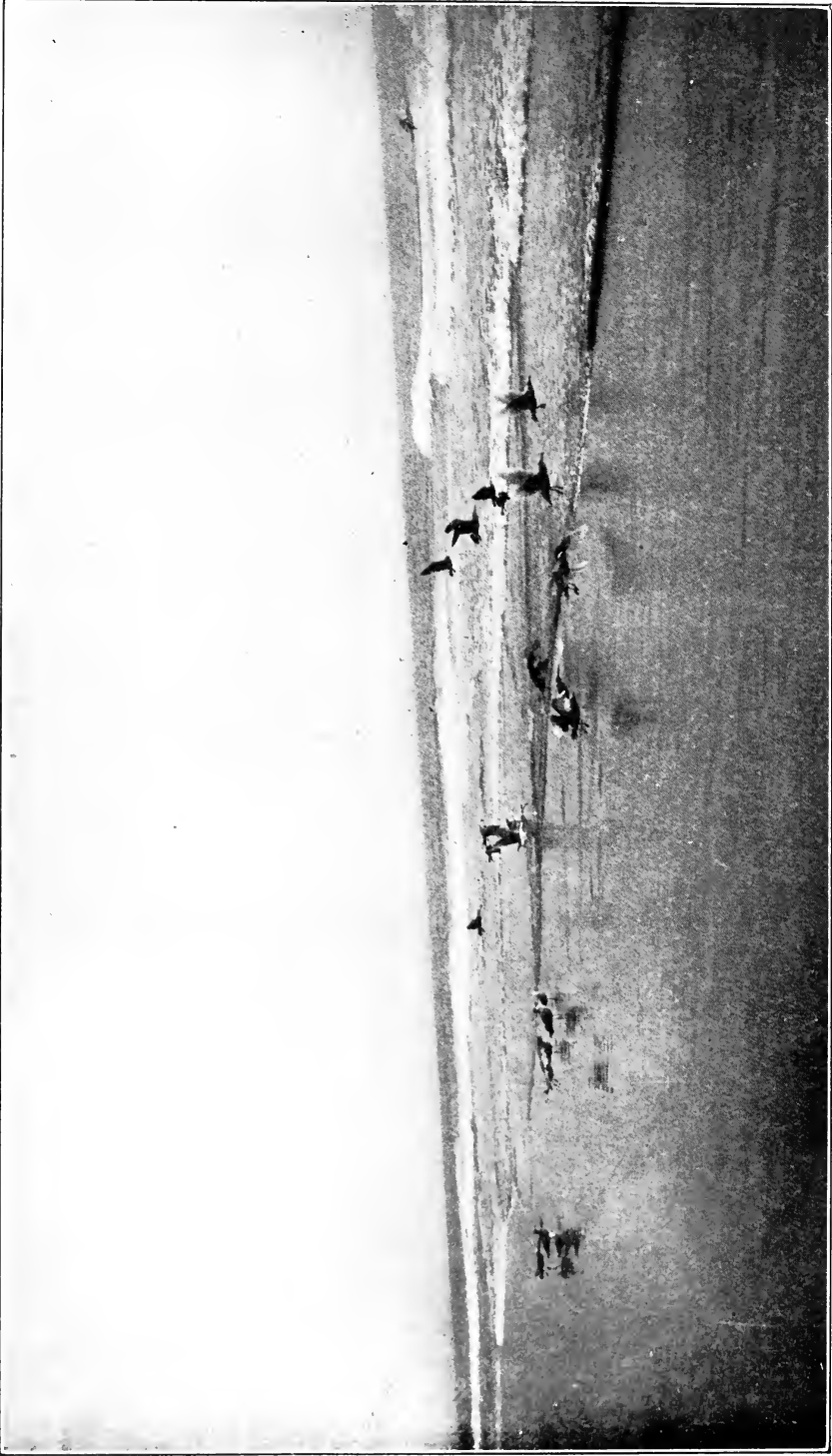
Photograph by Robert Rockwell

THE GREAT BLUE HERON TELLS THE PHOTOGRAPHER WHAT HE THINKS OF HIM

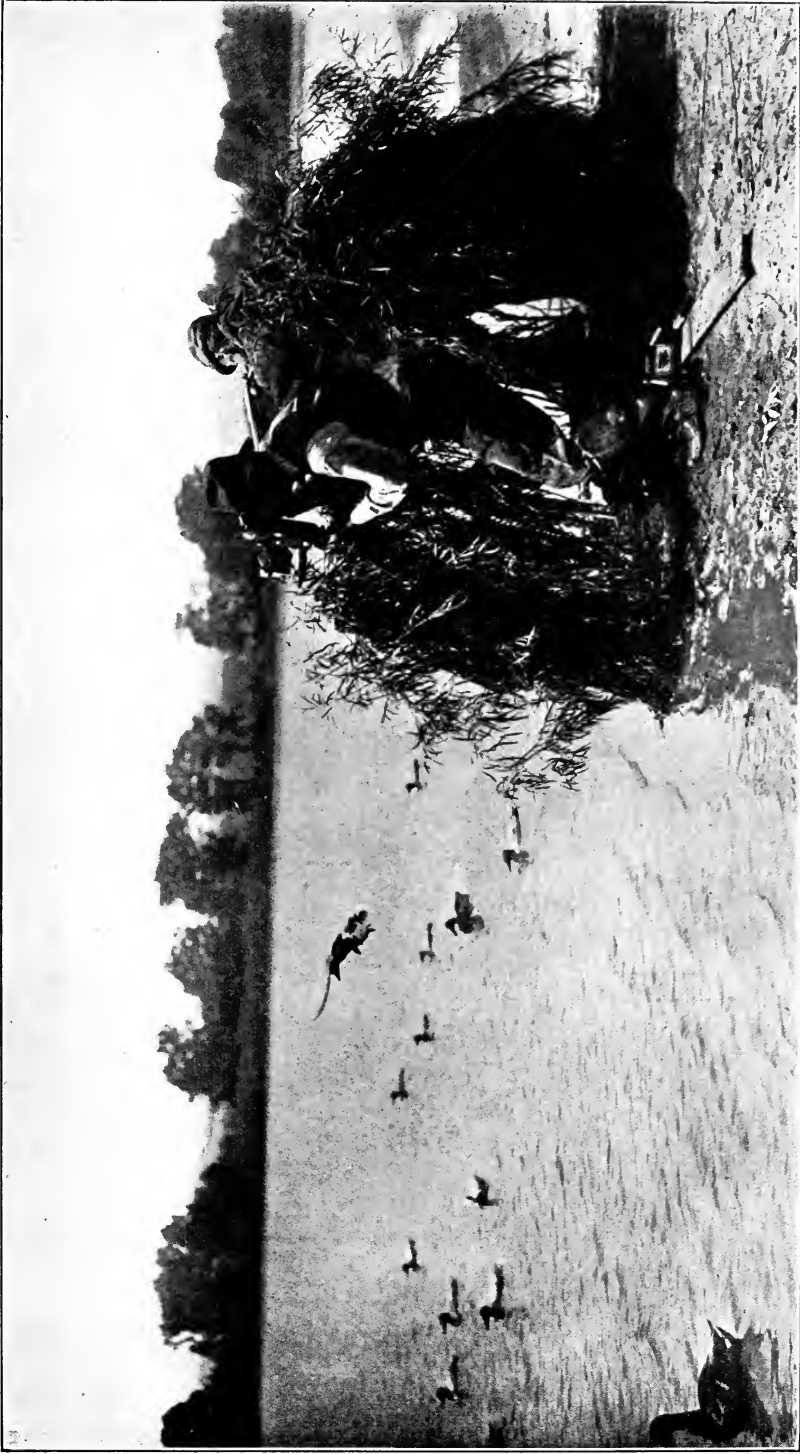
be wide open or nearly so on all speed work.

Regarding lenses, any standard make will do; nearly every crank swears by one particular kind, in which case the others are nil. I have this failing myself. Necessarily the lens must be fast or it would be useless with a high speed shutter. One thing the bird-hunter must make up his mind to is that he will develop many and many a negative that will go direct to the waste-basket. But when he gets something, he is sure to have something that the other fellow would like to have. That's the reason it's so much fun, so seldom is it that you get a good one.

This isn't the first time the camera has broken into the duck-hunting game, we all know that. Who hasn't seen the picture of some noble hunter with dead ducks hung all over him, his trusty



YOU CAN WALK WITHIN FIVE OR TEN PACES OF THEM BEFORE THEY FLY



Photograph by Hal Low

SHOWING THAT GUN AND CAMERA CAN WORK TOGETHER IN PERFECT HARMONY



SINGLES WILL OFTEN PASS NOT TWENTY FEET DISTANT

weapon in his right hand, while the left supports more dead ducks or maybe a goose. These fellows generally have a grin on their faces that would do credit to the proverbial Cheshire. Occasionally one of these pictures slips by and gets into print under the title of "The AUTHOR and his day's bag." Can the camera be put to a worse use than in photographing several dozen dead ducks, quail, or grouse, strung on the person of the butcher himself?

Even the camera fiend whose hobby is landscape and scenery must admit that a touch of life adds to any picture. Then why not, when next you take a pretty water scene, arrange with a flock of ducks or even a pair, so that they appear in the foreground of the picture? Try it and see how much it adds to the already beautiful picture. Is there a man living who can let a flock of ducks or geese pass over him in flight, without stopping and watching them on their way? When a bunch of waterfowl spring from a roadside pond, is it the ducks you see or the cat-tails and rushes reflected in the splashing water? Whether you are a hunter or not you can't help watching the ducks as they circle off, absolutely blind to the most beautiful of scenery that may be beneath them. It's the same way with the photographs. Your friends will see the

game first no matter how pretty the picture as a whole may be.

Should you intend to take up speed photography, gulls or pigeons make the finest kind of practice material, gulls especially as you also will get pictures worth saving, where in the case of the pigeons it is practice pure and simple—learning your machine and to hit your game. If you have an ocean handy, go down along the surf and shoot gulls to your hearts content. You can often walk within five or ten paces of them before they fly. Then the singles trading back and forth will often pass directly over you not twenty feet distant.

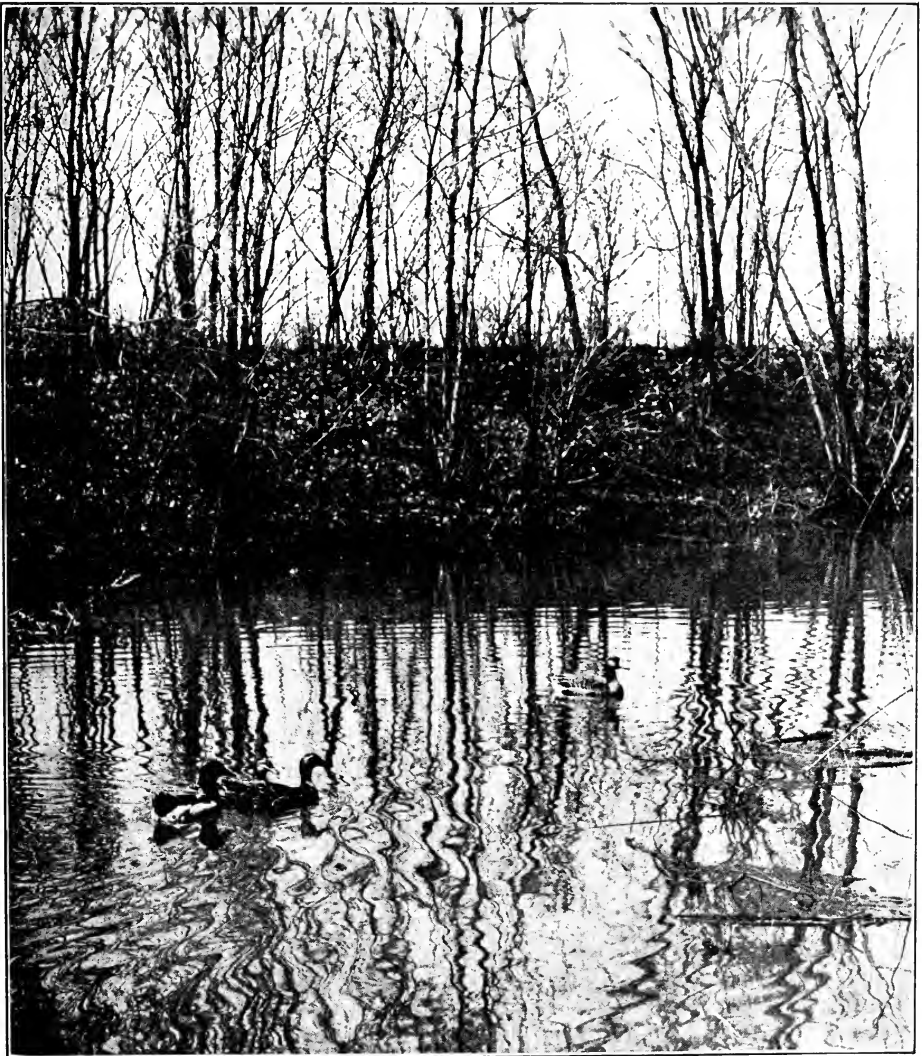
After you have become proficient on the gulls, speed up your shutter and go after the ducks. Don't forget that the ducks will travel a great deal faster than the gulls, and that you must be absolutely hidden or they will not come near you. When they do come right, shoot at them. Do not be discouraged if when you develop you have nothing. It is like most everything else in this world, the old game of solitaire not excluded; if you keep trying you will win.

When it comes to taking pictures of ducks sitting still on the water, I can not tell you much about it. I have tried it often enough but have only one really good picture to show for my trouble.

This though I am sure of: When you become proficient enough at sneaking to slip up on ducks or geese, in water open enough to photograph them, you are a past master at the art. When you can do that you can go up in the north woods, and slip up on deer and hogtie them before they know you are around. I am not talking about tame wild ducks in preserves, but the real out-and-out wild duck. He can not smell you, but the chances are he will see or hear you. Then again it is only once in a hundred times he will light where it is possible

to take his picture. When the chance comes, go for it for all you're worth.

One morning I saw a white fronted goose light in a river slough. Knowing every inch of the slough bank, I decided that this was an opportunity to take Mr. Goose with the camera, in place of the shotgun. After about fifteen minutes of the most careful crawling, which seemed like an hour, I reached the edge of the high bank with no brush between me and my game. Do not think I mean the "hands and knees" variety of crawling, far from it.



I POTTED ALL FOUR WITH ONE SHOT

What I had to do was to get down flat and "snake" it up to the edge. On the trip I passed several little depressions that might have been termed damp.

To things like this you must do as the old darky said, "pay no mind." I was all set and just ready to shoot when with a splash three mallards, two hens and a drake, lit right down in front of me. There was no skill about this, just

little birds she will hatch out of them. Get a long release cord for your camera, so that you will be able to shoot from some distance away from the nest.

In addition to this get a black box that somewhat resembles your machine. With this box get your bird accustomed to seeing the camera around near the nest, moving it closer and closer until you get it as close as you think neces-



A TOUCH OF LIFE ADDS TO ANY PICTURE

plain luck. They looked carefully around to see if everything was all right and started to swim upstream toward the goose. As I pressed the trigger, I saw the feather rise on the back of the old drake's neck for he had seen me, and the next second they were all above the threetops. Little did he realize that he had moved too late, for I had potted all four of them with one shot.

Another game you can play with the camera and the birds, is to photograph setting birds while on the nest. This, while a great deal easier, is very interesting and a great many valuable pictures can be obtained. One should always go about this carefully so as not to annoy the old bird too much, or you might cause her to desert her nest and eggs. If you are careful though you should have no fear, for you will find that the mother bird thinks almost as much of those eggs as she will of the

sary. Spread the brush away from the front of the nest in order to secure an unobstructed view, change your box for your camera, and all you have to do is to wait somewhere in the brush near by for the old bird to return to her nest; then press the button. Of course when you pull the brush from around the nest you will frighten the bird away, but I have seen birds that would allow you to get your machine, after the picture had been taken, without leaving the nest.

When you have graduated from all the above then go out and try to photograph some member of the heron or crane family without the use of the nest. The best picture I ever saw of this kind was taken by Mr. Robert B. Rockwell of Denver, Colo., and is produced herewith (page 193). Those who are familiar with the herons and cranes know that of all the birds these

are perhaps the hardest to approach. Therefore this picture of the great blue heron is a masterpiece. These birds are often very methodical in their habits. For instance if they are feeding in a certain river slough, they will have a certain place where they will invariably light when first coming in from a distant flight. Or if they have a nest near by, they will always light some distance away before going to the nest.

The thing to do is to locate this spot as nearly as possible and then work the black box scheme, leaving it around for days until your quarry becomes accustomed to seeing it. When you think the time is ripe, trade your camera for the box and be sure your string and your-

most your own distance, and many beautiful pictures can be obtained, showing the bird houses with the martins perched on top while others are hovering around. On these birds you can cut your stop down and make longer exposures, getting wonderful detail, for pictures of birds in flight.

Should you ever take up this game, you will soon become a faithful convert. It is interesting. The camera will show you many things that the eye cannot see. Most of us think we have pretty good eyesight, but if we were told that a duck's wing in flight moved so fast we could not see it, we would immediately ask for proof. The camera will give this proof. Watch a flock of

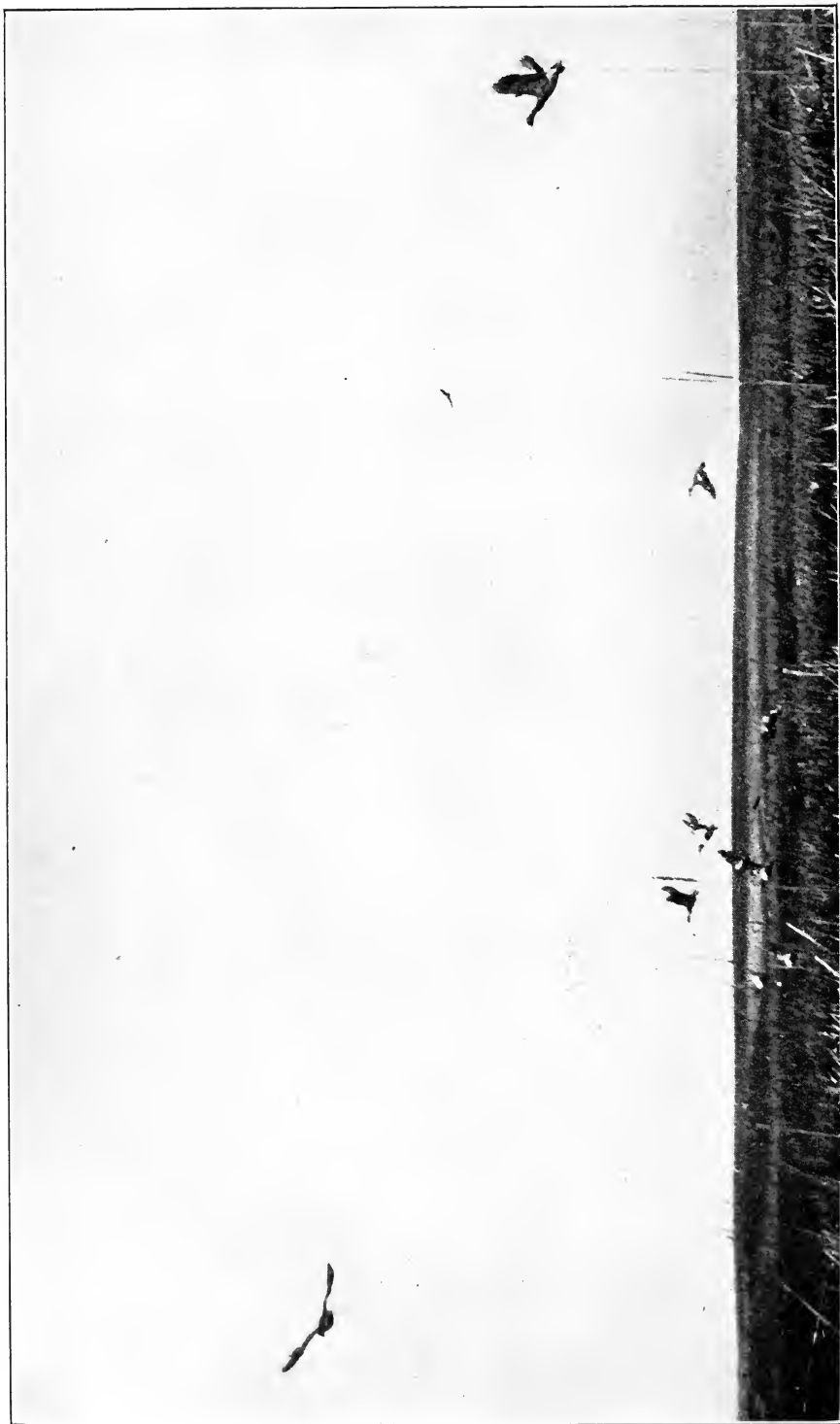


BLACK-HEADED GROSBEAK ON NEST

self are well hidden, before Mr. Heron shows up. Then be quiet, do not even bat an eye, for you can gamble he will see you if such a thing is possible. Personally I have never photographed any of these birds while they were at rest, but Mr. Rockwell has the proof that it can be done.

Another place where you can use your speed camera to good advantage is around a colony of purple martins. These birds will allow you to get al-

teal, blue bills, or any fast flying ducks, and you will swear that their wings are almost stationary, seeming only to flutter or vibrate at the tips. At best we can see only a half stroke. Photograph this same flock of ducks and you will find one duck with his wings all but touching beneath his body, while perhaps the first duck in the flock ahead of him will have both wings straight up, parallel above him. Another will have one wing straight up and the other straight down,



A FLOCK OF SPOONBILLS WHIP OUT OVER THE WEEDS

flying, you might say, on his side with his breast toward you. No matter how good your eyesight you can not see these things.

There is no better time than the present spring to try this new game of speed photography. Since Uncle Sam has decided to protect all migratory birds on their spring migrations, we will find the marsh that once accommodated a dozen or more guns free to the camera hunter. In place of the sharp crack of nitro powder, our ducks this year will be met only with the click of the shutter, to

remind them that man is still after them. Undoubtedly the presence of the camera man on the marsh will help enforce the law, for it's going to be a big job. Were the marsh deserted entirely, some natural born lawbreaker would slip out and shoot a time or two, and maybe get away with it a time or two. The protection of the ducks and geese on their northern journey is one of the biggest jobs Uncle Sam ever tackled, but we believe, and sincerely hope, that our Uncle is big enough for the job that he has taken on his shoulders.



GATHERING IN BAIT AT NIGHT

IT is out of the experience of many men that the great art of angling has been developed to its present pitch. And the developing process is not yet finished. Every now and then some new tip comes drifting in from the outer world to which this magazine goes.

For example, Mr. W. R. Wilmot, of Detroit, sends us this bit of information which should be welcomed by the many fishermen to whom the catching of bait is the most toilsome and least agreeable part of the fishing trip. We give it in his own words.

"I went spearing one night with a party of four and found we could get only one boat. We had a couple of small incandescent flashlights with us and two of the party took the boat and went spearing while the other two of us walked down to the bank of the lake

and discovered that by holding the flashlight directly on one spot on the water and throwing small pebbles in about the center of where the light hit the water, minnows of all sizes congregated there.

"In fact, by leaving it there for a very few minutes, and at intervals throwing in the pebbles, the larger minnows would come in to drive out the smaller ones. It looked as though they thought there was something to eat. Since that time we have never had any trouble in getting minnows in the evening in a very few minutes. Take a net anywhere along the bank of the lake, drop it in, and hold the spotlight in the center of it, and throw the pebbles in as mentioned before, and you will be able to get a bucketful at any time, which, as you know, is a mighty difficult thing to do at times on most any lake."

GRASSHOPPER FISHING FOR TROUT

By O. W. SMITH

PHOTOGRAPHS BY THE AUTHOR

A Method of Circumventing the Finical Midsummer Trout without Violating the Sacred Angling Conventions

DID you ever go trout fishing along toward the last of July or the first of August, when those hot, enervating, lifeless days arrive, "Dog Days" I think they call them, and trout refuse to rise to the fuzzy wuzzy lures, no matter how adroitly handled? No? "You never went fly-fishing without securing a catch?" Well, I can only say without intent to insult, that you are a better fisherman or a greater liar than I, and I am something of both.

I have more than a modicum of skill with the fly-tying implements and fly-rods, yet I have seen days when trout absolutely refused to rise to my lures. Perhaps conditions are otherwise in broad and deep wilderness streams, but in our much fished brooklets when "Dog Days" arrive and streams dwindle to mere threads of liquid silver, trout become unimaginably wary, fleeing for shelter to overhanging bank and deep pool at the first sound of approaching feet. If one succeeds in reaching the stream's bank without alarming this shyest of all shy fish, the midsummer trout, he will see them lying in the shallows, heads pointed upstream, almost motionless, perhaps dreaming. Attempt to cast a fly and at the first shadow of approaching lure, presto, the open water is fishless.

Last August I was fishing one of the most famed streams in the Middle West, for a generation the mecca of fly-fishermen. Some evil genius timed my visit so that I reached the stream, as my friend

Pat would say, "At the height of low water." Trout were there, plenty of them; great lusty fellows, but rise they would not. Some forty rods or so from our tent was a broad and deep pool with white sand shallows at the upper end. Time and again I crawled through the grass and peeped out, always I would see three great fish, great for that stream, lying just above the deep water. To cast, standing so near the water's edge was of course to frighten the fish, but it made no difference if I cast from a distance, the result was the same—a silent retreat upon the part of the fish.

One day, having wormed my way to a vantage-point from which I could watch the pool, I lay and waited for the particular fly to happen along, for I have always held that if trout do not take what the fisherman offers it is because he does not offer what they will take. While I waited, a grasshopper, one of those medium-sized, red-legged fellows, came adventuring through the grass, evidently to investigate my motionless hand. Watching him out of the tail of my eye, while my attention was fixed upon the surface of the pool, I said to myself, "If that hoppergrass comes within reach of my fingers, I'll snap him into kingdom come." So I doubled my business finger and continued to wait.

That small cousin of the mule did come within snapping distance and I let loose the finger that knows how to send a carrom ring five times across the board. Plump into the pool went Mr. Grasshopper. More trout than I supposed the whole stream sheltered went after



I MUCH PREFER TO FISH DOWN STREAM WHETHER FOLLOWING THE BANK
OR WADING

that luckless gymnast and for a few seconds the surface of the water was a moil and turmoil of expectant and disappointed fish. I held the key of the situation.

For years I have been a lover of 'hopper fishing, and have had many a bitter quarrel over its legitimacy with purist fly artists. I knew just what I wanted in the way of tackle and hurried back to camp. I selected my lightest rod, a three and a half ounce fairy wand, and an aluminum reel. My line was a regulation double tapered enameled, to the end of which I fastened a three foot leader and No. 6 sprout hook. Next came the hunt for the right grasshoppers for bait.

Now I am particular as to what sort of grasshopper I use, believing that the trout are more particular. I have found, when it comes to trout fishing, that not all grasshoppers that hop are 'hoppers. During my entomological days in college I learned that most of our grasshoppers were true locusts, and when I use 'hoppers for trout bait, it is a locust and not a grasshopper that turns the

trick. I pass by the green, soft-bodied insects, true grasshoppers; also I never look a second time at the great, dry-winged brown fellows, locusts, but it is a medium-sized, moist brown-bodied fellow, almost luscious in appearance, that I select. Those particular 'hoppers are common, only desire a supply and they are uncommonly hard to get. At least I secured an even dozen, foolish to set out with less, which I confined in my drinking cup for want of a better receptacle, and made my way back toward the pool.

When within extreme casting distance I paused to bait up. I thrust the hook through the insect's "breastplate" and up out of the head, so pinning head to body as it were. (The hook's barb holds better in the head than elsewhere.) With so willowy a rod, built for casting power, a long throw is an easy matter. I sent the hopper through the air, standing so that I cast with the wind. "Blump!" "Bang!" In grasshopper fishing as in fly angling, the cast and strike must be closely related, or nine times out of ten the result will be the same.

One can not well strike too soon when trout are feeding on 'hoppers.

It is not my purpose to tell you of that first battle, it would be impossible to do it justice. Once the fish was hooked I walked boldly up to the pool and played him where I could observe his every rush and cute scheme. My capture happened to be a rainbow, a more resourceful fish than our native charr, but backed up by the perfect action of my rod I was able to vanquish him in due time, a pound and a half fish. I was morally certain it was not the large fish I had seen "sunning" himself, but of course the fishing was off for the time, so far as that particular pool was concerned.

Shouting to my daughter, who had

given up trout fishing in disgust, to try the pool with 'hoppers after it had "rested," I set out down-stream.

In fishing with grasshoppers I much prefer to fish down-stream whether following the bank or wading; somehow I can give the insect a more natural motion when the 'hopper is going away from me, than I can when it is approaching, as is the case if one fishes upstream. Another point in favor of down-stream fishing is that one can make his way more quietly than when fighting the current, no mean advantage when trout are shy. As to which of the two methods to follow, bank or stream fishing, the character of the particular creek must determine, but always the secret of success is care, quietness, and skill. Do

not for a moment think there is little skill required in 'hopper fishing, you can employ all the finesse of the accomplished fly fisher and then some.

Where the current sets back under overhanging willows or alders, your trout-sense informs you that the ceaseless action of the water has mined out no inconsiderable hole, the home of many a fine fish. The question is how to attract the attention of those mighty leviathans with your grasshopper, an animated floating fly. 'Hopper fishing as I practise it is always surface fishing; no shotted and sunken bait for me. When I come to such a place as I have described I often toss my 'hopper upon the brush just above the pool and wait until all disturbance of the water is over, then gently twitch the 'hopper to the surface. The rise is instant and fierce. The fish must be pulled from his refuge at once by sheer strength of rod, or else the battle will not be to the strong.

If you think good tackle and good judgment are not



THE RISE IS INSTANT AND THE FISH MUST BE PULLED FROM HIS REFUGE AT ONCE BY MAIN STRENGTH OF ROD



YOU CANNOT CONVINCE ME THAT LIGHT TACKLE AND GRASSHOPPERS TRANSFORM ME INTO A PLUGGER

required for such practises, you have another think coming.

The same tactics can be employed in meadow fishing. Instead of casting into the water, just cast upon the far bank and wait until the fish have forgotten all about the shadow of the line, then gently pull the grasshopper into the water and see what happens. The scheme can be worked in bank fishing as well, just cast clean across the stream.

Upon the particular day of which I write, a strange and amusing thing happened. I had reached a place where the stream spread out and made its rather sluggish way through a bit of marshland, the rank grasses, golden rods and black-eyed susans standing well above my head on either bank. Thinking that the bend below offered a pretty good opportunity for fly fishing, I stuck my rod under my arm and opened my fly book to select a fly, allowing the 'hopper to float away upon the current. While studying the pages of my "Essay on Silence," a trout darted out from beneath the downhanging grass and swallowed the 'hopper. A more surprised disciple of Father Izaak never creeled an adventitious fish.

In due time I found myself with ten trout, all of them good ones, and as ten was my limit for a day's fishing, perforce shouldered my rod and made my way campward, quite certain that my daughter would have one of those trout from the first pool, but I was not altogether prepared for what I found. She not only had the daddy of those first trout, a speckled monster, but fifteen fine fish taken from pools above and below! Verily grasshopper fishing for trout is a success when wet fly, dry fly and deeply sunken fly fails.

Just a concluding word regarding outfit. I carried my bait in a collapsible cup because I did not have a more convenient receptacle with me; but there are many better contrivances for that especial purpose. Probably the best is what is known as the "hopper-coop," a simple tin box with sliding cover. I have one and could not ask for a better, were it not made of metal—metal draws the sun, therefore the insects die quickly.

One can make a good "hopper-coop" out of an ordinary cigar box, one that is handy and will keep the 'hoppers alive

for some time. The bags with a wire gauze bottom are not as convenient as the "hopper-coop." Let the tackle be of the same quality used in fly fishing, rod as light as you dare use, other tackle to preserve the unities, and you have an outfit of which you need not be ashamed.

As to the sportsmanship argument, I will say nothing, for if you do not agree with me, anything I might say would not change your opinion a hair's breadth. To my way of thinking, the difference between a sportsman and a plugger is something deeper and finer than a mere matter of feathers or 'hoppers. I have seen pluggers fishing with flies, and I have seen true sportsmen using so unorthodox a bait as worms. You can not

convince me that light tackle and grasshoppers for bait transform me into a plugger. Many the "whale" I have lured from the stream whose every rapid and pool is as familiar ground to me as is the main street of my home city.

If the water is low and the trout apparently few as well as impossibly shy, try 'hopper fishing with your expert fly tackle, employing all the skill and finesse of which you are capable; see if it will not return "net results" and discover for yourself that one may handle bait with fly-fishing tools as though it were not bait. That is the secret of successful 'hopper fishing, handling the gymnastic insects as though they were the most expensive of English dry flies.

TRAP-SHOOTING ON THE HOUSE TOP



Photo by J. F. Lloyd, N. Y.

FIRING SQUAD IN ACTION ON THE ROOF OF THE GRAND CENTRAL PALACE

IF the office worker can't go to the traps then the traps must come to the worker. That is the reasoning that is behind the plan to conduct trap shooting on the roof of the Grand Central Palace, twelve stories above the street, in the center of New York City. The plan was tried first during the recent Sportsman's Show and was a complete success. On one day over a hundred separate shooters competed and over fifty thousand birds were broken during the week. Then, the reasoning ran, if they will do this for a week, why not for a month, a year? So a permanent open club has been established where anyone may find admission for a nominal

fee with the customary charges for birds and ammunition. A sheet steel back-ground has been set up to catch the shot and stop the unbroken birds. Groups of shooters who wish to reserve the traps for certain hours will have that privilege and it is expected that inter-club shoots will be arranged with this rooftop serving as neutral grounds. Certain times will be set apart for beginners who wish instruction and professionals will be on hand to teach the inside arts of the game. The whole effort is to place trap-shooting as close as possible to the shooter. The situation is comparable to that of a billiard-room, used for an hour or two of relaxation in the afternoon.

WOODCRAFT TIPS WORTH KNOWING

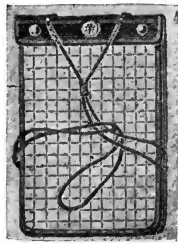
By HORACE KEPHART

Something About All Sorts of Things from Tents for Mountaineers to Fly Dope

TENTS FOR MOUNTAINEERING.—To my mind the Hudson Bay pattern is best. It is easier to set up than other kinds of enclosed tents, since it requires less pegs in proportion to size. When supported by a rope stretched from tree to tree, its ridge does not sag like that of an *A* tent. Where poles must be used to support it they need not be long nor straight. It can be warmed by a fire in front, or be closed securely against insects, smoke, and driving storms. It is staunch in a blow, no matter how the wind whips around. It sheds snow better than most forms of tents. Finally, this is the lightest of all enclosed tents of a given size and material.

MAP CASES.—Large-scale maps, such as the U. S. Geological Survey's topographical sheets, must be cut up into sections, and either mounted on cloth in such way as to fold without breaking, or left separate and numbered. If mounted, the map is soon soiled. It is likely to be ruined if you open it in a rainstorm, which may be the very time when you will need it most. Anyway, the humid air of the wilds is apt to loosen the map from its cloth backing.

A better way is to use what the French call a *liseur de cartes*, such as is issued to army officers. There are many models and sizes, from the simplest to quite elaborate ones, but all are alike in principle. The one shown in the accompanying illustration measures 16x24 cm. (about $6\frac{1}{4}\times 9\frac{1}{2}$ inches) and retails at six francs (\$1.20). It consists of a



LISEUR, OR
MAP CASE

rear pocket roomy enough to contain many map sections, and one in front, faced with transparent celluloid, for the particular section in use at the time. In this way there is no risk of the map being soiled, or torn, or blown away, or injured by rain. The celluloid front is ruled in little squares of 12 mm., by which distances can be read according to the scale of the map.

I presume similar map cases are used in our army. They would be convenient for sportsmen and explorers; but none of our outfitters lists them. For us, of course, the squares should be ruled in fractions (say quarters) of an inch.

EDIBLE WILD PLANTS.—Some of my correspondence is amusing. A nature student, having read the chapter on "Edible Plants of the Wilderness," in my "Camping and Woodcraft," wrote to inquire whether I "had any personal experience in eating any of these plants." How he could suspect I had not is hard to imagine, unless he was misled by my citations of authorities here and there, and inferred that the whole thing was cribbed. Whenever I make use of other people's discoveries or original ideas it is a point of honor with me to give credit where credit is due (a practice, by the way, that some other writers might well follow). However, during the many years that I have lived in the woods I

have tested a great variety of wild "roots and yarbs"—tried them in my own stomach; otherwise I would not have written a line on the subject. Here is one example, taken from my notebook under date of May 10, 1910, at which time I was boarding with a native family on upper Deep Creek, Swain County, North Carolina:

"Mrs. Barnett to-day cooked us a mess of greens of her own picking. It was an *olla podrida* consisting of (1) lamb's quarters, (2) poke shoots, (3) sheep sorrel, (4) dock, (5) plantain, (6) young tops of "volunteer" potatoes, (7) wild mustard, (8) cow pepper. All of these ingredients were boiled together in the same pot, with a slice of pork, and the resulting "wild salat," as she called it, was good. This is the first time I ever heard of anyone eating potato tops; but a hearty trial of them has proved that the tops of young Irish potatoes, like the young shoots of poke, are wholesome and of good flavor, whereas the mature tops of both plants are poisonous."

The plant here named cow pepper resembles toothwort (*Dentaria diphylla*), but bears a yellow instead of a white flower, and develops a "bur."

LEMONADE TABLETS.—My reference to "Wyeth's lemonade tablets" in "Camping and Woodcraft" was an error in name. Wyeth does not make such a thing. Another firm—the same that makes the well-known tabloid tea—puts up citric acid in tablet form. This is used by travelers where acid fruits cannot be obtained. Citric is the acid to which lemons and limes owe their sourness. It is prepared from them by chemical treatment and crystallization. Observe that it is only the concentrated "sour" of the lemon, lacking all other flavor. A real lemonade tablet could be prepared by adding a little oil of lemon.

An effervescent drink may be made by dissolving citric acid in water, sweetening to taste, and then adding sodium bicarbonate (common baking soda) in double the weight of the acid; but this partially or wholly neutralizes the acid and defeats its purpose, which is to correct a too greasy or starchy diet. If one

can carry fresh lemons or limes, they are better than any substitute; but when he cannot a vial of the acid crystals or tabloids is a pleasant and wholesome addition to the food supply, and it weighs next to nothing.

FUELS.—In enumerating the woods that will scarcely burn at all when green, I inadvertently omitted basswood, cucumber, white pine, black pine, and various other pines that have a watery sap instead of an oily or resinous sap like that of yellow pine. Among the first-class fuels I somehow skipped white oak, perhaps just because it is so well known to everybody. I also failed to note white oak as one of the best woods for splits to be used in basket making, for camp brooms, etc. Select a straight-grained sapling, cut in lengths wanted, rive these into strips as wide as desired, then, with a knife, split these strips bastard (along the rings of growth) to the proper thickness. Of course, this must be done in spring or summer, when the sap is up. The inner bark of white oak makes fair cordage.

TEA, COFFEE, AND TOBACCO SUBSTITUTES.—Governor Brown of Georgia once said that the Confederates, in wartime, got more satisfaction out of goldenrod flowers than out of any other makeshift for coffee. "Take the bloom," he directed, "dry it, and boil to an extract" (meaning tincture). A favorite "tea" was dittany.

One of my friends in the Smokies, who went through this period of storm and stress and knows all about its privations, assures me that the best substitute for smoking tobacco is to go, in winter, to one of those white oak trees on which the leaves dry tight to the twig without falling (there are many such in this region); gather the leaves, and smoke them. He affirms positively that they satisfy one's craving for tobacco. I have not tried it.

HACKS AND BLAZES.—The age of a hack or blaze in a marked tree is determined by chopping out a billet of the wood containing the mark and counting the annular rings of growth from bot-

tom of scar outward, allowing one year for each ring. In counting annular growth, some begin with the first soft lamina (porous part of year's growth), jumping the first hard layer, to the second lamina, and so on. It is more accurate to count the hard strata, for the following reasons: Soft laminæ are formed in the spring, when the sap is rising. If a hack is made at that time it may not show until a hard ring forms over it the next fall or winter, when the sap is down. If the season has been very dry, there may be two runs of sap, hence a double soft ring that year. A mark made in wood when the sap is down (after the fall of leaves) can have its age determined very positively, but if made when the fresh sap is up it may be hard to say whether the mark goes through that year's growth or only to it.

On some kinds of trees, if a blaze goes through to the sap wood, the scar on the bark is hard to identify as an ax mark, because the wood, in growing, spreads it.

The age of an ax mark is hard to determine in birch, and impossible in tupelo or winged elm.

A blaze on a frozen tree makes a bad wound.

A mark on the sheltered side of a tree does not look nearly so old as one opposite, because moisture accumulated makes the bark rot off from the weather side.

Blazes on chestnut, tulip poplar, young white oak, many locusts, and some other trees, are not apt to be permanent because these trees shed their bark more or less and do not retain marks so well as beech, black birch, Spanish oak, mountain oak, and other close-barked trees. Bark that scales does not hold moss.

SURVEYORS' MARKS.—Surveyors are careful to space their marks more uniformly than hunters and trappers and loggers. They cut rather square into the tree, at right angles, so that the weather may not wear away the marks nor the tree become diseased and so obliterate them.

The old states of the East and South were surveyed before there were any Government regulations for such work, and had methods of their own for marking lines and corners, varying from place

to place. In the rougher regions such work was likely to be slipshod. Old-time surveyors in the mountains often ran lines that were winding, because they had no flagmen to keep the line straight. It was difficult to keep sight marks. Measurements often were inaccurate. The chain was likely to go too low up a ridge and too high in crossing hollows. Mere surface surveying was practised over logs, rocks, etc. Chains were intentionally made over-length to allow for this.

The practice of measuring by half-chains in rough country led to many errors of counting, by dropping a link, and so on. Few of the old surveyors were careful about variations of the compass. In fact, I have known backwoods surveyors of the present day who were ignorant of the change in magnetic meridian.

FLY DOPES.—Nearly all fly dopes are shotgun prescriptions—if one ingredient misses, another may hit, is the principle. Here is a new one, absolutely unique, that I got from a drug manufacturer: "If the hands and face are anointed with antiseptoil to which a few drops of oil of cedar or oil of lavender have been added, calcium sulphide, in large doses, being taken *internally*, black flies, gnats, and mosquitoes will not prove troublesome."

Antiseptoil is sold ready-made, but there is no secret about its formula:

Camphor	gr. 2/3
Menthol	gr. 2/3
Carbolic Acid.....	gr. 2/3
Thymol Iodide.....	gr. 2/3
With oil tar, cassia and eucalyptus q. s., in a purified vegetable oil vehicle.	

This, of course, is a healing application for wounds and inflamed surfaces. The cedar or lavender is added because insects seek their prey by the sense of smell alone, and the oils here mentioned are repugnant to them.

But calcium sulphide internally! Here is where novelty roars (nay, smells to heaven). This drug is a remedy for various ailments; but the point here is that, when taken in full doses, calcium sulphide imparts to the breath, skin, and secretions a strong odor of sulphuretted hydrogen! It's like eating onions,—if one fellow in camp uses it, everybody must follow suit.

HOW TO OVERHAUL YOUR AUTOMOBILE

By STILLMAN TAYLOR

*Follow These Directions and You Can Save Garage Charges and
Keep Your Car in Good Condition*

THE modern motor-car is a particularly well-designed and constructed machine, but, like any complicated and high-speed mechanism, it demands a certain amount of systematic attention and care to keep it in good running condition. To neglect the car in any way is certain to impair its condition, shorten its period of usefulness, and cause a marked depreciation in its value. Although the automobile should be given a thorough examination at frequent intervals to determine the actual condition of the several parts, this periodical attention must necessarily be more or less superficial when the car is in constant use, and once a year, before the touring season opens, the entire mechanism should be given a complete overhauling. That this annual cleaning may be a thorough one, practically the entire car must be taken apart, cleaned, lubricated, and readjusted. To do this in a workmanlike manner requires some little time, and the "man on the job" must expect to perform a certain amount of manual labor, unless the services of a handy man are secured.

It is partly on this account that the work of overhauling is generally turned over to the garage, yet if the autoist elects to do the work himself there is no reason why he cannot and do it well, incidentally saving enough money to buy a set of new shoes. Indeed, there is no better opportunity for the driver to familiarize himself with the many parts which enter into the construction of his machine, and to a person having a liking for machinery the hours devoted to overhauling will be assuredly time well spent.

Providing the car has been given ordinary good care while in use, it should be in pretty fair shape, and as there will probably be no particular need for expert labor, the average man will encounter no difficulty in knocking down and assembling his machine with his own kit of tools.

To avoid confusion and mixing up of the component parts (there are about fourteen hundred parts in the modern car) the amateur mechanic should undertake the job in a methodical manner. Do not fall into the common error and unscrew every convenient bolt and screw in sight, but take one unit apart at a time. Before beginning work call up your merchant and have him bring up a number of wooden boxes of various sizes. These will be found most convenient for holding the numerous small parts as they are taken apart, and there should be enough boxes of ample size to hold all the parts of each unit separately. If this is done it will prevent confusion when the car is re-assembled and effectively obviate the mixing up of bolts and screws of one unit with another. For the same good reason it is desirable to finish cleaning one part before taking down the next unit, and the cleaning should be thoroughly done, not rushing the job "à la contract," but taking plenty of time to do everything well.

Though the principle of construction is the same in all cars, there are, however, many modifications and variations met with in cars of different makes, and the exact procedure of "knocking down" and assembling varies somewhat in different models. It is the mission of this article to cover the most important points in a

general way and if any special information is wanted the autoist should consult the instruction-book supplied by the maker of his particular car.

For the sake of convenience, it will be well to first remove the body from the chassis and support the frame on strong horses, or by blocking up if no horses are at hand. When the latter method is resorted to care should be taken that the blocking is built up firmly, lest it suddenly collapse and let the frame fall to the floor. This may be avoided by arranging the blocking in the form of a crib or hollow square, by placing two blocks on the floor and laying two more upon them at right angles, finishing up with a couple of smaller blocks at the top.

Getting at the Power Plant

After the body, wheels, and fenders have been removed, and the frame is propped up solidly at both ends, the power plant is naturally the first consideration. Although one may begin with any part of the car, the engine, by reason of its greater importance, is generally the first unit to be attended to. Commencing with the motor, the first step is to strip the engine of lubricator, carburetor, pump, wiring, spark plugs, inlet and exhaust manifolds, magneto, outside oil leads, fuel, water-pipes, and their connections. In taking off the exhaust manifold it is unnecessary at this stage of the work to remove the exhaust piping and muffler. Disconnect and free the engine by unscrewing the union at the manifold end.

In taking apart spark and throttle rods and other parts about which some doubt may be felt as to their exact relative positions, a check mark made with punch or file should be made on both parts. This is a much surer way than to trust to memory, and if this system is followed in taking apart the entire car much labor will be saved when the work of assembling is attempted. The magneto should be removed from the engine but not taken apart. When the motor is completely stripped the lower half of the crank-case should be removed.

In the garage, where help is always

within call, it is the custom with most repair men to uncouple the big ends of the connecting rods and to lift the pistons and cylinders off together. This is not practicable in the case of a one-man job, as the combined weight of pistons and cylinder castings is too much for one man, unless a portable hoist or crane is at hand. The best way is to remove the holding-down bolts which fasten the cylinder to the upper half of the crank-case and lift the cylinder off the piston. When the motor is cast *en bloc* the weight of the casting is considerable and the assistance of a helper will be required, or a tackle hoist may be rigged to do the trick for you.

Most cars nowadays are made with cylinders cast separately or in pairs of twos and threes, and they may be easily lifted by one man standing astride the frame. To prevent the possibility of straining and springing the crank-shaft and connecting rods, the castings should be lifted up and pulled off with the pistons in an upright position. The pistons and their connecting rods may then be removed by uncoupling the big ends to free them from the crank-shaft. Each piston should be marked with file or punch, that they may be assembled in their respective cylinders. This is important to observe, otherwise the compression of your motor will likely fall off to a very noticeable extent.

The cylinders should now be wiped clean on the outside and either soaked in a bucket of kerosene, or the inlet and exhaust ports and spark-plug openings plugged with corks or tightly fitted wads of waste, and filled with kerosene to remove the old oil and soften the carbon deposit. If the inside walls are found to be badly encrusted with carbon, this must be removed, either by scraping or by the use of a solvent. A convenient tool adapted for this work may be had of the dealer, or an improvised tool may be made by turning over the end of an old half-round file and grinding the edge sharp. Many motorists are now using one of the several carbon removers so largely advertised, and while the writer has not given these preparations a thorough trial, much is said in their favor. As is well known, kerosene is a good

solvent, and will soften and remove all ordinary deposits of charred oil.

This done, the pistons should be examined, and if the rings show signs of wear they should be replaced with new ones. If the rings fit tightly in their grooves and the rubbing surfaces are smooth and bright, they will probably require only a good cleaning. A small bristle brush (such as is used in the kitchen to scrub vegetables) will come in handy for cleaning bolts and screws and other small parts. The piston or wrist-pin should be examined, and, if loose, the set-screw which secures it in place should be tightened. If looseness is the result of wear, a new piston-pin will be necessary.

It is important that the piston-pin be a good tight fit, and as most cars are fitted with some kind of an anchoring arrangement, trouble of this kind is not so prevalent as formerly. A loose pin is a source of danger, as it is likely to work out beyond the face of the piston and so score and cut the soft iron walls of the cylinder.

After the several pistons have been thoroughly cleaned and the rings snapped back into place, the valves may be attended to. It will probably be found that the valve gear is in good shape, and requires only to be cleaned. The entire valve-operating mechanism may be readily removed by unscrewing the plates fastened to the upper part of the crank-case. Although the large majority of American cars make use of the roller plunger rod, some few are equipped with steel balls, and a very few still cling to the older-fashioned solid-steel heads working against the steel cam. All of the devices seem to perform their functions remarkably well, and as the balls, rollers, and pins are made from special hardened steel it is seldom necessary to replace them because of wear.

For valve-grinding one may use any of the abrasives put up for this purpose, or employ powdered glass, carborundum, pumice, or emery as preferred. All are in use and give satisfaction; but whatever grinding medium is selected the motorist should make it a point to procure only the finest grades. A coarse, gritty abrasive is altogether unsuited for

valve grinding, and it will be found impossible to do a good job with the coarser grades. The object of valve grinding is primarily to remove the carbon and pit marks due to excessive heat, and while it is advantageous to first dress off the face of a badly pitted valve with a flat single-cut file, this preliminary smoothing up must be followed with the usual grinding with emery.

A valve which has been properly ground in will show a bright ring of polished steel over the entire bevel face and seat, and it should be practically free from score marks and scratches. High compression can only be secured by keeping the valves and their seats clean and bright, and in view of its importance the motorist should not slight this part of the work, but take ample time to do it well. To grind in the valves, put a little of the fine emery or other abrasive in a tin cover, add a teaspoonful or two of kerosene to make a fluid-like paste, then add a few drops of heavy lubricating oil to give the mixture a little more body and prevent it from running too freely. Smear a little of this on the bevel face of the valve and also on its seat, and rotate the valve by inserting the blade of a screwdriver in the slot in the valve-head.

Grinding the Valves

A screwdriver having a smooth, round handle is preferable, and the grinding is most easily done by rotating the handle between the palms. That the grinding may be uniform, the valve should be given a dozen or so turns in one direction, then lifted up and rotated in the opposite direction, repeating this alternate grinding and lifting until the surface of both valve and seat is smooth and bright. All the valves should be ground in after this manner, and when all have been attended to the valves and seats should be wiped off with gasoline to remove all trace of the grinding compound.

In case the stem of the valve is found to be warped or worn thin near the head, the damaged valve should be replaced with a new one, which must be ground-in in the same way as outlined above.

Valve springs should also be tested and replaced where required. The springs of the exhaust valves are far more likely to lose their elasticity or "set," owing to their being subjected to the extreme heat of the exploded gases.

Before the cam-shafts can be taken out it will be necessary to remove the radiator. This is easily accomplished, as it is only necessary to unscrew the bolts which fasten it down to the frame. It is a good plan to remove the fly-wheel also, as the bearings may be more readily adjusted if the crank-shaft is free and light. The cover which encloses the timing gears may now be removed, and the cam-shafts taken out of the opening. It is the practice of present-day manufacturers to mark the proper meshing point of the gears by means of punch marks on the crank-shaft, cam-shaft and magneto driving gears.

These meshing points or timing marks are sometimes designated by letters, but are often indicated by a single punch mark, one being on the tooth and the other straddling the two teeth in which the first should mesh. In case the timing is not indicated on the cam-shaft of your motor, these check marks should be made with a punch before the gears are disturbed. If this is done, considerable trouble will be saved when the motor is assembled, as the timing of the valves must be correct if the marked teeth are assembled to mesh in the proper indicated positions. The cam-shafts will probably only require cleaning, but in the event that the cams are considerably worn, a new cam will be needed. If the cam-shaft is of the integral type, a new piece of metal will have to be welded on to build up the damaged part. Repairs of this nature can only be properly made by expert workmen, and the factory is the proper place for doing the work well.

Clutches of the multiple-disc design may be removed as a unit by simply taking off the cover of the clutch-case, disconnecting the clamps connecting clutch with transmission shaft, and unscrewing the bolts fastening the two clutch members. In some cars using clutches of the cone type it will be necessary to disconnect the rear dust-pan and remove the

set-screw which secures the sleeve to the universal joint, which may now be moved forward. The radius and brake rods must also be disconnected, which will allow the transmission to be moved backwards in its yoke, and the tumble shaft will drop out. Drive the universal coupling off the clutch hub, detach the side links, and remove the ball race and clutch spring. The cap screws which fasten the clutch ring to the fly-wheel are now readily removed, and the entire clutch may be taken out.

In other makes of cars which the writer has overhauled the clutch is most easily taken down by removing the pedal shaft, the central member of the clutch coupling, the nuts holding clutch shaft, and the spring nuts and springs. The exact manner of taking down the clutch varies with different cars, but if the coupling shaft which connects the clutch shifting sleeve is first uncoupled, there is generally sufficient room between clutch and gear-box to take the clutch apart.

Making the Clutch Work Better

In case the leather face of the cone clutch is in good condition, with the exception that it is worn down so as to expose the rivets, much additional service may be had by resetting the heads of the rivets below the surface. A cone clutch which takes hold with a "ferce" grip may often be remedied by resetting the rivets. If the leather is dry and the action harsh, give it a couple of dressings of castor oil.

In case the main or crank-shaft bearings have considerable play, this looseness must be taken up. In many motors this adjustment is effected by means of shims or thin strips of metal, which are inserted between the bearings to allow for natural wear. When adjusting the bearings it may be necessary to remove one or perhaps two of these shims from each side of the bearing. After the shims are removed the nuts should be tightened, and the bearings will be found to fit closer to its shaft. Though a bearing should fit snugly and without undue play, it must not be set up so tight as to bind and pinch the shaft, and where the

metal shims are found too thick to make the proper adjustment the insertion of paper shims will often do the trick.

When the center and rear bearings are mounted in disks, adjustment is made by wedges lying on top of the caps. These wedges are provided with two nuts, and it is only necessary to turn up the nuts until the play or looseness is taken up. The crank-pin bearings are generally provided with brass or copper shims, and one or more may be removed and the nuts set up to make a proper fit. Care should be taken not to pinch the bearing, lest the cap be bent and thus bind the shaft.

Owing to the fact that almost all motors are provided with annular ball bearings, it is not likely that the change-speed gear will require anything further than a thorough cleaning. If the gears are found to be badly worn at their edges through improper gear shifting, the injured gears should be replaced with new ones ordered from the manufacturer. Where the transmission is mounted as a separate unit, the removal of the cover will expose the mechanism, and the box should be raised off and filled with kerosene to remove the old lubricant and any grit that may be held in suspension in the old oil.

In the floating type of rear axle—which is most widely used in modern cars—the differential may be taken down without difficulty. After the rear axle shaft, hub cap, driving clutch, and wheels have been taken off, the axle-shafts should be partly withdrawn from their protecting tubes. The removal of the top case gives access to the differential housing cap screws, which hold the differential gears in position. Removing these screws (generally six in number) the bevel driving gear roller bearing must be taken out to make room for the removal of the assembled differential gears. The live rear axle and differential gears seldom give trouble if kept clean and supplied with suitable lubricant.

In case any great amount of play is found in the bevel driving gears, the looseness between the crown and bevel pinions may be taken up by adjusting the gears to mesh closer with each other.

This adjustment requires good judgment, since a very slight change in the position of the two gears is likely to increase the friction in transmitting power to the wheels, and the inexperienced should consult a competent automobile man in case the differential requires adjustment. The oil in the housing should be drawn off and washed out with kerosene, opening the drain plug provided for this purpose, and then filling up with the proper quantity of oil or light grease recommended.

The mechanical oiler or pump should be taken apart and thoroughly cleaned out with kerosene or gasoline to remove the old oil. The oil pipes and leads should likewise be cleaned out by forcing a gun or two of gasoline through them. Where a sight feed is fitted to the dash, this should be taken apart, cleaned, and the glasses washed out with gasoline.

Looking After the Wheels

The axles and bearings of each wheel should be cleaned with kerosene or gasoline. The roller or ball bearings will probably be in good condition, but if found otherwise the damaged part must be removed. The tires should be removed, the rims cleaned of any rust that may have accumulated, and the metal sandpapered smooth. Further rusting may be prevented by either painting the rims with a couple of coats of black enamel, or by the application of beeswax, melted and applied with a brush.

The brakes should be taken down and well cleaned and examined for possible wear. If the frictional lining or expander shoes are worn to any extent, these should be renewed. Toggle joints and all adjusting bolts and screws should be attended to and any looseness taken up. The brake-lever and foot-pedal should be examined to ascertain if they have the proper amount of travel required for efficient braking. The adjustment of the brakes should, however, be left until the car is assembled, and as the maximum braking power applied by the equalizing bar can only be secured if both brakes are adjusted as nearly alike as possible, this important matter can only be properly determined to a

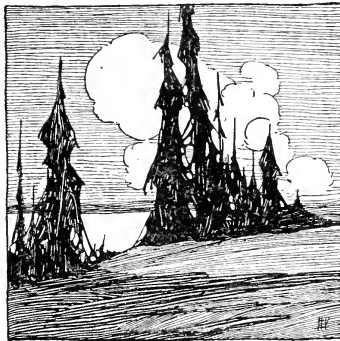
nicety while the car is driven on the road.

As the tires are by far the most expensive item in the maintenance of a car, the matter of shoes and tubes should be given careful attention. After removing them the tires should be cleaned of any adhering mud and the inside brushed out to remove the old chalk. The tread should be examined for cuts and holes, which should be cleaned with gasoline to remove the dirt, and then sealed with rubber solution. Large cuts can only be properly repaired by vulcanizing. The motorist should make it a point to repair all cuts and punctures in the shoes at once, thus preventing the entrance of dirt and moisture. If this is promptly attended to, sand blisters and mud boils will be done away with and the life of the tire will be considerably lengthened.

As soon as the tread begins to show

signs of excessive wear, the worn shoes should be removed from the wheels and sent to the factory to be retreaded, after which they will be good for many hundred additional miles of travel. When laying up the car, the shoes should be cleaned and wiped dry and stored in a cool, dark place. The tires should never be allowed to bear the weight of the car while in the garage for any extended period, and although the car may be idle but for two or three days it is a good plan to jack up the axles to keep the weight off the tires. Tubes should be tested for leaks, and after being repaired should be folded flat with the valves upmost and secured with wide rubber bands (old tubes make the best and strongest rubber bands). Talcum powder or soapstone should be liberally used inside the shoes and sprinkled freely in the folds when folding up the tubes.

Vanderbilt University is in Nashville, Tennessee. Likewise it is a college with a short but entirely honorable athletic record. If you don't believe it read the article on Vanderbilt by Henry Jay Case in the June OUTING



THE UNCERTAIN TEMPER OF WILD ANIMALS

By BEN BURBRIDGE

Cases Which Show That You Never Can Be Sure What Your Big Game Will Do

IN my wanderings in remote places prying into the haunts of wild animals, from the jaguar inhabited fastnesses of Mexico to the dark Alaskan forests, where lives the great brown bear, and into the depths of Africa's wilds, I have found no fixed rule worth recording as to what any wild beast will do under stress of pain, excitement, or anger.

Indeed it is because the wearers of those much coveted horns and pelts are so prone to do the opposite to the stereotyped line of conduct some are wont to ascribe to them in cases of emergency, that the sportsman sometimes unwittingly and quite suddenly finds himself in a perilous position, or on the other hand comes out easily from a very close corner.

The savage beasts of the wilderness undoubtedly breed individuality in their solitude; we can almost believe it a stronger individuality than that of humans who are bound by laws and precedent. We can almost believe them thinkers, deep thinkers, each studying out the problems of life alone. Their life is one of savagery and cleverness, so closely interwoven that it is but a guess to say what will happen at the eleventh hour. That they may fly like a craven at the first glimpse of the pursuer, that they may charge or stalk him in the glare of day, that they may hide from him on the summit of the highest mountain or in the gloom of the deepest forest, or snatch him at night from the midst of his companions all adds to the great gamble in the game of their pursuit.

While on safari in the African wilder-

ness I encountered two lions which strongly demonstrated the uncertainty of mood and temper in dangerous game.

One of the beasts, although unwounded, had charged and been killed when he could have escaped with ease. A moment afterward we encountered the other who swung off and plunged into the donga. I threw a line of beaters across it and when pressed by my men the lion sprang into the open, his mane all a-bristle, and roared. The beaters, terror-stricken, dropped their iron mess kettles and shinned up the nearby trees. I was new to the game of lion-hunting, and after my experience with the other expected this fellow to come tearing down upon us, but he didn't. He just stood there lashing his tail and the rumble of his mutterings came to me like the roll of distant thunder.

I had been waiting for just such an opportunity and called to the beaters to cease their clamor, for I was afraid the lion would charge and get a man or slink back to his stronghold among the reed beds, either of which was undesirable. From my place on the sloping hillside I dared not shoot for I knew that just beyond him, directly in my line of fire, were several of my men crouching near the edge of the reeds, so I walked rapidly to one side and the lion, seeing the movement, turned and glared in my direction. Then he suddenly flattened to the ground, as if about to charge, and I threw up my gun hastily for a shot, but at that moment the brute wheeled and slunk like a shadow into the donga.

The quivering of the tall grasses showed the direction of his passage, but

when I rushed down to the edge of the marsh, all was quiet and still, and the lion was nowhere to be seen. Then from across the swale came a volley of commands from Magonga, my gigantic headman. He was calling to the men to resume their beating, and he himself strode into the marsh howling insults to the lion in guttural Swahili.

As he entered, the reeds almost entirely covered him, and I could see his red fez, bobbing up and down like a cork on the bosom of a pond. The other blacks followed reluctantly, and those perched in nearby trees came down cautiously until the marsh again resounded with their yells and the harsh beatings from their metal kettles.

Between the bare, thorn-rimmed hills the donga, fifty to a hundred yards in width, lay green and glistening, a moist, oozy marsh of jungle growth, reeds, and giant grasses. From the forest on the east it entered the broad plain and disappeared far to the north in a twisting, serpent-like course. A lying up place it was for all the carnivora that infested these wild open places.

The blacks knew the dangers that lurked in its silken folds, but the savage Magonga kept them at it and as I ran forward, hoping to gain a place of vantage from the hill ahead, I could hear their wild yells behind and knew that the lion would soon be forced from his place of concealment into the open country, when the unexpected happened as it always does in lion-hunting. In rounding the edge of a thick bunch of cover I saw just before me the lion standing. He was looking back over his shoulder toward the beaters. I threw a bullet at him then and by all the laws of sport and rifle-shooting he should have been mine, but it is a well-known fact that even the best of high powered rifles are short in their driving force when fired at close quarters, the bullet not having had time to gain the proper spin. So the lion was wounded only and with a mighty spring disappeared into the donga. I gave a yell then that must have awakened legions of sleeping monkeys for miles around, for I wanted that lion, and soon I could see Magonga and my Somali gun-bearer run-

ning toward me with a long line of straggling blacks behind.

"Where simba?" (the native word for lion), spoke the Somali, his lips peeled back and his white teeth showing. The desperate fight made by the first lion I could see had also its effect on him; we were both expecting trouble and lots of it.

This gun-boy was a quiet, unobtrusive savage until the time of danger; then when he spoke, it always reminded me of the snarl a wild animal gives when brought to bay. Now he peered about him in the bushes toward the dark shadows that lurked beneath the leaves and his little eyes glistened. "See," I said, "much blood." He nodded. Magonga, towering over him twelve inches, black as though carved from solid jet, stood beside him and was looking at me with a question in his eye for Magonga could not understand a word of English.

"Tell him, Dogora," I said. Dogora spat a word at him. Magonga sprang forward and looked at the blood. "Keep those black devils away," I cautioned Dogora, as the men came crowding near, for I felt that the lion, since wounded, might charge out again at any minute, and I didn't want the unarmed blacks within the danger zone.

Dogora turned and said something to them quickly, and they scattered along the hillside as swiftly as one might blow flakes of powder from the palm of his hand.

Going After Simba

It was high noon and the sun was beating down with the ferocity of yellow javelins when we entered the confines of the marsh, Dogora and I and the giant Magonga. Dogora held my spare rifle, Magonga was unarmed, and try as I would I could not persuade him to remain behind. A light wind was playing over the tops of the reeds sweeping them with a rustle like the swish of a lady's silk dress and the sun beating down through them cast dainty, lace-like patterns upon the slime and mud beneath. The trail wound zigzag under a dense tree cover with vines, then beyond through the slush and mud into

the middle of the donga to where a stream, black as molten tar, slipped noiselessly through the arched growth above.

We followed across it, floundering to our ears in the slime. Then we heard a faint, murmuring noise sounding almost like a hiss. Instantly I thought of the serpents that infested the place, but the low growl that followed caused me to raise my rifle and wait, expecting the foliage to open and the lion to show himself, but nothing appeared. Then we advanced again slowly, Dogora by my side. A glance backward disclosed Magonga, half crouching. The black had drawn his knife.

A few feet farther on and we stopped suddenly as a warning growl issued from the thickets ahead and it was then that the nerve-racking tension of our entire crawl through that awful place brought the perspiration streaming from every pore, and I remember hearing with a start the porters laughing and calling to each other far away on the neighboring hills.

Beyond a clump of reeds, shaded by the overhanging branches of a single Mimosa, we expected to encounter him, when suddenly the Somali sprang upright and pointed. Slinking across the sparsely covered thorn hills was the lion. He had quit the cover and was going toward the jungle where we were unable to find him after hours of fruitless trailing.

Now this lion, though wounded, ran away under circumstances in which he would have been expected to show fight. The one previously encountered charged under conditions that pointed strongly to his running away. Animals are vastly different; to be brave or cowardly, clever or stupid, docile or morose are traits which vary with the individual. And then, too, some early experience with humans may have inspired feelings of contempt, hatred, or fear that would have a marked influence on the actions of such individual when brought to bay.

While still young he may have had the satisfaction of seeing the first man encountered flee before him. Naturally he would have but little fear of the next. Or the tables may have been

reversed, the pain of spear or bullet may have instilled such terror that man and all things pertaining to him will be always feared and avoided. Or, infuriated by some wound inflicted, he may charge and kill, and from then on be a killer whenever occasion of hunger or escape may require.

Whole herds of buffalo, (one of Africa's most dangerous herbivora), often scamper off on sight while a single individual encountered may, without molestation, attack. Once when removing the skin from a buffalo's head I found a small steel arrow imbedded in the socket of his eye and it was only then that I knew the reason for his stand when late one evening I met him just on the edge of the jungle.

The African buffalo are as black as the dark places they haunt, and, like a thing detached from the blackness itself, he sprang forward, his little eyes reflecting the fury of his challenging bellow. Afterwards I pondered the reason for his sudden wrath, not knowing then that a stinging arrow, not quite true, and a flying native all but cost me my life.

A Charge Out of the Dark

One morning as a deep fog was rolling heavily across the hills, obscuring all in its milk-like folds, two rhino broke from cover just ahead of our marching safari and disappeared into the gloom. I was intensely relieved that these two swashbucklers of the African bush were not picking quarrels that morning and thought we had seen the last of them, but a few minutes later, as the caravan was filing down toward the Athi River, which showed dimly through the veiled mists ahead, from somewhere out in the fog came the smothered grunt of a rhino.

The carriers stopped as if by word of command, dropped their loads, and crouched beside them. I peered around, but could see nothing except the faint tracings of the African jungle along the river that showed like the first delicate lines of a wash drawing on a dead white canvas. That danger was imminent, I knew, for the rhino, swaggering bully that he is, cares nothing for numbers

when he takes it into his head to charge. We stood there waiting, the minutes dragged slowly by, and from somewhere out in the dim plain came the boom of a cock-ostrich, making his salutation to the hidden sun. Instantly as though in echo to the sound came the screaming whistle of a rhino, and from the white night burst these two black warriors with lowered heads and gleaming horns in deadly charge upon us.

Now the rhino is said never to turn if he misses the object of his charge but to keep straight on in blind, piggish fury. It is even claimed by some authorities that it isn't a charge at all but merely a headlong rush up wind.

One of the beasts, struck hard by my bullet, sheered off and disappeared into the gloom. The other tore through our caravan, hooking right and left at camp paraphernalia cast down by the frightened porters. On my mount I followed the wild rampage of the beast and saw him make directly for a thorn bush behind which several of my men had taken refuge.

On reaching the bush he lumbered around it, the men flying before his stabbing horn. Around and around he swung, screaming and whistling in hysterical charge. A sort of whirligig it was that I stopped with a steel pointed bullet or, regardless of all rules carefully set down for his guidance in such emergencies, that rhino might be chasing those natives around that thorn tree yet.

Various opinions are advanced as to the temper of our own American animals. Some claim that the jaguar, that leopard-like prowler of the southwest, will rarely attack a human and a mountain lion never; but I once knew an old hunter who had killed every known animal on the continent without trouble until he had the fight of his life with a bob-cat.

The charging range of a bear is said

to be less than a hundred yards. Two Clinkit Indians and I were once crossing a lagoon on the Alaskan coast. There was a strong wind driving from the sea and through the spouts of foam dashing high on the rock beach I caught occasional glimpses of a large brown bear standing at the edge of the timber, while her two small cubs some distance off dug industriously upon the beach for clams. The old bear discovered us while still two hundred yards away and signaled to her cubs to run for cover. Knowing that it was now or never, I opened up a fusillade with my rifle, but our canoe was bucking like a bronco in the heavy swells and the bullets went wild, simply cutting up puffs of sand beside her.

The cubs did not heed the calls of their mother and the reports of my piece, drowned as they were by the roar of the sea, never reached them, so they kept right on digging like the two disobedient youngsters they were. The old bear, finally infuriated at both them and my bullets, rushed from the forest toward her offspring, which she cuffed into immediate obedience, and galloping to a little point jutting out into the sound, growled hoarsely toward our canoe.

Such was the fury of her temper that had dry land intervened the traditional hundred yard maximum charging range of all bears would never have stopped her from covering the distance which separated her from her enemies.

But the uncertainty as to what each individual animal will do when brought to bay is what adds to the fascination of big game hunting, and although we know that few of God's lower creatures can stand unmoved before the unflinching glint of man's eye, none know the caprices of their temper, none know the extent of their powers, and few come from the clash of their poisoned charge alive.

Twilight Jack is the creation of Kathrene and Robert Pinkerton. He is the Sherlock Holmes of the North Woods. Read THE BLIND TRAIL in June OUTING

PADDLING HER OWN CANOE

By KATHRENE GEDNEY PINKERTON

How a Woman May Become Complete Mistress of the Indian's Favorite Craft

ANS-EE-QUAY-GEE-SICK and his squaw, Teck-ee-mash-ee, stopped at our cabin last fall to make a portage into a string of nameless lakes in the big swamp behind the ridge. They had paddled twelve miles that morning, and there were two miles of hard portaging and more paddling between them and the lake where they would camp that night.

Teck-ee-mash-ee placed almost the entire outfit—dishes, clothing, food, tent and bedding, perhaps one hundred pounds in all—in a blanket, knotted the four corners, and swung it to her back, one strip of blanket acting as a head strap. Anse took a smaller pack, laid the paddles across the thwarts of their birch canoe, and lifted it to his shoulders. A few days later they appeared suddenly on the trail behind the cabin, set their canoe in the water, placed their packs in it, and were off again.

They were making the journey together, sharing in the work on portage, in canoe, in camp. And as I watched them down the lake, I thought of white men from the cities I have seen on canoe trips in our country, men who travel through a wonderful land of forest and lake and stream, always in parties of two or more and almost never with a woman.

"I'd give anything if she'd come," many have told me. "I know she would like it when she understood it. Perhaps, if I got a good guide and took an easy trip, do you think she could stand it?"

And here I always say: "Don't. Guide-paddled and guide-served, she will

be shut out forever from the real wilderness. Let her learn it as you have learned it. Let her be your comrade, not your passenger."

For paddling is one of the easiest and most fascinating means of traversing the trail to the real spirit of the wilderness. And it is as possible to the woman as to the man. What she may lack in physical strength she may more than overbalance by her nerve force, her endurance. Even before her paddling may take her to the real wilderness it can afford her pleasure. There is as much joy in the quick, effectual stroke as in any other well-played game of the out-of-doors. Wind and current are as worthy adversaries as one finds on links or courts, and the victory is as satisfying.

I shall never forget my first rapids. I had ascended them by tracking line and had done much steering in the bow while the canoe was being poled up long stretches of white water. I had learned all the rocks and currents in that rapids thoroughly and had absorbed the principles, and much of the practice, of steering from the bow.

But with the stern man standing, ready with the pole to snub the craft, and upon me resting almost alone the guiding, I had a sudden desire, when the current gripped us, to jump, to scream, to do anything but accept the responsibility. Ahead was a large boulder, around and over which the water boiled. We seemed to be rushing straight upon it. Desperately I plunged my paddle in and drew the canoe to one side. Now I know that the parting of the current by the rock helped me. Then I felt only that I had conquered my fear, controlled my nerves, and met the situ-

ation. A feeling of exultant triumph and new confidence came to me.

And that is only one of the many things canoeing has done for me. It has brought a greatly increased physical efficiency and a new joy in the possession thereof. It has brought calm and controlled nerves, not only on the water but with the rifle, the rod, and on the long snowshoe tramp.

It has taught me to love the north-land and to feel its lure, as men love it and feel it. This, for women, means another of those rare planes upon which they can meet men as comrades. It means that they can understand men where they have not understood before, and that men can find a new quality to appreciate. It does not mean a corresponding loss in womanliness, even though the woman ceases to expect the usual little attentions made difficult by the toil of portage and paddle.

A joy in maps has come, an understanding of the attraction of the wide spaces for men. The adventurous, exploring spirit has been aroused, and dim trails have beckoned.

And the canoe has made possible an intimate acquaintance with that strange, silent, hard-shelled, lovable individual, the woodsman. I have learned to know his point of view, to understand his life, his work, the type, and the canoe has made it possible for me to talk to him and, far better, to loosen his tongue and open a storehouse of interesting, intimate little bits of forest wisdom. I have spent many pleasant hours with trappers, talking paddle blades, canoes, traps, fur, snowshoes, dogs, toboggans, woods, foods and clothing, and out-of-the-way places which even men seldom visit.

The necessity of suitable clothing for the canoe was one of the first things impressed upon me. Like all other subjects of this nature, only fundamental rules can apply. The individual must build upon them to suit herself and conditions. To paddle correctly and effectively, the lower garments must be supported by the hips, not by the waist. The upper garments must be sufficiently loose to allow free movement of the arms and shoulders. If the cruise is in

the north woods, clothing must be of wool to prevent chills and to confine the activities of mosquitoes to the face and hands. Shoes should be waterproof for there are no docks in the wilderness, and sufficiently heavy for rocky portages.

These rules may apply equally to conventional attire or to riding breeches and wool shirt. That is a question for the individual's ideas on propriety, comfort and convenience. I prefer riding breeches. Bloomers catch on snags and brush as readily as skirts. Woman is sufficiently handicapped by her lesser strength without incurring an added disadvantage in her manner of dressing.

Custom, necessity, and a skill either instinctive or acquired in infancy, perhaps both, have given the Indian woman the stern position in the birch bark canoe. The Indian man is the provider, and he provides with his rifle. Consequently, he sits in the bow that he may have an unobstructed shot. Indian girls begin to paddle as soon as their brothers. Before maturity their skill is marvelous.

Bow a Good Place to Learn

In the canvas canoe of the white man conditions are entirely different. Greater skill and strength are needed in the stern, and there is no hunting. Consequently, the woman sits in the bow. This position does not, however, deny her opportunity to exercise skill and strength or display endurance. All three qualities are needed.

The bow position gives the woman the best opportunity to learn. Progress is not seriously impeded by her first ineffectual strokes. The stern paddler is in a position to guide and instruct and still keep the canoe moving on its course.

When the woman has learned to swing her paddle well, she has only begun. First, she should learn the requirements of straight-ahead paddling in open water. These are the setting of a regular, quick stroke, for the stern paddler follows the bowman's pace, and the utilization of every bit of strength expended in propelling the canoe straight ahead, not obliquely. This means that the paddle

should be started out from the canoe's side and pulled straight back, not swung in an arc.

After straight ahead paddling has become natural, the movement unconscious, and strength established, let the woman in the bow understand that she must keep at work. If she becomes tired, she should cease paddling and rest. To stop every few strokes and fix her hair, adjust her hat, pull on her gloves, is most exasperating to the man in the stern.

The next step is rough lake travel. If the stern man is the right sort, he is not going to take chances and will be able to handle the canoe in the threatening waves. Be certain he is capable and then have confidence in him. Under no circumstances paddle frantically, and never try to balance the canoe from the bow, no matter how dangerously it may careen. Safety depends greatly upon the bowman's unshifting position and regular even stroke. Nothing is harder on the nerves of the novice than a long stretch of vicious white caps, and nothing is more exciting or stimulating for the woman who has experience and confidence.

Picking Up the Finer Points

After a certain degree of perfection in straight paddling has been attained, the woman will find pleasure in learning the finer points. Many are offered in the bow, for, in many conditions of water, much of the control of the canoe depends upon the forward paddle. There is the draw stroke, which pulls the bow quickly toward the side on which the paddle is used. Proficiency means greater ease in turning sharp bends in small streams, in dodging hidden boulders and in approaching landings. The throw stroke, difficult to learn and known to few men outside the wilderness, is equally important. Once acquired, it permits the woman in the bow to "throw" the canoe away from the side on which she is paddling. It is needed as often as the draw stroke and is invaluable in boulder filled water.

Because it is so little known, perhaps it should be described. The paddle is

held perpendicularly five or six inches from the gunwale, the blade in the water and parallel to the canoe. The lower hand, and there must be a strong wrist, grasps it above the blade and is held rigidly. The upper hand turns the leading edge of the blade slightly toward the canoe. This results in a terrific strain on both arms, and the beginner's paddle will be wrenched loose. But, if held firmly, the paddle will shoot the canoe quickly to the side, and the turn is negotiated or the hidden boulder passed safely. The value of this stroke lies in the fact that it may be used instantly, there being no necessity to shift the paddle from one side of the canoe to the other.

From the first day there are other things than handling the paddle to be learned. Go slowly. Remember your muscles are unaccustomed to the exercise. Paddle only a short time, but when you do paddle, paddle correctly.

Learn to enter and leave the canoe easily. Do not expect to get in when it is fast upon shore. Be willing to wade out to it. Your waterproof boots are partially for the protection of the craft. Do not sit upon or in the canoe when it is out of the water. Nothing is more maddening to the owner than to see his craft abused.

When you know that a portage is to be made, and you should know it, be ready to leave the canoe quickly and to take your belongings with you. Do not leave your hat, gloves, bag, and a dozen smaller articles for the men to pick up and hand to you. About the only way a woman can assist on a portage is by collecting and caring for her small possessions and not causing trouble.

Once you have become proficient in the bow, exchange places with the stern man and learn to paddle the canoe in his position. Learn to paddle a canoe alone from the center, the only position in which one person can properly handle the craft. This not only adds to your skill as a canoe woman, but you are prepared to meet emergencies characteristic of forest travel and perhaps save a life.

To paddle well and to obtain the maximum results physically, one should paddle from the knees, leaning against

the seat or thwart. This is difficult for anyone at first, and more so for a woman because of her corset-weakened back muscles. And that is only an argument in favor of knee paddling. Learn slowly. Try it a few minutes at a time, or until cramps and impeded circulation compel a return to the seat. In time, realization of the added efficiency and value of the exercise and the comfort of the position will cause you to abandon the seat forever.

Acquiring proficiency in the many details comes not so much through a religious observance of rules as from a mental attitude. The desire to be com-

petent, to be useful, almost unconsciously brings proficiency. While in itself the mastery of canoe and paddle is gratifying and fascinating, the day will come when you will have established your ability to keep on hour after hour with that rhythmic stroke and to meet situations as they arise, when you will have realized the glory in physical efficiency. Then you will step into the canoe in the coolness of a northern morning and, something new in your blood, your imagination quickened, suddenly enter the wilderness realm, suddenly grasp the great spirit of the out of doors.

HUNTING TOGS

By EDWARD C. CROSSMAN

Kinds of Clothing That Have Been Found Suited for Rough Going Afield

THIS title, I note, is a bit deceptive. I don't mean hunting for them, but in them, which is a lot more fun. I've never quite got to the regions where they hunt only in a cartridge belt and two days' growth of whiskers, but I have been idiot enough to hunt sheep in the desert in July, where the mercury sat on the roof of the thermometer and wondered how it was ever going to get back into that little tube. Also have I ventured into the Canuck country in the middle of winter and gazed at the face of a thermometer where the thin blue line in the tube sat down at 40 below.

These two foolish seances, with a few tucked in between, have persuaded me that some of the hunting clothes in common use are of the nature of a certain citrus fruit, not oranges, either.

It is as natural for an American to prefer to hunt—or to work—or to go to church, if his wife would let him, in his shirt sleeves as it seems to be for the Englishman to do all these things in his coat. It fairly makes my shoulders wriggle with discomfort to see some

Johnny Bull portrayed in the act of shooting a pheasant, handicapped in a modish Norfolk coat, and a collar into the bargain.

I regard the coat as an invention of the evil one. It may be tolerated in civilization, but wearing one when it is not necessary is to me evidence of a throw-back to some English forebear. Comment on collar wearing seems to me uncalled for. A shirt has a top button to use in case of cold, but this top button is not to be used except in case of necessity.

Consider the shotgun and the coat. A man goes to work and has a gun made to his order and fitted to him down to the last 1/16-inch castoff. Then he proceeds to wear a hunting coat, made to fit nobody, and nobly living up to its purpose. It's bunchy at the shoulder and binding under the arm, even if it has a gusset as large as a subway entrance. That poor goat of a gun couldn't fit that man to save its poor soul. Try it, the first time you've got on a coat—any old coat. Bunchy coats are responsible for more poor shooting than all the errors in gun fitting. I haven't the faintest idea of how a gun fits or feels, unless I get off

my coat, and it is not one of the hair-bridge shoulder variety, either.

If you shoot the shotgun, the coat is permissible in just two cases—when it is wet and when you are going to and from the hunting-grounds. Only a waterproof coat will keep out the wet, while, of course, the big coat is fine when you want to lug a lot of stuff in its capacious pockets, or want to keep off the chill of an evening.

My idea is this: A big, soft, warm sweater-jacket for comfort, when the weather is cold, and over it a very light skeleton coat, made of soft khaki, and the softest that you can get. The skeleton coat has no sleeves; it is a lot of pockets strung together and buttoned up the front. With the top button of the coat fastened it lies smoothly over the shoulder, and having no sleeves it allows you to raise your arms without raising all the junk in the pockets thereof. You wear the coat for the sake of the pockets, therefore be it light and soft to the end that wrinkles and bunches be avoided.

Even in a cold wind, if it is a dry one, I can keep warmer with a buckskin shirt and the sweater, the arms still free and the shoulders smooth, than I can with a bunched coat.

The sweater proposition is worth considering. Be not deceived in weight and thickness alone. Some of them consist of a lot of strips of very coarse and stiff yarn, connected—when it is on you—by just a little better than nothing. They are as warm as a lath sweater would be.

I have one little affair I bought up in Canada the relative of which I would like very much to see. I mean I would like to find its big brother. It is as soft as down, and it weighs just a shade over a half-pound. For its weight, it is the warmest thing I ever saw, and at that you can roll it up and stuff it in the pocket of a hunting coat on the way to the grounds. There is not enough of it, it lacks the deep roll cuffs and the big collar that a good outing sweater should have, but if they make this garment in heavier weight and as set forth as to collar and cuffs, I have a lot of things I'll swap for one.

A good, well-behaved sweater must protect the wrists, coming clear down

over the hands if you want it to, and it must come up around the neck, four inches up the back hair. Those two points are the vital attack for cold breezes. It ought to be some color that does not show dirt, preferably an inconspicuous mixed gray or brown.

Yes, some fellow might take you for a deer if you wore it into the woods, but what would you? He'd take you for a zebra if you wore green and yellow stripes, or shoot you for a forest fire if you wore flaming crimson. Protective coloration? Bah! I know an old chap who was shot for a wildcat as he stood on a rock, hitching his trousers and gazing over the scenery. His handsome face and silvery beard must have looked the very picture of a wildcat.

The jacket form has everything the old shape has, except the habit of pulling your back hair around in front of your nose when you take it off. Therefore, get the sweater jacket, not the "over-the-head" shape.

The Leather Jacket

The greatest fender of wind is leather. The buckskin shirt is worth all it costs for the outdoor party. In reality, buckskin is not the best material, it is too thick and heavy. Better by far is the shirt from doeskins, or from the lady elk or caribou. It should be soft and pliable, and not heavy. Weight seems to add nothing in the way of warmth, save that engendered by the work of carrying it around.

In its ideal form it should be of the jacket persuasion. The cuffs should have tabs to close them tightly around the wrists, the collar should button up, preferably by a cross-tab, snugly around the neck. Don't use glove snap fasteners. After you've pushed your Adam's apple clear into your spinal column trying to snap one, and then have it come loose in four seconds, you'll appreciate why I don't advise this fastener.

All buttons should be sewed on with waxed linen—not merely thread. There should be two large pockets, patch persuasion, flared shape at the bottom, closed by buttonable flaps. Also they should come above where the belt embraces you,

otherwise it will bear on the contents or close up the entrances.

The shirt should be large enough to fit comfortably over a very heavy sweater, and that means loosely. It is not intended to look modish, it's there to keep off the wind. Not a bad idea is putting three loops on either side of the chest in case you don't wear a cartridge belt, and want a few cartridges available.

If you own such a shirt and desire to clean it, don't fuss with it yourself, turn it over to a furrier and tell him to use gasoline, and then put it in the big revolving machine where they dry skins that have been soaked.

I know of nothing better, for all around use in the wilds, than Uncle Sam's olive drab clothing. Not the coat, that's a military fright, tight-fitting, choky, and as useless as snowshoes to an elephant. The trousers, cut on riding lines, are extremely comfortable when they fit you, loose cut in the hips and legs, and lacing up at the calf. The material is a greenish-brown, of a fine quality of wool, and up to most of the clothing Uncle Sam now buys for his troops.

The shirt is as good as the trousers, of a variety apparently of flannel, with patched elbows, large patch, flap-closed pockets, and wearing like iron. They sell a near-soldier shirt of brown in the stores, but it is rarely the real thing, and just as rarely as good as Uncle's article. I think the real shirt can be had from the best outfitters, but if you can, get a look at the military shirt before buying one as the real article.

Mackinaw has the call for colder climates than usual, or for outdoor work in the winter. It's first cousin to a blanket, and as usually made up, it would make the Belvidere Apollo look like a roughneck lumberman. The only fit about it is the one your wife throws the first time you appear garbed in it. Anyhow, it is mighty warm and comfortable, even though it does make you look like a cross between a bear and a freight train wrapped in a blanket.

Being narrow-minded, I cannot see any form of leggin, in case this is your choice of leg-gear, except the two puttee

affairs. One is a strip of wool cloth, two inches wide, to wrap around the leg like a surgeon's bandage, or a spiral staircase. When it is wrapped good and tight it is the worst thing in the world, but after a while you'll learn to leave the same margin a cavalryman does under the bridle latch, and your troubles will cease. The other form is a straight brown canvas leggin, with a narrow canvas strap to wind around it and keep it closed.

I've worn this sort through brush so dense that it would relieve you of your watch and pull the bullets out of your cartridges, and I've found it to be away ahead of the ordinary lace-up affair, commonly wished on the leggin-buying innocent.

The strap must be doubled over and pulled snugly through the fastener after it is buckled, leaving no outside loop to catch in the brush.

Beware of Laced Leggins

The regulars hate this form, because they are a bit slower to put on than the lace-up—and the regular is at times called rudely from his couch, nor are excuses heard by the sour-tempered first sergeant. This lace-up is the poorest form. In thick brush the twigs catch in the laces, and the leggin will usually adorn something beside your calf before you've gone far through our California variety of small timber. Also a leggin with a strap below the foot is almost pathetic. You'll walk through that strap in about one day of rocky going. After all, no leggin is quite so satisfactory for all-around use as the soft, flexible, high-topped boot, with ten or twelve inch height from floor to top of boot.

Naturally no man, out of the care of his parents or a guardian, should go into the woods with city socks, but they do. Also they sometimes take along a pair of old street shoes for a mountain hunt—"to wear them out and get rid of them."

There are just three things rolled up in the one best bet for outing socks—wool, thickness, softness. It is not a question of climate, wool is the only safe fabric. They must be thick to cushion the always-tender feet for the first few

days, and they must be soft to guard against the ever-eager blister. Also they should not be colored in any decided shade, but a neutral gray. Dye poisoning is not common in these days of better processes, but it is always possible where abrasions of the skin are present.

Buckskin shirts and heavy sweaters and olive-drab trousers won't keep out the wet, when that comes on the program. Waterproof coats and pants are very hot, and should really be used only when sitting still, say in a blind, or where the temperature is low enough so you won't sweat clear through to the works of your watch.

The waterproof coat is of more importance than the trousers. Your trousers will dry fast enough in camp or on you when the rain stops, but if you get a big, heavy sweater soaked up, or a buckskin shirt thoroughly slimy, then you've got trouble. The sweater will stay damp until the sun comes out again, and the shirt—I've seen wet buckskin garments shrivel right into thin air, leaving nothing but the buttons and thread. If your chest stays warm, it does not matter greatly whether or not your legs are wet, while a proper pair of shoes should take care of your feet.

They make featherweight oilskins, both as short coats and trousers, and as long slickers. This is the proper sort of garment; weight does you no good, save it adds strength, all you want is something to shed water. For a single garment, the long coat, or slicker, does nicely, but naturally it is not adapted to hiking around on the hunt.

After all, if you're going to sit still, in a wagon or in a saddle, for example, there is nothing better than a good warm coat with big side pockets, made out of some such material as mackinaw, craven-etched against rain, and perhaps lined with thin chamois-skin. It does not do if you are to use your arms vigorously, or shoot; it is merely a big, snugly, comfortable garment to keep you and the cold at least a half-inch apart. Your worn-out city coat is not "it." The garment wants to be about three sizes larger, and made for the special purpose of keeping you comfortable against either wet or cold.

The vital points of cold attack are the ankles, wrists and neck. Let a cold breeze blow up your trouser legs, another down your wrists, and a third insert its chill fingers into your neck—and the garments of an Arctic explorer won't keep you comfortable.

Don't monkey with paper or leather vests, this is mostly rot. The warmest part of your body is the chest, most of your garments meet across it, and there are other points that need protection far more. Babying the chest and neck in all weathers as some people do is nonsense anyhow. Consider the slight but beautiful damsel. Given that she has a beautiful neck—and I'll gamble that she'll wear that neck and considerable of its adjacent territory covered with a see-'em sort of gauze in weather that calls for overcoats. Also she'll get by with it, and pneumonia will trouble her not at all.

The only sort of vest really useful is the buckskin, again better if made out of doe epidermis. Here it can be made with a lot of pockets, covered with flaps, in which can go the pipe, the matches, the compass, and other things that are apt to be needful while on the hike.

It is light, not noticeable, and in the occasional times when you climb spiraling up a slope and step into a freshly refrigerated breeze, it does act as a safeguard against the quick chilling of the body and dangers of a cold or pneumonia. The point is its pockets justify its presence, while as a mere safeguard against cold, it would not be worth while.

Mine has a tab across the bottom that keeps it from flapping or catching in things, and yet that allows it to hang open and loose when things are hot.

If you go in for one, see that the two bottom pockets are large, flare shaped, and covered with closely fitting button flaps.

In all the buckskin garments you have made, insist upon real sewing and real buttons, really put on to stay. Belief to the contrary notwithstanding, it is possible to put on a button to stay almost indefinitely but the art is little practised in these days.



TRIM LITTLE CHAPS ON THE WING

LITTLE FOLKS ALONG THE SHORE

By HAMILTON M. LAING

PHOTOGRAPHS BY THE AUTHOR

Why the Myriads of Shore Birds Have Disappeared from the Tide-Flats and Beaches

ONCE there was a time—and it was not so very long ago, either—when there were little people who loved the mud, living out upon the tide-flats and beaches and muddy shores. They were nomads, appearing here and there on this or that shore at certain times of the year; but they were very regular in their habits of life and quite dependable. They loved the muddy and moist places wherever they could find them; and thus these little folks were found across the continent, wetting their lively feet in the salt ripples that washed the tide-flats of the old Atlantic or Pacific, or in the sweeter water of the inland lakes, or in the seasonal sloughs and ponds or river margins of the inland plain country. They were a populous race; at their trysting-places and rendezvous of the spring and autumn they came together in myriads; and being half-musical and very conversational, they filled the air with pleasing chat and melody and turned many of the

waste and lonely flats into pleasant places.

But it is not so to-day. These little people—Limicolæ, or the wading folk, the books call them—are not now in myriad flocks and their pleasant voices are all but hushed. Of the former hosts that fifty years ago swung down the Atlantic coast in early autumn and back again in the spring but a pittance remain. And why? Thoughtless men made war upon these wading folk. They came to these mud-flats in spring and fall, carrying guns and other shooting paraphernalia, and soon the helpless armies of the waders dwindled from the earth. The wading folk were simple-minded and confiding, they were small and weak, and though the speed of the wind almost was in their wings, the struggle was most unequal and they quickly vanished.

Plover, snipe, curlew, the largest and strongest of the tribes, were the first to fall. Their size was their curse. Their bodies were the most toothsome, their

ways most gamy, and so their ranks quickly withered. Those that best survived by escape were the insignificant ones, the tiny sandpipers almost too diminutive to be noticed by men with guns; their smallness was their salvation for the time.

Very long ago it was declared quite impossible both to have the apple and to eat it, but these men failed to realize that they could not have the plover and shoot him. There is but one way in which hunters can have any wild animal and hunt it to any considerable extent; this is by making up to the hunted in some other way for the losses inflicted. Usually this is achieved by lessening the natural foes of the animal.

For example: the grouse of the plains can hold his own against a limited amount of shooting chiefly for the reason that in the settlement of the land the natural foes—hawks, owls, coyotes, foxes, skunks, badgers, etc.—are much reduced in numbers. But with many of the plover and snipe kind this course was impossible. The birds nested in the Arctic, migrated along the coast, and wintered in the tropics; no help in their breeding-grounds could be offered them, and thus every hundred birds cut down en route was just that many lost. There could be but one ending. To-day, when protective laws have come to the rescue, there are few of the little shore people to protect.

Not Real Game Birds

How many species of the wader folk, we may well ask, can or could ever be called legitimate game birds? By the term I mean birds whose greatest use to mankind is served by their making a hardy quest afield, their flesh being palatable, and these same birds, be it understood, of little economic value when alive. Of some fifty species of North American waders, it is at least easy to pick out the few most popular with the shooting fraternity. Those that have suffered most are the curlews—one species, the Eskimo, being now extinct—the woodcock, Wilson snipe—both strong favorites—the golden and black-bellied plovers, greater and lesser yellowlegs, mar-

bled godwit, willet, and upland plover (Bartram sandpiper).

Of all these species, undoubtedly the Wilson snipe and the woodcock are the most worthy of the name of game birds. They have a fairly well-developed notion of self-defense; the others lack it. They lie and hide well in cover—without the aid of the dog man would be hopelessly out-matched at their game of hide and seek; they are speedy and tricky a-wing, and their nesting grounds are far enough south to derive some benefit from summer protection. Yet to-day woodcock shooting is but the name of a once common sport; and the Wilson snipe, whose home is from ocean to ocean, has held his own a little better merely on account of his greater range and numbers.

Of the other much-shot species the golden and black-bellied plover sometimes show some shyness—they have acquired it at terrible cost, but usually all of these species may be approached by a gunner in the most open places, or whistled in to decoys and mowed down with fine shot. These two plover species and both yellowlegs are far-northern nesters. They receive no extra protection during their nesting season, and though once in almost inconceivable numbers now they are following the path of the curlew. The godwit, willet, and long-billed curlew are southerly nesters in the inland plains region, and doubtless derive some benefit from their summer conditions; but they are by nature almost unfit to take care of themselves when pitted against the man with the gun.

Not one of the pictures shown herewith was taken with a telephoto camera, nor was any means of concealment used, either for camera or photographer. The willet on the shore were stalked with the canoe—once or twice indeed in attempting to get them the canoe almost bumped them. The northern phalaropes were snapped from the canoe out in mid-lake two miles from shore; the godwits were approached on foot.

In the fishing picture—which is really not such at all, but a snipe picture—note the yellowlegs behind the figure. It had followed him around at heel for some time, and when I came with the camera it flew an instant before I pressed the



THE MARBLED GODWITS LOVE THE OPEN AND WIND-SWEPT PLACES—TERNS TO THE RIGHT



NORTHERN PHALAROPES BOBBING LIKE CORKS

shutter release. There were times when the bird was but six or seven feet from the man wielding the bamboo pole, and it was the splashing of the struggling pike that finally scared it. Could such birds be classed as game? What skill would be required to mow them down with a shotgun?

Mow them! For that was the way the little shore folks that were orderly and flew in ranks were cut down in the days when the market shooter was in his pristine rankness and the others who shot for fun had not begun to think of conservation or moderation in killing. Truly they were mowed down. The weapons used against them were barbarously unfair. It is morbidly interesting to compare the weapons brought against the snipe kind with those used against the deer.

A snipe has an oval body of, we will say, three inches—not counting head, neck, wings or legs; a twelve-gauge gun with standard load throws 954 pellets of number ten shot; a single bird is in deadly range at thirty yards or 360 times the length of himself. A deer's body is about three feet long—irrespective of head, neck, or limbs—and reasoning along the same lines, he ought to be hunted with an eight- or nine-inch cannon with a thirty-foot barrel throwing some 200 pounds of ounce missiles in a deadly swath at 400 yards! Were such weapons at large, not many Nimrods would take to the north woods in the autumn, and the daring few who ventured would have even less chance of

coming back whole than is the case to-day.

Not all of the sad killing was done along the tide-flats in the autumn. Many of these birds, notably the golden plover, during the yearly migration followed a somewhat elliptical course. They came from the arctic in the autumn by way of the Atlantic coast to South America, and returned in

spring inland up the Mississippi basin; and they were hunted and their ranks were thinned during both movements. But the chief killing was done on the Atlantic; and the fact that the godwits, willet, upland plover, and other inland migrants are still alive in considerable numbers goes to show that the inland basin has been the safer route.

What glorious and joyful times must the wading tribes have enjoyed before the sound of the white man's gun was heard in the land. For though they had a multitude of foes, they were far too clever for most of them. All the hawks loved to pick their plump little bodies; but only the swiftest of these foes—the duck hawk, sharp-shinned, or Cooper's—ever made much headway at catching such nimble victims. The owls, too, dropping on silent wing in the darkness, doubtless picked a few of them from the shallows. Predatory animals destroyed the eggs or sometimes caught the young; but all the tribe are artful deceivers at nest-hiding, and the young are spry little chaps, able to run about and partially fend for themselves very soon after



WESTERN WILLET—BIRD SECOND ON LEFT IS A BLACK MARSH TERN

hatching. In many ways they were a clever tribe; their original great abundance is proof of their fitness to cope with their natural foes and life problems. But they could not cope with man.

Also in other ways they were and are a wonderful clan. Facts collected by the extensive and intensive researches of the

coast, thence to South Africa; the northern and red phalaropes, the able swimmers of their tribe, that so far have hidden their winter home, and probably spend this season out on the ocean; these and many other wondrous facts brought to light stir the least imaginative mind and more than suggest that such birds



NOT A FISHING PICTURE—NOTE THE YELLOWLEGS FLYING FROM THE FISHERMAN'S HEEL

naturalists of the Biological Survey bring revelations about their migration habits that are almost unbelievable; the white-rumped sandpiper that breeds on the Arctic islands, 70° N.L., and winters 9,000 miles distant in the most southerly tip of South America; the golden plover's transoceanic journey of 2,500 miles from Nova Scotia to northern South America—supposedly one flight; the turnstone and sanderling among others that, summering in Alaska, sweep across the 2,000 miles of Pacific to winter in the Hawaiian Islands; the journey of the ringed plover from the breeding-ground in Greenland and Ellesmere Land, south and southeastward to the European

are far too wise and wonderful to serve as broilers or stuffing for pies!

In a more local sense, also, there are a hundred interesting things that may be learned about these chaps while they are alive. It may be the Northern phalaropes out on the water, bobbing around like corks and twirling dizzily to pick up insect prey; or the Wilson phalarope female, big, beautiful, and self-important—a wild-life type of female emancipation—making her small hubby do the housework; or it may be the comical bloodless battles of the lesser yellowlegs; or the hopping expeditions of the willet in pasture or field; or the turnstone displacing the rubbish on the shore in his

quest of insect food; or it may be the nest of that strange, erratic recluse, the solitary sandpiper that uses the last year's nest of robin or grackle for his new domicile, and only recently gave up the secret to science; always with the wader tribe there is something interesting to be learned.

Nor is it difficult to make the acquaintance of these birds. All that is necessary is a pair of glasses and a small fund of patience. They will usually meet a visitor even more than half way. They are a numerous family, and with the smaller members differentiation of species is not always easy, but most of them are strongly and characteristically marked, especially in the spring, and these markings lend themselves fairly well to classification. There is little of that hopelessness that comes to the bird student in pursuit of the tiny, flitting warblers, quick darting in the tall tree-tops, and all so alike in action and voice, when he is studying the waders; nor little of that provoking sameness about them that makes so difficult the identification of the grass-loving sparrows. Also, the waders' confiding nature makes it easy to get at close range.

Easy to Shoot

Early in the autumn, before the birds become gun-shy, it is necessary only to sit down near the mud-margin, and they are almost bound to approach of their own accord. I recall that I once spent an hour trying to photograph a sanderling family, and I failed for the reason that they were too tame and insisted on running toward me at such close quarters that they repeatedly spoiled my focus. The lesser yellowlegs is quite as venturesome and simple. The solitary sandpiper is another confiding chap; but his neighbor, the spotted, is usually more nervous and inclined to flit. The golden and black-bellied plovers are timid, but doubtless their sufferings have induced this frame of mind.

How characteristic, too, are the voices of the waders, and especially of the larger species! The coarse "Hai-ik!" of the marbled godwit; the "Pilly-willet!" of the chap that gets his name from his

cry; the "Killdeer!" of another that names himself; the ripple and rolling whistle of the upland plover—he is a songbird to the plainsman in the summer; the "Tu-feu-feu!" of the yellowlegs; the plaintive, quavering whistle of the black-bellied plover that seems to call in sadness over the deeds of shame done against his kind; these and many more once heard and recognized can scarcely be forgotten.

In studying the waders it is most interesting to note the exact habitat of each species,—their likes and dislikes in the way of surroundings. Being a numerous family, they show a very wide range of habitat. Thus the upland plover, contrary to the traditions of most of his race, prefers the high, dry country, the prairie and the sandhills being his favorite summer home. The killdeer also loves the dry plains, but he must have a pond or stream close at hand where he may cool his feet a part of the day. The woodcock is a lover of the oozy places in the woods; the Wilson snipe likes the same, but he must have a grassy cover on his mud, preferably short cover, and a woody bog or a prairie slough seem to suit him equally well.

The solitary sandpiper likes to spend his time about a muddy stream in the timber or reedy brakes; the spotted sandpiper accepts much the same, but, better still, he loves a rough shore strewn with stones and fallen timber among which he may dodge about at hide and seek with himself. Both species of yellowlegs are perhaps a little less partial than the foregoing relatives, and almost any place where they may get their feet wet will do, providing it is out in the open. The sanderling takes delight in running along a sandy shore and playing tag with the wavelets that swish in and out.

The golden and black-bellied plover, when not out on the uplands, stick close to the bare jutting points, the open and wind-swept bars; the godwit and willet choose much the same and linger about the sandy shorelines devoid of cover—and so on through the long list: each fills a little niche in Nature's scheme of things in the wet and oozy places.

The first plover voice of the spring-time to shout across the inland prairies is



TURNED THE WASTE AND LONELY FLATS INTO PLEASANT PLACES



COULD SUCH CONFIDING FELLOWS BE CALLED GAME?

that of the boisterous killdeer. And how welcome he is! He comes at the break-up when the first snow-water ponds gleam blue as they ripple before the south wind, and the first pastures and uplands are bared of snow. Often, indeed, the frosts must pinch him hard; yet each spring he braves the weather anew. But he must needs get an early start; for though he does not go far to the northward to find his summer home, he leads a strenuous life otherwise and rears two families. Early in April he crosses the 50's N.L., and often it is two weeks later before any of his tenderer cousins reach the same latitudes. But finally they all come piping northward; they reach the crest of their north-going wave by mid-May, and early in June even the most tardy are on their hatching-grounds in the Arctic.

Yet strangely enough, at this same latitude, by mid-July, while old Killdeer, in some Dakota or Manitoba pasture, is coaching his second family in the hard ways of the world, many of his kindred species already have returned from the Arctic. Less than two months previously the pectoral and least sandpipers, the lesser yellowlegs, northern phalaropes, and others were north-going; now, after disappearing into the wilds of the far north and hatching, they are back again southbound.

But though July sees the beginning of

the south-going movement, it is in August that the return wave reaches its height. Few of them are lovers of the frosts of autumn; and by September the grand army is in the Southland. Even the killdeer that dares the cold of the northern springtime does not wait for it in the fall. The hardy chap of the autumn is the Wilson snipe. He clings to the marshes till late in October, and a few of the most daring remain till driven out by the freezing of the mud.

Long may they continue to live!—these little people of the shore; or, rather, long may what is left of them live! They have suffered a persecution scarce deserved by man's worst foe—a persecution thoughtless, wanton, and undeserved; yet, even now, if they were let alone and allowed to run their busy, wonderful lives unmolested, they might repopulate the mud-flats till their numbers become at least a semblance of those of earlier days—the days when they congregated on the beaches in thousands where now there are tens, and with their light-hearted piping and whistling made the daybreak world a joyous place where now there is silence.

They come to us from afar in the autumn; they return to us from afar in the spring; not a tithe of anything do they seek from mankind; they ask nothing but a safe passport through the land. Might they not have it?

TOURING IN A PELERINE

By HARRY KNOWLES

ILLUSTRATED WITH PHOTOGRAPHS

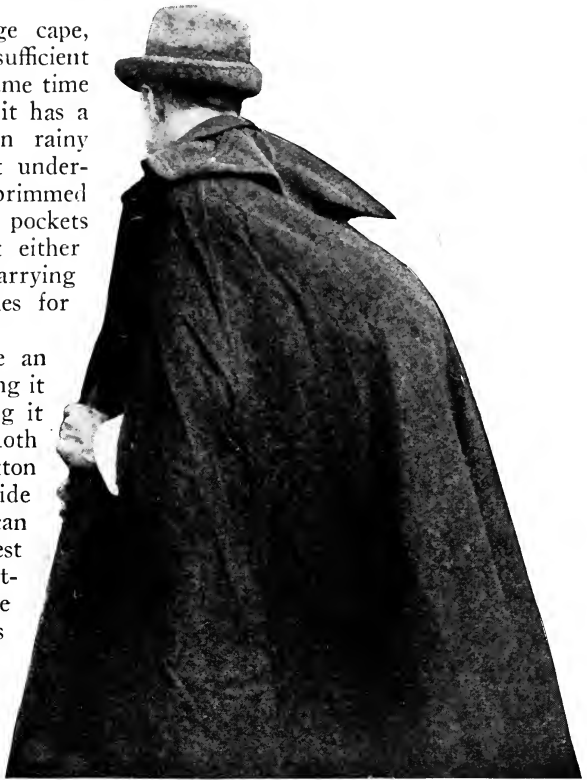
It Is Suited to Fair Weather and Foul, It Affords Warmth and Protects from Rain

SINCE every tourist should carry, and must sometimes wear, a waterproof garment, the pelerine is to be recommended because it is comfortable, convenient, and adaptable to various uses as well as different kinds of weather. A precedent for its use in this country is found in the army cape which, many persons regret, has not met with popular favor for civilian dress. The advantages of the pelerine over the ordinary raincoat are many.

The pelerine is only a large cape, made of a material containing sufficient wool to assure warmth, at the same time being waterproof. In addition it has a hood for covering the head in rainy weather, sufficiently large, be it understood, to protect the widest brimmed straw hat. There are also two pockets of generous dimensions, one at either side. They can be used for carrying books, papers, and small articles for the toilet or clothing.

The pelerine is adjusted like an ordinary cape, that is, by throwing it around the shoulders and letting it hang freely from them. Two cloth straps cross the chest and button behind. The bottom is so wide that the folds of the pelerine can adjust themselves to the longest stride and there is not the slightest hindrance in walking. One can even run if occasion makes haste necessary. There are two slits in the pelerine, one on either side, through which the hand may be thrust for carrying cane or alpine stock. When not in use, these slits are closed by buttons.

So simple is this garment the tourist will be surprised to find it has so much adaptability for wear. It can be worn like an ordinary cape, the collar fitting snugly about the neck. But in pleasant weather, the cape may be worn hanging from the shoulders, entirely in the rear, for full length. Thus it is not in the way of the pedestrian, and is so light in weight that he can make as rapid progress as he chooses.



NOT A HUNCHBACK—MERELY A PELERINE OVER A BUNDLE FASTENED TO THE SHOULDERS



IN PLEASANT WEATHER THE PELERINE MAY BE WORN HANGING FROM THE SHOULDERS FOR FULL LENGTH

In rainy weather the pelerine is worn buttoned in front for full length, the hood over the head. It is true this makes the wearer look not a little like a monk in cowl, unless he smiles pleasantly. Being waterproof, there is no possibility of getting wet, especially if oiled shoes cover the feet. The suit beneath and nether garments as well are kept perfectly dry. Dispensing with an umbrella, unnecessary under these conditions, is a satisfaction in a windy storm to be appreciated by all of experience.

Thus equipped the tourist is prepared for trips in Maine or the Adirondacks

or elsewhere. He may travel contentedly in the cool autumn air or misty dog-days always assured that the clothing he wears will remain dry.

It is possible to adapt the pelerine to uses for which it was not intended. It can be rolled up and used for a pillow or cushion on coaches, trains, or electric cars where the seats are hard. It can be spread over one at night when the bed coverings are too thin or when one is sleeping in the open, under the starry heavens.

The pelerine is used quite generally in Europe by the large number of persons who make walking tours on the Continent each summer. It will be seen in the Black Forest, on the mer de glace, at Grindelwald, on the St. Gotthard pass, likewise in every nook and



WITH HOOD OVER THE HEAD, THE TOURIST LOOKS LIKE A MONK IN COWL—UNLESS HE SMILES PLEASANTLY

cranny of that picturesque country called the "Playground of Europe," namely, Switzerland. It is adapted to all climates—from Naples to Christiania—and to all altitudes—from Dutch canals to the summit of Mont Blanc.

Pelerines are worn in European cities to take the place of raincoats. And very acceptable they are. They protect the wearer from falling rain or mist, and at the same time he can carry a large bundle under his protecting covering without any fear that it will get wet. In this manner I have protected a suitcase in a severe storm while going from railway station to hotel.

Another advantage of the pelerine is the small space into which it can be folded without any possibility of damage or injury. The material is so soft that the creases will come out by merely shaking the garment. Even the slip-on raincoats can not be rolled into so small a bundle as a pelerine, which takes practically no space when packed in a trunk

or valise, for it may be put into any odd corner. It is, therefore, free from the objection urged against the ordinary raincoat, *viz.*, that it is inconvenient to

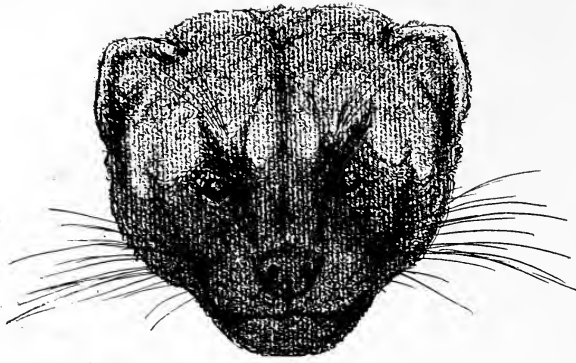
carry out of all proportion to its occasional usefulness. Furthermore, as shown, the pelerine can be worn at times when the raincoat would be a nuisance.



TWO CLOTH STRAPS CROSS THE CHEST AND
BUTTON BEHIND

Next month Mr. Knowles writes about THE RUCK-SACKE—THE TRAVELER'S BEST FRIEND





A PLEA FOR THE SMALL FUR-BEARERS

By EDWARD T. MARTIN

The Urgent Need of a Source of National Wealth That Is Being Rapidly Wasted

THE governments of the United States, Great Britain, and Japan have agreed to protect certain fur-bearing animals in the far North. This is right and proper. Fur should receive protection as well as game, but why such half-way measures? This country was prime mover in saving the seals, but closes its eyes to the slaughter of millions of small fur-bearers going on continually at home, as if the lives of mink and skunk, of muskrat, coon, and possum were nothing and their pelts valueless.

Many of these animals live right around the farms, almost in the farmers' back yards. So common are they that people ask if they are of any account and say, "Who ever heard of protecting that 'broken-hearted little beast' the muskrat, or coons, or skunks? Why skunks are most pestiferous animals. They steal chickens, eat birds' eggs, and—and——"

Correct. It is granted they do not make as nice pets for my lady fair as poodle dogs, lizards, and such, yet society demands their fur to the extent

that during the winter just gone trappers have been paid between four and five million dollars for their raw pelts, and the cost of their skins, when made up, has been many times greater.

True, they occasionally have a hen or chicken for dinner, but all in all are less harmful than feathered game, ducks, geese, and grouse, which are covered by the law's protecting mantle. When these birds visit a farm, root up sprouting wheat, and eat ungathered corn, the farmer shoos them away, counts up the damage, and perhaps wishes he might be permitted to use his gun; but that is no reason why they should not be protected, so why count a few chickens against skunk or mink? Skunks are not so bad. Their motto is "*Noli me tangere.*" "Let me alone and I won't bother you."

Nearly every state extends protection to beavers, yet their muskrat cousins, inoffensive and harmless, are slaughtered throughout the land, spring, fall, and winter, with but slight restrictions and those in a very few states. Trapping them commences with the first frost of fall when they start gathering

roots, weeds, and swamp grass, a beginning for their winter houses, although many are but "kits" and only half grown. It continues until the warm weather of late spring when the rats' hair begins dropping and the fur is of very low grade.

Skins of these animals taken early in the fall and late in the spring are of little value—five or ten cents each—yet trapping goes on as persistently as if the fur was first class. Why? Let a truthful trapper answer. He says: "I know it is wrong, this trapping in August and keeping it up until well into May, but if I don't trap my neighbor will; might as well get what I can while there is any left."

After the marshes freeze, then comes spearing, which is most cruel of all because it destroys whole colonies of rats. The method is about like this: Rat houses are built along the edges of shallow lakes or in sloughs and marshes where the water is not over four feet deep, their tops resting several feet above the water level. They have a warm nest, a sort of living-room inside clear of the water, with entrance and exit at the very bottom. The rats can remain under water some considerable time but must get air occasionally. Enough penetrates the hollow of a house for all purposes. When cold weather freezes everything solid, there is no place where they can breathe but in one of these nests.

The man with a spear works on this knowledge. He walks to the house with as little noise as possible. If the rats hear him, out they go. He knows how long they can stay under water and waits, silently, patiently. One by one they return. When the man is sure they are all back, nestled together, filling the hollow space, he drives his spear—which is made of 3-8 round steel and very sharp—with all his strength downward through the house. Frequently it pierces several rats, holding them squirming, suffering, squealing, until a wedge-shaped section can be cut through the house and into the nest. Then they are killed.

Whole communities are often destroyed, a village of fifteen or twenty

houses gutted, the furred inhabitants exterminated, not even a single pair left alive. This is not all done with the spear. If an opening is made the house is ruined and every member of the family using it perishes, because it gives shelter neither from cold and storm nor from predatory birds and beasts.

Man is not the rat's only enemy. To have a mink enter a well-populated rat house is like turning a ferret loose in a rabbit warren. Wolves and all the cat tribe are partial to a muskrat diet. Owls and hawks have no choice between a fat rat and quail or rabbit. With the roof broken open, there is no way the damage can be repaired, and between winter storms and wandering animals, it is drown, freeze, or be eaten. Consequently the first movement toward muskrat protection should be in shape of a law prohibiting spearing at any time and under all conditions.

When the Floods Come

High water is another enemy of these small fur-bearers. Those who have escaped traps in the fall and spears in the winter are often driven from their houses by a spring freshet. Then they are more helpless than ever. They sit hunched up in round balls on logs, stumps, or some spot of high land. All a shooter has to do is paddle quietly along, or drift with the current down stream, following the sunny bank, and he can get within easy range of every rat he sees. Large numbers are killed in this manner, especially if it is a raw, cold day and the bank on which the sun shines is wind-protected and warm.

Again, perhaps the water has risen gradually, lifting the ice with it until the rat houses are submerged, then the muskrats find a weak spot in the melting ice and gnaw and paw a hole through to the surface. This done, they come often for air and a gun-man, by waiting, can exterminate the entire family. If no freshet comes, it is traps—traps everywhere, and lucky are the rats that live through it all. They are very prolific. But for this they would have become extinct years ago. The second step toward their protection should be

to stop trapping in the breeding time and, of course, shooting as well.

Is the game worth the candle? Is there enough in the business to make legislation desirable? The writer, until he began getting data for this article, had no idea of the volume of trade in the pelts of these "back yard" fur-bearers, of their value, nor of the thousands of men and boys making money trapping them and the many firms whose entire business is selling their skins.

Many furs are shipped to London and sold there at auction, sales being held in December, January, and March, with usually the largest offerings of skins of the smaller animals in January.

Four prominent firms report their offerings of muskrats in January to be 3,732,000 against 3,132,000 and 2,188,000 one and two years ago, the increase being caused by a rapid advance in prices during 1911 and 1912 which doubled the army of trappers and made muskrats—in common with all other small fur-bearers—the sufferers. January offerings were to a considerable extent the catch of the previous winter and for the season of 1913-14 many less were taken, trappers reporting rats not nearly so plentiful, which goes to show that the end is in sight unless the law takes up the matter.

To the January offerings should be added March sales, skins used by home manufacturers, and those handled by the many other firms who make no report and it probably would not be out of line to say *ten million* muskrat skins were sold during the season just past. Prices ranged from thirty to forty cents a skin for good stock—call it thirty-five—so \$3,500,000 is the toll paid to society by the "broken-hearted little beast."

Then skunks. Three of the same firms report their January offerings at 575,000 against 530,800 and 558,000, in 1913 and 1912 respectively. Add March sales, home consumption, and the business of other houses, and a million and a half would be a very conservative estimate. Prices varied from four dollars and a half for the best to a dollar for small Southern; say an average of three dollars, and we have \$4,500,000 paid for skunk skins during the winter of

1913-14. Someone else can figure it for the three years. I am afraid to.

Can one be surprised that at a banquet given last December in St. Louis to the buyers attending the auction of Government furs from Alaska, the toast drunk was:

"Here's to the skunk with stripe that's wide.
Success to the trapper that snares him.
A toast to the dealer who sells his hide,
But give thanks to the woman who wears him."

Next comes Brer Possum, poor old possum up a gum tree. January offerings by the same firms in the London market were 464,800 this year as compared with 406,500 and 407,000 one and two years ago. Still the increased slaughter the same as it was with game. The total, including March shipments and sales by other dealers, must have reached a million, probably more. Prices were from a dollar down, say seventy cents each. This would make \$750,000 society paid the trappers for the gray, bristly possum skins. It isn't such very bad-looking fur, either.

Our Friend the Coon

Then we have his next-door neighbor, the coon. According to the dealers' report, he went to market 175,150 times this year and 87,300 the other two seasons.

Raccoons are found from New York to Texas. Hunting them makes sport for farmer boys in the North, who tramp through the woods of a winter day and when they find, high in a tree, the snow melted around an opening leading to a hollow, they know a sly old coon is lying snug and comfortable inside, and the warmth of his breath has caused the thawing. Then with smoke or ax they rout him out, add his fur to that already drying on the barn, and figure a couple of dollars more just as good as in their pockets.

Nor are the farm boys of the North the only ones benefited by the coon. From Virginia to Texas, the plantation darkies, helped by their mongrel curs, account for many a ringtailed fur-bearer, and the fur so taken by Northern farmer lad or Southern negro all finds its way

to the nearest dealer. There is nothing raised on farm or plantation, no crop, no other fur—unless it should be that of the possum—the money from which is divided among so many different persons, paid in such little dabs and spent for so many small luxuries otherwise not obtainable as this coon-skin cash.

With the lesser dealers handling so large a percentage of the whole, it would be fair to put the entire raccoon catch at 600,000, which sold at from seven dollars and a half for a few extra dark skins down to fifty cents for small Southern, a fair average being, perhaps, a dollar and a half, or a total of \$900,000.

Mink, hunted persistently by a largely increased number of trappers, show from their steady decrease that they will be the first of the small fur-bearers to disappear, if prices hold and nothing be done in way of saving laws. Three leading dealers report their January offerings in London as 33,909. They were 38,404 in 1913 and 38,366 in 1912.

Mink are shy and hard to catch. Few are taken by boys. The greater part are caught by professional trappers, which reduces the number handled by small dealers. Probably 70,000 would be a fair estimate. They sold, a few extra dark as high as eight dollars, some small Southern as low as a dollar and a half. If we call the price four dollars a skin, it would give \$280,000 as the contribution of the mink tribe to the fur business of last winter.

This makes a total for home fur-bearers—those grown almost in the back yards of the farmers—of *Thirteen Million One Hundred and Seventy Thousand*, caught, killed, and sold. Sounds like pigeon-nesting time, does it not? And for the raw skins was paid, as estimated above, \$9,930,000, one season's business only. Of course this is an estimate; but here are some figures *not estimated*.

Four prominent firms shipped and sold at auction in London, as shown by their reports of the January sales in 1912, 1913, and 1914, skins totaling in number 13,989,876, all of the small fur-bearers excepting perhaps 150,000 wolf

and bear, and this but part of the business done by these houses. Which shows how conservative an estimate I have made and tempts me to increase my totals. If the uncured skins of these small animals sold for nearly ten million dollars the past winter, what must their value be when worked into garments! The traffic in feathered game never reached such figures, yet the greed of man almost exterminated the birds before laws were passed that saved them.

The firms whose reports have been used in writing this article are reckoned as having handled more than one-third of the entire catch. Of Arctic furs they probably have, perhaps over that, but not of the skins of home-caught animals.

Only a Part of the Whole

The opening day of the before-mentioned Government sale in St. Louis, there were present in the auction-room nearly two hundred fur dealers, buyers, and manufacturers. Fifteen came from European or Canadian cities. The others all represented American houses, yet many of the smaller dealers whose homes were at a distance did not attend. Surely the outside firms for home consumption and export must have handled as much as estimated, very likely more. Yes, the estimate, bold as it appears, is most conservative.

No mention is made of otter, fisher, marten, and badger, the catch of which is small. They, too, certainly require protection, particularly the badger, a fat, lazy fellow of not much value and very little harm. Nor has anything been said of cougars, wolves, lynxes, bears, and animals of a like kind for whose scalps bounties are offered and whose decrease is to be desired. Putting the bear in such company may be rough on him, for after all he isn't such a bad sort.

"You will never get protection for 'varmints' like mink and skunk," said a farmer not long ago, discussing these animals and the question of a close season for them. "Why, skunks have killed eight or ten of my chickens this winter and my neighbor Bill Jones has been

trapping them since last fall. He's caught twenty or more."

"Yes," he was answered, "and how much were your chickens worth?"

"Bout six dollars, maybe," was his reply.

"What did Mr. Jones get for his skunk skins?"

"Ain't sold them yet. Expects \$3 apiece."

"Yes," the writer said, "three times twenty are sixty. Looks like the balance of trade was in favor of the skunk, doesn't it?"

"Gee! I never figured that way," the farmer said as he walked off, rubbing his chin and thinking.

There isn't even that much against possums and muskrats, both of which are very harmless. The first feeds on wild fruit and berries, once in a while a roasting ear, occasionally fish. The rats eat roots and underwater shoots of aquatic plants.

There is more wealth in these back yard fur-bearers than in feathered game, but the birds have rich and powerful friends while every hand is against the animals. Will not some one come to the front in their behalf? Unless prompt action is taken they will follow the bison and pigeon to the land where go the snows of yesteryear.

There is a sameness in human nature the world over where something is to be had for nothing. Get what you can, as soon as you can, then come back for more. It was so in the old days with

game. It is so now with fur and will keep on being so until the animals are exterminated or the law raises its hand with the command: "STOP."

Really now, isn't there as much reason why the individual States should care for our home fur-bearers, with values running into millions, as for the general government to make protection of Alaska seals a matter of diplomacy and treaty? Are not the proceeds better distributed? Does not the cash go more directly to the needy ones, to homes of little wealth, to those who are struggling in the endeavor to make both ends meet, than does the money from Alaska which as a rule fattens the bank account of a few large corporations?

Wise laws will keep this back yard fur money many years for the common people. First, give a close season varying according to location, but on the average from about March 1st to October 1st. Stop the spearing of muskrats. Don't allow them shot in time of freshet. Prohibit destroying of dens and burrows. Protect them as are nests of birds. Go this far and note results. If other laws are needed, conditions will suggest them. No fear of their being too rigid, for furs will advance beyond even their present high level, and with every country boy a trapper, the trouble will be to keep the animals from extinction.

Let our lawmakers consider the matter carefully, decide what is best, then *act promptly*.



THE NEW IDEA IN GYMNASTICS

By MACK WHELAN

How a Series of Psychological Experiments at New Haven Has Proved That the Instinct of the Small Boy Who "Hated" Calisthenics Was Right

IN practically all the colleges of the country a certain amount of gymnasium work is required, at least during the first two years of the course. For years many teachers of calisthenics have devoted their major time and attention to making these exercises as attractive and useful as possible. Yet they have usually been distasteful to the students with the exception of the comparatively few men who have acquired more than ordinary skill on some particular apparatus. Pleasure, the vital element in all exercise, has been lacking. Dr. Anderson, of Yale, one of the foremost exponents and teachers of gymnastic work in the college world, thinks that he has found the secret of this distaste and also the remedy. The article which follows tells how, why, and what.

WHEN a man has spent a lifetime building something up and has watched his structure grow from a modest beginning to a great, far-reaching edifice, it shows pretty broad mental perspective for him to turn around and help tear it down again.

Professor William G. Anderson, director of the Yale University gymnasium, and head of the Department of Physical Training, is broad—across the forehead as well as across the shoulders. In addition to being recognized as one of the half dozen authorities of the country on physical training and gymnastic matters, Dr. Anderson, when some years younger, was one of the ablest exponents of difficult feats of skill. He can still do such exploits as the "giant swing" and "the flyaway" with a degree of ease and form which makes it difficult for the spectator to understand why it is that a good many other people have broken a good many bones trying to

achieve these proofs of mastery over the horizontal bar.

Under his direction, a raw, skinny freshman can receive a prescription for exact exercises, which, if followed throughout his undergraduate course, will enable him to duplicate the lines of figure which artists are so fond of sketching as the silhouette of the ideal college man, when the time comes for his admiring parents to witness him receiving his degree. Members of the faculty and business men in New Haven have reason to thank Dr. Anderson for a new lease of physical efficiency.

The basis on which the Yale physical director built up his system at New Haven was the theory that calisthenic and gymnastic work is the best means of attaining proper physical development for the average man. Yet, after years of experiment, Dr. Anderson has come to the conclusion that this basis is wrong. To obtain the best results he believes gymnasiums throughout the country must throw overboard the ideas which have been clung to in the past and build

up a new system founded on the inherent love for competitive play.

It would be an injustice, not only to Dr. Anderson, but to many other capable physical directors throughout the country, to say that they have just awakened to the truths which are responsible for a revolution in the physical department at New Haven. The fact that ideal results were not being attained under the old system of calisthenics has been plain for some time, and progressive gymnasium heads have been modifying their tactics accordingly.

The particular interest which attaches to the conversion of Dr. Anderson is that by a series of psychological experiments he has produced scientific evidence which proves why the professors have been wrong and why the small boy who "hated" class drills in the gymnasium has been right. At Yale, it has never been difficult for a man anxious to compete for one of the athletic teams to be excused from forced work under the direction of the physical department. Beginning next fall, however, calisthenics at New Haven will be put in the background and the entire effort will be concentrated on getting every man in the University interested in some form of competitive sport.

Out for the "Mastication Championship"

The series of tests which have led Dr. Anderson to conclusions which will have a sweeping effect not only in this country but in Europe grew out of a good-natured controversy with Professor Irving Fisher, the Yale economist and investigator. Some years ago the two faculty members collaborated in a study on the "Effect of Diet on Endurance." Nine healthy Yale students volunteered for this experiment in which thorough mastication was one of the essentials. Dr. Anderson took charge of the various measurements by which the scientific conclusions were obtained.

The nine men were divided into squads, which subsisted on various diets. Careful mastication was requested. Exercise was in no case indulged in to a greater extent than had previously been

the custom. In most cases it was less. That the undergraduates were conscientious on this point was proven by the fact that most of them complained of feeling "logy." This overzeal was corrected, but in no case was exercise more systematic than previously. Practising on the endurance tests by which progress was measured was expressly forbidden.

The students became so interested in the study that they were particular to avoid any exercise which could becloud the experiment. The tests themselves were too far apart to give any chance for their repetition to give "knack." They were too severe to count as beneficial exercise. The outcome, which attracted wide scientific attention at the time, showed that between the first test, recorded before they had received their mastication instructions, and the last one, recorded at the conclusion of the experiment, the men achieved great gains in endurance.

"That we are correct in ascribing the results, especially in endurance, to dietetic causes alone cannot reasonably be doubted when it is considered that no other factors of known significance were known to aid in this result," said Professor Fisher, in summing up his conclusions on the experiment. "On the contrary, so far as the operation of other factors was concerned, these must have worked against rather than for the results achieved. It is, of course, still possible that some unobserved element has crept into the case, to which, and not to the diet, the improvement in endurance was due; but in view of all the facts recited, this is extremely improbable."

When Dr. Fisher and Dr. Anderson came to discuss the significance of the results attained, the Yale physical director found himself at odds with the conclusions reached by his colleague in the Department of Economics. Dr. Anderson could not subscribe to the doctrine that "no other factors of known significance were allowed to aid in the result." Having personally recorded the various measurements of individuals participating in the tests, he had been impressed with the remarkable degree of interest which each was taking in the

progress of the experiment. The students were keen to know how their individual results compared with that of the other fellow's. Something of a rivalry sprang up as to which man would win the "mastication championship." It looked to him as though the competitive element, instead of being a negligible quantity, had become the dominant element in the trial.

"I believed an 'unobserved element' played some part in that endurance test," said Dr. Anderson, in describing his own viewpoint. "This element was attention to the tests which the men often gave unconsciously and consciously. They discussed the tests among themselves frequently and gave thought to them."

At the particular time when the two members of the faculty at New Haven were engaged in conducting these experiments, Dr. Anderson was particularly discouraged over the progress of his attempt to have that particular undergraduate generation graduated, with sound bodies as well as sound minds. In spite of everything which could be done to impress upon them the need for building up physical efficiency to fight life's battle, he knew that the consensus of opinion among the student body was that the gymnasium course was a nuisance. Through his connection with other branches of constructive physical engineering, he realized that this spirit was not peculiar to New Haven.

"Gym makes me tired. I'd rather play shinny," said the small boy.

"Here's a nice afternoon when I'd like to get out and kick a football—and I've got to go to that cursed compulsory gym. class and work my arms like an automaton," said the undergraduate.

"I hate to keep putting on weight, but even the smell of a gymnasium annoys me," said the stout business man.

It was no secret that they all cut classes whenever possible. This was a contingency never presupposed in the statistics. Physical directors consulted their theories. It was set forth by irrefutable evidence that if a person would go through certain exercises he could increase his enjoyment of life, improve his physical efficiency, add to his capacity for

work, and lengthen the span of life. Yet the perverse human race showed a general tendency to ignore the opportunity. Even when at schools and universities, they were forced to go through the drills regularly, the results were generally disappointing. Some few men would benefit greatly, but most of them would not be improved to any extent.

Thinking over the lack of interest in his gymnastic classes and making a mental comparison with the enthusiasm of the nine students who had laughingly set out to compete for the "mastication championship" caused Dr. Anderson to study his own problem from a new angle.

With and Without Thinking

No argument was needed to prove a correlation of mind and body. As in the case of other live physical educators, Dr. Anderson recognized a co-operation between the physical and the psychic. He needed no thesis to convince him of the subtle connection between the two elements in the individual striving to do something for himself. In the case of the student or pupil working very often under compulsory direction, however, he realized that to obtain the best results it was necessary to demonstrate conclusively how the mental state affects the workings of the body. Originally, with the intention of impressing upon his classes the importance of making their minds work while going through the calisthenic curriculum, the Yale physical director set out to arrive at scientific deductions which would prove the point with a conclusiveness that would impress itself forcibly even on the most happy-go-lucky New Haven Freshman. After considerable deliberation he initiated a series of experiments to show "The Effect of Thought upon Gain in Muscular Strength."

For the tests, the Yale director selected from the class men who were not at all keen on gymnastics. That W. G. Anderson does not lack a sense of humor was shown by the fact that in order to prove his point he asked for volunteers who disliked gymnastic work sufficiently to be willing to become scientific experi-

ments in return for being excused from the required class exercises. So there is every probability that the ten men he finally selected were the most discouraging propositions from the physical director's point of view in New Haven.

They were given the collegiate strength test and then told to keep away from the gymnasium. They were asked to report a week later at the same hour and were then requested to again essay the strength tests. Of the ten, five men had been given no intimation of the basis on which the tests were being conducted. The other five were requested to think of the strength tests, but under no conditions to practise them.

The contrasts in the records made by the two squads were surprising. In the case of the five men who had had their enthusiasm roused, a general gain in strength was indicated, while in the case of the five who had not "thought" of the work a loss in strength efficiency was shown in the succeeding tests. One man who "thought" showed a gain of over 230 points in the strength test total. The average gain was over sixty points. Succeeding tests in which the process was reversed, the squad which previously had been uninformed being asked to think, and vice versa, upheld the general principles evolved from the first experiments.

"In the case of the men who 'thought' of the work and then tried the tests, there was one extra factor working in their favor," said Dr. Anderson in discussing the outcome. "The power of attention was helping them, while the others had only the practice of the trials. The entire series of experiments tended to prove the general proposition, however. In the case of Mr. C., for instance, there was a gain of 157 units when he did not think and a gain of over 170 units when he did. In the case of Mr. E., a particularly non-athletic type, by the way, there was a loss of 41 units when he did not think and a loss of only 30 when he did, hence a gain of 10 units.

"In making any study of this character we must all recognize the value of even limited practice, which means better adjustment of the neuro-muscular machinery. I would not think of advancing the proposition that these tests of themselves

prove that the total gain in strength was due only to thinking, because it was not. It was due to a combination of thought and unconscious muscular contraction plus the stimulus of interest, the gain by limited practice, and the spur of competition. But that the 'unobserved element' mentioned by Professor Fisher and other students of the subject was not possibly but absolutely a factor in the result, I do consider evident."

As far as his own problems were concerned Dr. Anderson realized that the experiments he had conducted did not show the way toward insuring any permanent interest in gymnastic work. It merely proved scientifically something which had always been obvious—that the arousing of interest in the individual meant increased efficiency in strength and in endurance. At about this time a member of the Yale faculty who dropped in to see the physical director brought up a topic which every healthy spectator at games has discussed—the after-fatigue caused by "working with the competitors." This man, who at the time was projecting some research work of an exacting nature, remarked that he had made up his mind not to attend any of the football games on the season's schedule.

Exercise in Looking on

"There is nothing I enjoy more," said the caller, who had participated in athletics during his undergraduate career. "I will miss going out to the Field these fine Saturdays, but I find that the end of the game leaves me more exhausted than a week's work."

The sympathy and understanding which this man had for the sport was such that as a spectator he experienced almost as great fatigue of mind and body as though he had actually been a participant. Impressed with the results of his other experiments, Dr. Anderson decided to attempt to throw additional light on the relation between musculature and the mind.

"In these tests, I did not ask the subject to exercise," says Dr. Anderson. "I merely asked him to watch attentively for a period of five or more minutes an-

other man who was contracting the biceps against a weight. The observers maintained stoutly that they did no work at the time, but the evidence proved otherwise."

The greatest gain under these conditions was made by a Mr. C., a Freshman in the Sheffield Scientific School. His arm was measured carefully with a Gullick spring tape. The locality was outlined in ink and a series of measurements were previously made in order to get the degree of variation when the elbow was flexed. The measurements of this student showed an astonishing amount of sympathetic energy expended.

"C. was a young man of the type with ability to concentrate mind upon any given proposition," explained Mr. Anderson. "The increase in the size of his biceps under these conditions was particularly notable. In practically every case the measurements left no doubt as to the fact that watching another man closely while he was exercising caused a sympathetic expansion of muscular machinery in the system of the spectator. A second test was made with a sensitive manometer attached to a curved tube containing a mercury column. The on-looker held the bulb in the closed hand while watching the worker. There was a noticeable displacement of mercury due to unconscious pressure on the manometer during the trial. When the weights became almost too heavy for the worker and he was obliged to strain the muscles the variation in the position of the spectator's muscles was particularly apparent."

In addition to the experiments described, Dr. Anderson conducted others, all of which tended to emphasize the fact that the regular gymnastic and calisthenic schedule did not bear results because the men compelled to adhere to it did not have their hearts in the work. Mechanical following of prescribed exercises was fruitless of results because, while all students could be compelled to do the setting up drill at the same time, nothing could prevent their thoughts from being scattered. Instead of thinking of the exercise and what it was intended for, the undergraduates could concentrate upon any other topic. So Dr.

Anderson has finally come to the conclusion that the only kind of efficient spur toward physical development for the average individual is competitive sport.

"Of the two great instincts that impel men to act, the fighting or competitive is all-powerful," he says. "I have come to the conclusion that there is little to be stimulated in formal gymnastics where the boy simply follows the dictates of a teacher. In competitive sport he can and must see, think, judge, decide, and react. He cannot go through the motions without thinking. It is certain that, if he is a normal human being, he must call upon those extra reserves of energy which in the case of a gymnastic exercise which does not interest him are simply out of the play."

Significant of the general tendency all over the world to get away from the hot-house variety of athletics are the observations made by Dr. Anderson on a trip abroad made some months ago for the purpose of studying conditions there. In addition to a stay at various other centers of physical training, he spent a number of weeks at the Royal Institute, Stockholm, generally recognized as one of the cradles of the principles of the art and the home of the famous Ling system. The Yale director had tried the experiment of introducing this system at New Haven, but it proved entirely too complicated, the student body showing a universal lack of interest in the endless detail involved. Anderson found that the lure of the Olympic Games, the last set of which were staged at Stockholm, had caused a general feeling of impatience with the complicated calisthenic exercises. More and more of the younger generation are going in for competitive sport.

Room for All

The development which makes the contemplated change at New Haven particularly timely is that in the near future the new Yale athletic fields, now under construction, should be ready for undergraduate tenancy. This will provide facilities so that all students can, when the weather is right, take part in all varieties of out-of-door sports. The main

purpose of Dr. Anderson and his brother and able assistant, Henry S. Anderson, who is floor director of the Yale gymnasium, will be to interest the first year men in some form of competitive athletics, not necessarily as candidates for one of the 'varsity teams, but as enthusiasts trying to do something in the physical realm better than someone else.

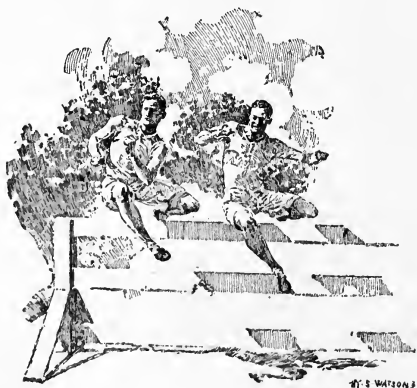
Instead of dividing up the student body into large calisthenic squads, leagues will be formed in a large number of sports, a schedule will be worked out, and every man given a chance to pit his physical abilities against his fellow's. Basketball, handball, volleyball, squash, boxing, fencing, wrestling, football, soccer, baseball, and all forms of track and field athletics will be embraced in the gymnasium curriculum, the ultimate aim being to dovetail the indoor work into a preparatory course toward sending the student body out of doors to keep the grass from getting too long on the great new athletic plant which is being built around the new "bowl," where Yale will at last have room to seat its football thousands.

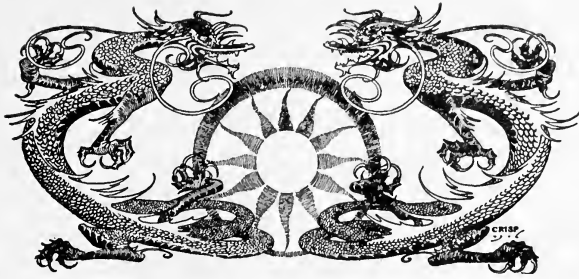
Dr. Anderson has by no means reached the conclusion that gymnastics and calisthenics should be entirely thrown into the discard. With the attention of the student once attracted to his own physical condition, he feels

that instead of his having to send for delinquents, men who are shown by their own lack of efficiency in competition will come to him and ask for a gymnasium prescription which will build them up for better work in the competition that they select.

While other heads of college physical departments have not given evidence of having weighed the problem in the balance as scientifically as Prof. Anderson, there has been a steadily increasing tendency to get away from the fixed gymnastic routine which was followed so mathematically some years ago. C. V. P. Young, an old football veteran, now physical director at Cornell, has for some time been pioneering in the work of putting red blood as well as science into the gymnastic system. Dr. Meylan at Columbia, Prof. Walter Magee of the University of California, Dr. Raycroft at Princeton, R. Tait MacKenzie of the University of Pennsylvania, and other leading men engaged in the work, have been smashing old calisthenic idols and shaping their courses, not by prescribing the exercises which, if faithfully followed, would produce physical perfection, but by counting as the essential preliminary awakening the competitive athletic instinct.

Psychology has demonstrated that the small boy who "hates" gym is right.





WHAT CAN BE DONE WITH CONCENTRATED FOODS

By GEORGE FORTISS

How Manufacturers Have Helped the Camper by Reducing Bulk without Destroying Nutritive Values

NOT so very long ago the man who went into a new country, whether on a canoe trip, on a tramp, on horseback, whether for exploration, or adventure, or sport, gauged the extent of his pilgrimage by the number of pounds of food he could carry. If he knew his business his grub-sack contained a judicious selection of the most nourishing and at the same time lightest foods. Generally he took such staples as beans and cornmeal, and a little flour, tea, sugar, salt, and a bit of salt meat, relying on his gun or his rod to supply a larger diet of meat and fish, and on the country itself to afford vegetable products in the shape of berries, etc. But as the old order has changed in most things, it has also changed in the camper's larder, and nowadays it is possible for him who heeds the call of the Red Gods to take the trail with about as complete an assortment of foods as graces his home table, and in so doing to carry but half the weight of the old orthodox beans, cornmeal, flour, etc.

Perhaps the greatest boon to the camper, cruiser, or other prober of the unsettled places has been the dehydra-

tion of food products—in other words, the removal of all water from vegetables and fruits and their preservation in a dried state without impairment of their nutritive values. There are a number of manufacturers of dehydrated food products in this country to-day, all of whom turn out most of the standard vegetables and fruits in dehydrated form. When you consider that the removal of the water from the average vegetable leaves it but one twelfth as heavy as in its natural condition, you get some idea of the advantages of dehydrated food on long journeys where grub for the entire trip must be toted.

Some question was raised in the infancy of dehydration of foods as to whether their cell structure, and hence their nutritive value, was impaired by the drying process, but general opinion to the contrary now prevails. In drying the products care is taken not to break down cell structure, and when the dried foods have been soaked in water until they have once more taken up their natural quantity of moisture and have regained their specific gravity, they are considered just as good as before they were put through the process.

The homely but nutritive bean has

long been the favorite vegetable for long trips because of its lightness in comparison to other products of equal nourishment, and because it "went farther" when cooked. Thirty pounds of beans was more than the allotment by a good deal that the average man allowed his pack to contain when starting on even a long trip. Nowadays he could carry the same amount of beans in dehydrated state at a weight of only two pounds.

Here are the relative proportions of some of the staple products in natural and dehydrated states.

	Dry	Fresh
Apples	1 lb. equals	8 lbs.
Cabbage	" "	18 "
Corn	" "	12 "
Carrots	" "	13 "
Eggplant	" "	16 "
Pumpkins	" "	12 "
Potatoes	" "	6 "
Onions	" "	12 "
Peas	" "	8 "
Spinach	" "	14 "
Tomatoes	" "	20 "

It requires but a moderate stretch of the imagination to behold, when these proportions are considered, a camp larder replete with all the staples of a first-class hostelry, ample to last a month, and still well within the carrying ability of two ordinary citizens.

Powdered Eggs and Milk

In addition to the dehydrating of vegetables and fruits and their consequent peculiar adaption to the camper's outfit, science has accomplished a number of other stunts that the wanderers of the wilds have had reason to be thankful for. Among these has been the reduction of eggs to a powder which when mixed with water takes on once more the consistency of the natural product and is palatable as well as nutritious. More than one weary camper has opened a packet of egg powder weighing a few ounces as night shut him alone in the forest, and over his camp fire has soon conjured into being a marvelous dish of scrambled eggs.

Manufacturers of egg powder declare that one pound of their product is equivalent to four dozen eggs. If you want two eggs you use one and one half tea-

spoonfuls of the powder, three teaspoonfuls for four eggs, and so on.

Then there is that other concentrated staple, milk powder. It is made from raw milk, from which all water has been removed, leaving merely the milk solids. Four tablespoons in water equal a pint of milk. With egg powder and a dash of milk made from milk powder, a mighty palatable omelet can be prepared.

Milk powder is one of the latest boons to the camper. Years ago when condensed milk in cans, and later evaporated milks, made their appearance, they seemed to have established an acme of concentration that would be impossible to surpass. But cans of condensed milk were heavy, though they did undeniably put milk within the grasp of men in the wilds who otherwise would have been hopelessly out of reach of this useful type of food. A pound tin of milk powder will color a good many more cups of coffee than a pound can of condensed milk.

With the coming of concentrated milk and concentrated eggs, have arrived also concentrated coffee and tea. The coffee is the essence of the coffee berry with all the waste parts removed. It comes in the shape of a fine, light, sifted powder, and a teaspoonful put in a cup of hot water makes a cup of beverage in a second, without boiling or other delay.

Concentrated or tabloid tea is made by compressing tea leaves from which the heavier stems have been removed. It comes in little cubes, of almost negligible weight, and one cube makes a cup. In a four-ounce packet of such tea there are one hundred cups.

In Germany there is a concern whose products have just begun to find their way into the larders of the campers in this country. This concern prepares much of the concentrated food used by the Germany army. In little cloth sacks, looking like detached sausages, or for that matter, like the old cotton bags of tobacco we used to see, comes a dried compound, which, when water is added and the mass heated, develops into a thick, heavy, nutritious soup. This is erbswurst and is compounded of beans, peas, lentils, corn meal, meat, and sea-

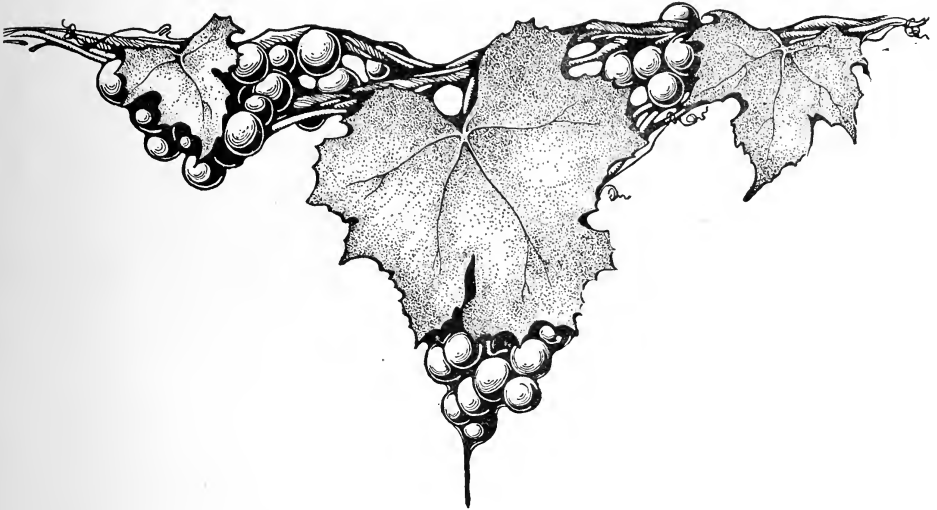
soning. This food can be prepared in many ways. As mentioned before it can be thinned out to soup, or it can be eaten as gruel or porridge, or just a little water may be added, and it can be fried as rice or cornmeal cakes are fried. In all forms it is palatable and exceptionally nourishing.

Here is a sample grub kit, using a good combination of concentrated and regulation foods, for four persons who wish to go fairly light on a two weeks' camping tour or cruise:

Oatmeal, 5 lbs.
 Wheat flour, 15 lbs.
 Cornmeal, 10 lbs.
 Concentrated sweetening, 1 bottle.
 Sugar, 10 lbs.
 Coffee, concentrated, 1 lb.
 Tea, tabloid, 4 oz.
 Lard, 2 lbs.

Baking powder, 1 lb.
 Bacon, 8 lbs.
 Salt, 2 lbs.
 Pepper, 1 oz.
 Soups, concentrated, 1 lb.
 Cabbage, dehydrated, 1 lb.
 Tomatoes, dehydrated, 1 lb.
 Onions, dehydrated, 1 lb.
 Prunes, dehydrated, 1 lb.
 Spinach, dehydrated, 1 lb.
 Potatoes, dehydrated, 5 lbs.
 Egg powder, 1 lb.
 Milk powder, 2 lbs.
 Erbswurst, 2 lbs.
 Raisins, 1 lb.

The total weight of this kit is seventy-six pounds. Were fresh or non-concentrated products used to replace the dehydrated articles and to render equal nourishment, the weight of the outfit would be increased about 215 pounds, or far beyond the carrying ability of the campers.





THE WORLD OF SPORT

American Olympic Money A postscript to some remarks in this department in a recent issue on various misunderstandings abroad of the conduct of athletics in this country comes in a letter from Mr. Robert M. Thompson. Mr. Thompson was president of the American Olympic Committee at the Stockholm games, and still holds that position. Therefore what he has to say is authoritative in a final sense. Touching the matter of "lavish expenditure" which seems to loom large in the minds of some of our foreign critics, Mr. Thompson says:

"The American Olympic Committee spends no money whatever on the preparation of a team. It provides tryout games at which any athlete can present himself and the winners compete at a final, the winners of which constitute the Olympic team. This, as I understand it, is the old idea of the Olympic games. It is thorough democracy of sport, in which the best man wins. After the team is selected the committee takes charge and pays the entire expense connected with the games; but as the final tryout is only a day or two before the departure for the games, you will see that any expenditure made is on the games and not in the preparation for the games. Our last Olympic team contained men who were prize-winners, but who were quite unknown in the world of sport before the tryouts."

Why Do We Win? Why, then, do the Americans win? This is not a rhetorical question purely, nor is it a burst of patriotic ardor

There is an explanation, not in detail merely, but in spirit, in broad terms. Here is what Mr. Thompson has to say on this point, quoting in part from two letters recently received from him at this office:

"We furnish splendid athletes because the interest in athletics begins in the primary schools, or even before them, and continues right through the universities. To my mind the advantage of the Olympic games is that they keep the Olympic idea before the youngsters, make them lead steady lives, with a constant high ideal before them, so developing both mind and body. A country that can produce a team as good as the Olympic team that went to Stockholm (and by good I mean not only athletically but mentally and morally) is a good country.

"There is published in Paris a monthly pamphlet, devoted to the Olympic committees, which is edited or controlled by the president of the International Committee, Baron Pierre de Coubertin. In, I think, the September number, 1912, there was an editorial referring to our team, in which warning was given to the other nations that if they hoped to compete with America it must be not through mere attention to physical details, but by acquiring the spirit of patriotism which existed in the American team. As he expressed it, every man on the team felt that he was acting not for himself but for the country he represented, and so submitted himself to discipline and to regulations, and when he competed put in the last ounce that was in him, not to win honor for him-

self but for his country. I believe this description was absolutely true."

**Gould
Open
Champion** It is a remarkable record that Jay Gould has to his credit. His recent victory over George F. Covey, claimed to be the professional court tennis champion of the world, was only one more in a long string marked by only a single defeat in an important match. That defeat, be it noted, was suffered when he was a boy of seventeen. The fact that he can now lay claim to the title of open court tennis champion of the world is not so important as it might seem, although valid enough. Presumably if there were any game which only two men could or would play, and those two arranged a tournament, the winner would be champion of the world at that game. What concerns us more, however, is this demonstration of amateur ability against a professional in a field where the professional has usually reigned supreme. In court tennis success is preëminently dependent on practice—and then more practice. There is where the professional scores. It is his business to practice; that is what he is paid for. Therefore the crown of glory to the amateur is by so much the greater when he carries off the victory. Gould has shown again—as did Mr. Ouimet last fall—that there is no magic in the title of professional. As another champion once remarked, "The bigger they are the harder they fall."

**Those
Baseball
Contracts** Wars and rumors of wars are convulsing the baseball world this spring. The advent of the Federal League has brought confusion and discord where once were peace and order. With the merits of the case we have no special concern. The destinies of the Federal League are on the knees of the gods—in this case the "fans." If the Federal teams play good ball presumably a considerable number of people will pay good money to see them. If not, not. But there are one or two minor considerations that are distinctly interesting. We cannot sympathize in the least with the outraged attitude that many of the supporters of the

two major leagues are adopting. There is nothing sacred about a baseball league that we have been able to discover. If it is a sport, then the field of sport is proverbially open to all, from cook's son to son of a belted earl. If it is a business, then anyone with money enough to support a team and judgment enough to get the players would seem to be free to enter the field. The allegation of sacred contracts broken by the players who have "jumped" does not appear sound. The law of contracts is measurably clear, and the courts have never shown any unwillingness to rule when cases were brought properly to their attention. A baseball player who breaks his contract is liable to suit for such a breach in the same way as is any other man who commits a similar offense, no more and no less. We venture the prophecy that a test case would demonstrate the truth of this statement. The question of the peculiar validity of a player's contract as against other forms of contracts is a vague one and should be adjudicated. The attitude of holy horror is not tenable; neither is the appellation of outlaw as employed in this connection. A man who breaks a contract is not, *ipso facto*, an outlaw, and no amount of argument or epithet can make him one. He may be subject to judgment for damages, but the law provides means for determining this fact and for assessing the amount of such damages. Therefore let us have less loose talk and a little action.

**Virginia
Marching
Backwards** The State of Virginia has seen its opportunity — and avoided it. The Hart-White Game Bill, providing for the proper organization of a State Game and Fish Commission, with local deputies, with restrictions on the killing and marketing of game, was defeated in the House of Delegates by a narrow majority. Apparently the people of Virginia would rather kill their game than keep it, would rather sell it than see it alive. The ostensible reason for the defeat of the bill was that the State Game Commissioner would have too much political power through his ability to appoint three or four hundred local wardens. By the same token Virginia should abol-

ish the office of Governor. It is idle to speculate on the causes of the defeat of this bill. As usual in such cases, it was a combination of indifference, ignorance and selfishness, a triumvirate that is hard to beat. But how does it leave Virginia?

No
Warden
System

Having refused to be ruled by a State commissioner, Virginia now finds herself back in her old condition in which the local wardens are appointed by local magistrates. There is no central system and no head warden. To be sure, there is a fish commissioner, but it is reported that his activities are practically confined to the tidewater counties, so that the inland waters are left to the tender mercies of the fishermen. In one-third of the counties of the State there are no wardens at all, and it is impossible to discover a single case of a salaried warden in any county. The warden of the county containing one of the large cities of the State has made one arrest in five years, and that despite the fact that quail are sold contrary to the law in practically all the towns and cities. There are no resident hunting licenses, and in most cases no one to collect the non-resident fees. It is reported in a private letter from a man in a position to know that the State at present collects about \$125 a year from the latter source, whereas they should be collecting about \$5,000.

Good
Game
Market

Turkey, deer and quail are killed out of season continually and are shipped to Washington, Baltimore and Philadelphia markets contrary to the Virginia law prohibiting the shipping of game. The United States Biological Survey informed our Virginia correspondent that last year there were shipped out of the State of Virginia for Washington and Baltimore markets 50,000 quail. The same authority gave some very interesting facts relative to the type of guns used on the eastern shore for the killing of wild fowl. Dr. Palmer, of the Survey, showed a photograph of one gun more than thirteen feet long shooting two pounds of BB shot to the load. It

is stated that these guns are manufactured in Virginia and that there is a considerable local demand for them. The sale of quail is prohibited within the State, but turkey, deer and wild fowl may be sold without restriction. Under the present laws the hounding of deer is permitted. There is no restriction against the killing of does or fawns, nor is there any bag or creel limit.

One
Man's
Testimony

Naturally the sale of game is a large and flourishing business throughout the State, and here probably lies the secret of the opposition to the proposed law. We quote directly from a letter received recently:

"I have seen one man bring in seventy pounds of large-mouth bass in one day's fishing. The markets here furnish large and small-mouth bass constantly, and I have seen as many as five barrels of large-mouth bass in one fish dealer's shop, said bass ranging from five to seven inches in length. These are sold as 'pan bass.' The ducks and geese on the eastern shore are netted by the thousands, and these netted fowls are then hung on racks and shot in order that the purchaser may find the shot in the fowl. This is authentic and comes from the U. S. Biological Survey. We have no dog laws in Virginia. The dogs roam at large throughout the breeding season of the birds, and hundreds of thousands of song birds and game birds have their nests broken up and their young caught. To sum up the situation, we have a few game and fish laws in Virginia, but absolutely no one to enforce these laws, and this means that the State might as well be without them in so far as results are concerned. Virginia ranks about third from the bottom among the unprotected States. Our association places Mississippi at the bottom, North Carolina next to the bottom, and Virginia third from the bottom in the list of forty-four States. Virginia is one of the four States in the Union having no game commissioner or warden system."

So stands the case for the Old Dominion. We trust that her citizens are thoroughly appreciative of their proud preëminence.

**A Mere
Man's
Opinion**

Germany has prohibited the hunting of the bird of paradise in New Guinea for a period of eighteen months. It was the first intention of the Government to put a stop to it altogether, but later reports convinced them that the birds were in no immediate danger of extinction with proper regulation after a short period of protection. At the risk of seeming to be a rude and thoroughly uncouth male being, we venture the assertion that no good and useful purpose of sport or anything else is served by permitting the killing of plumage birds anywhere in the world at any time. We cannot expect the milliners or their customers to agree with this, but a feather on the hat that means a dead bird in some tropical forest is a lingering relic of barbarism. To be sure tastes differ, and down in the Solomon Islands feathers are understood to be *de rigueur*, at least on ceremonial occasions, but we should give at least that much evidence of superiority to the Solomon Islanders.

**When
Travel
Was Hard**

In the good old days travel was a fearsome thing. None but the most venturesome and hardy or those laid under grievous compulsion dared attempt it. And when they did it was with fear and trembling. In proof thereof read these injunctions to travelers on outfit and behavior written early in the seventeenth century and published recently by the Automobile Club of Philadelphia: "Among the requisites should be a hymn-book, a watch or a sun-dial. If a watch, not a striker, for that warns the wicked that you have money. A compass. Take handkerchiefs, as they come handy when you perspire. If the tourist cannot take many shirts let those he carries be washed; he will find it more comfortable. Let him also take a linen overall to put over his clothes upon going to bed lest the bed linen be dirty. Let him learn somewhat both of medicine and cookery. Never journey without something to eat in your pocket, if only to throw to dogs when attacked by them. In an inn bedroom which contains big pictures look behind the latter to see if they do not conceal a secret door or a

window. Women should travel not at all and married men not much."

**Antoine
Takes
No Chances**

Up in Canada they tell weird and wonderful tales about the strength and staying powers of the French-Canadian guides on portage. A story has been going the rounds in Montreal lately about a test that was made to determine the relative powers of the French and other races. To settle an argument one of the newspapers offered a prize of \$200 to the man who would carry a 200-pound load the farthest without putting it down to rest. The article selected was salt as combining the qualities of weight and reduced bulk in about the proper proportions. The start was made from the newspaper office and there was a large list of entries. By the terms the men were to walk straight away in a prescribed direction, and the one going the farthest entered into immediate enjoyment of the \$200. At 3 o'clock they were under way. By 6 o'clock all the aspirants had fallen by the wayside except three French-Canadians, who were still going strong. Two of these dropped out a little before 8, and the judges rushed forward to tell Antoine, the winner, that the money was his. "Where's the two hundred, then?" inquired Antoine in appropriate Drummondian patois. "You'll get it at the newspaper office," replied the judges. "Just jump in the automobile and ride back with us." "Not me," declared the hardy Antoine. "I don't put down this pack till I get that money"—and he turned and carried the salt back to the starting point. If you ask about this in Montreal they'll show you the salt.

**Real
American
News**

When the liner called at Kingston one day late in February on her way back from the Isthmus there was a rush among the passengers for newspapers to discover what great things had happened in the States during their absence. Prominently displayed on the front page of the Kingston *Gleaner* was one single bit of American news—the retirement of Charles W. Murphy from the management of the Chicago Cubs.

They may play cricket in Jamaica, but they have also a very clear idea of the mental inclinations of many of their American visitors as the days draw on toward opening day.

A Great Prize Contest What is an amateur? A tremendous amount of controversy revolves about this

question. The dictionary is of little use. The Standard wisely evades the issue in this suave fashion: "In athletic sports, an athlete who has not engaged in contests open to professional athletes, or used any athletic art as a livelihood. The term varies in usage, and is usually more specifically defined in the regulations of athletic associations, but the definition is liable to change." How's that for copping the bet both ways? But it should be possible to come a little nearer the mark and we have determined upon a daring step. We will give a year's subscription free to the man—we use the term generically; women and even children are not barred—who can furnish us with the best definition of an amateur in the fewest words, we to be the judge. The definition must express the inward spirit of the word and must also be capable of specific general application without obvious injustice. If you decide to enter this world-wide contest we are of the opinion that you will earn the prize, whether you win it or not.

Two April Oversights Through an oversight we omitted to state that the photographs used with Mr.

John Oskison's article on Deer Hunting with the Apaches in April were taken by Mr. John T. McCutcheon. We hereby tender our apologies to Mr. McCutcheon and also our thanks for an excellent collection of illustrations. The same demon of carelessness was responsible for the omission from Mr. Clark C. Griffith's article of the line "Arranged by Edward L. Fox."

Steady, Boy, Steady! "His is a steady game, with flashes of brilliancy, unfortunately followed frequently

by lackadaisical play which at times makes him the victim of a really much inferior golfer." These burning words

are written of Mr. Frederick Herreshoff by the American correspondent of an English golf publication. How fortunate it is that Mr. Herreshoff's play is steady. Otherwise the "flashes of brilliancy, followed frequently by lackadaisical play," might lead his friends to place their money on the other man.

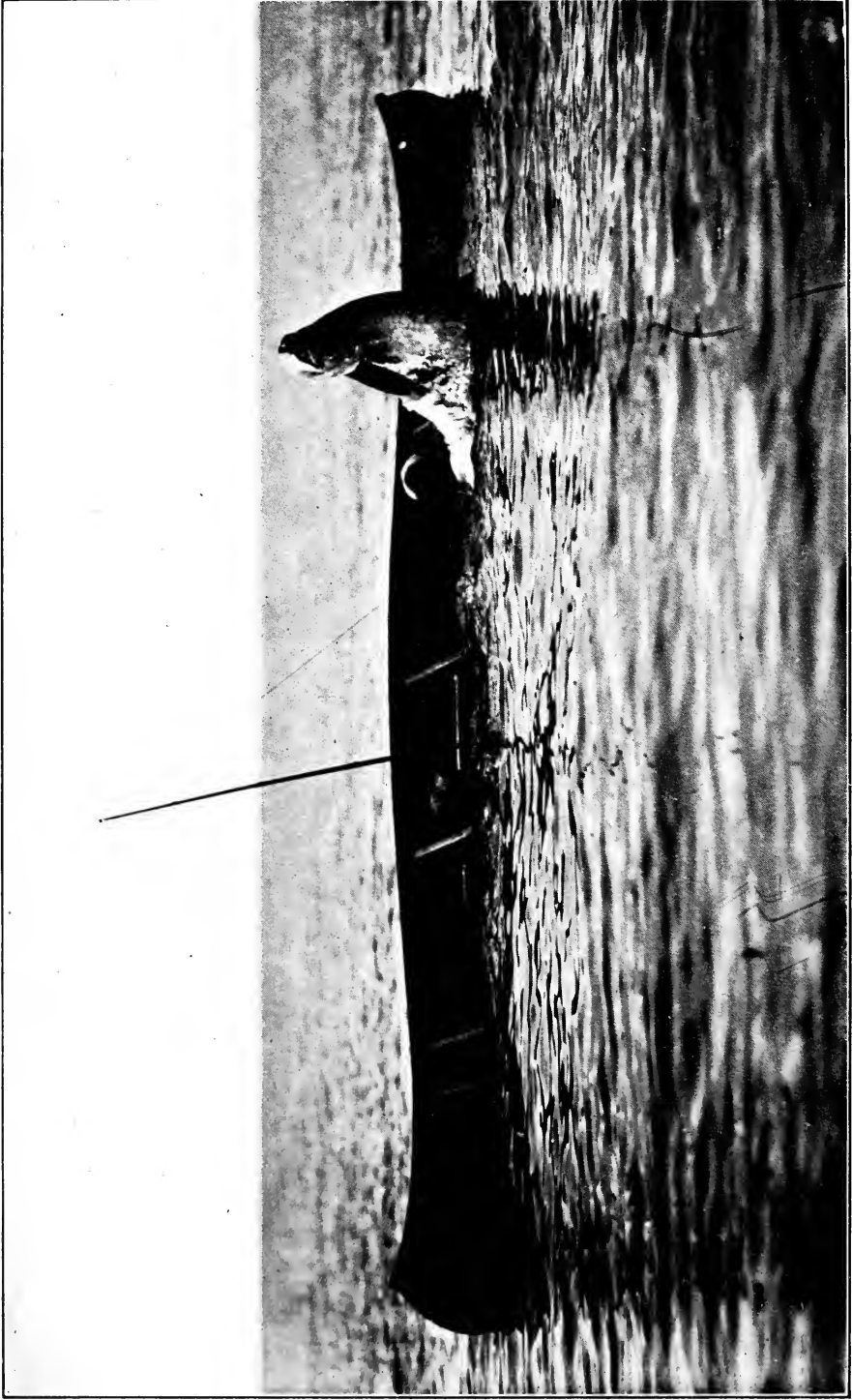
The New Cup Challenger Word comes from the other side that the *Shamrock IV*, the new Lipton cup challenger,

is to go back to composite construction instead of being a metal boat. She will have steel frames, wooden planking, and probably a metal deck. Mr. Nicholson states that his reason for this wooden planking is that he can get a smoother surface than with metal plates, which are so thin that the rivet heads could not be countersunk without weakening the plates—loose rivets being a constant source of trouble in previous cup racers, many of which leaked badly. It is stated also that *Shamrock IV* is to have a centerboard. In this respect she is the first British challenger that has ever used this purely American device. This does not mean that she will be of the conventional centerboard type. Modern centerboard boats are practically keel boats as regards shape and design, merely having a small board working through the lead bulb on the keel to give additional lateral plane in going to windward. Under our measurement rule draft is restricted, a penalty being placed on excessive depth, so that additional depth and lateral plane can only be had by use of the centerboard, which is not taxed. Though the racing promises to be most interesting, the chances are all in our favor that the cup will stay on this side of the Atlantic. In *Shamrock IV* Nicholson is designing his first boat under our measurement rule, whereas our designers have had eight years' experience in it. They have watched its operation, and are able to do things under it on the chance of producing a faster boat, which one not familiar with it would not dare to undertake. In addition to this we have three boats, of which the fastest, presumably, will be chosen, whereas Sir Thomas is having but one boat built.

TO A BASEBALL

*You're going into play? An instant more
And yours the eyes of thousands. There's for you
Huge plaudits welcoming the needed score,
Deep disapproval at misplays they view,
And, best of all, the eager silence there
When, swift from bat or hand, you hang in air.*

—Anonymous.



AS THE FORESTER STAGGERED BENEATH THE WEIGHT OF THE TARPON THE CANOE ROLLED GLEEFULLY OVER
(Illustration for "Tarpon and the Movies.")

OUTING

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TARPON AND THE MOVIES

By A. W. DIMOCK

PHOTOGRAPHS BY JULIAN A. DIMOCK

IN this article Mr. Dimock returns to his first and dearest love, the tarpon. This time the Camera Man was equipped not only with his true and tried machine of earlier days, but also with a moving picture camera. He was to try what could be done in fixing the leaps of the fighting fish on the little strip of celluloid that wound through the small box. It had been tried before, but not with success. Where the professionals failed, this amateur, who knew nothing of moving pictures but much of tarpon and of straight photography, was destined to succeed. It is an introduction to a new sport under wellnigh ideal conditions.

MANY have been my trips to Florida, but the last one had a new *motif*—we carried a motion-picture camera. My rôle on previous occasions had been to supply “human interest” for the Camera Man, and take any risk at his command, with full knowledge that any awkward pose might be preserved forever. But now conditions promised to be still more trying. Formerly it took the Camera Man some seconds to change his plates, and I had this respite, but now his crank would register a continuous performance. How paralyzing to consider that 1,000 exposures a minute might be made and forever would our gyrations be perpetuated and broadcast the impressions be sown!

The situation was serious, but there

was one means of escape. I would act as assistant to the Camera Man and thus keep out of the limelight. My friends should be the actors and I would help to record their antics!

We received our camera and films at the railroad station, ten minutes before the starting of our train for Florida. We had a few minutes' instruction as to working the machinery of the camera, which was simple enough. The film was to be threaded from one spool in the camera to another in a way made obvious by the construction of the machine. When the scene was to be pictured the lens was pointed toward it and the handle turned twice every second. This exposed one foot of film every second on which sixteen pictures were taken.

There was nothing to trouble us so



The illustrations on this and on the page facing it were made from negatives clipped from the moving picture film. Considering the speed of the leaping fish and the fact that the pictures were made for reproduction on the screen and not on the printed page, they are surprisingly distinct.

far. Either of us could turn a crank, and the Camera Man was the best in the business of taking snapshots at tarpon in the air. But another point was insisted upon which if enforced would knock things endwise for us. It was stated to be an imperative condition that the camera be screwed to a tripod which must then have a solid foundation. A battle with the Boers could be faked among Jersey hills or a tame lion pose for a bloodthirsty beast, of the wild, but there are no tame tarpon to be hired nor actors who can dress the part. No, the motion-picture machine must be held as we had held other cameras and the chance be taken of the motion destroying the picture.



We had often suggested to motion-picture men that they get a series of tarpon pictures, but some of them doubted the profit of the thing and others its possibility. Yet when we arrived at Fort Myers, ready for the tarpon cruise, we found the professionals had been there and hired a big outfit for the work. I was told that the camera had been fixed upon a large boat while the hired guides fished in their smaller boats around it, but that the result had been failure. It remained to be seen whether we could succeed while violating the rules of the motion-picture game better than the professionals while observing them.

There are two ways of fishing for tarpon—one suits the sybarite and the invalid, the other suits me.

The trend of the times is toward specialization and even our sports are syndicated. A tarpon guild has arisen and individual initiative has been



crushed. The idea has permeated fishing circles that to catch tarpon one must first go to some stylish dealer to be fitted with, or to, an outfit, as a tailor might dress him for a dinner. Thereafter, from some costly inn near fashionable fishing grounds he must submit himself to a so-called guide at a wage of six dollars a day, plus fancy charges for bait and such other expenses as a practical imagination can suggest.

More and more has the game grown costly as the wonderful sport has become known. Houseboats have been constructed, fitted with every convenience and luxury and manned by men with knowledge of the coast and of many of the haunts of the tarpon.



When the sportsman's private guide has had his breakfast and his smoke, if wind, weather and tide meet his approval, he fills the tank of his launch with gasoline and takes his customer aboard. Churning the water with his three-horse-power engine he threads with his craft the channels of river or pass, while the fisherman sits in his easy, revolving arm chair, trailing from his costly tackle a strip of mullet as bait.

I have no thought to disparage the game, which is really worth the candle. If the season is well chosen and the captain knows his business, which most of them do, the sportsman will get plenty of tarpon with a minimum of exertion.

The practical way to get into the game is to charter a houseboat from any port on the west coast of Florida and step aboard from your private car at Boca Grande, Fort Myers, or any available station on the Flagler road. Thereafter you are in the hands of your



captain and you may be sure, *if you have selected the season aright*, that you will have the prettiest fishing in the world, presented in its most up-to-date form, and available to every man, woman, or child of your party. The expenses may run into hundreds of dollars per diem, although if alone, and parsimonious, you might manage to cut them down to fifty.

The other extreme, of simplicity if not of sense, calls for a companion and a canoe. Outside of railroad fare and the cost of the canoe, the expense of a month's outing would be negligible, hardly more than the bill of an east coast hotel for a day. On a similar trip the clothes I stood in cost less than five dollars, and I believe that included the cost of a dollar watch which later I threw at a coon. The tarpon caught by the lesser outfit would compare with those taken by the other in the proportion of several to one, while of the timid creatures of the wild, seen by the canoeists as they silently paddled through river and bayou, the ratio



would be almost as infinity to nothing.

Yet, despite all I have written, our recent tarpon-motion-picture excursion was of the *de luxe* variety. Of course, it was in the summer, since that is the tarpon season, besides being altogether delightful on that coast in other respects, although it would take a surgical operation to get these ideas into the conventional tourist head. That through years of experience no summer night has been made sleepless or day oppressive by heat on that coast fails to impress the conventionalist who invariably closes a discussion with his poser:

"How about mosquitoes?"

I have suffered frightfully from these beasts, but it was on a salmon stream. While fishing on the Miramichi, Joe Jefferson bet me that I couldn't cast for salmon for five minutes without brushing the insects from face or hands. There were mosquitoes, black flies, and sand flies, and I stood the torture for about half the time, yielding then to keep from going crazy. Looking back over thirty years, if insects have seriously troubled me while tarpon fishing, the incident has left no furrow in my memory.

Our happy little party of five set forth from Fort Myers in pursuit of adventures. As we cruised down the coast from Pine Island Sound there was added to my social pleasure the joy of reminiscence, awakened by every curve and cape of the shore, every pass and inlet, bay, river, and house. I had paddled down that same coast with the Camera Man, in a forty-pound, fourteen-foot canoe, and I wanted to head the big boat to the east and again run through the surf to the shore.

As we entered the rivers, passing rookeries familiar to me, I fancied the birds were the same, yet how sadly depleted in numbers since I first made acquaintance with the streams. None of my manatee friends were to be seen in the waters where often I had called upon them, and I was disappointed that alligator acquaintances had not remained on the banks where I had left them.

I had long known the Big Cypress, Ten Thousand Islands, and the Ever-

glades as a land without law, a country of convicts and a home of mystery worthy of its title of "Darkest Florida." There were tragedies told of each river, many keys hid a story of crime and the prettiest place near the coast had long been owned by a desperado who to me had been a kindly host.

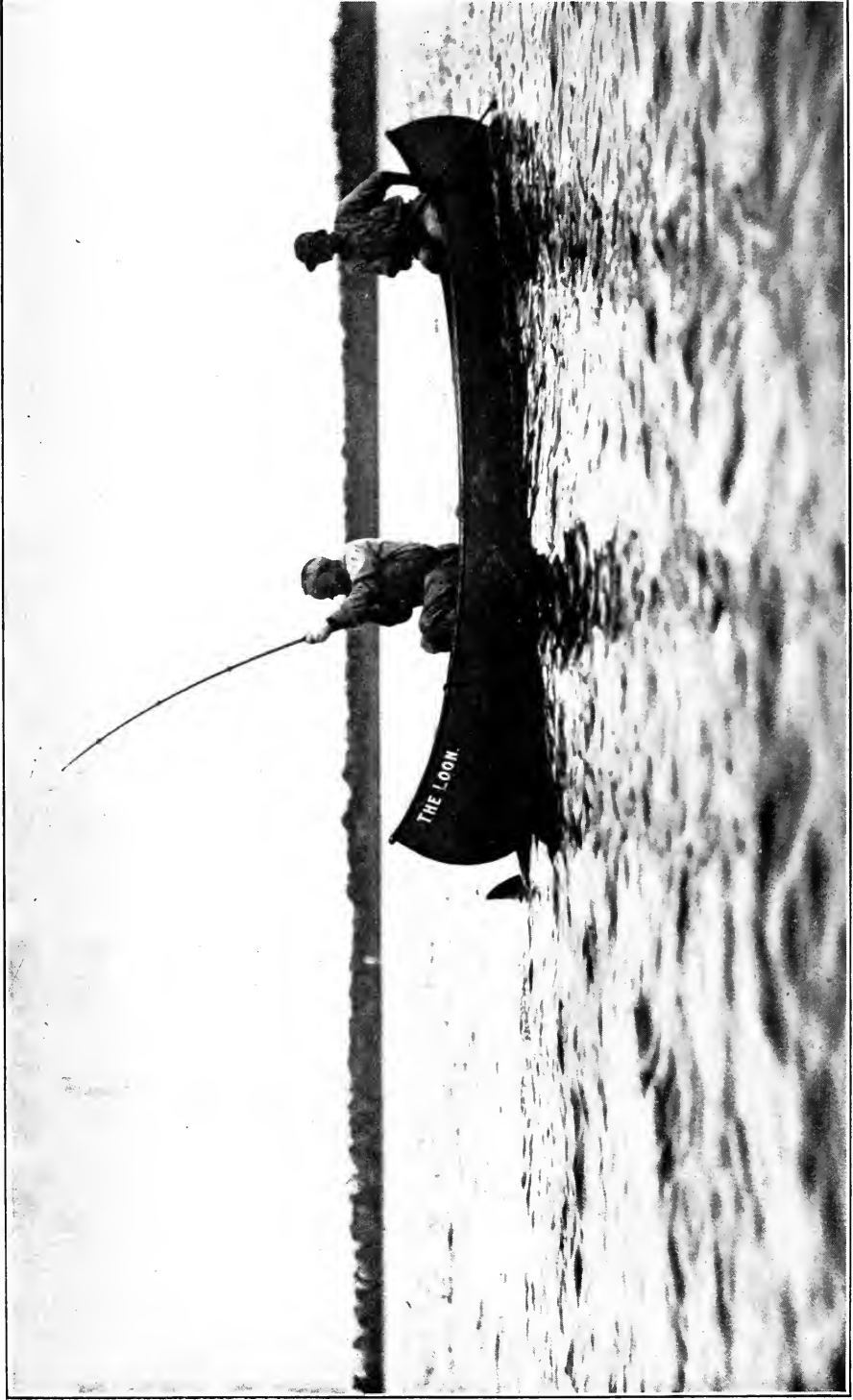
What a thriller his story would have made for the movies! And the terrible drama of his execution! Nothing that the villainous Villa could have offered the movie men in the shape of a battle in exchange for a share in the gate receipts could have exceeded it in horror.

This outlaw, who was well-connected, was a picturesque feature of the country which he dominated for years, ordering settlers from near his domain and removing with his rifle those who neglected to depart. It was common report that he settled all accounts with a thirty-eight and the estimates of his homicides were never less than two figures and some even reached three. Yet with all the reports of his maniacal fierceness that abounded, to me he seemed "as mild-mannered a man as ever scuttled a ship or cut a throat."

He disarmed all officers sent to arrest him and was only eliminated by a bunch of fourteen of his nearest neighbors just after he had cancelled his indebtedness to two men and a woman by sending them to another world. His executioners riddled his body with bullets, leaving few of his bones unbroken. Their excuse was that their victim had snapped both barrels of his shot gun at them and when the cartridges failed to explode had drawn his revolver.

Non-explosive cartridges were not the kind the murdered man was in the habit of carrying, but I never commented upon this in conversation with any of his executioners, most of whom I knew. There is an etiquette of that coast which I have often ignorantly violated by expressing horror of certain homicides to men whom I learned later had committed them. From among my own guides or boatmen I remember seven who were either murderers or were murdered.

Tarpon abounded in the bayous and



HE URGES THAT FISHING BE DONE FROM A CANOE AND ONLY THOSE CAPTIVES BE COUNTED WHICH THE SPORTSMAN HIMSELF LANDS IN THE CANOE

streams about this center of tragedy and each day we set forth from the house-boat, our friends with their tackle, from tarpon to trout rods, in launch, skiff, or canoe, while the Camera Man and I followed in a power boat ready to chronicle sport with plate or motion-picture film. Much of the work was in narrow, crooked streams where we couldn't even keep in sight of the other craft, but we were usually somewhere between them, and when Tim's wild-Indian yells or the more civilized shouts of our friends shattered the air, our picture craft was sent flying around the corners of the crooked stream.

There was small opportunity to maneuver for position and we had to take our chances as they came. We couldn't grind out film at five cents a

second on tarpon which had already made several leaps and might not make another in minutes. Yet there is time after the beginning of the jump to get twenty or thirty pictures of the fish and including the commotion in the water and the excitement in the craft it can be run up to a hundred advantageously.

To the fisherman, with his mind filled with a picture of the gorgeous creature that has just shot out of the water and the hope of another leap while his muscles are tingling with the strain on rod or line a five-minute delay is pleasantly filled with emotion. A motion-picture audience of to-day wouldn't stand for the delay and must have a continuous performance of leaping tarpon. This was managed after a fashion and the performance of scores of tarpon



I DEPOSITED MY AVOIRDUPOIS IN THE BOTTOM OF THE CANOE AND FISHED FROM THAT UNPICTURESQUE POSITION



A GOOD JUMP THAT THE MOVIE CAMERA CAUGHT CLOSE ABOARD

were utilized to fill up a reel with action.

Yet the Camera Man counted the result as merely educational and of value in its promise of what may be accomplished. He encountered no obstacle that cannot be surmounted. In this experiment, pictures taken at varying distances, with widely differing surroundings, with the performers in canoe, skiff or launch indifferently had to be merged into one performance which gave an abundance of excitement, but lacked the complete smoothness of finished work.

The larger rivers gave the best opportunity for motion-picture work, as the waves and the roll of pass and Gulf interfered with the steadiness of the camera.

As the Forester was examining his collection of rods and of reels with their watch-like mechanism and ingenious brakes, he exclaimed:

"Where does the conservation of tarpon come in, and however can he get 'a square deal?' If I had the right kind of influence—in Washington—I'd pass a tarpon law!"

"Fine thing," said I. "What would it be?"

"The rod must be light and the line of six to twelve threads, with an emergency rod for the big fish in the passes and an eight-ounce rod for the little fish up the rivers."

"Anything about the boat?"

"Surely! The fishing must be done from a canoe and only those tarpon counted which the sportsman lands in his craft without help. Then he must return them to the water unless he should want one or two for specimens."

"Amen," I cried, "and may I be around with the camera when your fish gets his innings!"

Was it fate or frolic that favored us one morning?

The Forester threw his tall form back at an angle of thirty degrees. The tough hickory of his favorite rod bent into a semicircle and threatened to snap the line that had been tested to forty-eight pounds.

"Ouch-e-ke-wow!" I shouted, "I wish that line would break."

The Forester was fighting a tarpon of nearly his own weight. The fish

was in its element and good for a half-hour battle, while the man was in a fickle canoe. Sometimes as the fish leaped into the air and the line suddenly slackened my hopes ran high, yet the fight was fought to a finish without the catastrophe I longed for. It only remained for the victor to take the tired tarpon into the canoe and, removing one of its brilliant scales as a trophy, return it to its native element, unharmed but enriched by an experience that would make it thereafter the Depew of dinners and diners in tarpon circles.

As the Forester staggered beneath the weight of the tarpon that he sought to lift bodily from the water, the canoe rolled gleefully over. This was in the Gulf of Mexico, just opposite the mouth of Shark River. Our story is not of peril, but only of playful adventure, and not even the name of the river should convey any sinister thought. For the shark of our waters is harmless to man and rewards offered for proof of one having attacked a human being have been unclaimed. I have sought for such evidence myself and have chased up many stories without getting beyond their hearsay quality.

The single exception that occurs to me I have accounted apochryphal. The story was of a fifteen-foot shark that attacked a man and took a huge bite out of him. But my confidence in my informant was shaken when he added that the bite was so big that although the man died the bite got well.

We had many bits of fun with sharks, and catching the brutes may be recommended to athletic sportsmen whose muscles ache for a strenuous game. The toughest rod that can be bought, with a massive reel and a thirty-six thread line are adequate weapons. No question of mercy to this repulsive creature is ever raised. The shark is brought beside the skiff, for his teeth would ruin a canoe, and the *coup de grace* administered with a revolver. Bringing the brute to bay may take five minutes or five hours, but no instant of the time is apathetic.

The Forester reveled in this sport and was very successful, capturing the largest number in the least time, but he tampered with the returns, insisting that

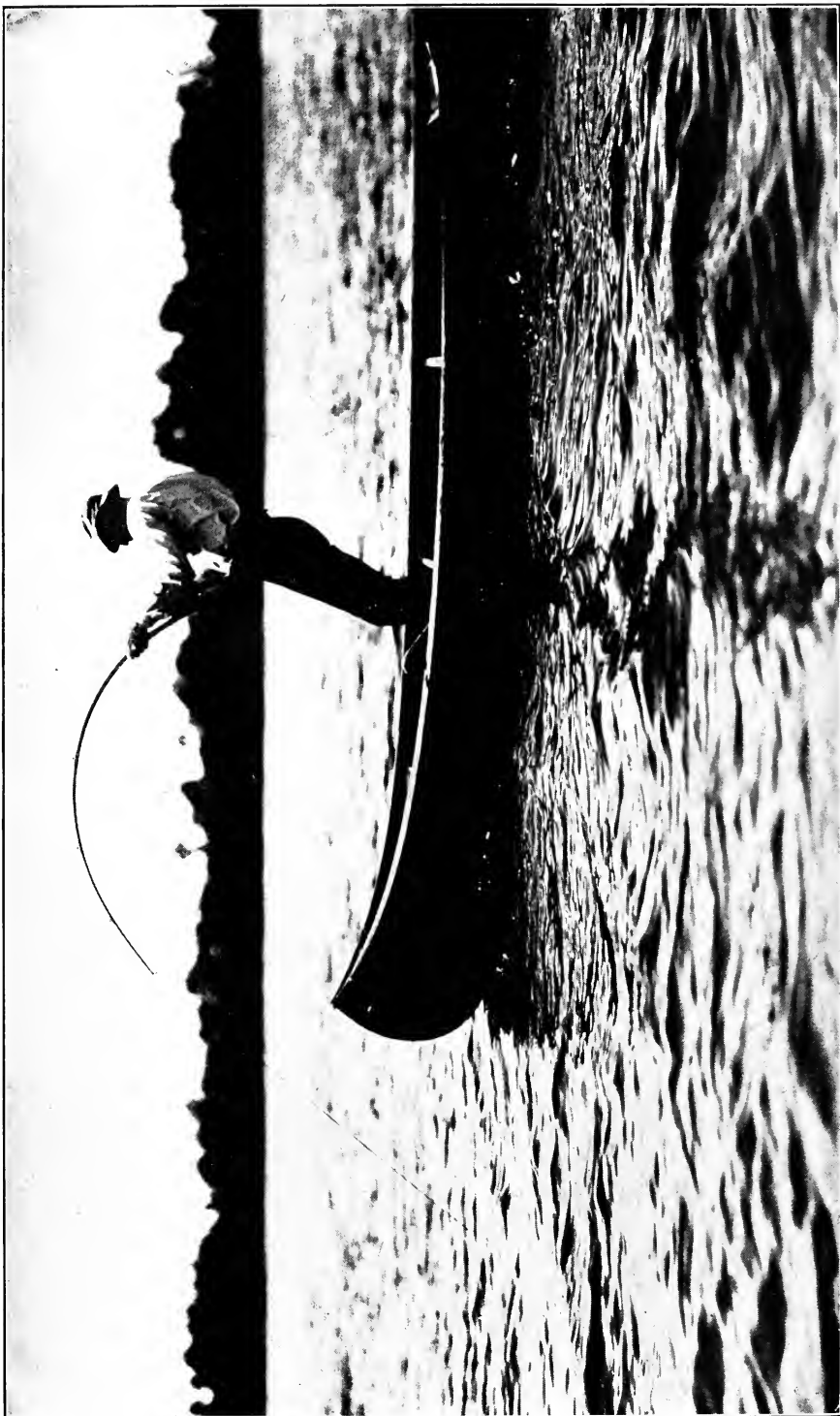
his record be kept in linear feet and not by number. This gives him a credit of ninety-five feet and some inches of shark, which if in a single piece would weigh something over two hundred tons, which is probably considerably in excess of the total weight of all that he killed.

His leanings have always been toward big game—swordfish and tuna for example—and he took kindly to the chase with a harpoon of a sixteen-foot sawfish. He pursued the creature in a skiff as after a conflict at close quarters with a big sawfish a canoe would resemble the feathered contestant in the famous dispute between the monkey and the parrot. The pursuit of this branch of the shark family is a virile sport and the Forester made two misses before he secured his specimen. The thought of these failures became an obsession and after his return he devoted spare hours to hurling the harpoon, javelin fashion, until he could hit his hat at a distance of fifty feet.

The Camera Man didn't get his innings in the sawfish game. There were several reasons for this. Firstly it was too late in the day to take a picture. As my space is limited I omit the other reasons.

We began our fishing at Marco, opposite the Leaping Tarpon Hotel, and in three weeks each fisherman of the party struck nearly a hundred tarpon, capturing, and releasing, nearly half that number. With a thousand tarpon to my credit, or discredit, I cared not to add to the score.

Yet I spent one forenoon in a canoe with the Forester to try out a fly rod and light tackle. To his eighteen tarpon strikes I got twenty-four; that he landed more than I was a fortuitous circumstance of which I have not preserved the particulars. The Camera Man was the one who got left for his pictures had to be suppressed. In total disregard of his artistic feelings I deposited my rapidly accumulating avoirdupois and years in the bottom of the canoe and paddled and fished from that safe but not picturesque position. I am keeping the prints the Camera Man made of us as souvenirs, since there will never be others like them. Henceforth



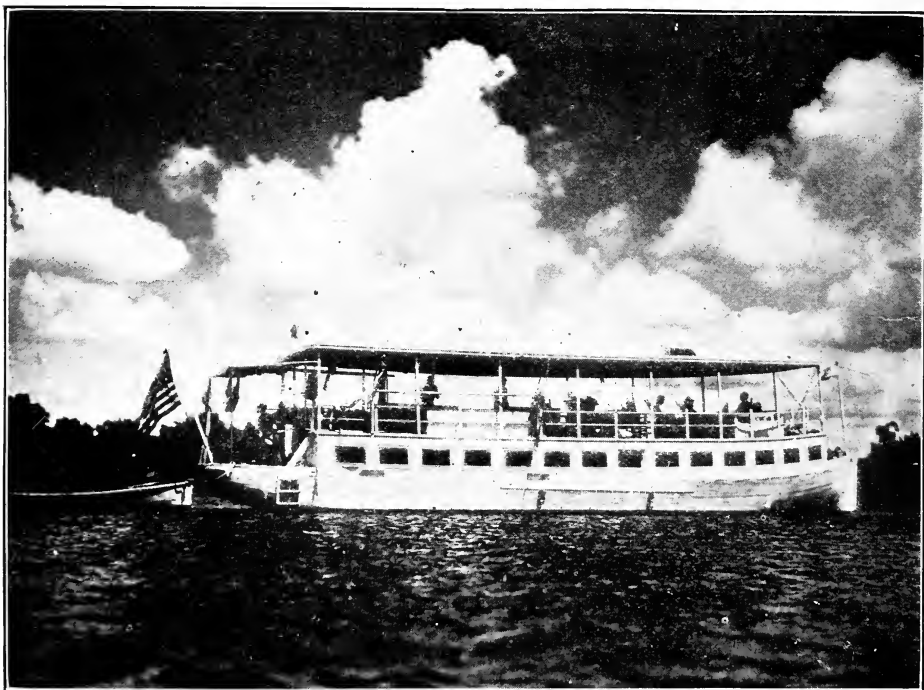
THE TOUGH HICKORY OF THE FORESTER'S FAVORITE ROD BENT INTO A SEMICIRCLE

when tarpon fishing from a canoe I shall sit up like a man and a one-time canoeist, and if I go to the bottom it shall be *cum dignitate* even if *sine otio*.

My preference of a hand line to a rod, excepting an eight-ounce rod for the head of the rivers, has been esteemed by many friends an obsession of mine, but many of them are now coming my way. The arrogance of the Syrian General in his comparison of the rivers of Babylon with the Jordan was as nothing to the superciliousness with which the usual up-to-date tarpon fisherman, with his forty-dollar reel and four-dollar line, regards this form of sport. Yet there are thrills that traverse the tautened line between the tarpon mouth and the tour-

hands were tautly drawn and over them passed from the human to the equine mind a mandate that dominated, steadied, held the frightened creatures from recoiling in panic and finally sent them, a disciplined team, straight for the barrier. Over it the leaders flew, the wheelers rose, but hampered by their harness, fell upon it, while the stage crashed against the great log and the passengers looked from the opened door down a vertical wall of a thousand feet.

More than once has the picture this artist drew presented itself to my mind as a tarpon has touched the bait I trailed from a light canoe. For the personality of a tarpon was in that touch and as I struck sharply by way of challenge,



HOUSEBOATS HAVE BEEN CONSTRUCTED FITTED WITH EVERY CONVENIENCE

ist hand which the fisher with a rod will never feel.

Bret Harte, as in my library he "tried on the dog" an unpublished story, pictured to me in his wonderful way the message he saw a stage driver send through the tightened reins to his frightened team as it dashed down the precipitous path across which a tree had fallen. The eight lines in the driver's

his defiance came swiftly in the form of a leap many feet in the air, followed by a wild dash that made the five-inch freeboard of my light canoe seem like a narrow margin between the water and me. I sent soothing messages through a line, firmly and steadily held, and returned soft answers to explosions of wrath.

Then when the Camera Man said

he was ready for another jump, with twitchings of the line I sent the fish messages that maddened him and as he replied with savage shakes of his head I taunted him in Morse dots and dashes until he manifested his rage by leaping wildly at me. Through alternate coaxing and teasing the gamut of tarpon

line. His broad side, glistening in the sun, is of frosted silver, his back of kingly purple. His wild gyrations are puzzling to follow and only the camera can catch the convulsive motion of his gills. Often, too, the camera catches and fixes in the air the hook which the tarpon has hurled far from him.

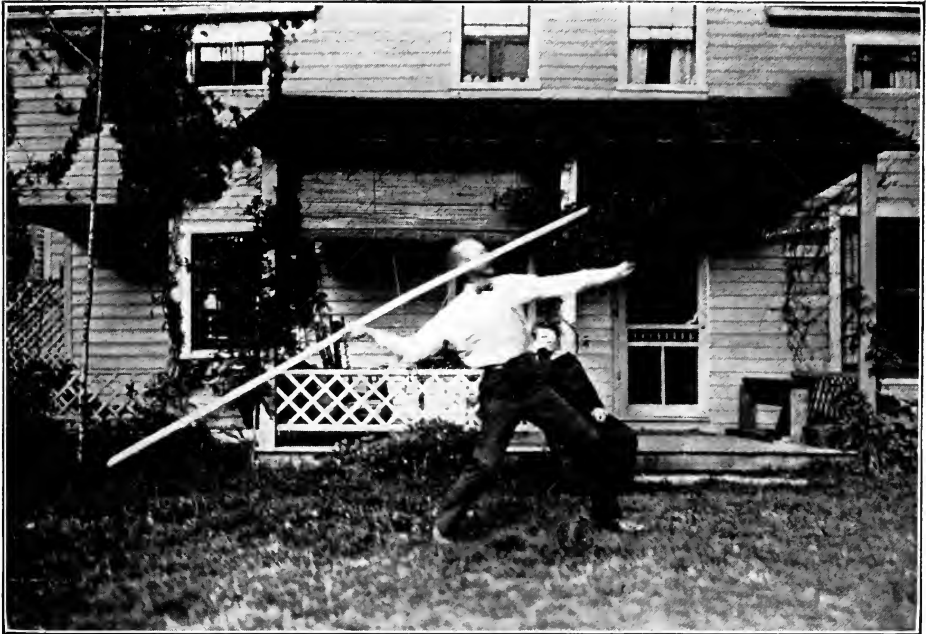


Photo by Emlyn M. Gill

HE DEVOTED SPARE HOURS TO HURLING THE HARPOON

emotion can be run and when at last the fish floats exhausted beside the canoe a turn of the hard loosens the hook and restores to an honorable enemy his well-earned liberty.

I sing praises of tarpon fishing with a hand line from a canoe, combating the prejudices of a generation of sportsmen. But let us reason together. Compare the ponderous launch with the dancing canoe which vibrates to every mood of the great fish even as it responds to a touch of the paddle. Imagine the thrill that wakens every nerve as you feel through the line the quarry seizing the bait and your own quick strike is followed by the frantic leap high in the air of the well-named Silver King.

Thereafter every twist and turn, every quiver, heart beat, or thought of the fish is telephoned through the tense

Do you know any other fish that can approach the brilliant performances of the tarpon? Do you know one of any importance that leaps when struck or if it chance to jump out of its element once, ever repeats the performance while you are playing it?

You can play the tarpon to your liking, making the fight fast and furious and ending it in fifteen minutes by drawing your canoe so near the fish that its frantic leaps are beside or over or into your canoe. Or if you don't want to chance a capsize you can play the game quietly and spend half an hour to an hour in landing your quarry, to the accompaniment of continuous sallies punctuated by picturesque leaps, often astonishingly high in the air. Every moment of the struggle is alive with fun and the excitement of anticipation.

One may get healthfully tired but there are no aching muscles. The strain is direct and not multiplied by the leverage of the rod. When a hand line is used with much vigor, the tarpon often conserves the sportsman's time by leaping into his arms and landing itself in the canoe.

I don't care for hard work for its own sake and I wouldn't wind a windlass and hoist like a derrick for eight or ten hours without sight of the game for any record or even the right to wear a button. Salmon fishing is perhaps nearest in line to the sport of which I write, but it lacks the picturesque leaping which is the feature of tarpon fishing. Then, too, the expense of the salmon sport is becoming prohibitive. It costs a fortune to own a section of a salmon stream and the right to fish in a favorite pool is beyond price, while each captured salmon represents on the average days of toil. I can point out tarpon streams by the hundred miles and pools without number where, in the season, each hour of fishing will average more than one tarpon and all this wonderful opportunity is free as air.

Are there two of you, nature lovers, who want to get into the tarpon game on the ground floor of cost and comfort? Hire a launch with a skiff and engage its owner as captain, oarsman, cook and general factotum, a man unspoiled by conventional sportsmen and as ready to turn his hand to any required work as you should be yourself. Provide by purchase a light canoe, which you can sell after you are through with it and lay in supplies as modestly as your nature will permit. With the fish you will catch from the start, the oysters you may gather from the trees, the clams, hard and soft, you may tread or dig, the palmetto cabbage your factotum will cut, the fruits you will find, and the vegetables you will have chances to buy, it is repletion instead of starvation you will have to fear.

Much of the pleasure of your trip will depend upon your choice of a boatman. A fair knowledge of the coast is

needed, cheerfulness is vital, while a sense of humor goes far to make a joyful outing. I have in mind a boatman of this type who contributed to the comfort of our recent trip by his interest in all our plans, his anxiety to forward them, and his humor. His knowledge of the habits of wild creatures was wide and often the question rang out—"Where's Tim?" always echoed by the cheery response—"Coming, sir!" followed by the advent of the man, alert and eager to be of service.

Of his scores of humorous replies I will mention two. As we were looking at a lot of water turkeys the Forester asked:

"Are water turkeys good to eat, Tim?"

"They are fishy unless you know how to cook them, but then they are all right."

"How do *you* cook them?"

"Skin them first, cut off the breasts and throw away the rest. Then I put the breasts between two bricks, set them on a bed of hot coals, and keep them there till I can stick a fork through the brick into the bird."

The cavally, or jackfish, is a hard fighter, offering sport to the angler, but not usually cared for as food. Yet there is a broad layer of dark flesh in this fish that has a meaty flavor which I like. I was defending my taste to my companions when Tim chipped in on my side, saying:

"I like jacks first rate when they are fixed my way."

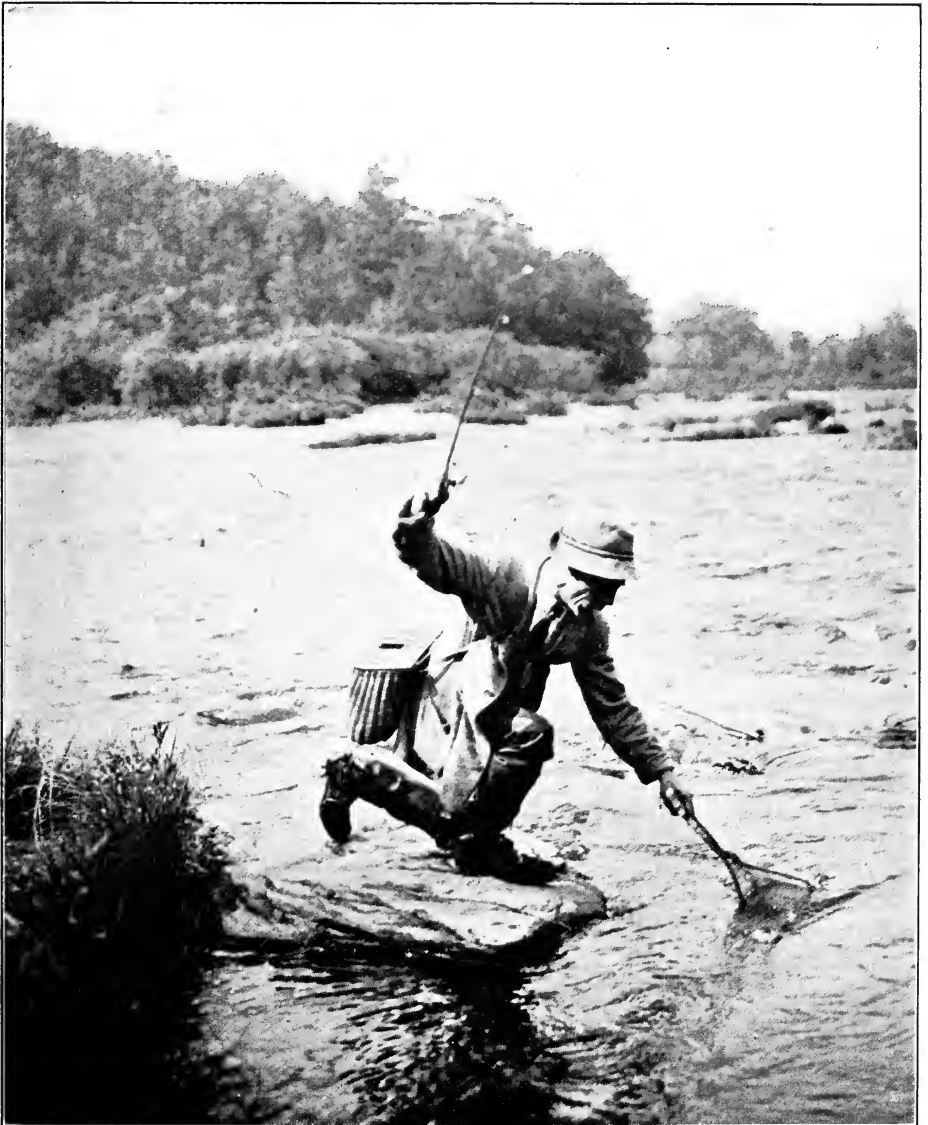
"How is that?"

"Just as you fellers tell about planking shad up north. I split a good fat jackfish, tack it on a board and sprinkle it good with salt and pepper and put on some butter if I can get it. I set it up before a hot fire and keep up the fire till the fish is crisp on the outside and cooked through and through. Then I strip it off, throw it in the fire and eat the board."

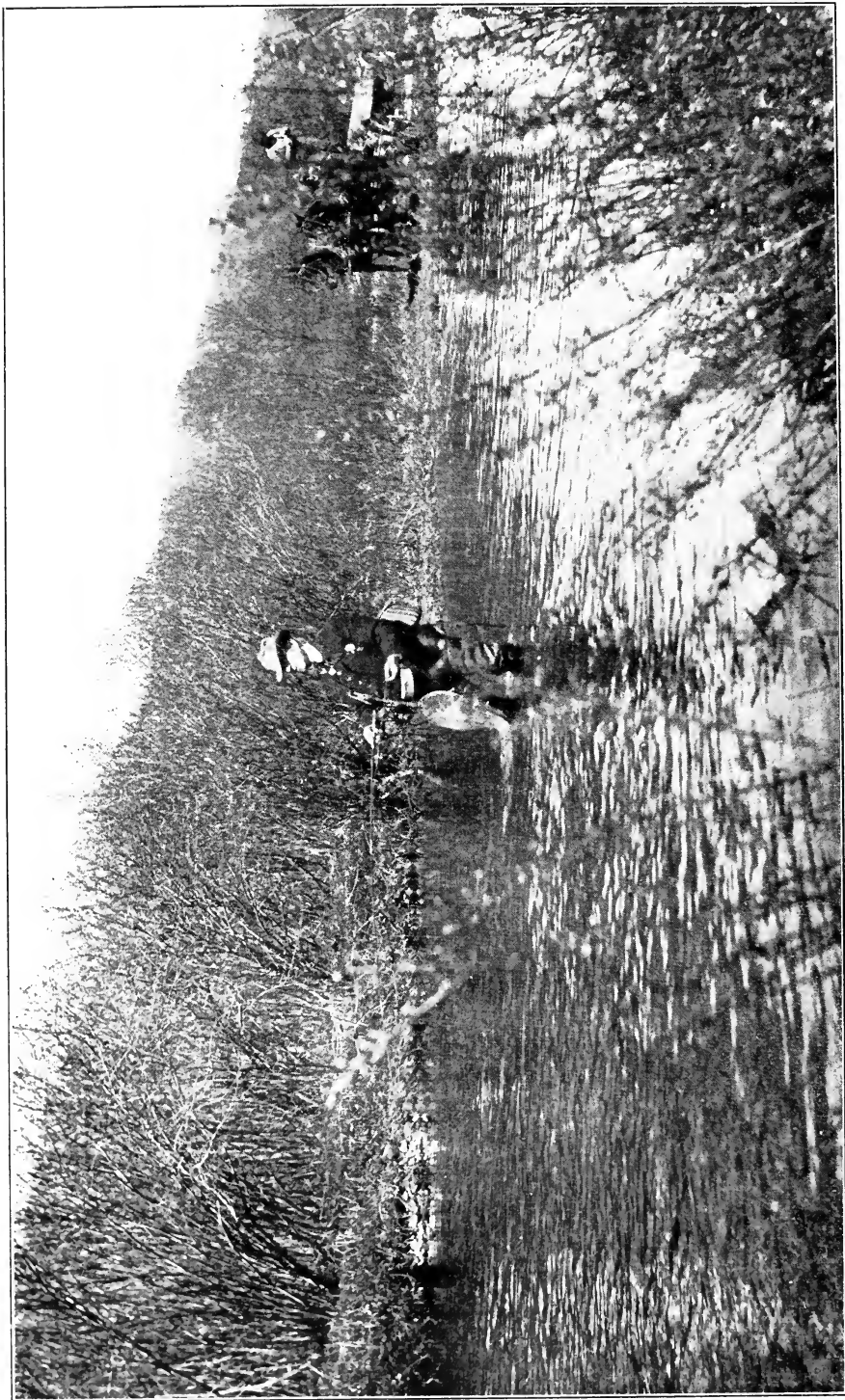
I haven't given Tim's real name, firstly because I am not advertising individuals, and secondly—I may want him myself next summer.

WHEN THEY BEGIN TO RISE

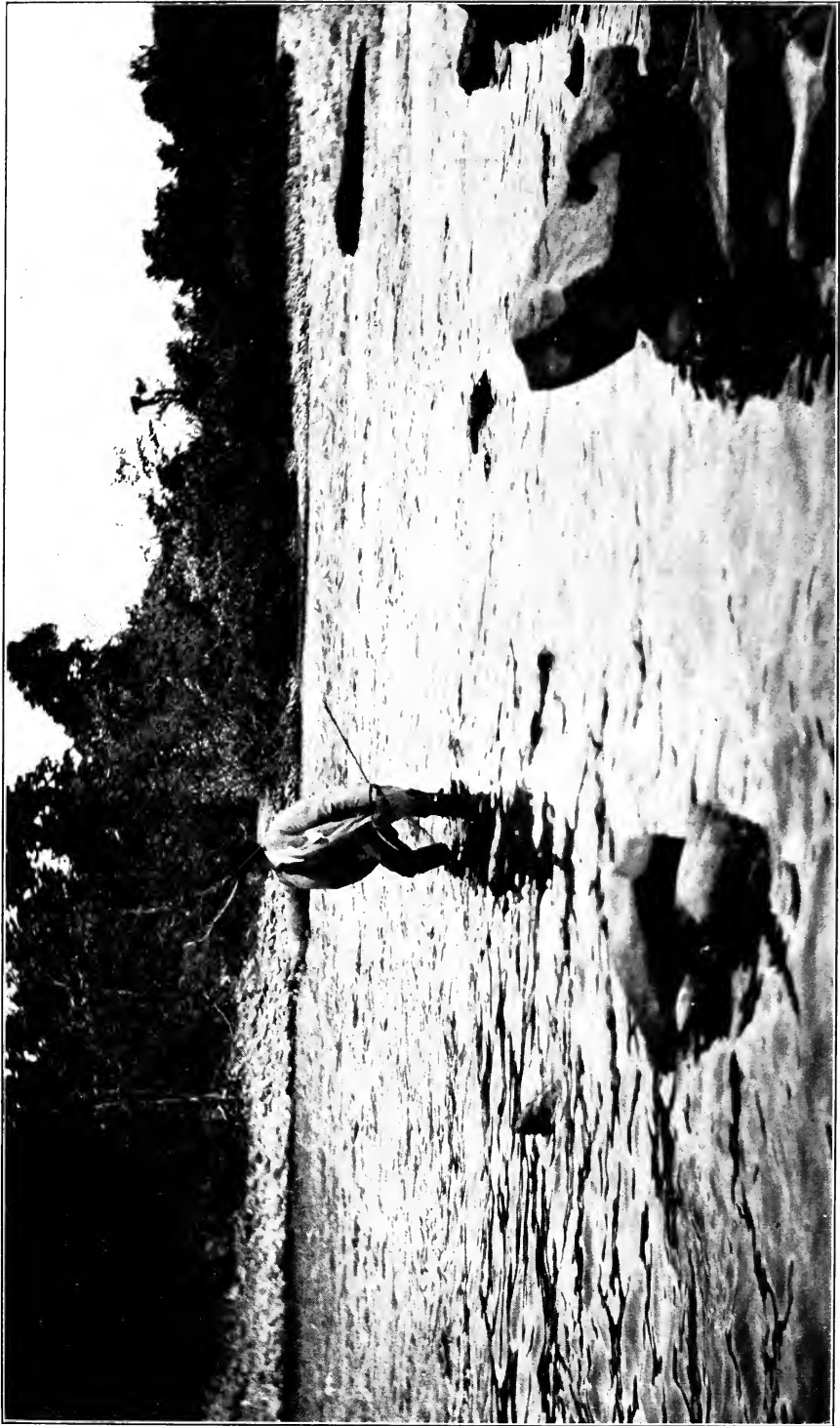
This is the time of the year when all good fishermen turn away from desk and counter and bench and whatever other humdrum appliance aids in the stupid task of making a living, and betake themselves to the real occupation of life. The photographs which follow are presented in the hope that they may inspire those who can follow the lure—and irritate those who want to but can't.



LANDING THE WILY BASS ON THE DELAWARE



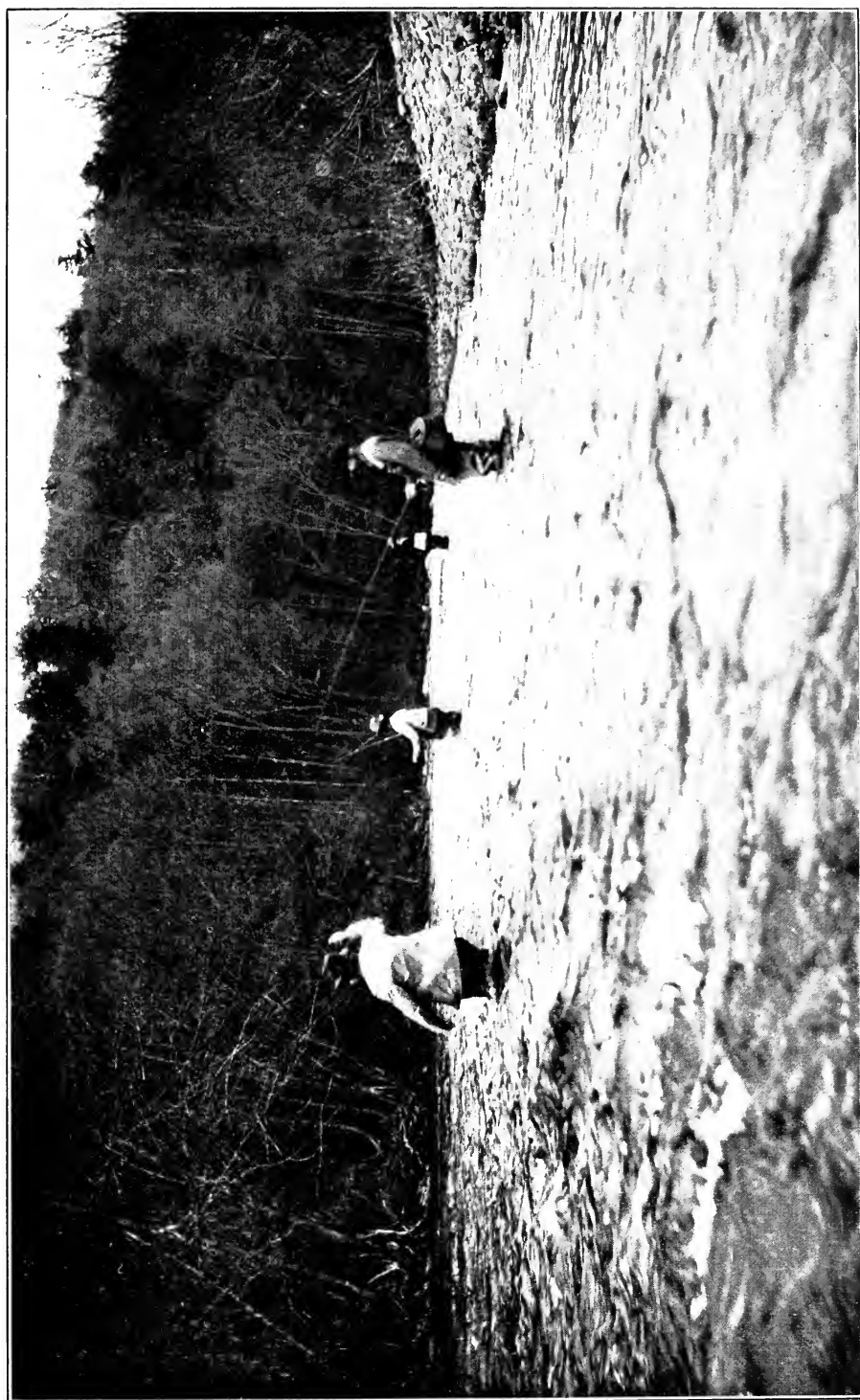
ALL OUR TALK IS OF FLIES, BUT WE CATCH MOST OF OUR FISH WITH THE HUMBLE WORM



JULY IS A GOOD MONTH TO TRY THE FLY APPETITE OF MR. BASS



WHEN THEY WON'T RISE TRY GOING TO THE BOTTOM FOR THEM



IN THE HEIGHT OF THE SEASON THERE IS A LONG WAITING LIST AT THE LIKELY SPOTS



A STEINBUCK. NOTE SIZE AS INDICATED BY THE HUNTING KNIFE

IN BACK OF BEYOND

By STEWART EDWARD WHITE

ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

III

THROUGH PLEASANT VALLEY

LAST month Mr. White carried his caravan into the mountain range that separated him from the Promised Land of his travels. Beyond lay the virgin game fields of German East Africa which he was to explore. They climbed the steep ridges, hauled donkeys across a river by main strength and a rope, hunted for water that was fit to drink, and otherwise suffered the minor difficulties of travelers in a new and unknown land. This month he carries his story down into a Pleasant Valley where there was grass and water in plenty.

FROM Vanderweyer's we started with our caravan increased by forty-odd of his donkeys in charge of his men. Twenty-five of these were laden with fifty loads of potio, which we had previously sent down to his place by ox-wagon; the rest carried trade goods with which Vanderweyer intended to take a little flyer on his own account. These animals were to

accompany us only to the other side of the mountain range, where they were to leave the potio, and then were to return by the way they had come. All were equipped with the native soga, a flat pad made of cloth across which the loads were slung in pairs. Nothing but adhesion and friction prevented them from falling off.

Naturally they shifted constantly, and up and down hill tended to slide off

over the beasts' heads or tails. Then one man had to catch and hold the donkey, while two others lifted the load aboard. In the meantime the rest of the lot would be getting into trouble. Vanderweyer's animals never got in less than two or three hours later than the porters; whereas our own, equipped with the American sawbuck saddle [the first use made of this in East Africa], kept pace with the men.

Our donkey men required careful training and constant supervision in the matter of saddling and adjusting of packs; otherwise sore backs were a certainty. Unless the white man is willing to do this, the American rig might be more trouble than it is worth; but if he will give the matter individual attention, donkeys will make as good average marches as men, and solve the problem for countries where there is

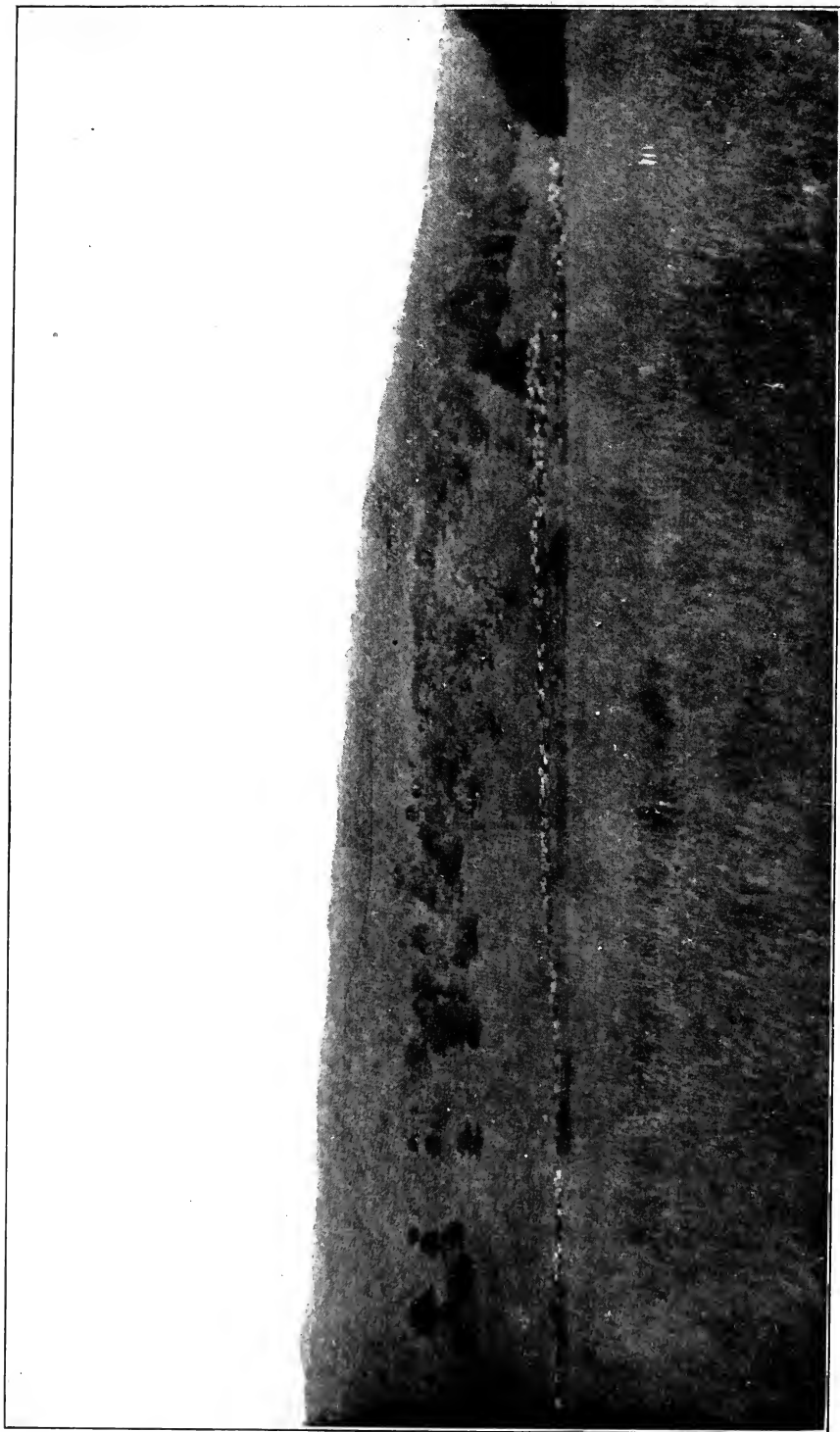
no local potio to be had, and where there is no tsetse.

This day the sky was overcast and cool. I marched ahead of the safari through the forest pass of the Narossara Mountains to the Fourth Bench, as in 1911. Saw many Masai, and a few kongoni, zebra, and Robertsii. Passed the Sacred Tree, stuffed full of stones, bunches of grass, and charms. Mamba Sasa looked a little ashamed—but he contributed.

That night we made camp just where, in 1911, we turned off to our Topi Camp. Thousands of brilliant butterflies, fluttering just over a water hole, made a pretty sight. Many Masai, men and women, visited us. I had a wonderful success with simple coin tricks, my sword cane, an old opera-hat Newland gave us, and the image in the Graflex. Tried in vain to buy spears. One of the minor



MASAI GIRL AND MARRIED WOMAN WHO VISITED THE CAMP



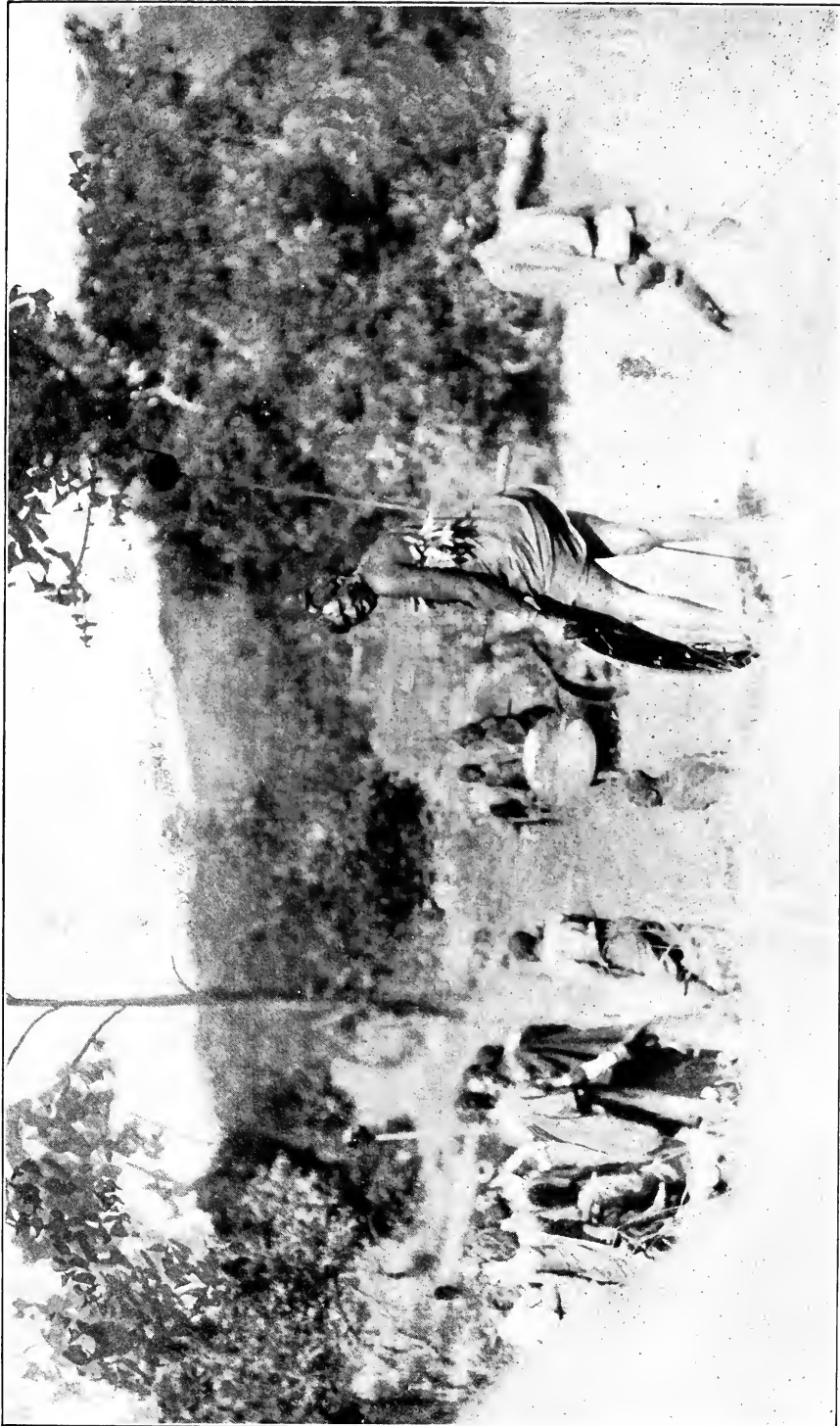
MASAI HERDS IN PLEASANT VALLEY. THE MASAI REFUSED TO AID THE EXPEDITION WITH GUIDES OR INFORMATION



THE WASONZI GUIDES WHO CONDUCTED THE PARTY THROUGH THE MOUNTAINS



A WASONZI VILLAGE THAT LAY AMONG THE MOUNTAIN RANGES



MASAI VISITORS WHO GATHERED ABOUT THE CAMP



MALIABWANA (LEFT) AND M'GANGA. M'GANGA IS THE ONE WHOSE POINTED .
REMARKS TO ONE OF THE PORTERS WERE QUOTED IN THE LAST ISSUE

chiefs turned out to be a man I had known in 1911, when Mrs. White was with me. Said he, "I am very glad to see you. You did not bring any of your women with you this time." He offered me a young girl of fifteen—who seemed pleased—for three rupees.

July seventeenth dawned clear and bright, but at sunrise a heavy fog descended. Very heavy dew, and the long grass immediately wet us to the waist. We went on our old trail of 1911 as far as the first camp on the sidehill; then crossed directly over the swamp. I looked for signs of our old camp, but the two years had absolutely ob-

literated every trace. While waiting for Cuninghame and the donkeys to go around the swamp, I had a long chat with two old Masai. They were quite in awe of the keenness and temper of the sword stick; told me of a lion, etc.

We then went down the side of the swamp, and reached our old friend, Naiokotoku's, permanent *manyatta*, or village. It was different from the usual temporary village, strongly stockaded, with large houses. Another similar enclosure fairly adjoined it, and several nearby ordinary *manyattas* completed the entourage of so great a chief.

We marched directly through, and

made camp in the woods. The surroundings and outlook were beautiful—great trees and vines, and vistas out through them of valleys and green marshes and great wooded mountains all around. Our camp farthest south in 1911 was opposite and about two miles away. Many very gorgeous warriors in full panoply visited us. They said the chief was sleeping. More likely drunk, said we, remembering him of old.

As he had not shown up by two o'clock, I agreed to climb the high hills to the west and get a look abroad over the unknown country through which we must go. An hour's hard climb and I gazed out over a bewildering tumble of lower hills, ending in a sheer rampart of great mountains about fifteen miles away. At first glance it took my breath away, so absolutely hopeless did it look. Then I sat down with my glasses, prismatic compass, and notebook and carefully took stock.

There seemed to be two *possible* passes, and I noted them. Of course, the Masai must have a track down through, and we counted on old Naiokotoku's friendship and promises of 1911. Saw many impalla, zebra, and kongoni in the brush on the mountainside, from which I shot some camp meat.

Returned to camp to find Naiokotoku and his court just arrived. Drink has made him very flabby and puffy since we saw him last. To our surprise we found him surly, taciturn, and unfriendly. To our questions as to trails, guides, etc., he replied that there was no trail, he had no guides. He said barefacedly that he did not remember us; he had no milk, no sheep. Between whites he stared at the ground. His beautiful warriors were plainly uneasy.

"Very well," said I at last, "the *bwana m' kubwa* has many presents for those that help him. He is sorry you cannot help him. But he is generous, nevertheless: take this knife. Good-bye."

They filed out sullenly. Later we tried through some of our men to get information from underlings, but without success, except that we learned that two Masai from the German side were at that moment in another *manyatta*, and about to return!

Months later, on our return from Nairobi, we found that two sportsmen had spent three weeks in that country, since 1911, and had obtained guides from Naiokotoku. The sportsmen had procured two elephants, a lion, and two buffalo in a very short space of time, but had had some sort of misunderstanding with the guides, and ended by refusing any payment. Of course, I do not know the nature of the misunderstanding, but they got what they were after, and should have paid Naiokotoku for the men he supplied. Then they could have registered their objections. As it was, they merely succeeded in turning a friendly tribe hostile, and in making it difficult for the next fellow.

We discussed the matter at some length, but finally decided to try and nose a way through. I have had a good deal of mountain experience on another continent.

Hunting for a Pass

Next morning we started very early over the high hill on which I hunted the day before, and down the other side into the welter of smaller hills. When we were half way down two Masai with arms passed us on a run without deigning us a greeting. Subsequent experiences made us certain that these were at once spies on us and messengers to warn other *manyattas* to give us no information. At the bottom of the hill we sent Sanguiki to a village to try to find out something. He returned to tell us that the Masai were "*kali sana*" (very fierce) and would tell nothing. We struck into a likely grass ridge, found a Masai trail that went our way, and jogged on.

The ridge, after six or seven miles, ran down into a broad grass ravine that led to a small river. We were much amused by a small herd of zebra that kept just ahead of us, and seemed vastly indignant at being repeatedly driven forward. In the grass swale I jumped seven big eland at about fifty yards—a fine sight. We soon discovered that the banks of the stream were too swampy to cross, so we went down a mile or so and camped.

After lunch Cuninghame and I with four men set out to scout a way. I had marked the possible pass by a small green patch on the mountainside. We found a ford—after being scared by a crashing old rhino at close quarters—and ascended the mountain. The way proved feasible until we reached a round elevated valley below the final rise of the escarpment. Here we found a spring of water and marked it on our sketch map. A herd of zebra and kongoni were here, a happy find, for we needed meat.

Leaving the men to attend to the victim, Cuninghame and I toiled to the summit of the ridge. Here we got an extensive view of a wild tumble of hills, but could see plainly a feasible pass to a stream on the other side of the ridge. Also across the way another water hole, with a great concourse of baboons sitting around it. Quite satisfied for the moment, we named it *Gilbert Pass*, in honor of my brother's birthday. A long tramp brought us back to camp at dusk.

Wonderful moon, and very chilly night. M'ganga, in the meantime, had tried another Masai village for information, but returned with no news except that the runners had been there warning them to give us no help.

Another day took us over Gilbert Pass to the stream, and then down-stream for some distance over an old Masai trail between mighty mountains. A honey bird followed us for over an hour, beseeching us to turn aside, and then flew away in disgust. Saw duiker, reedbuck, kongoni, zebra, eland, warthog, and mongoose. The trail ended in a small round valley and a salt lick.

After lunch Cuninghame and I took up our regular job of scouting. The river here entered a deep, narrow rock gorge, so we spent much toil in ascending the hill to the left, whence we looked out over so tumbled and broken a country that we immediately gave up going south and returned for a cast to westward. The river here was quite big, and we forded up to our waists. For some time we had no luck on account of dense forest, but finally discovered a game trail that led us up through a low pass to look abroad over

so beautiful a wide, shallow grass valley dotted with groves that we named it Pleasant Valley. Here we saw a few herds of game, including some eland.

Cuninghame climbed the south ridge and reported precipices. Therefore, we must go down the valley and take our luck at the lower end. Got in at sundown. At midnight, two rhinos from the salt lick blundered into the edge of camp. Great excitement and row; everybody out with firebrands and yells to drive them off.

Still More Valleys

Next morning, which brought us to July twentieth, we marched to the lower end of Pleasant Valley. There we squatted the safari, and separated to find a way over. Each found a feasible route, but the safari was nearer Cuninghame's, so we took that. From the top of the ridge we looked out upon a very big oval valley filled with thorn scrub. Across the valley was another high rampart. At the lower end, about six miles distant, there was an apparent narrow break where a river went through. This seemed the most likely way, so we headed for that.

It was hard travel over rough country, in high grass and thorns that tore at us eagerly. Marched high above a cañon, and camped below two enormous peaks, one of which we named Mt. Bellfield, in honor of the present governor of British East Africa. A narrow forest bordered a stream of beautiful clear water. Never have I seen a more marvelous display of curtain vines and gorgeous flowering trees.

The outlook was now so very uncertain as to whether we could continue down the cañon that Cuninghame and I scouted ahead before breaking camp. Enormous rugged mountains compassed us about, and we feared the river would end in an impassable gorge. We took a rhino track that speedily led us into a wonderful forest of great trees, looped, snaky vines, lacy underbrush, tree ferns, and flowering bushes. There were many baboons and monkeys swinging about. The sun rarely penetrated. Great rock cliffs towered at either hand, and the

clear stream dashed down cataracts and waterfalls among the boulders.

The rhino track led true for some distance, then petered out to a monkey trail and ended in an impassable gorge. There was nothing to be gained in that direction, so we turned our attention to the cañon walls. By dint of crawling, climbing straight up, and worming my way, I gained the top of a ridge to the right, and most unexpectedly found it to be a spur, or "hogsback," between our stream and another. I followed it until I found that it did not "jump off" at the end, then returned and shouted for Cuninghame. He scrambled up, and together we set to find a way down to stream level. We discovered a blessed—but disused—rhino trail. Cuninghame went back for men. On his return we each took a squad with axes and *pangas* (native sword-like implements) and slowly hewed out a good path. We landed finally at a grove of trees near the junction of the two streams and from there sent the men back to move camp.

Our river here plunged into another gorge. A wide valley led to a mountain range to the left. Cuninghame agreed to climb the range above the gorge, while I explored the valley. I went up about three miles, only to find that it ended in a cul-de-sac. Returning, I turned aside to stalk a bull eland—only game seen for two days—and found a narrow tributary valley that led to a possible pass. Very hot. At camp I found that Cuninghame had hit on my same route from above.

The cliffs opposite are hung with trailing, rope-like cactus, and inhabited by many baboons. Made this day only four miles, though we walked nine and a half hours.

We started the day following with a terrific climb, almost straight up to the summit of the transverse ridge. Very sweaty, hard work for men and beasts. Made it finally, and got a very fine view back over the way we have come. We wondered how we ever got through. From here the ranges get smaller, so that we can look out over lesser and lesser systems until far away we could guess at the brown of plains. When

the men saw this spread out ahead of them they cheered.

But it looked like a puzzler to get down. Our river had plunged hopelessly, and the ridges and cañons seemed to be heavily grown with a kind of chaparral and to have no order or system. Far away to the south we dimly made out two enormous craters that must be upwards of 12,000 feet high.

However, there was a notch opposite, so we made for that. On the other side of the notch we descended to another small valley, and beyond that we saw another notch. We entered the valley. Very hot. Cuninghame took a detour to the right, and shortly whistled us down to him.

Looking for a Way Out

At the foot of the valley was a single shady tree, with big smooth trunk, great buttressed roots, broad leaves, and a small fruit. It was big-limbed and broad, and just beyond it was a water-hole, of mud and little pools, forty or fifty feet broad. This was enclosed with a low thorn *boma* (brush fence), and at the dozen openings that had been left for the purpose, tall saplings had been planted and bent over by means of well-made native sisal rope. Buried loops were to be sprung by the animals that entered. What they could be we could not imagine, as there were no signs of game—probably stray bushbuck. We sprung all the snares, and made camp beneath the tree.

In the afternoon Cuninghame and I made a very high, hot climb through the second notch; found it led nowhere; cast about, and finally came on a long hogsback that led gently down two miles to end abruptly. We looked straight down eight hundred feet or so on another scrub-grown valley with some queer, rounded rock outcrops about a hundred feet in height. The descent was sheer, but we figured out zigzags. Over opposite lay a big black range, but around its lower end our river broke through a notch.

We figured we would either go through the notch or climb the range; and so returned to camp, pretty tired.

We were cheered by the sight of a dozen kongoni and three Chanler's reed-buck atop the ridge, for this was the first game we had seen—save the single eland—since entering the mountain ranges. The descent by the zigzags proved to be a terror for men, but especially for donkeys. The last of Vanderweyer's did not get in until 6 p. m.!

Once safely down, we crossed the valley by the rocks, and found ourselves in face of another lesser drop. Thornbush very bad, so that we moved a hundred feet at a time and our clothes and skins suffered. At last I found a rhino trail down. The men dropped their packs and set to work with *pangas* and axes and finally cleared a trail. Cuninghame and I pushed ahead, and soon found ourselves on the banks of a fine river. A shady thicket and great trees ran alongside, elephant grass reached ten feet above our heads.

We followed the rhino trails, and after some search discovered a ford. After consultation, Cuninghame remained to place camp and cross the animals, while I pushed ahead as rapidly as possible to scout out a way for the morrow through the scrub to the end of the range, and to find out whether we could follow the river.

I soon discovered difficulties, in the first place to get a feasible path through the tangle of thorn scrub, and, in the second place, to dodge rhinos. The valley was about five miles by three, grown ten feet high with thorny jungle, and literally infested by the beasts. Their broad, well-beaten trails went every-

where. These were a help, but there was always a doubt as to whether their rightful owners did not want to use them. I went along singing at the top of my voice all the songs I knew, in spite of the fact that the close heat of the thicket and the powerful sun were not conducive to vocal exercise.

About a mile on a huge bulk reared itself not over fifteen yards ahead, snorted, and rushed down the trail toward me. I literally could not force myself a foot into the wall of thorns, so I brought the Springfield into action and fired at its head. The beast stopped five yards from me and turned square across the trail, swinging his head slowly, and evidently trying to make up his mind as to what hit him. After perhaps ten seconds he showed signs of swinging back in my direction. I, who had been much on the alert for any such move, gave him one in the shoulder. This decided him. He turned around and disappeared.

After a decent interval I followed him. At last I reached the point where the range met the river. A cliff only twenty feet across seemed to bar that, though the approach on both sides was good. I rested there ten minutes, and then returned to camp, blazing a way with my hunting knife as I went. Saw one bushbuck, the only game. Got in at sundown, and drank a quart of tea all at once. Quite weary and ankle-sore. During the evening two rhinos tried to enter camp, but we scared them off with our Colts and firebrands. This valley must have been full of them.

(To be continued)

Next month the mountains let go and the expedition heads eastward for Lake Natron through the first of the real game country.



THE BLIND TRAIL

By KATHRENE AND ROBERT E. PINKERTON

The Woodcraft of Twilight Jack
Unravels a Mystery of the North

“MIND a fellow with a green canoe who stopped here two weeks ago?” asked the stranger in the office of Sabawi’s small and only hotel.

The hotel man smoked reflectively. Then his face brightened.

“Billy McKecknie?”

“That’s him.”

“Yes, he was here. Said to leave word for—— Say, you ain’t Twilight Jack?”

“Yes. Hasn’t he been here since that time?”

“No. Said he’d be back in a week sure and that you was to wait for him. I’ve heard of you two lads, the time you went out and got the Indian that killed the fur-buyer down on Wild Potato Lake.”

“How far is Lake Separation from Sabawi?”

“Between fifty and sixty miles by canoe.”

“Anyone been down lately?”

“Not since the Indians came down from Lake Kahshahpiwi for their treaty money a month ago. Where was your partner going?”

“Lake Separation.”

The hotel man’s tilted chair came down to the floor with a thump and he stared at his guest.

“It’s not a hard trip, is it?”

The hotel man resumed his position against the wall and puffed rapidly at his pipe.

“It never was until this year,” he answered slowly.

“What do you mean?”

“Now, don’t get excited, lad, but there’s a funny thing about that Lake

Separation route this summer. Two men went up there before your partner did.”

Twilight Jack looked up sharply when the hotel man paused.

“And neither of ’em’s been seen since.”

“Not seen since? Why?”

“Killed in Shee-ing-guss Rapids. Least, that’s about the only thing that could have happened. A fellow was killed there last fall. Men in another canoe following saw his paddle break, and he was drawn in.”

“Why Weasel Rapids?”

“’Cause they’re white, like a weasel in winter, all the way down, and about as bloodthirsty. And they leap and glide and slide along just like one of the little white devils. No man ever run ’em.”

“Who were the fellows got killed there?”

“First this year was Pat McConnell, who’s been prospecting in this district ever since they found gold on Rainy Lake twenty years ago. He went up that way in May to do some assessment work on a claim, and said he’d sure be back by July first. Pat never misses his Dominion Day spree here.

“Then, about the first week in July, a young fellow from the States went up, just a pleasure trip. Said he had to be back in two weeks. He never came back. His dad came up and hired a couple of men. After they’d spent nearly a month dynamiting and searching the shores, he offered five hundred dollars reward for the body, but the Indians say it’ll never come up. There’s more’n four hundred feet of water in the lake where the rapids empty into it, and it’s mighty cold water.”

"A fellow like Pat McConnell ought not to get caught there."

"No, it don't seem so, but they found his canoe, smashed up, in the lake. Old George Marvin found the lad's canoe. It wasn't hurt. The boy's father gave it to Marvin for helping search.

"It's making the portage above the rapids that's bad. You see, the river runs through a rock gorge with straight walls. A couple of hundred yards above the first pitch there is a shoot and pretty fast water between it and the rapids. There used to be an old portage starting above the shoot, but no one uses it. They run the shoot right down to the top of the rapids and then pull into the east shore in an eddy. Right in the rock wall is a cut, and by carrying fifty feet through this cut and down the rocks you can set into the lake around a point from where the rapids come out. It saves a long portage."

And you think both Pat McConnell and Billy got caught there, two old-timers like them?"

"It don't sound right, but you know how those things run in threes. And they found the smashed canoe."

Twilight Jack sat silently for half an hour.

"Who lives up in that country?" he asked at last.

"Only three men. The first is old George Marvin, who found the lad's canoe. He lives on Caribou Lake, an old man who does a little trapping, putters around in a garden and just about makes a living. Ten miles farther is Squaw Bill Dennison. He buys fur of the Indians and, they say, sells whisky to them, though no one ever caught him at it. Bill's got a sort of hard name, though I always found him all right.

"Then there's a breed lives on Kah-shahkogwog Lake, ten miles this side of Lake Separation. He's a bad Indian. Ben Peters his name is."

The hotel man rambled on, and Twilight gathered much information about the country and the route. He learned that Pat McConnell had used a blue Peterborough and that the tourist had brought a canvas canoe from the States, that Squaw Bill Dennison was known for his red hair and beard, and that

Marvin suffered from rheumatism and shouldn't live so far from town when he was subject to "bad spells of cripplin'."

"Guess Mike and I'll run up and see these rapids in the morning," he said as he arose to go to bed.

"Didn't know you had anyone with you."

"Mike's short for Myingen. He's my other partner. Half wolf and half dog, and knows more'n most men. We always travel together."

Before noon the next day Twilight Jack guided his canoe through the shoot above Shee-ing-guss Rapids and dashed down in the swift current toward the crest of the first pitch. He watched the east shore closely, turned the canoe into an eddy and came to a stop at the mouth of a narrow slash in the high, straight wall of the gorge.

"It's a nasty place, Mike," he said as he lifted out his pack and drew up the canoe.

A long, rangy gray-and-brown dog had jumped to the shore and stood stretching his cramped legs. He had the sharp muzzle and pointed ears of the wolf, much of the gray fur and the rangy build, but some progenitor that had never known the wild life had given him heavier limbs and chest and an occasional patch of brown.

Together the man and the dog climbed the side of the cut to the top of the cliff and walked down toward the lake, the rapids beneath them.

"No man or boat could ever go through there and live, Mike," Twilight explained as he looked down.

Before he and Billy McKecknie had begun trapping together two years before, Mike had been his constant companion, and even Billy's presence had not ended his habit of discussing all things with the dog.

"If old Billy was pulled in, there's no use in our looking for him. But I don't see how he could have been caught."

They went back to the canoe and turned down the boulder-cluttered cleft in the rock walls. Fifty feet down grade, and Twilight found himself on the shore of White Otter Lake, in a bay around a long point from where the river

entered. He stood on a shelf of rock six feet above another shelf which formed a natural landing just above the level of the water.

"Quite a handy portage, but no one would ever find it unless they knew it was here. Maybe Billy didn't know——"

Twilight stopped speaking and jumped down to the lower shelf.

"Come here, Mike, and smell of this," he exclaimed as he bent over a heap of ashes beside the rock. But it was not the ashes nor the charred stubs of unburned wood that interested him. It was a piece of birch sapling propped over a rock.

"No one but Billy ever cut a tea stick like that," he cried. "He always cut off the end square with his knife and made a notch for the bail. See, it's fresh cut, too. And if Billy boiled tea here, he made this portage and never went through the rapids. He's not killed, Mike. He's just delayed somewhere. We'll hurry on and find where he is."

Twilight quickly carried his canoe and pack across and in ten minutes had paddled out of the deep bay and was on White Otter Lake. He studied his map for a minute and then turned north toward the portage into Caribou Lake. After paddling a half mile, he saw a canoe on the shore.

"There's McConnell's blue Peterborough, Mike," he said when he was near enough to distinguish the color. "We'll have a look."

The canoe was badly smashed, and Twilight examined it with the interest of a man who wonders just what a bad piece of water will do to a craft.

"That's certainly a nasty bunch of rips, when it'll do that," he announced. "It must have been half full and then hit a rock to cave in the side."

Suddenly Twilight dropped to his knees and looked closely at the wreck. Then he went over the entire outer surface, carefully examining the shattered planking.

"That wasn't any rocks, Mike, least any rocks like I ever saw before. There was only one rock smashed that canoe, and that was an iron rock, an axe. There's seven places where you can see

the clean dents it made, and not a jagged cut on the whole canoe.

"I didn't think an old-timer like Pat would get caught in such a place, and we know Billy never went through. There's another answer to this besides Shee-ing-guss Rapids, old ninnymusher, and we've got to find out. Maybe it ain't too late yet to help Billy."

For an hour Twilight paddled swiftly. Then, as he rounded an island, he suddenly stopped and called:

"Billy! Oh, Billy!"

Mike sat up in the canoe and looked at the shore, whining at the mention of McKecknie's name.

"There's his canoe, Mike," exclaimed Twilight, paddling toward the shore.

It was the green Peterborough of his partner, but, when two hundred yards away, Twilight knew that only the wind and waves had beached it where it was. Lying broadside to the shore, the bow lifted slightly onto a rock, it lay in the water, somewhat deeply submerged at the stern.

Twilight scrambled ashore and to the green canoe. It was a quarter full of water but otherwise contained nothing, not even a paddle. There was no sign on the shore of any one having left the craft there.

While he had feared for his partner, Twilight Jack did not until this moment admit the possibility of his being dead. Now the drifting, empty canoe told a story which he could not escape. For the first time in his life in the wilderness he felt fear of something besides the elements. Somewhere near him there was someone, something, that had caused the death of two men and probably three. He glanced apprehensively out over the lake, but so far as he could see he was alone in the wilderness. Then he stiffened determinedly and turned to his own canoe.

"We'll find Billy if it's the last thing we do," he told the dog as he motioned it into the bow.

An hour later they arrived at the place where the river flowed into Caribou Lake. It was a swift, rock-filled stream, and Twilight proceeded cautiously. A small falls forced him to portage. Although he examined the

take-off carefully, he could not find signs on the flat rocks that covered the shore. It was only a leftover, and in five minutes he was again threading his way between the boulders.

Suddenly he thrust his paddle against the bottom and stopped his canoe.

"Mike, look at that," he whispered. "There's green paint on that rock, and some more on the one on the other side. Billy always was careless in such places as this. 'What's a little paint, more or less?' he always said. Billy and his canoe got this far, Mike, but how did the canoe drift ashore back there upstream beyond the portage?"

For half an hour he poled back and forth and at last returned to the falls.

"Billy went up, but he never came back," he decided as he stepped ashore. "Did you notice, Mike, that all the green paint was on the upstream sides of the rocks, and that there wasn't any left by a canoe coming this way? Billy went through here with his canoe, but he didn't bring it back. It was towed back light. The same thing's likely to be true of Pat, and the other lad. What happened to them happened north of here, and——" he stopped and looked down the little river, "it might happen to us, too."

For a minute he sat thoughtfully, looking downstream. Then he pulled his map from its case.

"We've got to back track a bit, lad," he announced after a few minutes. "If we're going to find out anything, we want to be coming the other way. If there's anything to happen to us, it ain't so liable to happen if we come onto it unexpected. There's a river flowing into White Otter Lake back on the east shore, and by going up that we can get into a chain of lakes and reach Lake Separation. Then we can come back on this route, and we'll keep our eyes open while we do it."

Two nights later Twilight Jack and Mike camped on Lake Separation. They had traveled from dawn until dark, and seventy miles of lake, river and portage lay between them and the place where they had turned back. Nor was there rest the next morning. Before dawn Twilight was at the portage into Kah-

shahkogwog Lake, and before sun-up he had located Ben Peters' cabin on the west shore and was hidden in the brush less than one hundred yards from it. Mike remained to guard the canoe and pack.

After two hours smoke floated from the chimney, and a boy ten or twelve years old came out for an armful of wood. But it was the middle of the forenoon before Peters appeared, and Twilight at once saw the reason. The breed was very drunk and reeled about in front of the cabin. The boy went fishing in a birch bark canoe, while the man remained outside the door, stopping his wild yells and songs only for frequent drinks. At last, just before his son's return, he pitched forward from his seat in the doorway.

When the boy entered the cabin, Twilight walked quickly to the door. Beyond a short stare and an answering "B'jou," the youngster took no notice of his presence, and Twilight sat down to wait. He knew the Indian too well to attempt to force a conversation, but that same knowledge of the Indian character and of Ojibway enabled him, after half an hour, to start the boy's tongue.

"Big drunk," said Twilight, pointing toward the door.

"Six days. Much whisky."

Twilight knew the futility of asking an Indian the source of his whisky, and he turned to the summer village of Kahshahpiwi.

"Lots of fun, summer. Lots of boys. Good time. You there this summer?"

The boy nodded, his face brightening. "Two months we live there in tee-pee."

"Then everybody go to rice harvest?"

"All Indians go. Much rice, much moose. Plenty good time."

"Better time powwow?"

"Powwow best!" exclaimed the boy. "Go powwow, then go get treaty money. Much good time summer. Winter, ugh!" and he shrugged his shoulders.

Gradually Twilight accounted for the breed's whereabouts throughout the summer, but his most subtle questions could not bring information as to the source of his money. The man lying outside the door wore a new suit, he

must have had a large quantity of whisky, and there was a new Peterborough canoe on the beach, all indications of unusual Indian wealth.

Twilight, pretending to admire the new craft, led the boy to the lake.

"Where get canoe?"

"Wilton."

Twilight started. Wilton was one hundred miles east in a straight line.

"Wilton long way."

"We go, my father and I. Seven days go. Five days come. Four days there."

That made twenty-two days, counting the six Peters had been drunk. They had left before Billy had started from Sabawi and returned a week afterward. But Twilight was suspicious.

"White man's canoe go fast," he said.

"Faster than Indian canoe," and the boy's face lighted.

"Good canoe in rapids?"

"Don't know. No rapids to Wilton. All lake, no river."

Twilight looked at the unscarred bottom of the new craft. It bore out the boy's statements. River travel would have left its marks.

"The breed may have got the other fellows, but he wasn't around when Billy was in the country," he remarked to Mike a little later when he turned his canoe southward.

Traveling back on the main route between Lake Separation and Sabawi, Twilight, a day after leaving the breed's place, arrived at the little lake on which Squaw Bill Dennison lived. After crossing the portage, he waited until darkness before making camp in a bay. The next morning found him hidden in the brush as he had hidden at the breed's place.

But no smoke, no human movement, rewarded his long vigil. In the middle of the forenoon he made a circuit through the brush until he was close to the rear of the cabin. There was no sound. He sensed that indescribable air of desertion with which the woodsman is so familiar and immediately walked openly to the door. It was closed but not locked. Without hesitation Twilight entered.

For fifteen minutes he stood in the

center of the room. Then he walked cautiously about, moving things only when necessary. His examination completed, he went outside and studied the ground about the cabin and the trail down to the lake. At the sand beach he looked carefully for signs. Suddenly he gave expression to the Indian exclamation of wonder, a peculiar clucking of the tongue. At last he walked up the shore to the bay where he had left his canoe and pack in Mike's care. Paddling openly out into the lake and on southward, he was thoughtful for half an hour.

"Well, old wolf, we're getting somewhere," he began at last. "Finding Billy's canoe showed that something had happened to him, though it might have been most anything. Finding this," and he drew from a pocket a buckskin pouch with the letters "W. MK." worked in beads on one side, "shows that Billy's been robbed, with the chances about a hundred to one that he's killed. It's the bag he carried his money in and he had all his share of that Wild Potato Lake reward and some more, too, when he left us to come up here.

"Finding the bag in Squaw Bill's shack seems to point pretty strong to him being the one, and I believe he is. But it isn't the only thing I found there, and it's got me guessing worse than the puzzles they have in the Montreal paper. Here's what I found, and what I think might be. You can figure it out to suit yourself.

"Squaw Bill left his shack early one morning, about a week ago, I should judge, expecting to be back that night. There was a batch of sour-dough bread on the table, all wrapped up in a cloth, cooling off. Probably baked it while he was eating breakfast. A man wouldn't make a baking of bread if he didn't intend to come back.

"Then there was a pot of beans in the oven, just about done, all ready for a good supper when he got in at night. He must have had a long day's trip, for he left in a hurry. He hadn't made his bed nor washed the plate and cup he ate breakfast from, and, by the looks of his cabin, he's a neat housekeeper.

"His canoe is a birchbark, from the

marks it left in the sand where he turned it over, and there was a couple of rocks he kept to weight it down. I could see a place where he run it onto the beach. It hasn't rained for seven days, and the last time his canoe was turned over it was raining, for there were little holes in the sand where the water had dripped down off of it. There were marks of shoepacs made in wet sand where he had lifted the canoe and carried it to the water and where he had stepped into it. He must have left the morning after the rain.

"But someone else has been in that cabin since Squaw Bill left it, Mike, and he came in a white man's canoe and landed right where Dennison shoved off. The man wore smooth-soled shoes and he went up to the cabin and looked into everything from top to bottom. He even pulled up half the floor poles. Squaw Bill must have scrubbed the floor the day before he left, for it was mighty clean. But it's a hewed pole floor, and the dust wedged in the cracks has been loosened and some of it left on top of the floor. Whoever was there was hunting mighty close for something he wanted.

"This bag of Billy's was lying on the floor. If Squaw Bill isn't the man who got Billy, how did that bag get there? It looks like Squaw Bill, and I think it was, but there is this point. The bag lay on the floor, and *on top* of some of the dirt that had been loosened from between the floor poles. Now you know everything I know.

"If I was to figure it out, I'd put it this way: Squaw Bill is the fellow that killed Pat McConnell, the lad from the States, and Billy. He got them somewhere near here, when they were passing. Anyone going north would have to turn that long point by his place. When he saw them coming, 'way down the lake, all he'd have to do would be to run out on that point, pot them with his rifle, and then go out with his canoe and get what he could. Of course, he didn't want to leave any tracks around there, so he took their canoes down to White Otter Lake and turned them adrift. To make it look sure the rapids did it, he smashed Pat's up a bit.

"Billy had a good stake with him, and this Dennison, after getting it, thought he had worked the game enough and decided to leave the country. The bread and the beans might have been a blind, one you'd expect from a man smooth enough to figure out the rest of it. The breed saw him leaving toward Wilton and sneaked down and got the whisky. That would explain the breed's being drunk, for, according to his kid, the drunk began about the time Squaw Bill left. The breed found the empty bag after he had lifted the floor poles and threw it down there. It was his new Peterborough that landed at Dennison's. That's all reasonable, isn't it?"

The dog, which had been listening attentively, carefully arose, stretched, and then curled up on his other side and went to sleep.

"But, listen, Mike," expostulated Twilight. "That's only one way of looking at it. The man who went to Dennison's cabin had smooth-soled shoes. The breed wore moccasins, and I didn't see any shoes in his house. So it might not have been the breed, although the whisky makes it look so. It might have been someone else, maybe someone who was in with Dennison and put him out of the way and then came up to get his share of the loot. That sounds reasonable, too, for the bread and beans might not have been a blind.

"Then there is just the bare chance that it was someone else altogether who got Pat and the kid and Billy and who got Squaw Bill, too, and then came up and left that bag there to make it appear that Squaw Bill was the robber. Those things are all possible, and some of them are reasonable, though I believe the most reasonable thing is that Squaw Bill did it all and then skipped after getting Billy, and that the breed came down after seeing Squaw Bill go by.

"But, before we go any farther, I'm going down to Caribou Lake portage and see what happened there."

It was late in the afternoon when he reached it. There was a muddy take-off, and Twilight motioned Mike back into the canoe when the dog started to

jump ashore. Standing up, he looked at the ground.

"See those footprints made just after the rain, Mike," he said, pointing with his paddle. "Those are Squaw Bill's shoe-pacs, just like those on his landing. And they're going only one way. He went out this way when he left that day, but he never came back. Maybe he went to Sabawi, getting there after dark and sneaking onto the night train, for he hasn't been seen down there.

"And there ain't any sign of anyone being here since he was. That makes it look like the breed is the one who went to his shack. Things are just as I figured them, Mike, except that I thought Squaw Bill went out by way of Wilton.

"There ain't any sign of Billy on this portage. He went over before that last hard rain, and there ain't any rocks for him to leave paint on. Maybe the other end of the portage is different. We'll go across and see."

He shouldered both pack and canoe and started. For a half mile he walked steadily and then set down his double burden to rest.

"Well, look here, Mike!" he exclaimed, bending over the trail. "That fellow with the smooth-soled shoes came and went over this portage. There's his tracks, the same that were on Squaw Bill's beach. Now why didn't he keep to the trail?"

Twilight resumed his work, and when he had completed the mile portage, again looked for tracks. He found only the imprint of Squaw Bill's shoe-pacs.

"That fellow landed somewhere else and walked on the trail only in the narrow place between the high rocks, where he had to," Mike was informed. "But if he was so careful here, why wasn't he careful on the sand at Squaw Bill's? Guess he thought the rain or waves would wash out his tracks in the sand."

Twilight examined the shore and the trail carefully, but he could find no traces of his partner having passed that way. In the dry clay he saw the faint imprints of many moccasined feet, traces of the Indians who had come down for their treaty money and returned a month

before. Only Squaw Bill's tracks were on top of these.

"I wouldn't be sure, after that rain, but it looks as though Billy never got this far," he mused. "And, if he didn't, how did Squaw Bill get him? That don't make my reasoning appear so reasonable, does it? The only thing we've learned here is that old Marvin is the man who went up to Squaw Bill's cabin. He saw Dennison go by and sneaked up to get a bottle. Didn't walk on the portage because he thought Dennison would be right back and see his tracks. And he's got a white man's canoe, the canvas one the kid's father gave him. We'll just go down and see if he's got smooth-soled shoes and if his canoe's got a keel. The one that landed at Squaw Bill's didn't."

Twilight paddled southward in the gathering darkness. In half an hour he saw a light on the east shore, and knowing it could be only that from Marvin's cabin, turned his canoe toward it.

"Now wait a minute, Mike," he whispered after a few minutes. "We don't want to overlook anything. We've got our minds set on it's being Squaw Bill when it might be this old Marvin. Anyway, if we learn anything from him, we can't go at it too carefully. If Billy went by here, Marvin would have seen him. And we can't ask the sort of questions we would like if we were traveling south instead of north. We'll slip on by in the dark and come back in the morning."

Twilight turned his canoe toward the middle of the lake and paddled until the light had disappeared behind him. Then he made camp in a bay and went to sleep. He was in no hurry in the morning, and it was after eight o'clock before he had paddled the mile to Marvin's cabin.

Twilight knew the type before he had seen more than the old man's back as he bent and swayed over a crosscut saw in the little clearing between the cabin and the lake. Neat cabin, neat clothing, neat little garden within its fence of cedar pickets, wood cut and stacked in neat, even piles—all indicated the old woodsman, the man who had spent all his life in the forest, much of it alone,

and who was as cranky about his house-keeping, as methodical in his work, as any old woman of the towns. A few traps, an odd job now and then, and he obtained enough to live on as comfortably as he desired.

Marvin greeted his visitor with the pleasure and the close, quick scrutiny of the lone forest dweller. He walked down to the beach and began at once to rid himself of long bottled and uninteresting gossip and opinions. Twilight sat down on the woodpile and waited patiently for an opportunity to direct the conversation as he wished. While he whittled a piece of pine he noted that Marvin wore smooth-soled shoes, that the canvas canoe on the beach was without a keel.

"Nice little place you've got here," he said when the old man paused. "How's fur around here?"

"I don't do much," Marvin replied. "I'm getting a little old to have out many traps. But there's enough to buy flour and tea and pork. Trapping ain't what it used to be. Too much poison scattered around."

"Where do you sell your fur?" asked Twilight.

"Some to Squaw Bill and some to the storekeeper in Sabawi. Play one against the other. That's the only way a trapper can get any kind of a price."

"What would be the chances of a good buyer coming into this district?"

"Mighty good. There's a lot of Indians north of here, and a couple of white men farther east. Jessup and Squaw Bill ain't paying what they ought."

"I been thinking of coming in here this winter, but I heard at Sabawi that another fellow came up two or three weeks ago, looking the district over."

"Tall, reddish fellow?"

"I never saw him."

"Green canoe?"

"Didn't hear."

"A fellow like that did go by two weeks ago, but he didn't say anything about buying fur. Maybe he was keeping it quiet."

Twilight stopped his whittling and looked out over the lake, his glance resting for a moment on the other's face.

"The only way to work this fur game is to combine," he said. "No use bucking everybody. What sort of a fellow is this Squaw Bill? Near's I can find out, he would be a good buyer if he let booze alone and 'tended strictly to business."

"You've said it right, mister. Too much for himself, and, they all say, too much for the Indians. But he's a slick one."

"Guess I'll go up and see him. Has he been down this way lately?"

"Not for nearly a month. He don't get down often."

Twilight snapped shut the blade of his knife and stood up, again looking quickly at the old man's face as he did so. He found only honesty, honesty so evident that for a moment he doubted the footprints he had seen on the portage and at Squaw Bill's.

Puzzled, he walked toward the beach. Marvin had seen Billy pass. He seemed honest and simple as his type generally was, but Twilight knew that he had told some untruths. "Perhaps to cover up that trip of his to Dennison's place," he decided.

The old man followed him to the beach.

"Going up to Squaw Bill's?" he asked.

"Yes. Think I'll find him there?"

"He's most generally at home. If you're going up, you can save most a mile of packing by taking another route. It's a little longer but only a short carry."

Twilight halted and turned sharply toward Marvin, who was just behind. But by the time the old man saw his face he had hidden his amazement.

"Where's that?" he asked simply.

"Straight across the lake, right north of that big white pine about fifty paces. Squaw Bill cut it out two years ago. The trail goes over the ridge in that low place and into a lake just west of this. A river flows out of it into the lake above, and you miss that mile portage."

Though this information explained several things to Twilight, it puzzled him more, and he sparred while he collected his thoughts.

"The map shows it as the north end of this lake," he said.

"Yes, but this one of Squaw Bill's is shorter. I've never been over it, but he's told me about it."

"No one's more glad than I am to miss a long portage, and I'll thank you and Squaw Bill for this."

Perplexed, mystified, Twilight paddled away. After a few minutes he heard Marvin's saw in its slow, steady movement. Turning, he saw the old man's back, bent and swaying.

"What do you make of all that, Mike?" he asked when he was out of hearing. "Worse and worse. This portage explains some things, but it don't explain itself. If it's a short way, why didn't the Indians take it, and why didn't Marvin when he went to Squaw Bill's and Squaw Bill when he came down? And the old man says it's been cut two years.

"It shows one thing, and that is that it's Squaw Bill we're after. It can't be old Marvin. I don't think he's that sort, and, besides, how could an old cripple like him do away with three good men? He just let Squaw Bill use him without knowing it."

The portage, unblazed, was hidden in a cove, but Twilight found it from Marvin's description. And the second thing he found was a smudge of green paint on the rocks.

"Billy went this way," Twilight exclaimed. "He landed here. And that tells a lot of things. Squaw Bill got him beyond here somewhere and then packed his canoe over into White Otter Lake and set it adrift. And, after making the three hauls this summer, he skipped the country. He cut this trail and told the old man about it, that it was an easier way to the next lake north. Now we're going to find out what happened to Billy."

He pulled his canoe up and, as he lifted his pack from it, heard the sound of Marvin's saw from across the lake. Mike at his heels, he started across the portage. In the brush he stopped.

"Two years nothing, Mike!" he cried. "See those brush cuttings? They're fresh, made this year. Those willow buds were last spring's."

He picked up some of the brush and examined it.

"Cut about the middle of May," he muttered, "and there's no old cuttings. The trail's hardly been used at all."

He went on, walking slowly, stopping after a hundred yards at a place in the black loam which seemed to have been torn by a pawing buck. Mike sniffed at it curiously and then turned into the brush, whining and smelling as he went. Twilight Jack followed and saw that something had been dragged, flattening the sweetfern and other ground growth. He hurried on after the dog, up a slope and into a spruce thicket.

Together they found the body, half hidden by limbs broken from nearby saplings. Twilight did not need to turn it over to see the face. He recognized his partner, as did the dog, and stood silently, while Mike whined and the hair on his neck and back stood erect. Later he stooped to examine it and found a great hole in the right side.

"Buckshot, Mike, buckshot," he whispered as he arose. "Potted from beside the trail by that whisky-peddling cur of a Squaw Bill. He cut this portage, out of the way, and told old Marvin about it so that he would send people this way. And then he killed them and took what they had. After dark he would take the canoes back to White Otter Lake so that people would think they drowned.

"And that explains why he hasn't been at his shack. He hasn't left the country. He's got another cabin near here, probably over on this lake farther west, and he's around now, probably waiting to pot us. Let's go back and see if he is," he exclaimed fiercely.

Silently the man and the dog crept back to the trail and down to the lake. Lifting his pack, Twilight carried it into the thick brush beside the trail and unbuckled the straps. He drew out his take-down rifle, assembled and loaded it, and then, twenty feet to one side of the trail, crept noiselessly up the slope. The grip on his rifle tightened as he passed the trail over which Billy's body had been dragged, but for one hundred yards he kept on.

Then Mike stopped him. The dog whined softly and started up the north slope, his nose to the ground. Twilight saw sweetfern crushed as it had been where Billy's body was dragged away, and he turned after the dog. At the top of the ridge he found what he sought. For a minute he could not speak, so great was his amazement.

"Squaw Bill!" he exclaimed. "That's his red beard and red hair the hotel man told me about, and there's his shoe-pacs. No wonder he never got back for those beans."

He bent over and found the man's right side torn by a load of buckshot. Straightening, he listened intently. From down the slope and across the lake came the "clop, clop" of an axe at Marvin's cabin.

"Mike," he demanded in his perplexity, "what is it all? It wasn't Squaw Bill, and it ain't old Marvin, or he would have been laying for us. And how could he send a man by this portage and then get over here and shoot him? It's the breed, Mike. That kid fooled me clear through, and I thought I knew Indians."

He hurried back to the trail, where he signaled Mike to remain. Then, crouching, moving slowly and silently, Twilight disappeared in the brush. Parallel to the trail and not far from it he crept. Often he stopped to listen, to peer ahead through the thick growth. Then, as he turned around a huge boulder, he saw that which made him abandon his caution and stand still in amazement.

Lashed to two strong saplings and roofed by a piece of birch bark, was a double barreled shotgun. Attached to the triggers was a cord which, in turn, was tied to a piece of brush thrown across the trail, altogether the deadliest

affair a man could possibly contrive.

Twilight's astonishment disappeared immediately he realized the significance of what he had found. He turned past the trap and hurried up the portage trail. Around a bend, less than twenty yards beyond, it ended. He ran back to the shotgun, pausing for a moment with his hand on the string. Faintly there came to him the sound of old Marvin chopping at the woodpile. Then Twilight pulled the string and, before the sound of the double discharge had died away, was running back to Mike. Leading the dog into the brush, he signaled him to keep quiet.

"We've got him, Mike, old boy, the man who killed Billy and the others, although he nearly got us, Mike, mighty near got us."

Twilight listened. The chopping had ceased.

"He's coming for us, Mike," he whispered. "He cut this trail and sent Pat over it first, telling him it was a shorter route. Then he sent the lad from the States, and then Billy, and when old Squaw Bill came down last week he told him he had cut a shorter way into the next lake and sent him over. After that he went up and got whatever Dennison had and left Billy's bag for a blind."

For ten minutes Twilight listened intently.

"Down, Mike," he whispered. "Keep quiet now."

He peered through the brush down the trail toward the lake. At last, around the bend came the old man, his face wrinkled in a contented smile, but with eyes that were now crafty, evil. He hurried on and then stopped, too terror-stricken to relax a grin that had become ghastly as Twilight stepped into the trail, his rifle ready.

Next Month "The Snowshoes That Swung Wide." Twilight Jack defeats the Fate that has been dogging the heels of the Survey Party

THREE MEN AND A FISH

By CULLEN A. CAIN

A Tale of Hunger, Fatigue, Frost-Bite, and Woe on a Little Illinois River

FOUR times during the past eventful twelve months have I gone forth to catch little fishes and found hunger, fatigue, sunstroke, frost-bites and woe. And the last time was the worst. Three of the experiences were endured in Kansas, but this last calamity happened up on the Fox River at a point about halfway between Chicago and Elgin, Illinois.

I had sworn off after the Cedar Creek massacre. But this time I was seduced by stories of the grand bass fishing in the north country. The fish in these Northern lakes and rivers were so plentiful and they bit so hard and often that really it was no sport at all to harvest them into the boat. And Fox River was the star fishing stream of the north country. That was the story my Chicago friends told me, and with my experience and better judgment hammering on the pan of my brain for a hearing, I listened to that story.

I give it as my opinion that there are no fish in the world. There are none in Kansas. None in Fox River. None in Missouri. No, I'll take that back—about none in the world. There are codfish off Newfoundland and salmon in the Oregon River. But I am offering a reward for fish caught with a line in my presence anywhere else inland, or outland in the waters of the rivers, the bays or the ocean. There are no fish.

I am no fisherman. Why, I wonder, do my friends insist that I always go fishing when I have a leisure hour or day? All my friends seem to be fishermen, but they never catch any fish—except me.

I have fished in Mill Creek, Lynn Creek, Cedar Creek and Fox River;

fished high, low, jack, and the game, and never a fish has come to me for sympathy. And I suppose that next winter some false friend will want me to go with him to break a hole in the ice and spear the fish when they come up for air.

Yes, I went to Chicago for a change of air and occupation and, while I wandered around the loop district looking for a restaurant that served meals for twenty cents I met an old friend of my boyhood, Boyles by name. We had played ball together and I loved him like a brother. I thought he was still my friend. He took me to his house out in Evanston on the lake front and there he treated me as Foquet did the visiting princes.

I went down in the early morning light to the shores of Lake Michigan and sat there and watched the little waves chase the big ones across the face of this inland sea and all of them die on the shore. And the race of those waves seemed to me like the race of men through life, with death on the sands of the shoreless sea at the end.

But this man Boyles dragged me away from the lake and my rest and my philosophy and comfort and regal meals and luxurious room with his wild-eyed tales and wilder longings for the Fox River and the myth of the fishes that used to inhabit its waters. Yes, and he had a brother-in-law, a red-headed oyster pirate named Russell, who was crazier than Boyles over this fishing dream. Not Peter and the other eleven apostle-fishermen ever made such a catch the night they burst their nets under the spell of a miracle as had this Boyles-Russell outfit on some previous trip to Fox River. They lied; ah, they lied, did these two, about the fish in Fox

River, even as the countless children of time have lied from the beginning about the numbers and weight of the fish they caught in days that had gone by.

I was not entirely their dupe. I did not believe half they said, but I evidently believed enough, for they lugged me off with them about fifty miles southwest of Chicago and we took with us an army tent and a skillet to protect us from the elements and to save us from starvation.

It's a sad story, mates, but it must be told.

Fair but False

We landed at a town called McHenry at the noon hour of as fine a summer day as ever bloomed in the new world. Transhipped from train to row-boat and started up the Fox River. While my thoughts are bitter about many things that had to do with that trip, yet gentle truth bids me say that the Fox River is the most beautiful stream that flows down to the seven seas. It slips along between grassy banks that look like the parkings of a well-kept lawn. Noble shade trees adorn the banks back from the river. The water is deep and blue, the current sluggish. There are no bars or tow-heads to vex the soul of the boatmen; no snags, no shoals—one of those rivers that you read about in the books where all things are well. There were hundreds of motorboats on its waters day and night, and I should think there would be. It is a stream made to order for the boatman and the lover of a noble stream.

We rowed laboriously in a boat that was a cross between a tub and a swivel chair and after three hours of hard labor came to a place above a bridge that Boyles swore was the best fishing grounds in the universe. We landed on the right bank. A wooden hotel stood near the bridge on our side and a little old Dutch town nestled in the hills across the river. Johnsburg they called it.

Pitched camp in a grove on the river bank. Fine looking place. Grass and trees and sunshine. The river rippled

in the sunlight like a beautiful story on a crystal page.

Boyles and Russell rigged up that army tent and the three cots filled it like a sardine can. Then they dragged out enough fishing tackle to catch enough fish to keep a cannery busy all winter. They gave me a fussy steel pole and a silver reel and a mile of silk line and we all climbed into that leaky boat and went fishing.

At sunset I mutinied and threatened to upset the boat and those stark, staring fishermen consented to pull for the shore. Not a bite. Not a nibble. Not a flirtation with a single fish, turtle or eel. Now in Kansas we would at least have lost our bait from the visitations of a turtle. We were fishing with live frogs for bait. And I forgot to state that we almost missed our McHenry train from Chicago on account of those frogs. Bought 'em alive from a department store on State Street. We ought to have done our fishing in that store. We'd have caught more fish.

It was dusk when we landed at the camp. That summer day had fled to join the others that had gone before. And the wind that blew from the north across that river had icicles in its breath. I was fresh from Kansas where the nights had recently been 100 and the nights 89, and I was no more fit for that night than a Panama hat weaver would be for hunting polar bears in Baffin's Bay.

We fumbled around in the dark and cooked supper over the camp-fire, and I spoke words to those fishermen calculated to make the sons of Job rise up and go to war. The supper we ate would have lasted nine men in town for a week. The wind picked up a little more speed and some one turned on the ammonia pipes full blast and it began to get cold. That summer day just passed seemed to have drifted so far astern that it had become some half-remembered recollection of my boyhood.

We fed that camp-fire with old dry wood and sat around it and talked about the old days and the old boys we had known. It was all very fine, after all. And then we crawled into that tent and each man went to bed in his little cot. Feeling fine. We sat up and sang old

songs. Boyles called it harmony, but his prejudice in favor of our music was as strong as concentrated lye mixed with a little water.

I went to sleep at last. I may have slept an hour or an hour and a half at the most when I waked up freezing to death. Cold! Name of a name! but it was cold. I had a cheesecloth quilt under me and a diaphanous quilt over me and the cold passed through to my bones like going through a screen door left ajar.

I got up and put on my coat and raincoat and shoes and then crawled under that quilt again. No go. The cold wind from Canada walked up and down my person with blue feet. I shivered and sighed and cursed the man who invented fishing. Then from over on the other side of the tent came the noise a man makes when pain has him in its clutches. Russell was sitting up in bed. I heard his teeth chattering. I asked him what ailed him. He was cold, and he told me so with emphasis and detail that left never a doubt in my mind.

"Let's get up and make a fire," said Russell.

"Agreed," said I.

We did.

Russell coaxed a lighted match and some kindling to be good friends while I wandered around in the dark like a duck on an iceberg looking for wood. We made a noble fire and huddled up closer to it than any lover to his sweetheart. The wood was dry and burned out quickly. We went for more. It was hard to find. Now a frozen man's conscience is dead and buried at one o'clock in the morning of a situation like this. We stole wood. We took one of that hotel man's tables and a chair or two and an old door and chopped them into firewood lengths and saved two men from death.

The night wore on. Boyles slept in that cold storage tent like a young sea lion or a polar bear cub. Russell and I sat by the fire. The wind was never weary. We rigged up a piece of sailcloth for a windshield, using a crooked stick, a chair and a tree for stage properties, working with numb fingers while despair lurked close by in the thicket. A

chill came along and grabbed me and I laid down on the ground. I did not care what happened or how it was done.

Then this man Russell forgot his own woe and icicles and came to my rescue. He wrapped me up in my old quilt and added his quilt to the bundle. He made me a cup of boiling coffee. He added reinforcements to that crazy windshield. He stole more wood for the fire. And I lay back there and watched his red head shining in the firelight like a lamp in the pilgrim valley of darkness. If Captain Scott had had Russell with him on that south pole journey he would not have perished in the icebergs and the snow.

In the Still Watches

The night wore on some more. It was three o'clock by this time and colder than it was before. Boyles slept on in the tent like the Turk that Marco Bozzaris slipped up on and murdered in the night time. Russell and I felt like Marco. We threw things at the tent. We called out uncomplimentary words, but we were too hoarse to make noise enough to wake the sleeper. I thought of sunny Kansas and how I had slept out in the yard all summer, and why I did not go to Panama for my vacation. The moon shone on Fox River and Russell and I looked through the leaves of the trees at the silver picture in a black frame, laced with white and tangled with black, clear and cold and deep and mysterious and beautiful. We heard the water lapping the bank. It was worth coming up there to freeze to see.

If there had been a sentry on the Johnsbury bridge he would have called out 4 o'clock by this time. And if he had started to add "all is well" Russell and I would have had his life if we had to swing for it.

We threw more things at the tent. Russell threw a chair with such good aim that it passed through the curtains and hit Boyles on the legs. He waked up and began to talk to himself. We talked to him. And the things we said would have made an abbot get up out of the tomb and fight. But Boyles only thrust his head out between the parted

curtains to blink and grin and inquire why we were outside.

We told him. And the echoes came back from over the river to tell him again. We were sore. Boyles laughed like a hyena. He said it was not cold. Swore he was warm and comfortable inside that tent. Russell stopped me as I was crawling toward him with the butcher knife in my teeth. Boyles said that only descendants of a long line of star-spangled idiots would go outside a warm tent in the cold wind to get warm again. He started to argue the point but Russell hit him with a sack of potatoes.

By daylight I had the epizootic, the lumbago, the ague, catarrh, cough, cold, rheumatism and several minor ailments. Russell put me to bed in the tent, adding Boyles' quilt to mine. I still used a tan raincoat for pajamas. Russell slept in his clothes, shoes and cap. Boyles kept the fire.

When I crawled out two hours later Mister Sun was on the job. I thought I was going to die, but after I had cut a little wood and gone after the milk and eaten seven eggs for breakfast I changed my mind. And then that diamond sunshine thawed me out and that wonderful air of the north country, clear as truth, full of miracles, came along and cured me of all the nightmares and made me a better man than I had been for a year. Russell also partook of the miracle.

We fished all over Fox River. We fished in the bassweed and in the ripples and in the bays. We fished from Dan to Beersheba and from the Euphrates to the sea. We dragged those little frogs through miles and miles of water. But the bass slept on in their coral beds and we were left alone.

At this point I noted Boyles and Russell conferring together. I caught whispers about the voyage from Nineveh and Jonah, and throw him overboard, etc. Now I have a shrewd understanding and sensitive nerves. I seemed to scent trouble. I spoke to them softly and asked them if they would row me to the bank so that I might walk to camp and get dinner. They did so quickly and without courtesy or a decent word.

Safe on the shore I threw rocks at them as they rowed out into the stream. And I added words harder than the rocks.

I walked to camp, walked through the bluegrass and under big trees and past fallen logs and through all the beauties of a glorious day. And I wondered if God was as good to everybody as He was to me that day. The outdoors is the most blessed miracle that can happen to any office man this side of the shining sands of the islands of the blest. And that is a fact.

I made a fire at camp and placed seven big potatoes in the ashes of the old fire. I would have a treat for the fishermen when they returned, a hidden treat to be raked forth at the proper time. I met these absent friends of mine at the shore with a word of welcome and a smile of eloquence. But they had no fish and they called me names that shocked the woods and fields to hear.

Faithful Are the Wounds—

Boyles is a star cook, but Russell is a chef. They prepared a dinner that had the Blackstone's feast day menu looking like a raw onion and a piece of cheese on a chip.

And then, just at the right time, and with considerable flourish, I raked out those seven potatoes from their little bed in the ashes under the fire. They looked like cinders from the slag in the pit. I ate dinner in meekness and in silence. Boyles and Russell talked constantly and the subject of their discourse was not pleasant. Next time I go on a trip I will take a serpent and a savage for company.

The fishermen fished the afternoon away. I played pool with the hotel keeper.

For supper that night we had fried potatoes, a dozen eggs, a can of salmon, three pies and two quarts of milk. Russell drank the milk.

And then the dark came, and with the dark came the cold. I looked into the depths of the dark and shivered. Forebodings sat with me at the fire. But Russell tucked me in that night with two quilts, a pair of overalls, a sweater, a piece of sailcloth, a gunnysack, a bale of hay, two suitcases and his blessing. I

slept like the hills. I wonder if angels have red hair.

The next morning when I went after the milk a farmer's shepherd dog chased me around the smokehouse seven times. I hit the dog with a bucket and he tore my trousers and a fat woman came to the rescue. Russell ate so much breakfast that he had the tummyache. The sun came up over the tree tops like hope to Egypt after the plagues. Boyles and I played ball. The air was of the same brand as the day before.

I had not felt so well in ten years. Russell got over his tummyache and we all went fishing. Yes, I went, too. I cast that frog of mine upon the waters and it returned to me, but not seven fold. I cast him two hundred times by actual count and then I cast no more. I felt like a pitcher after a twelve-inning ball game. But this man Boyles has an arm of brass and the patience of a man who waits for a hard elm tree to grow. Russell also is crazy on the subject of fishing, and they cast on until the little frogs were gone. But the bass in Fox River were not eating frogs that day.

Boyles called on all the German and British gods of the Druid days to witness that he had caught fish by the car load in that river. In his discourse he ranged from descriptive to emphatic, from earnestness to pathos. And Russell added his tale to the tale that had been told and it seemed to me that the story would never end. I did not say, "I told you so." I did not rub it in. I was afraid to.

Boyles and I ate dinner under the shade of the trees. Russell made a repeat. He rolled a banquet into a feast and added three extra skilletts of fried potatoes for good measure.

Then we went to Johnsbury for more supplies. We walked across that bridge and up the rocky road and into the little old German town. It was a pleasant journey. Three men grown young again. The voices of the world were far away. We were ragged and dirty and unshaven and happy. We threw rocks and scuffed and forgot all about the twenty years that had come and taken our youth away. We dickered

with the shopkeepers and told outrageous tales about each other. We fought over who should carry the groceries back. We walked back across the bridge singing a little song.

The men that Mirza saw on the bridge across the valley of the Bagdad carried burdens, but all we carried on that bridge that day was groceries. We had laid our burdens down the day we left the train at McHenry. And we were to pick them up again there. But the present was ours and it had the fairest face and the most radiant smile any of us had seen since we took our first sweethearts to our first party. And at that party twenty years ago it rained and Boyles's cotton pants shrank up above his shoe tops, and tragedy walked with him across the stage of love's young dream.

Back to the World

Well, Russell ate up all the Irish potatoes in camp and Boyles ate all the eggs and I ate a little bite or two myself. So we decided to go home. We folded our tent and packed our skillet and loaded them into that leaky boat and drifted down the river toward the world. It was a noble voyage. Boyles and I talked philosophy and preached contentment. The sunlight conjured us and the river hypnotized us, and it was all very fine. All along the grassy banks were summer cottages. Men and women walked under the trees. Motorboats whizzed by every few minutes. Listen! Who was that singing? Boyles started up. It was a divine voice singing a song the world has loved for fifty years. The music came across the waters to us sweet and clear.

"Who can it be?" murmured Boyles. "I had not dreamed there was a woman on this river from the springs to the lake who could sing so divinely."

We listened eagerly. Pshaw! it was only a graphophone played on the front porch of one of the cottages across the river. But it sounded mighty fine and we listened till the song was done. Then Russell rocked the boat and Boyles got his feet wet, and his language shattered the dream of my phil-

osophy and drove away the spell of the music. Russell actually seemed to enjoy Boyles's language more than he did my musing on dead peoples or the song of the German diva brought from Leipsic to be reproduced for our pleasure.

Russell is a materialist, not a sentimentalist. And well for me it is so, for I would have frozen in camp but for his necromancy with quilts.

We had a series of adventures at McHenry before we caught the Chicago train that night. But I will not dwell upon them. They were merely the brindle fringe on the edges of the vacation card. If there is a finer river than Fox River I have never seen the flow of its waters. If there is any finer air in the world than that of the north country in early September they ought to store it and sell it for a price. If there are any finer fellows to make a trip with than Boyles and Russell they ought to be in the hall of fame or drawing a thousand a week in vaudeville.

The hardships of that trip were many. I nearly died up there. The fish were few. The water was awful wet and the mud sticky. But by all the gods and

goddesses! it was the finest trip I ever knew. And I say to the office man of Kansas, Missouri, Illinois or any other state, if you want to renew your lost youth and meet happiness face to face and find something that will come to you through the years again and again in the form of sweet-faced memory, get a pup tent, a skillet and a friend like Boyles and a red-headed prince like Russell and go to Fox River somewhere close to the Johnsbury bridge. It will be a classic in your humdrum life and the thoughts of it and the good of it will abide for long and longer still.

But you will have to be a son of Lief the Lucky if you find a Boyles and a Russell to make that trip. A singer like Boyles and a cook like Russell.

Hold on! I cannot end this story like this! In justice to Fox River I must add a word. I am no fisherman, as I said before. But there was a fish. Yes, Russell caught a two-pound bass on that trip. And as we sailed for McHenry an old fisherman told us the Fox River bass were biting bacon that week and not frogs. He caught 'em by the gross with the meat of the hog. That's all.

THE CASUAL CARTRIDGE CASE

By C. L. GILMAN

How the Red Gods Slipped "Waubose" Olsen an Ace and the Wilderness Lost—One Pot

SOMEONE fired a rifle on the Black Lake portage, pumped in a fresh load, and passed on out of this story. "Waubose" Olsen found the spent case, a glint of yellow on the packed snow of the trail. He picked it up, as a woman picks up a card left in her absence. The shell, a .40-82, denoted the passage of a stranger unless one of the trapper's neighbors had been guilty of the extravagance of a new rifle.

At any rate, the shell itself was strange to Olsen. As he kicked along on his snowshoes he spelled out laboriously the

letters and figures stamped on its head to denote its make and caliber. These told him little. He raised his hand to toss it aside.

With his hand he raised his eyes and saw, swaying on the twig where he had hung it to mark a retrieved and forgotten cache, a spent case from his own .49-90.

Instead of throwing away the strange shell "Waubose" reached down his own empty for comparison. Placed head to head, the two showed an equal size. Compared muzzle to muzzle, the .45 slipped over the .40 for about two-thirds of its length. Then the straight

shell bound tight on the tapering body of the other, so tight that there was a sucking sound as he wrenched them apart, which told of a joint impervious to air—or water.

Unwasteful, as a woodsman must be, Olsen stood still to consider what use might be made of this tight brass case.

It may be that the Red Gods, who if not given to know the future are at least rich in the wisdom of things past, stayed his hand as he was about to cast it away useless. It is possible that their medicine was strong enough that morning to force a flash of inspiration through Olsen's brain:

At any rate he did reopen the chance-formed box and fill it with matches—five of them—from the loose supply in his pocket.

Spring was already sapping the strength of winter. Olsen made slow work of his long trap-line. About many of his traps the melting snow of the day before had frozen, rendering them useless. By noon the snow underfoot began to stick to his webs. In an hour more he was compelled to cut a club and beat viciously against his snowshoe frames every few steps to free them from the clogging mass.

Belated and tired, he abandoned his farther traps to another day, left his packed and proven winter trail and struck the shortest line for home. Between him and his shack stretched Black Bay, a level, untrodden expanse of snow.

Ten yards from shore Olsen found himself fighting with cold fury to climb out of a widening circle of black water, a circle which marked where wind-packed snow had masked rotted ice. As he felt the sinking beneath his feet Olsen had hurled his rifle toward the shore. As soon as he got an elbow rest on the crumbling ice-rim he twisted his

feet out of the snowshoe thongs, tied with just such emergencies in view.

Then, foot by foot, with fists and finger-nails and elbows—while the chill of the water seared him like molten lead—Olsen fought his way through the sponge ice to the shore.

As he hauled himself to land his soaked clothes froze about him. Between him and the shelter of his cabin lay a mile of treacherous ice. Or, if he did not care to risk that, he might wallow waist-deep through the drifts as he skirted the shore of the bay. A sharper pinch of cold summoned him to move, make fire, or lay down his hand and let the Wilderness rake in his chips.

From the pocket where he kept his matches Olsen scooped a freezing mess of wet sticks, phosphorescent slime—and the waterproof match-box he had found, fashioned and filled that morning.

Bark of the birch, dead stems of the alders, and dried branches of the spruce, and after them driftwood, deadwood—all the careless largess of the woods—kindled from the flame of the first of the trapper's five dry matches.

Half an hour later he sat, stark naked, with his back against a warm rock and his clothing steaming by the fire before him. With his rifle across his knees he sat; listening to the thumping approach of a rabbit across the freezing snow; waiting until his supper lured by the flames should come into the circle of firelight. In the bitter cold of dawn he walked home, warm inside his dry garments and striding freely over the solid snow crust.

"You trappers certainly meet with many adventures," said the summer camper to whom "Waubose" told this incident across the evening smudge.

"Naw," said Olsen, "nothing but hard work."

Last fall John Oskison was in Arizona. There he heard of some wonderful cliff dwellings across the desert to the north. A Bureau of Ethnology Bulletin told him how to find them—and told him wrong. The result is "The Road to Betatakin" beginning in July OUTING. But he reached his goal nevertheless.

WAR-BAGS

By A. W. WARWICK

ILLUSTRATED WITH DIAGRAMS BY THE AUTHOR

Some New Ways of Carrying the Personal Duffle on Camping and Canoeing Trips

THE duffle, war, ditty, dunnage, or wangan bag is about the unhandiest contrivance used by the wilderness dweller. It has only one merit: it keeps things together in a small bulk; but its convenience ends as soon as camp is reached. Every time anything is wanted it has to be more or less completely unpacked, for the article will almost surely be found at the bottom of the bag.

Personally I regard the duffle-bag only as a means of transport. It is worthless as a place to store things in camp—except, perhaps, one or two things that can be slipped in and the bag hung up somewhere out of the way. A two years' daily use of a war-bag forever convinced me that it is not the contrivance for a minister's son to keep his personal belongings in.

Besides the inconvenience of a war-bag, it does not keep clothing in good condition. Even its warmest advocate cannot claim that it keeps things clean; at all events, a shirt or a suit of underwear taken out of a bag packed in the usual way never *feels* clean. As for the smaller articles of daily use, the war-bag is a mighty poor contrivance to keep them in.

The "old-timer" in the Southwest who uses a piece of eight-ounce duck about three by four feet to make his "roll" with has something which is not only more convenient, but keeps the articles in much better shape. A shirt comes out *like* a shirt and not like a dish-cloth. Moreover, clothing kept this way undoubtedly lasts longer than if kept in a bag, especially when the stuff is trans-

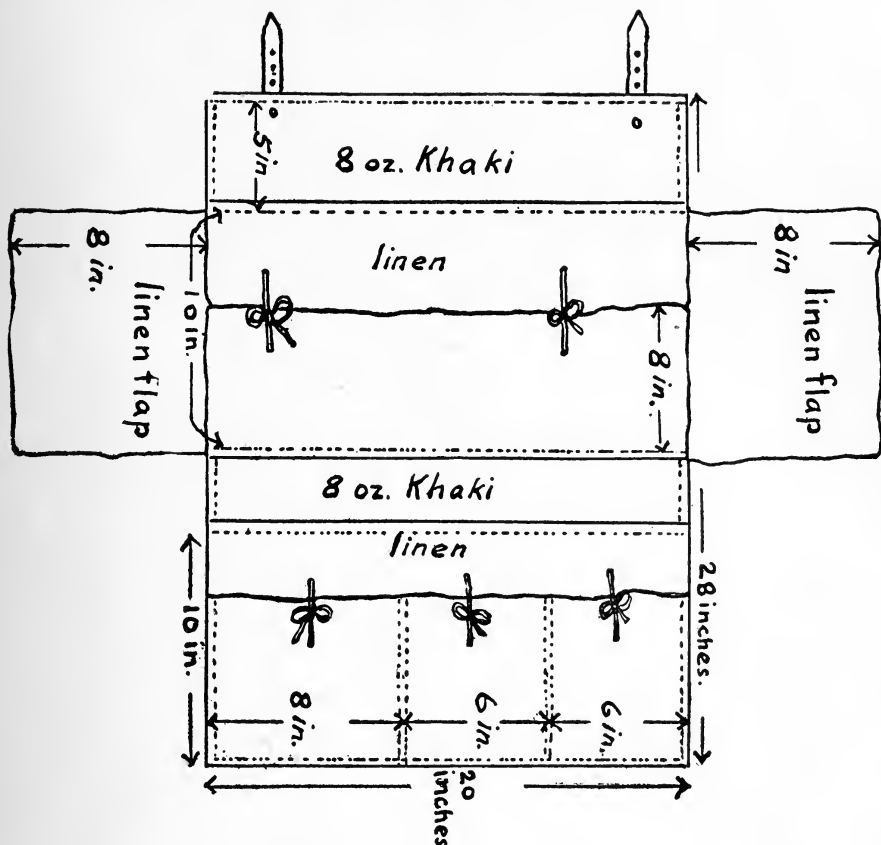
ported on mule-back. As an Arizona prospector packs his roll, dust and dirt cannot enter and it will stand a considerable ducking without the contents getting wet. I have seen a roll, with 8-oz. waterproofed duck, under a mule bogged down for ten minutes in a quicksand of the Bill Williams Fork, and yet nothing inside the roll was even as much as wetted.

While I use the roll a great deal, it must be acknowledged that it is by no means the acme of convenience. It is useful mainly to carry reserve clothing and articles wanted occasionally.

One day in camp, about ten years ago, I designed a wallet that seems to me rational and has very greatly added to comfort on the trail ever since. It not merely carries things, but does so in such a way that they can be conveniently got at. One or two were made before I was satisfied that the dimensions, etc., were just right. Then I had a wallet made by the trunkmaker who does my work, and it cost me, I think, \$1.50. The one I use now has traveled several thousand miles, in all kinds of country, during the last eight years. It looks as if it will never wear out.

The ideas and specifications of construction are much as follows: The sketch appended is a copy of the one furnished to the workmen. It shows a piece of canvas, 8-ounce khaki duck, cut 21 by 29 inches, turned over a half inch at each edge and hemmed with stout linen thread, leaving it 20 by 28 inches. The canvas strip was lined with a good quality of heavy linen.

Five inches from the narrow edge of the canvas a strip of linen, cut 9 by 21 inches, was sewn, the stitching being



WALLET OPENED SHOWING CONSTRUCTION

parallel to the 20-inch edge of the canvas and passing through both canvas and lining. Ten inches from this seam a similar piece of linen was stitched to the canvas in a similar way. Two flaps are thus formed. Between these flaps, at each end of the 10 x 20 compartment, a linen strip, cut 9 by 11 inches, is stitched to the edge of the canvas.

The edges of the linen flaps are all hemmed. To each of the flaps pieces of strong linen tape are sewn, so that when folded they can be kept in place by double bow knots. In the compartments made in this way shirts, underwear, etc., are kept.

At the large, unoccupied part of the canvas a piece of linen, cut 11 by 25 inches, is sewn so as to form a large pocket. The mouth opens inward and is protected by a linen flap, 5 inches wide, sewn to the canvas. This protection is perhaps not necessary.

The large pocket is divided into three compartments by two double lines of stitches. The double stitching is necessary. It will have been noticed that the linen for the pocket was cut 25 inches; this was to allow for the bulge and hemming. The extra width is divided between the pockets, so that as each is filled the bulge is uniform. The pockets are, respectively, 8 by 10 inches and 6 by 10 inches.

As to the packing of this wallet, much depends upon the nature of the personal outfit. Probably if my own outfit was different I would modify the dimensions of the wallet. But the following is a list of the articles I usually carry in the field:

- In the 10 x 20-inch space:
- 2 Gingham shirts
 - 1 Towel and cake of soap
 - 1 Suit woolen underwear
 - Razor strop

In the 8 x 10-inch pocket:

- 2 Pairs socks
- 2 Colored handkerchiefs
- 1 Small writing tablet, post-cards, stamped envelopes
- 1 Old style thin bill wallet, with a few fish hooks, hank of gut, silk fish line
- A patch or two of khaki, etc.

In the middle pocket, 6 x 10 inches:

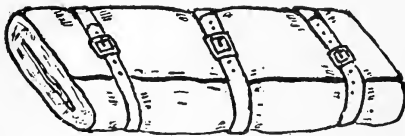
- Razor in case
- Shaving brush in metal tube
- Tooth brush wrapped in linen
- Tooth soap in ointment box
- 3-inch round mirror with metal cover
- Metal comb
- Hypodermic case
- Carborundum hone, 4 x 1 x $\frac{1}{4}$ inches.

In outer pocket, 6 x 10 inches:

- Housewife with needles, buttons, safety-pins, thread, etc.
- 6-vial P. D. medical case
- Pocket surgical case
- Clinical thermometer in metal tube

Packed in this way the wallet is not strained. I have often carried far more than the above list, but prefer not to do so, as the wallet becomes too bulky: it measures, when packed according to the list, about 20 by 11 by 4 inches.

This is the handiest thing I have ever carried on the trail. Slipped between the blankets, one hardly knows it is there. The soft khaki duck allows it to be used as a pillow; even if not as soft as feathers, still, it beats a pair of trousers all hollow. It contains everything necessary for comfort and cleanliness and



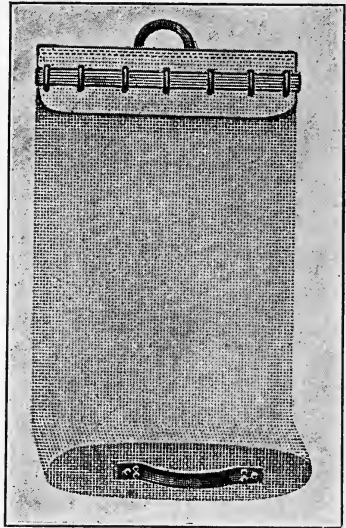
THE WALLET PACKED

keeps it tidy and in good order. It is never in the way and is as handy in camp as it is on the trail.

By folding a blanket to the same size as the wallet and packing the latter with the necessities for a foot journey, it is convenient as a back-pack. It is only necessary to add a pair of shoulder straps. Then with a Preston canteen outfit one can subsist for several days quite comfortably.

The wallet, as can be seen from the list of contents, takes no account of

outer clothing, shoes, etc. It was designed, however, merely to supply daily wants as well as to carry a few articles of apparel. For a long trip extra clothing, shoes, etc., etc., must be taken along.

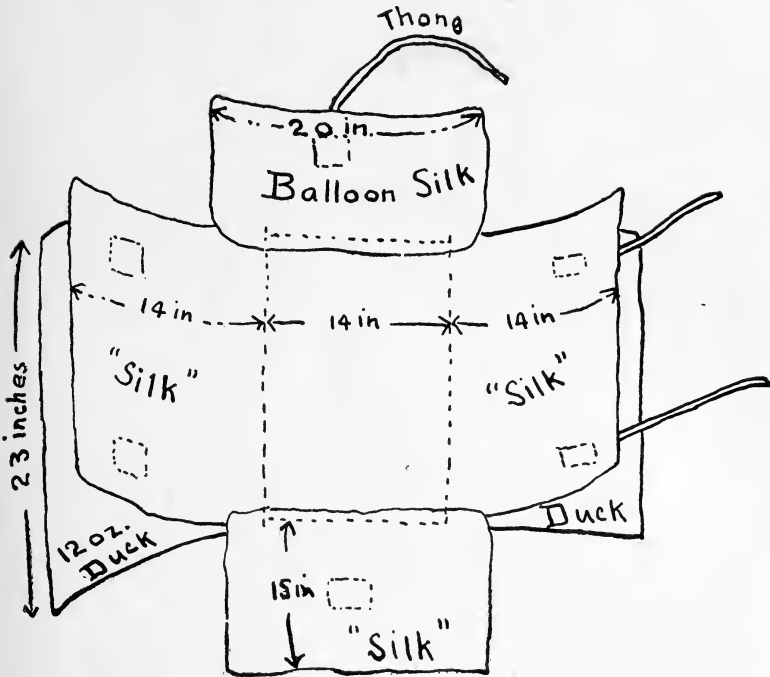


MAIL BAG CARRYALL MUCH USED IN THE WEST

For a long time the war-bag seemed the only feasible way in which to carry the main reserve of clothing and I used the mail-pouch style, so much carried in the West. The objections to this, besides those of inconvenience, are that the tight rolling of clothing does not improve their wearing qualities, and moreover as the bag begins to be depleted it gets flabby and the articles shift a good deal. A half-filled bag does not protect the contents against the bite of the lashropes on the pack-saddle.

Besides it is often desirable, or even imperative, to carry semi-fragile articles on the trail. The war-bag is useless for this purpose. For a number of years I carried a "telescope" made in Prescott, Arizona. It was an excellent article as long as it was full; but as soon as it began to empty, the contents shifted too much to be safe.

The telescope was made of hydraulic canvas (a very heavy, stiff canvas) with no pasteboard; the necessary stiffness was obtained by having two thick-



CARRYALL, OR "ROLL"—OPEN

nesses of canvas and binding corners, edges, etc., with leather. I have carried photographic plates, camera, ammunition, etc., in this telescope with perfect safety. It is useful when collecting rather fragile articles, but for general use it cannot be recommended. While it keeps everything in good shape, as long as it is full, it is not flexible enough to accommodate itself to changing conditions.

The "roll" in a modified form is the best thing I have found for packing extra clothing. It keeps everything clean and tidy. It keeps its shape, however slim the list of contents may become. It is fairly convenient to keep one's spare clothing in, while in camp. It is expansive, carrying as little or as much (up to the limits of its capacity) as is desired; and since the articles are always tightly packed, there is no wear from abrasion.

My roll is home-made from a piece of twelve-ounce waterproofed canvas, measuring when laid flat 23 by 44 inches. A piece of balloon silk from an old tent was cut to the same measurement and sewn to the canvas by two

seams 14 inches apart. Two flaps were thus formed of balloon silk, each 14 by 23 inches. Two other pieces of silk, 16 inches by 20 inches, were sewn across each of the long edges of the canvas so that they were between the two lines of stitches first made. When the flaps are extended the whole forms a St. George's cross. In the middle of each flap is sewn a thong of whang leather or a half-inch ring, on one flap the thong and on the opposite flap the ring. Under thong and ring the balloon silk is reinforced by sewing on an extra piece of silk about one inch square to prevent wear.

In packing, the flaps are opened and the clothing, folded so as not to measure more than 14 by 23 inches, is laid in the center. When the pack is made the end flaps are turned over and tightened by the thong and ring. Then the side flaps are tightened. The bundle (for a mule pack) will now be about 23 x 16 x 8 inches. The canvas ends are turned over and fastened by three straps and buckles; one in the middle and the two others about four inches from the ends. A much safer tie, if

not quite so convenient, is the "bed hitch," using a $\frac{3}{8}$ -inch cotton rope about $3\frac{1}{2}$ yards long. The turn of the rope around the ends closes them up and will assist in keeping out water or dust. Well tied by a rope, the bundle will be tight and hard and will measure about 23 inches long and about seven inches in diameter. It will fit nicely into an alforja, which measures usually about 24 x 16 x 8 inches.

In such a roll, if not packed against anything hard, such as a bootheel, a bottle can be packed with impunity. The protection afforded by the tightness of the roll, the canvas and balloon-silk covering, as well as by the alforja, will keep everything safe against the tremendous bite of the pack ropes. But be sure to compress the bundle as much as possible, for bulk counts for a great deal in mule-back packing.

I have packed the following list, which was to be a year's reserve supply, in the carry-all of the size given:

- 1 Pair shoes
- 2 Pairs moccasins
- 3 Shirts
- 2 Pairs underwear
- 4 Pairs socks
- 3 Towels
- Moth balls
- 1 Suit clothes
- 1 Pair overalls
- Patching and darning worsted
- Extra medicines
- Flask, first aid
- Writing portfolio
- 4 Books

With such a roll and a wallet I have kept in fairly presentable shape for over a year in a rough country where it was impossible to replace worn-out articles. A surprising amount of clothes and toilet necessities can be packed in these two useful contrivances.



CIVILIZATION

By JOHN MÄTTER

WON'T somebody give me some medicine to keep me from dreamin' at night—
 From dreamin' a dream that makes me seem a prisoner shut in tight?
 For sure, I feel the rush of wind as I stand in the open air,
 And I see the green of a world serene, wide, unpeopled, fair.
 I hear the sound of the woods around, and I taste the tang of spring:
 So I breathe down deep, and deeper still, and my pack on my back I sling—
 And then in my hall room bed I awake to the tune of an early van,
 And I ask myself, as I douse my head, "Faith! Is this the life for a man?"

COACHING A 'VARSITY CREW

By HIRAM CONNIBEAR

COACH OF ROWING, UNIVERSITY OF WASHINGTON

What a Man Who Was Not an Oarsman Has Learned About the Art of Eight-Oared Racing

I AM not a professional oarsman. Neither was I a professional coach of rowing before the beginning of my experience at the University of Washington. What I know about rowing has been learned largely as a result of observation and study. I began with no theories except the common-sense belief that a man who knew the best methods of training and the fundamental facts of condition could teach other men the principles of any sport in which condition enters as an important factor.

Personally I have never had much patience with the attitude that regards any kind of athletics as requiring mysterious knowledge in order to win success. If a sport is so complicated that the average man who applies himself to it cannot soon understand its basic principles, I think it shows that the pastime is not one suited for general interest. Of course, after the first requirement—mastery of technique—has been satisfied, the rest comes down to the ability of the coach to bring out the best which is in his material and of keeping the men in condition.

I have been a coach and conditioner of men since 1894 and now that Mike Murphy is dead, I take off my hat to no one in the world in this field of effort. It has always been natural with me to observe and experiment, arriving at my own conclusions in Yankee style.

One thing that has impressed me is that there is never an end to the knowledge which a rowing coach can acquire. I learn something new every day and the fact that I know there are many more things to learn is one of the prin-

cipal reasons why my interest in the sport never fails to keep up.

To my mind rowing of the college variety is the highest type of sport. There is never any question about the amateur standing of an oarsman in a university boat. The patience required and the fact that there is rarely any individual glory to distribute, limits the candidates for a crew to men with a high ideal of athletics. The fact that large sums of money are spent upon rowing when there are no receipts and all the colleges get out of it is a few boat races shows that it is sport for sport's sake.

Ever since Dr. A. L. Sharpe, now coaching at Cornell, gave me my first lesson in the art of pulling a shell, what I have seen of the rowing game has made me feel that it is the cleanest, manliest branch of athletics. It was at Chautauqua Lake, New York, that I met Sharpe and he was good enough to inspire me with an enthusiasm for rowing and some of the knowledge gained from his own rowing experience at New Haven, which have stood me in good stead since.

There has been a lot of talk this spring about the advisability of reducing the distance of the Eastern races from four miles to three. A good many critics seem to feel that lessening the distance would reduce the strain on the men. To my mind it makes very little if any difference. The proposition comes down to two essentials: First, material, and, second, faithfulness of the men in carrying out training instructions. At almost all the colleges I know anything about, there are enough strong, hearty young men to man the crews. These

fellows can be taught to row four miles, without injuring themselves, just as well as three.

I do not think there is any coach who would put a man in a boat who is not physically strong enough to stand the strain of rowing. And this speaks pretty well for the standards of character among coaches. For at every university there are some people who want the coach to drive home a winning crew, regardless of everything else. They are likely not to care how he wins, provided he does win, and they don't care how much good he may be doing for the physical upbuilding of undergraduates, if he does not win.

Training Is the Secret

Given a fair-sized squad of able-bodied young men who can be counted upon to train faithfully, and a four-mile race can be entered without fear of any bad after effects on the individual oarsman. I have trained men for six-day and six-night bicycle races where one man rode all of this time and I have trained them for twenty-four-hour races. I have trained sprinters for the fifty- and one-hundred-yard dashes and for the mile and two-mile, as well as for twenty-five-mile, races. I have seen men run until they were all in and drop at the finish of a one-hundred-yard dash, just as I have seen them drop at the end of distance races.

The distance does not make a bit of difference to my way of looking at it—provided a man has trained properly and is fit for his event. The key to the whole educational system is concentration and determination. The part which athletics has in the larger work is that of teaching undergraduates to bring the body under the control of the will.

Keeping men under lock and key is not my idea of a good coaching program. If they are impressed with the need for building themselves up into the best condition possible and made to understand that if they aren't willing to do so they had best not compete for places on teams, they can be relied upon to do the square thing. I take it for granted that the candidates are turning

out for rowing because they want to and not because they have to. I tell my Freshman to spend twenty minutes a day in a room all by himself, looking himself squarely in the eye.

"Have I done all I could to raise my standard as a man in the past twenty-four hours? Have I been fair and square with those that I have had dealings with?"

These are the questions I tell them to ask of themselves and if the answers are right all around, I know I have the makings of some good crew men. What makes a thinking, fighting, and an honorable man is what he thinks of himself. I don't like conceited undergraduates, but underneath their skin I like them to have good opinions of themselves.

One season a couple of years ago, two men were fighting it out for a seat in the Varsity boat. One day I called them together and said:

"Just now the work of you two men is a stand-off in the boat, but one has a better scholarship standing than the other and to me this seems to indicate that one has a little more personal pride than the other."

As a matter of fact, the man who was not up to scratch in his work was a bit the better of the two, as far as smoothness in the boat was concerned. I thought the incident might cause him to pick up in his classes. It didn't. When the time came to make a final selection of the eight I again called the pair in to see me.

"It's still hard to decide between you two. I would just as soon have you throw a coin to decide the winner," I said.

The man with the poor scholarship record was the first to speak.

"That's all right with me," he said.

The other man thought for a minute. I saw his mouth go tight. Then he said:

"No, sir, that doesn't suit me. One of us must be the best man. I want to know which and to know why I am not the best man."

Some people would probably have thought this fellow conceited, but not if they knew what it means for a young-

ster to put in months and months of hard training for a crew. The second man was of a quiet type, but after he spoke I knew the thing which every coach is most anxious to find out—that he was the kind who would be pulling hardest when his lungs were feeling like bursting in that last hard half mile. You can guess which man got the place. The man who didn't was too easily satisfied.

When I take stock of my material at the beginning of the training season I always make my first division into squads, not so much on the basis of the relative physical condition of the candidates as for the purpose of getting a line on their personal characteristics. If I see that a boy has the right sort of stuff in him and a fair build I am willing to spend a whole lot of time building up his strength so that he can pull an oar. Rowing is a great developer of men. A skinny freshman weighing 130 pounds will, if he has the qualities of personal character and trains faithfully, develop into a husky young athlete within a couple of years. That is why character is much more important in making out an early season prospect for producing a crew.

Of course, I don't mean that a coach can make a varsity eight out of a lot of weak material; but I do mean that, given a bunch of good, healthy youngsters properly built for rowing, he can develop pulling power. It has been my experience that material which looks most promising at the start is apt to be most disappointing in the end. Your candidate who comes out for the squad with a splendidly developed physique often fails to make good.

Even as regards form—the knack of handling an oar in the right way—the fellow who in the beginning of the training season seems to fall most naturally into the correct method and who has an ideal build for the boat is likely to be beaten out by a youngster not so well fortified. In fact, I have come to the conclusion that as far as rowing is concerned natural ability is a poor asset, while developed ability is a very good asset. It takes patience to make an oarsman. And the candidate who has the best natural equipment quite generally

lacks the power of application to enable him to gain a complete mastery of technique.

One of the men who had the possibility of developing himself into as fine an oar as ever sat in our boat never made good because he couldn't carry his work through. In his Freshman year, after about four months of work, he broke training and quit turning out for practice. He started in again in his Sophomore year, but after five months slipped and quit again. In his Junior year he lasted until two weeks before the race and finally just before the close of his course he lost his place two days before the race. No matter how good an individual oarsman may be, it does not pay for a coach to give a man of this type the chance of going into the race. Even though it might increase the speed of the boat for one year, it breaks down the discipline of the crew.

Fit the Method to the Man

In rowing, just as in other forms of athletics, it is necessary for the coach to make a particular study of each man's temperament and prescribe accordingly. When I used to coach track, I always tried to make each man conscious of what he was doing. The work of Holdman, the pole-vaulter who went from us to Dartmouth in 1909, was not encouraging at the start. He used up a lot of energy in his training, but it was plain that he wasn't really thinking of what he was doing a large part of the time. He simply ran, dug his pole in the ground, and went up in the air without thinking. After watching him for a time, I said:

"Holdman, call your name when you go over the cross-bar."

After about a week he got so he could grunt as he was going over the bar. After about two more weeks he could call his name. Finally he got so he could talk all the time he was in the air. Then he was ready to learn where his faults were and how he could remedy them. I got him so that he could call off every important move as he made it. Then he could tell whether it was his hip which knocked down the cross-bar

and figure out a way of pulling his hip up higher. As a matter of fact, he found that he got it high enough at one time but let down too far after he was practically over the bar. Because the technique of rowing is not so easily explained it is harder to show just how this idea works out with oarsmen, but its application is just as successful.

When one says that foot races are won when a man is off the ground, he sounds foolish at the first thought, but we all know that it is so, when we stop to think of it, for no man can keep both feet on the ground and step nine or ten feet. I want a man when he leaves me to go out in a regatta to know everything about the stroke, from the theoretical as well as the practical side. Boat races are won with the oars out of the water just as foot races are won when a man is off the ground.

Little Points Often Overlooked

An old Australian oarsman whom I met in California where the race is rowed in salt water, although we practise in fresh water, said:

"Don't you find it harder to pull your oars through salt water than through fresh water?"

I told him I did not try to have my men pull their oars through the water as much as I tried to have them pull the boat through the water.

He looked at me for a while and smiled and said, "I see."

After another discussion with an English oarsman, I said, "When is the boat at its greatest speed?"

He said, "Just before you put the oars into the water."

"Why not wait a bit and put them in when it starts to slow down?" I asked.

He didn't have anything to say to this.

I think these incidents will serve to show the attitude I have kept toward my work as a rowing coach. It has been natural for me to ask my own questions and think for myself. Because most everybody may have accepted some theory has not made me accept it unless I could see why it was right. Probably I have made mistakes in the past on this

account, and maybe I've worked out some ideas on my own hook which will be interesting.

The main outline of the stroke we are rowing is like this. Let's take a man seated in the shell with back, legs and arms straight. His hands are just past his knees. This is the finish of a stroke and the beginning of a new stroke. He starts forward on his slide and at the same time starts forward with his shoulders. When he is half way up on his slide, his elbows should be past his knees.

He keeps changing the angle of his body so that his slide does not stop at one time and his shoulders at another, but the stop comes at the same time. The shoulders are moving at the same speed from the time he comes to an erect position until he has dropped his oar into the water. His slide has been decreasing in speed from the bow end to the stern end of the slide. When his hands cross his toes, he starts to bevel his blade so that we have the man at full reach, his weight in the keel of the boat.

I don't allow my men to twist in the waist. They just swing in the hips. I rig my boats for a full reach of thirty-six inches to stern of the rowlock. That is, come straight in from the rowlock to the boat and then measure this distance along the gunwale of the boat. In order that the men may know the requirement, during the early season I place a piece of red oilcloth at the correct point. This is where my men must reach to on every stroke. They have to be loose in the hips to do it.

To let an oarsman twist in the waist creates friction. Suppose a man has a tendency to lower his inboard shoulder when he goes out for the reach. Say he is on the port side. If he is allowed to twist in the waist, he throws his weight on the port side of the boat. When he starts his pull, he has to swing back on the keel. This slows up the whole boat. I want my man to just drop his blade into the water and start leg drive back and arm pull.

When his legs are straightened out, he must take particular pains to get the proper lay back. This, in my opinion, means that after straightening out his

arms he will lay back until the beveling hand—the outboard hand—is over the knee, not past it or beyond it but exactly over it. I want all the power possible to bow of the rowlock—back, legs and arms.

The legs are the strongest muscle we have and I cannot for a moment see the advantage of the English style of slighting leg action in order to put greater emphasis on the work of arms and back. Of course, in order to get the best out of the stroke I have described and to reap the full benefit of the leg drive, it is necessary for the oarsman to have a strong back and arms. From the time the oarsman starts to pull when out for the long reach he must pull with his back all the time. Elbows should be at the side at the same time the legs are straightened out.

One of the features on which I place greatest emphasis is to see that my man does not lift water with his blade. He drops his hand until his blade is half out of the water. Then he starts his bevel, completing it when his blade is clear of the water. If he completes his beveling under the water or if he starts to pull his hands low into his lap, it means putting a brake on speed.

I have my men keep their heads in line all the time when out for the reach—on the drive—when the oars are in the water and when they are going up on the slides for another stroke, heads in line all the time. My men must work their hands in a straight line, too. After they finish taking their blades out of the water they lean back so that when their arms are straightened out, their beveling hand is over the outboard knee. They then swing forward in the hip until their hands are past their knees. This puts them in position for another stroke.

To the man who is intimately acquainted with rowing the foregoing detailed outline has probably seemed to contain much that is obvious. It was written for the reader who is not an expert. The following list of "Don'ts" which are on my list will probably prove more interesting to the experienced.

Don't start forward on the slide before the hands are past the knees.

Don't let the slide stop and your

shoulders keep going out for the reach.

Don't let up on the leg drive when you begin to increase the power applied from back and arms.

Don't have any back wash to your oar on the catch.

Don't let anyone see you in a boat with a bent arm.

Every man who has ever rowed has other prejudices of a more technical nature over which they will dispute with others who have had similar experience but who have arrived at different conclusions. This is one of the principal fascinations about the rowing game. There is endless opportunity for experiment, and no one is ever in a position to say that his is the last word. For the undergraduate with a high ideal of sport and the desire to develop himself physically for the battle of life, rowing offers splendid inducements. The comradeship of the rowing squad is the finest kind of association.

The spirit of rivalry between the rowing colleges is splendid. When we came across the continent from Seattle a year ago, most of the men had never previously been East. Naturally the distance was so great that there were only a very few people connected with the University of Washington at Poughkeepsie. From the day we arrived, however, we were made to feel that we were among friends.

The one way in which I think rowing could be put on a sounder basis in the United States is to have more general participation. Many more colleges could take up the sport. It does not require any tremendous outlay and is a most remarkable developer of physical efficiency. More young men in business ought to row.

Single sculling is even more fun than sitting in an eight-oared shell, and is better adapted to the schedule of a working day because, given suitable water located conveniently and a boat, a man can get more good exercise in half an hour than he can from two or three times the time expended on some other sport. And if there is any more enticing thrill in outdoor life than that of a shell sliding through the water under your own skilled direction I have yet to discover it.

VANDERBILT—A UNIVERSITY OF THE NEW SOUTH

By HENRY JAY CASE

ILLUSTRATED WITH PHOTOGRAPHS

THREE years ago a team came out of the South, held Yale to a tie and scored on Harvard, with Harvard scoring only twice. That was the first time that many people in the East had heard of Vanderbilt University in Nashville, Tennessee. Vanderbilt is a product of, and a credit to, the New South. There are many institutions below Mason and Dixon's line that exceed her in years, but she bows to none in spirit and aggressiveness. Her graduates are making high places for themselves wherever they land. Therefore it is worth while to inquire into the life of this university. And since it is athletics that most fitly show forth the spirit and scope of undergraduate life, it is athletics—and particularly football—that we shall consider.



ON the football field at West Point, not so many years ago, a Yale coach of the Academy team, seeing his plays repeatedly stopped by a black-

haired youth on the scrubs, called this cadet to the side lines and asked him where he learned the game.

"Vanderbilt, suh!" answered the cadet.

The coach reflected a moment, rubbed his head, and finally allowed that Vanderbilt was a new one to him.

"Where is it on the map?" he inquired.

"Nashville, Tennessee, suh!" said the cadet, and then added: "But I was a no-account player there, suh; just a scrub, like I am here. I'll get there yet if——"

"You'll do, son," interrupted the coach, with a grim smile; "you'll do. Only keep on a-trying." And turning to the officers with him he asked:

"Got any more of these Vanderbilt persons loose? Got a few more Tennessee cast-offs like this boy? Believe

me, it's stuff like him Uncle Sam wants in the Army."

This cadet later proved as dependable a back as ever wore the gold and gray. He had strength and speed, but, better still, his real value showed "from the neck up." He came back to the Point to coach after graduation, is now a lieutenant of cavalry, has served as instructor at the Point, of State troops, has given valuable service as an observer at the Army maneuvers, and at the time of this writing is with his regiment in the Philippines. He was a plebe at the Point when the first reports of Vanderbilt University began to filter through Eastern and Middle Western colleges and universities.

Even six or eight years prior to that Vanderbilt had been making history in Dixie by meeting and vanquishing team after team from the Southern colleges and universities—most of them Vanderbilt's seniors in scholarship, athletics, tradition, and social standing. Down there this reversal of type was a difficult thing to comprehend. Here was a comparatively new institution which in ten

years took the ranking position in Southern athletics, defeated the famous Carlisle Indians, tied the Navy and Yale, and only two seasons ago, after three days and three nights aboard trains, played the championship Harvard eleven a creditably close game in the Stadium at Cambridge.

The fact of the matter was that the South was then just waking up to its

thing and to answer another. Probably no three men within the inner councils of the University would agree in their explanation. Each would have different ideas and each would miss the real point, simply because every alumnus down there is so full of the thing itself that none of them recognize it. Vanderbilt's rise in athletics is really due to three things: native Tennessee stock, the same



ACTION ON DUDLEY FIELD—THE VANDERBILT-VIRGINIA, 1912, WON BY THE FORMER

new possibilities, and in the field of educational possibilities Vanderbilt, in track phraseology, had "beaten the pistol." Down to last year, since the formation of the Southern Athletic Association, in 1891, in track and field meets Vanderbilt had won thirteen. In baseball she had won 210 games, tied 5, and lost 89 in 304 played. In football she had won 130, tied 10, and lost 32 out of 172 played with some 37 different institutions. This last record includes the Southern championship, won fifteen times, and several close and hard games played with the larger and more powerful teams of the East and Middle West. And so, while fairly successful in the other sports, football is the game which has put the University on the intercollegiate map and the game we must use in analysis.

To ask how Vanderbilt did it is one

stuff which settled the State in the days of Sevier and Jackson, the stuff which gave both armies in the Civil War the most aggressive fighters in history; a hustling, wide-awake alumni; and—Dan McGugin, coach, faculty member, and idol of 1,300 students.

To begin with, Vanderbilt was blessed with a generous endowment and fortunate in starting things with a live, wide-awake faculty. This, in turn, gave the University the makings of a proud and loyal alumni, and the alumni furnished a group of enterprising sons who, riding on the first wave of prosperity to the new South, with their time and money, have been as active as any prize club of "boosters" in the great wide West.

Dr. William L. Dudley, dean of the Medical School, whom they kept at the head of their athletic association for so many years and who was for so long



McGugin, Football Coach, Law Professor and Corporation Lawyer as He Is Today.



McGugin in 1902, as a Star Member of the "Point a Minute" Team of Michigan.



Dr. W. L. Dudley, President Southern Intercollegiate Ath. Ass'n, and "Father of Southern Football."



Wilson Collins, Halfback, 1911, 1912, Baseball Pitcher, 1912, now Outfielder with Boston Nationals.

IMPORTANT FOOTBALL FACTORS AT VANDERBILT

president of the Southern Athletic Association and its representative on the national football rules committee, was the first friend of athletics in the University. He started the athletic spirit, and the alumni, backed by the citizens of Nashville, have ever since been getting Vanderbilt pretty nearly everything, from brains to machinery, that is required in these modern days of educational and athletic competition.

The "boosters" picked up Dan McGugin, and before they found McGugin they had used several other competent men. This alumni group knew what they were looking for, and while it took them years to find exactly what they wanted, in the end they succeeded. The first man who came to coach football was Upton, of Pennsylvania. He stayed one year and was followed by Acton, of Harvard, who lasted two. Then came Crane, of Princeton, for two, and Henry, of Chicago, for one. Vanderbilt, it will be seen, was looking to the East for a solution of her football prob-

lem, but strangely enough the East did not furnish the man she needed. He came out of the Middle West. Drake University started him, and the University of Michigan gave him his football and furnished him with his degree.

But the finding of McGugin was only an incident in the building. All the time the alumni were looking for a football coach they kept their eyes open for promising faculty members and for students. Students do not just come to these younger institutions as they drift to Harvard and to Yale. They have to be found—"hog tied," as one Tennessean expressed it, and "lugged in." So Vanderbilt men went after their young undergraduate material. They did not look for athletes alone. These men knew that there were plenty of stalwart boys in the ridge country who combined perfect bodies and brains, ambitious to obtain an education, and who would make proper leaders and teachers for the new industrial South.

They watched the schools, the farms,

and mountains, and once they found the boy of proper type they saw to it that in some way he eventually became enrolled in Vanderbilt. If the boy didn't have the funds to put him through, the Vanderbilt alumni saw that some member of his family did, or that he got there by earning the money himself.

Rival colleges and universities tell many a story on the Vanderbilt "boosters" and their zeal in hunting perfect "types" for students; how this alumnus while driving took a boy from a plow; how this man found a giant in the mines and that "old grad" picked up a scholar in a mountain district school teacher. Whether exaggerated or plain truth, they do not detract from the reputation of the University.

Vanderbilt gets many of these fine, rugged specimens from all parts of Tennessee, Kentucky, Mississippi, Alabama, and Texas. Some turn out to be athletes and some do not, but the majority come through a credit to the University, and once they are out they have one idea

fresh in mind, and that is to do the University a good turn for every good turn the University has done them. That is where Vanderbilt gets its royal society of "boosters."

The confidence of these "boosters," the undergraduates, the friends of the University and the city of Nashville in McGugin and his team is amazing. They don't seem to know or care what he happens to be up against in material or schedule. They know that Vanderbilt has a football team that can win and they want to get out and see it done. Nashville has about 140,000 population and it turns out in impressive force at every game.

Not long ago the citizens, in appreciation of what Vanderbilt and football had done for the city, held a mass meeting and presented the coach with a handsome memorial. Nashville apparently demands football, and the University alumni, keenly alive to the advantages of such support and the advertising it obtains, give the city about as good a



Tom Brown, Captain Basket-ball and Football Tackle—Member of a Famous Football Family.



Zach Carlin, Quarterback, 1912, Whose Drop Kick Scored on Both Harvard and Michigan.



Enoch Brown, Football End, Baseball Catcher, Three Years All-Southern Half-back.

game as can be found anywhere in the land.

These in brief are some of the reasons for Vanderbilt's success. It may sound commercial to more conservative colleges and universities. If it does it is misleading.

Vanderbilt has taken a decided stand against professionalism in college sport. Like other colleges and universities in the East as well as those in the South and Middle West who are now working for the best in athletics, it has been through the purging fires. Along with the rest it has had its house-cleaning, and wit. the rest it is now keeping its house in order.

There are no scholarships at Vanderbilt and no football players have had a so-called scholarship of any kind, and athletes do not receive financial inducements to enter. What help any worthy students have received comes through family connections, from friends, or from their own efforts during vacation time and while in college. The honor system exists at Vanderbilt and is applied to athletics there.

Coaches will tell you that there has never been a serious breach of training rules in the last ten years, nor have they ever heard in this time of an athlete taking liquor during season, using tobacco, or in any way breaking the letter or spirit of the rules. There seems to be an absolutely uncomplaining willingness to labor which is surely not surpassed anywhere. The students seem to feel that they have a sacred record to maintain and there is the most intense seriousness imaginable.

Making Their Own Material

Each season there appear on the football field an average of between thirty-five and forty men. At least a third of these have no football ability whatsoever. The coaches are never embarrassed by an over-abundance of material. It often happens that places are vacant with no likely candidates to fill them. The first games are close at hand. What do they do? McGugin and his assistants take some unwilling, uncomplaining, good-natured youth and proceed to make a

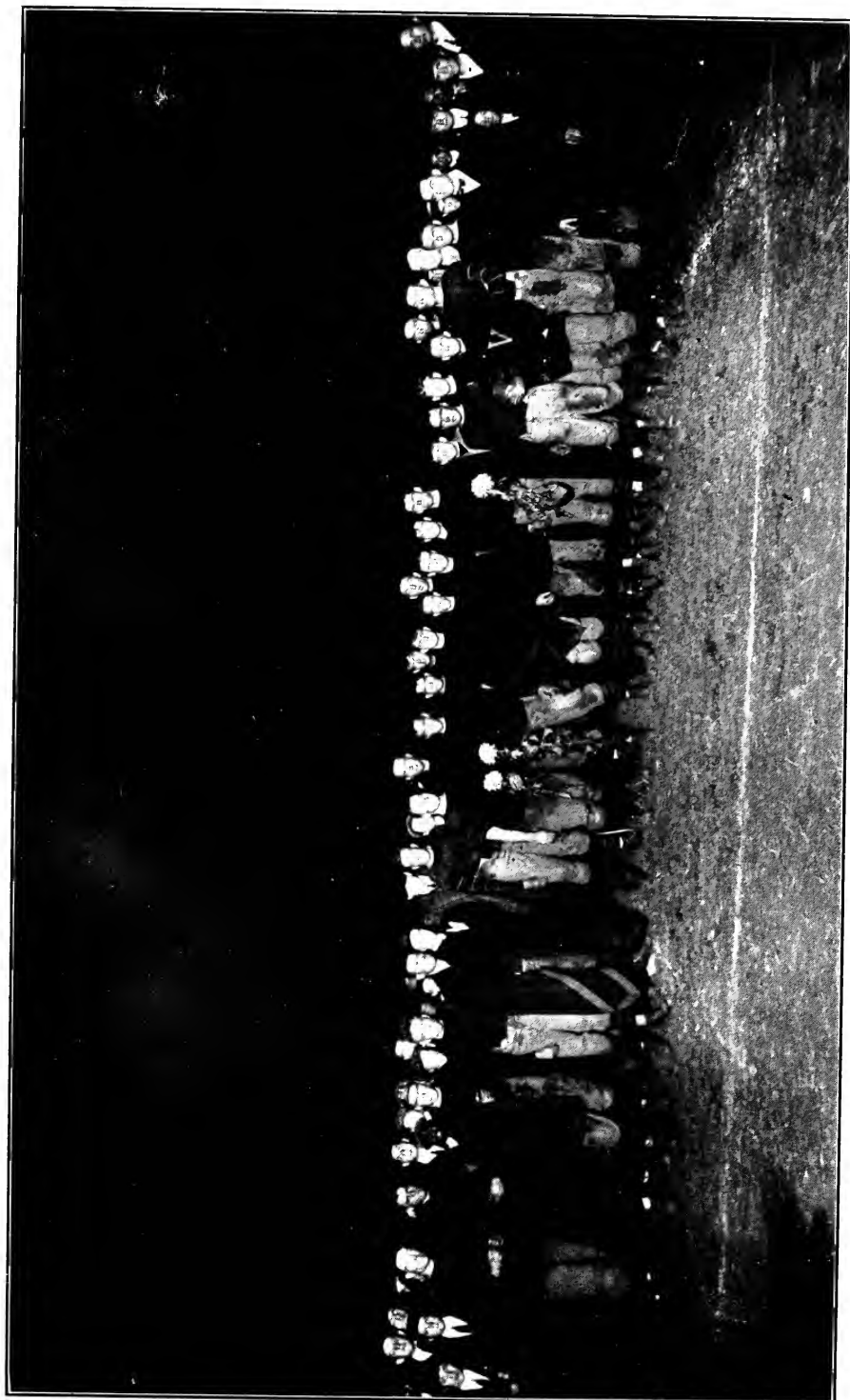
player out of him, or at least a sufficiently good enough player to fill the hole. In this way they patch up the eleven and proceed with their schedule. They say that after all the making of a player is not so much a question of natural ability as one of personal determination, courage, and patience.

The approval of the boy's fellows on the field is also a help in "making" the player, manifesting itself in the bearing, the tone of the voice, confidence of the candidate, and in many other little ways that are at once apparent. McGugin makes the most of all this. He adapts his style of offense and defense to meet the individual qualities of the men. At Vanderbilt the coaches rate the defensive ability of the team at about 25 per cent, the offensive ability at 30 per cent, and spirit at 40 per cent. In all of this there is something that throws a light on the reason of Vanderbilt's success.

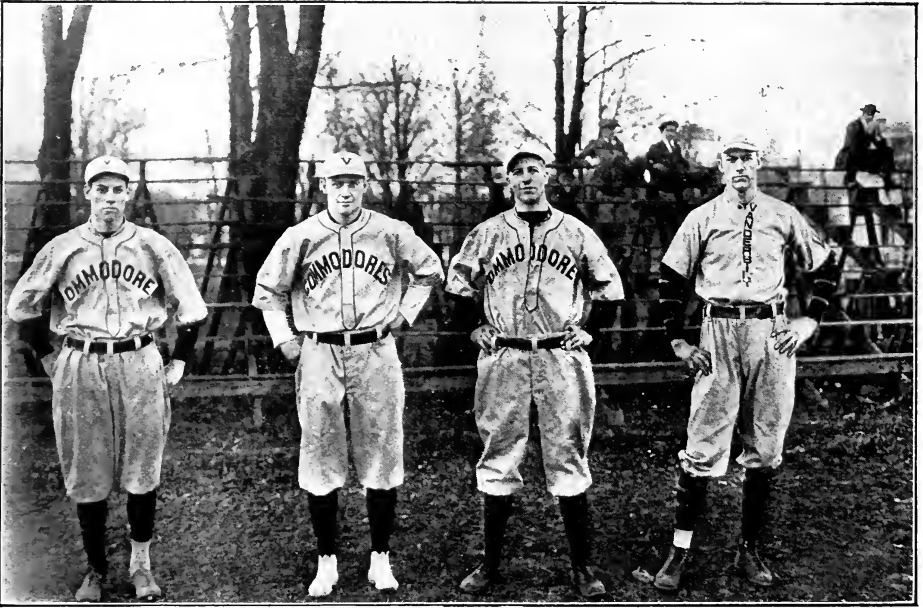
Because of the comparatively small enrollment, Vanderbilt, like all the Southern institutions, plays freshmen on their varsity teams. Such freshmen, however, are required to enter with fourteen Carnegie units.* Members of the three upper classes must show at least twelve Carnegie units acquired from the preceding year, and with these they are permitted to carry one unsatisfactory subject; but if, with their twelve units, they have two unsatisfactory subjects, they become ineligible and remain so until their work is made up to the satisfaction of the faculty. These eligibility rules are rigidly enforced by the faculty.

For football material Vanderbilt has less than 600 students to draw from, probably only 500, and in 1912 the team was approximately the age and about the equal in weight of the Phillips Andover and the Phillips Exeter elevens. Yet it played most of its opponents to a standstill and Harvard had its hands full in pulling out a nine-to-three victory. This emphasizes again the courage and intelligence of the men of middle Tennessee and surrounding sections.

*Under the rules of the Carnegie Foundation for the Advancement of Teaching, a Carnegie unit means five periods weekly in any one subject through the academic year.



THE NIGHT AFTER THE GAME—VANDERBILT HAD JUST BEATEN SEWANEES 63—13



VANDERBILT GETS MANY OF THESE FINE, RUGGED SPECIMENS

When we study the enrollment records of the University we find that the students from these communities of the inland South are almost pure descendants of the original settlers from England, Ireland, and Scotland, and that there has since been little mingling with other races. They have sprung from the contemporaries of Boone, Simon Kenton, Sam Houston, and George Rogers Clark. The football teams of Vanderbilt are largely made up of Browns, Blakes, Craigs, Grahams, Whites, and other such well-founded patronyms. "Bob" Blake, Dan Blake, and Vaughn Blake, brothers, were in turn captains of the 1906, 1907, and 1908 teams, respectively, and there have been at times as many as five Browns on one team.

But in referring to native stock which goes so far in making up successful athletic teams at Vanderbilt, it cannot be said that this one Tennessee university has a monopoly of the fighting spirit of the South. Sewanee, the University of the South; Auburn, Alabama; Georgia "Tech," and the University of Georgia, all smaller institutions, draw even to a greater degree from this Southern stock, the real blood and bone of those who built the South, and who at the birth of

the Confederacy gave all they had to the cause they believed to be right.

Sewanee, whose woodland reservation is on a mountain tract, miles from the more thickly settled districts, comes down to Nashville for the annual game, because at Sewanee there isn't the necessary "gate" to pay expenses. It brings a team recruited from about 200 students and gives Vanderbilt its closest and hardest battles of the year. Harris Cope, the graduate coach of Sewanee and the latest new member on the National Rules Committee, has the simon-pure Southern material to work with. If he didn't, as fine a strategist as he is, he could not build what he does year after year from the handful of young men up there on the mountain. Donahue at Auburn, a professional, turns out some wonderful teams from the material he has to work with.

I mention these particularly, as they are removed from the Atlantic seaboard and, unlike other and more accessible institutions, have not the advantage of close touch with the Eastern and Middle Atlantic colleges.

Vanderbilt has been playing football for approximately twenty years, and while I am not familiar with the rec-

ords of the men who made the early teams, a few instances of players in later years show something of the Tennessee strain and the virile, thrifty, and intellectual stock it produces.

Dr. Lucius Burch, whose last year on the gridiron at Dudley Field was 1897, was one of the best guards developed in the United States during his athletic career. He is to-day one of the prominent surgeons of the South and is at the head of a private sanitarium in Nashville.

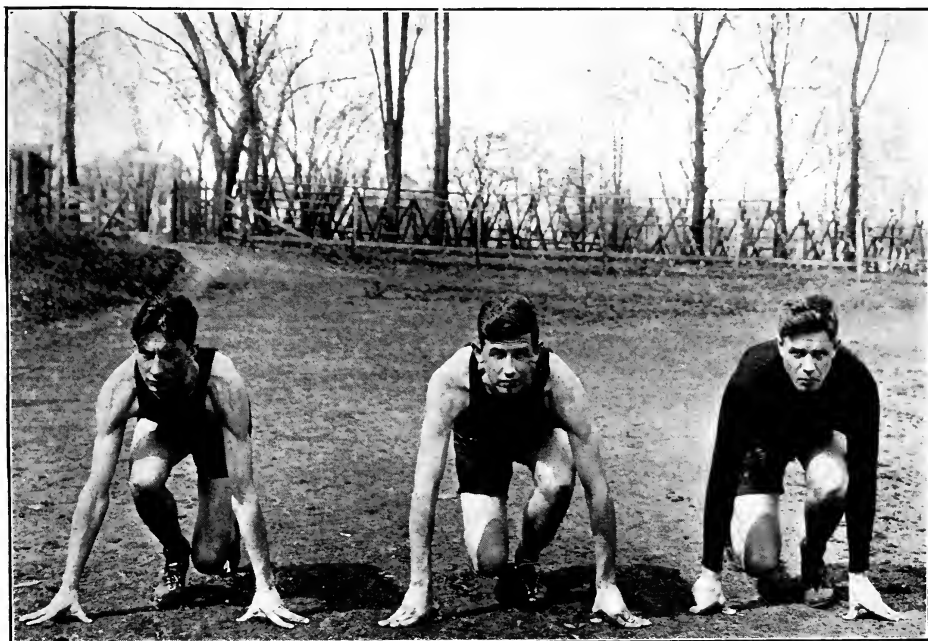
John Edgerton, whose last year was 1903, was in speed and size the type of man which made the Yale teams of the early nineties so powerful. After leaving college he became one of the head masters at the Columbia Military Academy at Columbia, and is now manager and part owner of a woolen mill at Lebanon, Tenn.

Robert Blake was a member of the Vanderbilt teams of 1904, 1905, 1906, 1907, and a place-kicker, punter, forward-passer and an end of great ability. He won the Rhodes scholarship from Tennessee, made a fine record at Oxford, and is now a practising lawyer in Nashville.

Owsley Manier was a full-back on the Vanderbilt teams of 1904, 1905 and 1906 and a great plunging back. After his course at Vanderbilt he went to the University of Pennsylvania to study medicine and played one year on the Pennsylvania eleven, as he was entitled to by the eligibility rules. But his effectiveness at Pennsylvania was lessened by the attempt of the coaches to change his style of bucking a line from the low, plunging dive to running into it erect, knees drawn high and great dependence upon his companion backs to "hike" him.

Manier was four years at Pennsylvania and had he been allowed to play a year more would undoubtedly have been chosen for the All-American team. Out of a class of 146 he led as No. 1 for his whole course, and is now practising his profession in Nashville and giving his spare time to the university as assistant football coach.

Ray Morrison, quarterback on the 1908, 1909, 1910 and 1911 teams was picked by several critics as All-American timber during his last year in college, and as good a judge of material



FROM 1891 TO 1913 VANDERBILT WON THIRTEEN TRACK AND FIELD MEETS IN THE SOUTHERN ATHLETIC ASSOCIATION

as "Ted" Coy said publicly that any back in America would be proud of this boy for a running mate. Morrison, at this writing, is a member of the faculty of Branham & Hughes school in Tennessee.

Hillsman Taylor, tackle on the Vanderbilt teams of 1905, 1906 and 1907, is prominent in the public life of Tennessee, having held several offices of trust and merit and was Speaker of the House

starting with a light and green team built around two veteran line men, Morgan and Brown, and McGugin playing every known combination with this pair of "huskies" to its fullest efficiency. In the Michigan game Brown broke one of the small bones in his ankle, and the following week, in the Virginia game, Morgan broke his leg just above the ankle. This put the team in mid-November where it ordinarily

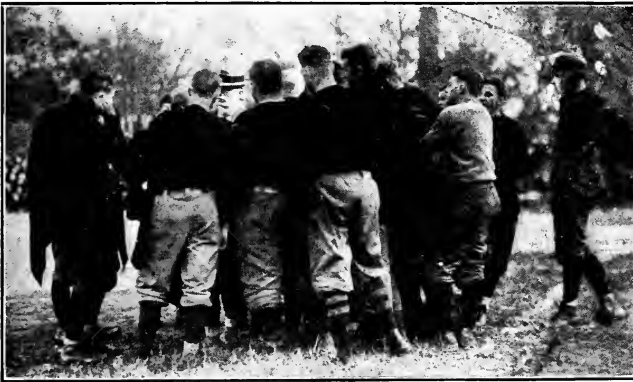
was at the start of the season. Despite the handicap, however, it showed magnificent spirit, practised patiently, quietly and with a determination that found itself by Thanksgiving Day giving Sewanee, its old rival, all that it could handle, and in the end winning by a score of 63 to 13.

Brown, the linesman, who four weeks previous had broken his ankle, played throughout this game with a

steel brace on his leg, and the next day was taken to the pest-house with a bad case of smallpox. What this youth suffered in that Thanksgiving Day game no one but himself will ever know.

So much for the material, the spirit, the university and the town. Just a word about McGugin. He will talk all day and all night of Vanderbilt, his boys, the town, and the new South, but when the topic is brought around to himself, invariably has to go to court, or law school, or legislature, or some other place where football is tabooed. Nashville citizens, when asked who McGugin is and where he came from, will "reckon" that "Dan" is a native of Tennessee, always lived there, and always will. There isn't any question about it. Dan E. McGugin has been officially adopted by Nashville.

Nevertheless, for accuracy on the record, it may be stated that Dan E. McGugin was born on the edge of the Middle West in the hamlet of Tingly, Iowa, of Scotch and Irish descent, entered



A FEW LAST WORDS FROM COACH MCGUGIN JUST BEFORE THE GAME

of Representatives of Tennessee in 1909.

John Tigert and Innis and Enoch Brown, who also passed the Rhodes scholarship examinations with high marks, were all football figures. Tigert has the honor of being the first Rhodes scholar from Tennessee. After his course at Oxford, where he left a splendid record in scholarship and athletics, he returned to Tennessee as an educator and became President of Kentucky Wesleyan College. In building up this institution he taxed his strength too severely and was compelled to resign his position on account of failing health. He now has the chair of philosophy at the Kentucky State University.

Frank Godchaux, a quarterback on one of the teams in the late nineties, is now President of the Louisiana Rice Milling Company, a \$10,000,000 corporation.

Nothing could better illustrate the spirit which pervades the athletic body at this university than the football team last season. Autumn saw Vanderbilt

Drake University at fifteen; graduated from the literary department of that school in 1901, and entered the law school of the University of Michigan, at Ann Arbor, in the fall of that same year. He was graduated from Michigan in June, 1903.

McGugin had played football two years at Drake, and, under the then existing rules, had two years of competition remaining when he entered Michigan. He played at guard in the seasons of 1901 and 1902, being a member of Yost's famous "point a minute" team, and had the distinction in that period of never having had time taken out for him in a single game. He stripped in his Michigan days at about 185 pounds and invariably faced men much heavier and taller, but, according to his teammates, always succeeded in holding a little more than his own throughout each game.

"Probably the most predominate trait in McGugin's make-up," said a member of the Michigan faculty, recently, "is his unfailing ability to meet every emergency. Throughout his college career

every summer vacation was spent in seeing the sights, either here or abroad. To my absolute knowledge he traversed the South and West thoroughly, spent a number of months in Alaska, an equal period in Mexico, also in Central America, and during two summer vacations roamed Europe, working his passage over and back in cattle-boats."

One of these migrations landed him in Nashville, Tennessee, possessed with a degree in law and a desire to work. To help pay his board and lodging he secured the job as coach of the Vanderbilt football team, and, thus equipped, started in to practise his profession. That was ten years ago. To-day, besides having the reputation of being one of the most successful football coaches in this country, McGugin is a corporation lawyer, a member of the faculty of the Law School, has married a Nashville girl, and is one of the most substantial business and professional men of his adopted city.

A graduate of Vanderbilt told the writer that one of the most moving appeals he ever heard made was by Mc-



THE SEWANEE TEAM, VANDERBILT'S DEAREST RIVALS, WAITING FOR THE GAME TO BEGIN

both at Drake and Michigan he was called upon to meet all expenses through his own personal endeavors and efforts. Many are the stories told of his ingenuity in devising schemes to support himself during these seven years.

"But, in addition to a college career, 'Mac' had an overwhelming desire to see the outside world, and practically

Gugin in a locker-room just prior to the opening of a game with Michigan, when he, as a fiery Southerner, urged Vanderbilt's men to wipe the field with the Northerners, and talked of their revered and fighting forebears and the trust, confidence and pride which the South reposed in them as they battled that day for the glory of Old Tennessee. This

man said there wasn't a dry eye in the room as McGugin finished, and every player in the team trotted out on the gridiron that afternoon ready to die, if necessary, for the honor and glory of Dixie. And the story isn't injured a bit when it is added that the general of the opposing forces was Yost, McGugin's old instructor and college mate, the man who taught him all the football he ever

other things being equal, this difference tells quickly in a football game.

It is significant, however, that McGugin will take a team which has been beaten by Michigan and proceed to defeat another eleven, heavier, older, and well coached. Note the showing Vanderbilt made against Virginia, the Navy, and Yale. The answer is that McGugin will not stick to any one style of game.



ON THE CAMPUS AT VANDERBILT—THE TOWER IN THE BACKGROUND OVERLOOKS DUDLEY FIELD

knew, and who later had become his brother-in-law. It may also be said that McGugin hasn't yet succeeded in licking Yost, although he has taken teams North on more than one occasion which came very near doing it.

Michigan's unbroken string of victories over Vanderbilt is due, undoubtedly, to the size and strength of the individuals who compose her elevens. Both teams play about the same game, fast and aggressive. The attack of both teams is as versatile as it is rapid in action. The generalship is the same, but Vanderbilt's teams average in size less than either Andover or Exeter, and,

He develops an extremely varied defense. He is constantly looking for the new "stuff." He trains his teams to drive their attack hard and fast, running their plays in quick succession, and always trying to get away with the well-nigh impossible, or, at least, the unexpected. In the Yale 0-0 game it is said that the Vanderbilt team ran about seven and eight plays to the minute. Vanderbilt did identically the same thing in the Navy 0-0 game, and every one of her eleven men played the entire game without a substitution.

Much was expected of the team that took the long journey to Cambridge, but

as often happens in football, a series of unfortunate accidents just previous to the trip changed the whole outlook and rendered useless all the preliminary work of the autumn in building up the particular style of play for that one game. By the time the team crawled out of the sleepers at Boston, its members were a sadly crippled lot, and the fast, open game which it had been coached to play was not in it. Harvard even had to loan Vanderbilt a player to make up her eleven men.

It is said that McGugin, in the few hours' practice Vanderbilt was able to get in the Stadium, changed his whole attack and defense. He early discovered the "pockets" and "wind echoes" of the upper air currents in the Stadium, and, detaching the back field, kept it kicking, passing, and catching, in order that these men might at least be "wise" to the air. Taking the line to one corner of the big amphitheatre, he drilled it alone, in an absolutely new defense. Vanderbilt lost to Harvard that day, but the game was by no means one-sided and the Nashville students returned to Tennessee satisfied in their own minds that when in good condition they could force the Crimson to its best.

It has been said by a Western coach that in fundamentals—tackling, charging, blocking, punting, and going down under a kick—the East is superior to the South and Middle West; that these results are due not only to good coaching, but to the wealth of seasoned material which the East has to draw from. Many of these Eastern college athletes themselves come from the West, but their athletic training has been received at Eastern preparatory schools, where undoubtedly they get better coaching, in the fundamentals of the game, than the boys at most Southern and Middle Western colleges. The writer agrees with this, but he also believes it to be equally true in versatility of attack the

West and South are as good if not better. It would be interesting to see what would happen to an average, well-balanced Princeton team if a man like McGugin were given its generalship in a game with either Yale or Harvard at the end of the season.

In the ten years that McGugin has been at Vanderbilt he has made a lasting impression upon the undergraduates, and after graduation when many of these men have gone among the preparatory schools and colleges of the South to teach, they have taken the McGugin school with them, and established it in the institutions to which they were sent. It follows quite naturally that these schools later send many of their boys to Vanderbilt.

Those of them who play football come, therefore, to McGugin as well grounded in the fundamentals as McGugin himself could have taught them. This is the much talked of "McGugin machine." If it is a machine it is a good one, and offers one more reason for Vanderbilt's steady march to athletic triumph.

But if Vanderbilt attracts material from these preparatory schools of Tennessee, the University of Georgia, Georgia "Tech," and Sewanee each get just as many more from other schools in the South. These four colleges and universities draw more students from preparatory schools than any other institution in the South, save the University of Virginia, really a South Atlantic college. Vanderbilt probably gets more students from preparatory colleges of the South than any other institution there. However, both football and baseball, in the largest of these preparatory schools and colleges, while developing virile and intelligent players, are both in their infancy as games, and the strongest team from any of them could not play Andover, Exeter, Hill School, or Mercersburg, with any hope of winning.

Read Mr. Case's article in July on the University of Washington—the next in the series of college articles.



OF COURSE WHEN YOU REALLY WANT TO HIT THINGS, AND THE GROUND PERMITS IT. A COMMON POSITION AMONG THE DEER STALKERS OF SCOTLAND, A RARE ONE AMONG AMERICAN HUNTERS, THE ACCEPTED MILITARY POSITION

HOW TO HIT THINGS WITH THE RIFLE

By EDWARD C. CROSSMAN

ILLUSTRATED WITH PHOTOGRAPHS

Practical Points on Position, Grip, and the Other Essentials to Good Marksmanship

I KNOW of a number of games in which brains count heavily, but I do not know of one in which brains count for more than they do in rifle shooting. Strength, "nerves," eyesight, inherited advantages, it really makes little difference in how great a degree you possess these desirables, they neither make nor break your rifle shooting.

If you think that eyesight makes the difference, consider Midshipman, now Ensign, W. A. Lee, U. S. Navy. With eyes so faulty that he had trouble graduating from the Academy, he won in one year the great National Individual match with the rifle and the National Pistol match with the revolver, in straight, open competition against the

pick of the country. I saw an optician testing his lenses at Camp Perry in 1913, a pair of powerful lenses, the absence of which left the officer out of it so far as hitting the target is concerned.

The finest offhand shot I've seen perform outside of Dr. Hudson weighs about 115 pounds. The finest game shot I believe there is in the world weighs about 155 pounds.

The man who holds the world's record at 800 yards, with over 100 straight bulls at nearly a half mile range, who holds the high record for the U. S. team that shot at the Argentine Republic in 1912, and who won the championship and \$1,000 cash at that event, besides shooting on the U. S. Pan-

American team in 1913, weighs about 140 and is about 5 feet 7 inches. Also he wears glasses.

A man may be quite neurasthenic, he may jump and snarl irritably at the sudden slamming of a door behind him—but he may, and is quite likely to, shoot a rifle like a fiend.

As played in this country rifle shooting may be divided into two distinct classes, although one man may play in both. One is the deliberate fire, without other consideration of the time phase than to prevent unnecessary delay in the completion of the score. This would include the offhand 200-yard work, followed by the Schuetzen riflemen, the indoor work followed by civilian rifle clubs, and military shooting of the long-range variety.

The other sort is the so-called "practical" rifle shooting, rapid fire, work at moving objects, a style of fire that requires even a higher control of the trigger finger and nerves than does the deliberate fire. Walter Winans, the famous running deer shot of England, says that deliberate fire of the military variety ruins a man for practical shoot-



A GOOD KNEELING POSITION, POSED BY AN EXPERIENCED MILITARY SHOT

ing, work on game, for example. The fact that Mr. Winans has never followed the military rifle game is evidently responsible for this belief.

Any sort of rifle shooting works well as preparation for any other sort if the man shooting uses his brains, studies the reasons for offshots, and analyzes the psychology involved in firing a rifle. Too long an indulgence in slow fire makes a man slow as compared with those trained in other sorts of shooting, but it does not alter the fact that by his shooting he has established sort of a "longest leased wire," direct from his brain to his trigger finger, and at the same time prevented his treacherous brain from sending a warning message to the muscles to tense themselves up to meet the roar and the blow of the exploding charge.

Regardless of the style of shooting, the psychology involved is merely this. The instant the eye reports that the sights are right, the brain telegraphs "fire" to the trigger finger. In a highly-trained rifleman this is almost equivalent to pressing the firing key in an electric-firing apparatus, and with as little disturbance of the rifle up to the



A GRACEFUL AND EASY OFFHAND POSITION. NOTE EASY LINES OF BODY, AND POSE OF FIGURE



GOOD OFFHAND POSITION. BUT ELBOW RAISED TOO HIGH FOR COMFORT. DISCOMFORT MEANS STRAIN, STRAIN MEANS SHAKINESS

time of the recoil as would happen were the gun fired by an electric charge while fixed to a rest.

Literally, shooting is a case of not letting your left hand know what the right is doing. The thought flashes into my mind with every shot I fire, whether at the running deer, with its scant two seconds of time to fire, or at the 200-yard target.

The natural and wrong thing to do is for the brain to keep that left hand constantly informed as to what the trigger finger is doing, and the instant the trigger finger contracts for the last ounce to telegraph to the left arm and the muscles of the body, "Hold hard, she's going to kick."

This is a flinch. It is not fear, not always even anxiety to get off the shot at the right time; it is the natural—and fatal—disposition of the body to

tighten up and meet the recoil and roar. Do you watch with lax muscles and unfluttered nerves the preparations to fire the noisy cannon close to you? Or do you clap your hands to your ears and sit with muscles tensed, though unnoticed by you, and nerves more or less aquiver, waiting for the roar of the big gun? When the brain knows, and the body knows through it, that the last ounce pressure of the right index finger is going to produce a more or less heavy blow and a loud roar, both of them shocks to the nervous system, then you can understand that success with a powerful rifle is dependent upon the mental training as much as it is upon the muscular one.

Therefore endeavor assiduously to divorce all connection through the brain, of the trigger finger and the left arm, and body. Concentrate hard—this means concentrate—on the trigger finger, keep the left or supporting arm lax, don't let the muscles of

the body tense up and prepare to meet the fuss that is going to take place.

I have helped to break in a number of new men in rifle shooting, and I am certain that ninety per cent of the failures among riflemen, up to the state where judgment of wind and weather conditions count, is the lack of absolute divorce of the firing mechanism of the trigger finger and brain portion controlling it from the rest of the muscles and the brain guiding them. I watched one man fire through two years with the military rifle. Score after score would run splendidly up to the last shot or two, then would come the clean miss, curses of the rifle and the ammunition and the market and the weather and all the other causes that have to suffer the blame for failure of the bullet to meet one's expectations.

Not until after this man shot through

a course with the .22 rifle indoors did he realize that occasionally he quit holding and pulled the trigger. The recoil of the big rifle covered this up, but the small one uncharitably told him the truth. He actually quit the firm grip of the rifle as the trigger finger pulled out the last ounce of sear, and his whole body actually met the recoil before it came. It takes an iron grip on oneself to keep the body still and steady while the trigger finger does something that the brain knows full well will hurt and jar one.

With the trained man, recoil is not the disturbing consideration. Speaking from personal experience I have fired a powerful elephant rifle, developing fifty-six foot pounds recoil energy, against sixteen for the army gun, with no tendency to flinch from the terrific blow than I would have with my own target rifle. But let me have a rifle that has a bad pull, one that instead of dropping clean from the sear notch, goes "click-grate, click-bang" and I will have to fight myself to keep from flinching clear out of the firing point. This is because your control of the body can last for but an instant, and you have learned that the fuss happens when the sear slips. If it slips, but the rifle fails to fire, then



A LOOK AT THE OFFHAND POSITION FOR DELIBERATE TARGET WORK. STRAP PASSING BELOW ARM PIT BUT NOT OVER THE ARM. THUMB BETTER ON GUARD THAN AS SHOWN, ELBOW CLOSER TO SIDE

you've got the materials for a case of flinching—after a time has elapsed that would have allowed the bullet to clear the muzzle.

This is different again from the convulsive jerk with which the real flincher pulls the trigger. The trigger with the bad pull is released perfectly, the "flinch" is a sort of involuntary relaxing of the nerves that follows the perfect release of the trigger.

The man wanting to make a success of rifle shooting must think and think hard each time he fires a shot. He must concentrate, and must be able to tell exactly what he did each time he pulled the trigger. A trained offhand shot can call the hit within four or five inches at two hundred yards, before it is marked, because he has concentrated on those sights and the trigger pull, and he knows exactly where the sights were aligned as the recoil hurled the rifle into the air.

An empty rifle is as good as a loaded one almost any time, for practice, and for the beginner it is a whole lot better. Until the trigger can be released without that front sight moving in the



EXCELLENT FORM OF THE SITTING POSITION QUICKLY ASSUMED, USABLE ON ANY GROUND, QUITE STEADY



NOT A GOOD SITTING POSITION, ELBOWS SHOULD BE IN FRONT OF KNEES OR IN HOLLOW

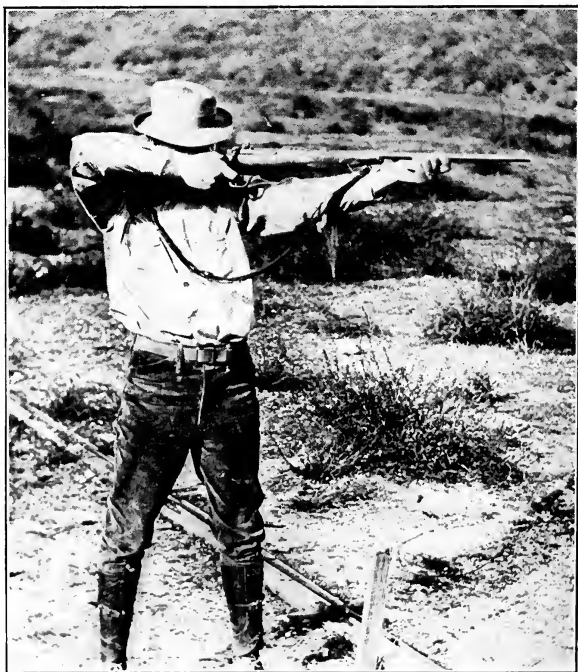
slightest, it is a waste of time and money and squeezing the trigger as though trying to fire cartridges. The essential muscular training that must take place to insure steady holding can be obtained best by a few minutes' snapping of the rifle each day, the arm unloaded, but the mind intent on the practice to the exclusion of everything else. Better five minutes of this—it is enough—to a half hour desultory "monkeying."

Fear of recoil is a mental, not a physical, fault. The noise has much to do with it. Once upon a time I did some experimental firing with a Government rifle cut down to light-weight sporting form, from a flying aeroplane. The rifle had considerable punch in its light form, about nineteen pounds of energy being developed by its backward travel. The exhaust of the four cylinders of the engine was directly in front of me and not four feet away, while the roar of the great propeller

blades of the tractor added to the racket.

I give you my word that the first time I fired the rifle I did not know whether or not it went off, and I had to open the bolt and see the fired cartridge before I believed it. The noise of the engine and the blades drowned out the noise of the rifle—and I could not feel it kick me during the half-dozen shots I fired.

I would treat recoil in a different way from that usually employed. If a person is bothered by the noise and comeback of the rifle, then let him secure a 10-gauge or a 12-gauge shotgun, with the heaviest shot loads possible, then seek an open spot with the gun. There let him fire twenty-five or fifty shots, aiming the gun deliberately



THE WAY NOT TO SHOOT WELL OFF HAND, LEFT HAND FAR OUT BARREL AND STRAIN ON THE ARM, RIGHT ELBOW TOO HIGH

ing to hit a target a long way off. It is a good idea to put the front bead on some object and try to hold steadily on this while firing.

It is not particularly enjoyable. As a matter of fact the recoil of a 12-gauge gun with trap loads of $3\frac{1}{8}$ drams of powder, and $1\frac{1}{4}$ ounces of shot is nearly double that of the recoil of the U. S. army rifle, the New Springfield, and is about the same as that of the "ferocious" .405.

There is no use monkeying with the gunshy, or recoil-fearing person. Stringent measures are the best. The big shotgun gives us the necessary severity of punch—and yet the average person is ashamed to quit, merely because of the fact that the trapshot fires two hundred shots or more in a day, and does not mind it. True, the trapshot fires under different conditions, but if the kick is there in either case, it is merely a question of mind after all.

The clumsy, uncouth positions assumed by the new hands—and sometimes held on to by the old ones—are enough to put the teeth on edge like the thoughts of a very sour pickle. There is nothing in holding a rifle that calls for the human frame to be tied up in a hard knot.

I've watched misguided gentlemen holding the left hand far out the barrel, until the left arm was on a strain and could not possibly be steady, and holding the right elbow at an elevation about even with the crown of the hat. I have never found the target easy enough to allow me to use any such handicap as this sort of pose.

The best position for all-round shooting is with the left arm in the half-extended position, left elbow well under the rifle, muscles relaxed. The right hand should grip the rifle tightly, very firmly, and pull the gun hard against the shoulder. The importance of a close-up pistol grip in holding is hard for the average shooter to realize, because proper grips are quite rare. The right elbow should not be raised any higher than enough to make a comfortable cushion for the butt of the stock, and the butt should be kept well in to the shoulder in the muscle-bed

nature provided for it when she designed a man for rifle shooting. Also, don't bite on the entirely foolish "rifle butt plate," the steel sort with the horns on it. It fits nobody, including you, makes the recoil more severe, and is very slow in pitching the rifle to the shoulder for a quick shot.

For deliberate offhand shooting, many adopt a hold closer to the trigger guard for the left hand, although it is not suitable for all-round work. These holds vary thus:

Holds for Offhand Shooting

Guard flat in the palm of the left hand, fingers extended along the stock or the magazine floor plate of a military rifle, left elbow clinging to ribs, body fairly erect. The same hold of the left hand, but legs well apart, and the left elbow resting on the point of the hip.

Or, the rifle supported on the thumb and the index and second fingers of the left hand, the thumb on the rear curve of the trigger guard, the fingers ahead of the guard, with the elbow either clinging to the ribs, or else on the point of the hip.

With the military rifle the sling is used in various ways to supplement this.

My own preference is for the thumb and two-fingers support, elbow clinging to the ribs—mine are near enough to the surface to guard against any slipping across them—the sling pulled out from the "parade" or tight position until there is slack enough to slip up under the arm pit. So held, the sling runs from the front swivel to the rear one, passing beneath the upper arm as close as possible to the arm pit, but not passing around the arm at all. The weight and pressure of the arm against the bight of the sling acts as a heavier rifle would do, it holds down the gun hard against the fingers and stops the wobbles to a considerable extent.

Needless to say, this is merely to play the offhand, slow fire game, to beat the target, and it is worth nothing in game shooting, or for quick work. Holding thus, I find a little rosin a good thing under the thumb and fingers to guard against possible slipping.

I hate to confess myself a heretic, but I am one and deserve the scorn thereof, so far as the effectiveness of offhand shooting goes. The average man who goes afield cannot hold ten shots into the 26-inch four-ring at 200 yards. They can, huh? Well then, why don't they do it when they get on the target range.

Out here in Los Angeles there has been a rifle club with quite complete equipment, open to the shooter at large since 1908. Also I've been secretary since that year, and have watched them come and go. During the seasons quite a number of hunters seek the range, either to try some of the prize shoots or to sight in a new rifle.

I've watched them and listened to their tales. Also have I tried to jibe up said tales with the detestable criss-cross black and white marker that would creep up out of the pit, signifying a "three," and therefore not within the 26-inch "four" ring.

Fear of recoil, nervousness, lack of acquaintance with trigger pull, and lack of muscular training, all of them show up far greater in offhand shooting than in any position. The average man, unless he seeks his game in a country that forbids such procedure, is very wise to practice the sitting position, and getting into it in a hurry. Too slow? Bosh. Consider the Surprise Fire of the National Matches at Camp Perry and the lessons thereof.

There was allowed to the shooter the short space of three seconds, and also the time it took rapidly to shoot from the pit the target that lay in concealment. The shooter had to stand, rifle in right or left hand by the side, safety fully on, perfectly erect in posture, until he saw the target move. In the hands of ordinary markers it moved like a man who has inadvertently dropped a lighted match into a keg of black powder. I should say a half second would cover the rise of the target, until the fateful three seconds commenced to tick.

Now originally designed for practice in offhand work, the game had been thoroughly beaten by the agile riflemen. Probably ninety per cent. of the shooters at Perry flopped to the

prone position on the appearance of the target. Maybe seven per cent. kneeled, and about three per cent. went to the sitting position. All this was done in the time of which I tell you, say $3\frac{1}{2}$ seconds all told, starting from the standing position, rifle locked and held at arm's length in one hand.

The range was 200 yards, the figure counting five was 26 x 22 inches. Yet possibles of ten shots were as nothing. I own five of them myself, so that's nothing.

Majority Favor the Prone Position

Now three per cent. or so of the shooters at Perry went to the sit, and ninety per cent. to the lying position, because the target was not obscured, the ground was level, and the prone position is more steady than any other. But, this is not true in the game country, nor in any other than level meadow land or desert or baseball parks or rifle ranges. Therefore take the sitting position, nearly as steady as the prone, usable on uphill or downhill formations, and putting the eye and the sights from two to two and a half feet above the ground. This may be enough, or it may not be, it depends upon the nature of the country and the vegetation.

Anyhow, assume it if the conditions will allow it, and unless the game is actually on the run, don't worry about time. For one thing, I've noted time and again that an animal watching you will gaze at you in puzzled fashion, unable to make out what became of the tall, slim figure seen but an instant before.

Comfort and steadiness in the "sit" depends upon your svelte figure. If you're fifteen years and seventy-five pounds away from the erstwhile svelte stage, then the sit will make no hit with you. For those able to assume it, the steadiest modification of the sit is the cross-arm position, the old Gunsling Dave favorite of the regular army. It is thus:

Place the arms folded across the knees, which must be drawn up close to the body, impossible for a heavily-built or stiff-jointed or very long "shanked"

man. Rest the rifle over the left elbow, which is lying flat across the outside of the left knee. Cross the right wrist with the left wrist, some people prefer to grip the right sleeve with the left hand. The arms lie flat, knees up inside the elbows.

Objections! position is sensitive to slope of ground, cannot be assumed if the feet are lower than the spot where you sit, slower to assume, does not give complete control of the rifle, as it merely lies across the left elbow, controlled by the right hand alone.

The true sitting position may be either with the soles of the shoes together, knees spread apart, or else with the feet well apart, elbows snuggled into the hollows inside the knees. To me, this is the best, being less of a strain on the leg muscles.

The kneel is a very much over-rated position. California used an experimental School of Musketry course for her State shoot in 1912, and I was one of the unfortunates following it out to the last shot in the trials for individual championship. One stage of it called for ten shots kneeling in one minute, including reloading the magazine, the position assumed from the stand on the appearance of the target. Dutifully therefore we fired hundreds and hundreds of cartridges in this position to work out the last detail that might count for points.

We found out this—that almost invariably the shooter took so much time getting steadied down after he struck his knee to the soil that he might as well have sat down to it.

Later on we ran against it at Camp Perry in the Pan-American matches of 1913. We bucked this for one solid week, about forty shots a day from the kneel alone. Here they allowed steel reinforced plates in the shoes and cush-

ions to slip under the lower leg. Also the time was not limited in the slightest. In spite of this, the scores were not enough higher in this position than they were in the offhand to make the difference at all worth while. The sling was used, the cushion was used, lots of time was used, and the prevailing winds had much less sweep at the kneeling man owing to the construction of the shooting house. Yet the offhand scores overlapped into those made kneeling until you could not tell t'other from which.

The kneel is an extremely uncomfortable position, not at all a steady one, and entirely unworthy of practice. If you must use it, then see that the left toe points straight toward the mark, and that the right toe is about fifteen inches to the rear, and two or three inches to the left of the left heel, before you kneel. The left foot, flat on the ground, the right knee pointing at right angles to the left foot, and the right foot on which you sit, must form points of a triangle with the three corners separated as widely as possible.

I am an absolute unbeliever in the silly and incompetent exhibition of forever hunting for something to rest the rifle upon when firing at game. Learn how to shoot without this nonsense, because the rest is usually not handy. Also if it is, it so changes the shooting of a modern, powerful, thin-barreled rifle, in the direction of the sky that a moose even can easily be missed for this reason alone at three hundred yards. The variation in the shooting of the gun becomes worse as the rest approaches the muzzle, but even though said rest be back on the fore-end, the rifle will shoot from six to ten inches too high at two hundred yards, if it is sighted in normally for the grip of the hands alone.

Through baseball the Filipinos are learning the lessons of self-control and self-government. How much they have learned already is shown in the article by A. Garfield Jones—"Teaching the Filipino on the Diamond"—July OUTING

POLO—"THE GREATEST GAME"

By MACK WHELAN

THAT was what Kipling called it. And that is what Americans are beginning to believe as a result of the success of the "Big Four" in recent international matches. This year we meet England again at Meadowbrook and the interest will undoubtedly be greater than ever before. The theory that polo is a rich man's game and an affair of high society is being overthrown. There is not a corner of the country so remote that its inhabitants will not watch for the results and hope for another American victory. Why? What are the qualities of the game that make for thrills and enthusiasm, even among those who do not understand the finer technique? Mr. Whelan answers his question in the article which follows.

THE final chance which polo enthusiasts had to see the American and British players in action before the last set of international matches came on a Sunday. It was not the assurance of stirring competition which brought out the crowd. No formal announcement of any contemplated interruption to the Sabbath calm of Long Island was made. A rumor spread mysteriously that a practice match between the rival fours would be staged. The prospect was sufficiently attractive to draw thousands to Meadowbrook from New York City and all parts of Long Island.

Over the green expanse of turf which later in the week was to be the scene of spirited international combat, they found calm prevailing. News circulated that the final practice was to be held not at the club grounds, but on the private field of the Phipps estate. Within a few moments an endless stream of vehicles was headed along the six miles of road intervening.

When the procession reached the gateway leading to the Phipps principality progress ceased. The big barriers were tightly closed. High fences and higher hedges prevented visual exploration. The

seneschals at the gate, declaring there would be no practice, said the public could not be admitted.

The big motor-cars from the neighborhood which were first on the scene could not retrace their way. The few moments spent in parleying had been sufficient to permit the rest of the vehicles to catch up. Drivers who had made the alternate choice where the road forked had come around and made it impossible for the early arrivals to keep on in their original direction. A solid jam of vehicles scraped axles for a very full mile. Some few of the thousands reached the gate, showed cards, and were admitted. The majority essayed the great American game of bluff. The defending force was more than equal to the onslaught. In the heat of repelling attack, it became evident that the dominating force was a tall old man with a high voice, white hair and an accent which bespoke a youth spent in Scotland.

"'Tis nae use!" he cried, brandishing a long stick at the hundreds who were attempting individual conversation through the gate. "'Tis nae use. I dinna care who ye be."

Various individuals, who had claimed to be everything from county sheriff to head of the Metropolitan police, fell

back. The recession permitted a man who seemed slightly stooped because of carrying one arm and shoulder in a sling and a well-set-up gentleman wearing a panama hat pulled over his eyes to reach the vantage point. The first man started to walk through. True to his trust and regardless of the crippled condition of the intruder, the incensed guardian shoved him back. Wincing from the shock to his shoulder, the new arrival stepped back upon the foot of the man behind him.

"Let us through here immediately," the latter commanded in a voice of suppressed anger. "I'm August Belmont."

The old Scot never wavered. With a smile which showed most of his teeth missing, he said:

"That's what they all say!"

So it happened that the banker who has done as much toward improving the breed of American horses as any man, and Foxhall Keene, who had been captain of the American defending team until his shoulder was broken in a practice session, stood helplessly out in the dusty roadway with some six thousand other enthusiasts, until Payne Whitney, a brother of the leader of the Yankee four, came along and was recognized and admitted by the dour gateman. He accomplished the impossible for Messrs. Belmont and Keene and without loss of time passed the story on to H. C. Phipps. It must have appealed to the humorous sensibilities of the latter, for a few moments later the barriers were thrown open, and with the native Long Islanders in the van, the cars of the multitude proceeded to tear up the smooth lawns of the estate.

The old guardian at the gate did not prevaricate when he said that there was to be no practice match. Several of the English and American players mounted ponies and spent a quarter of an hour hammering balls up and down the greenward. Yet the thousands came away rejoicing at having seen a few of the international players in action.

It is always a healthy indication of popular interest in any spectacle when the man at the gate is so worried that he fails to recognize people whose names entitle them to treatment different from

that accorded to the common herd. Robert Gilmour, the gatekeeper who refused to honor the face of August Belmont, would probably have recognized the banker under ordinary conditions, but the crowd which was seeking admittance was vast and so made up of all kinds of people that personalities did not count. More than half of the besiegers were Long Island farmers.

As a class, farmers, in the vicinity of New York at least, are not noted for a habit of wasting time on trivialities. Their nearness to the metropolis either develops a tendency for becoming quickly accustomed to innovations or forces them to make a living in some other work than agriculture. Oddities which would make another rural population gape do not even make the Long Island farmer yawn. Because of this mental attitude it cannot be claimed that the undisputed interest which they manifest in polo at Meadowbrook is due to its being an unusual interruption in their lives. To prove the point, contrast their attitude toward aviation.

More Thrills Than in Flying

When flying was a novelty, the native population journeyed to Hempstead Plains to witness the phenomenon. The time soon came, however, when the Long Islander came to look upon the aviator as being in a class with crows and other enemies of agriculture. Except as a possible menace to young corn, no aviator other than Monsieur Pegoud of Paris can legitimately expect a single admiring or astonished glance—on Long Island.

Polo has its risks and thrills. In many respects it is more dangerous than flying.

The game demands fully as careful attention to equipment as does aviation. A loose girth-strap or a weak stirrup presages disaster as certainly as does a faulty propeller. The added danger of personal playing contact occurring at high speed accentuates the element of danger in polo.

Some months ago, when gathering material on the subject of Army polo, the writer sent a note of inquiry to Lieutenant Eugene V. Armstrong, of the Thirteenth United States Cavalry. One

morning a letter with a Texas postmark came back. It was from Armstrong, giving details of the start of the Thirteenth's interest in polo while stationed in the Philippines. "Due to the great encouragement offered by the Commanding General and by that all-around sport and thorough gentleman, Governor-General Cameron Forbes," were the words which he used to outline the Thirteenth's adoption of the game.

Within a few hours, the New York newspapers were printing a fifty-line dispatch from El Paso telling of an accident which had occurred in a game of polo played between two Army teams. Armstrong, who bore the brunt of the play for the Thirteenth, received the ball out of the melee and headed his pony down the field toward the goal-posts of the Fifteenth. With the ball in position, and intent upon his try for a tally, Armstrong came into a collision with a rival player and was heavily thrown. Two days later he died of his injuries in the Military Hospital, Fort Bliss.

Danger rides in the lap of the polo player. But the element of risk in any game is an attraction which palls upon the participant just as the history of professional automobile speed racing has shown it will pall upon the spectator. It is not the danger of the sport which holds men to it. If this were its principal justification, it is not likely that the authorities at Washington would have received so quietly the report of the death of a brilliant young cavalry officer.

Undoubtedly the hazards of play add a thrill to the interest of player and spectator, but it is despite, not because of, its dangers that polo is becoming an increasingly important factor in the life of the service. Polo has received not the passive sufferance of Army executives, but their positive approval. Answering a query similar to that put before Lieutenant Armstrong just previous to the fatality at El Paso, General Leonard Wood, then Chief of Staff of the United States Army, said:

"The War Department, fully recognizing the value of polo in developing quick thinking and team work and in improving horsemanship, has practically made the game an official institution."

There have been a great many changes in the various branches of the Government within the past year. The Democratic return to power has been marked by a searching investigation into all variety of expense initiated during the Republican administration. The longer a party is out of power the more satisfaction there is in reforming existing arrangements—especially if it can be alleged successfully that the changes made are to eliminate extravagance and bring about economy. Polo in the service has not escaped without a searching examination.

A member of Congress from North Carolina, who has a record for original ideas embodied in proposed legislation, distinguished himself a few months ago by introducing an amendment to the Army Appropriation bill which, if carried into effect, would have made it impossible to devote any money to defraying expenses for transporting ponies to be used in matches. This amendment slipped through the lower house, but was finally eliminated. It was opposed by the Administration. Writing to an inquiring Senator, last year, the Secretary of War, defending expenditures made to promote the game in the Army, said:

What the Army Thinks

"The valuable returns, as suggested, have vindicated the policy concerned, while the expenditures involved have been a very small charge in the regular transportation fund. There is probably no sport which is more useful in developing quick thinking, team work, and physical activity than polo."

Modern invention has gone far to supplant the ancient equipages of war. Heavy artillery, machine guns, aeroplanes, and wireless have changed materially the methods and weapons of fighting. Yet science has still to find a substitute for the horse—and polo develops exactly the sort of mount needed for difficult service. Combining speed, grit, endurance, and the ability to do hard work for a protracted period on short rations, the sturdy pony which can be depended upon in the last chukker is the horse which comes to the front in actual

Army service. In the last letter he ever wrote on the subject, Lieutenant Armstrong gave convincing evidence of this.

"In the maneuvers in Kansas last year," he said, "about six polo ponies were ridden by officers. Without exception the ponies proved better cavalry horses than the big heavy chargers. In my opinion—and it is also the opinion of a great many other officers—a good, well-bred, weight-carrying polo pony is the ideal cavalry horse for our service."

The mobilization of troops on the Mexican border has hindered the progress of polo in the Army this year, but within the past few months steps have been taken which insure the placing of the game on a sounder plane in the service when normal conditions are restored. The formation of the Army Polo Association has made the game part and parcel of the service organization. The Assistant Secretary of War and the Chief of Staff are officers ex-officio of the new body. There is no doubt that the controlling influences at Washington are sincerely aiming to build up the sport. Whether some of the details of the program they have developed are best calculated to attain the desired result is another question.

The fact that polo of the first order has been restricted for the most part in this country to a limited number of places and the fact that these places are during the greater part of the year mentioned more often in the society columns than on the sporting page have combined to conceal the values of the sport which Kipling has termed "the greatest game" from a large portion of the American public. The defeat of foreign competition has been due to the work of a mere handful of men. Some months ago when the plans for the preliminary training season at Lakewood were announced, a number of Western authorities criticized the Polo Association for confining the list of eligibles so largely to Eastern players.

It does seem, at first thought, strange that nearly all the best players should come from one section; but at the present time, it is the opinion of all fair-minded critics, whose acquaintance with the game entitles them to express an

opinion, that, with a few exceptions, the leading players come from a limited number of clubs. Some notable polo progress has been registered in California within the last few years; but the future—not the present state—of the game in other sections must be relied upon to give it a truly national scope.

Discussing this subject with the writer during the early practice sessions of the present Spring, Captain J. M. Waterbury shed some light on the outlook for an increase in the number of first-class players.

"Do I think playing interest in polo is spreading? Without a doubt," he said. "From various places all over the country we hear of good ponies being bred and of players keeping in trim right through the season. Polo is different from tennis or golf in that one man, of himself, can not develop into a first-class performer. It takes team work to round any player into form. A man with every natural instinct toward the game may not make progress unless he is surrounded by enough other promising players to make his education progressive.

Making Polo National

"If a man has the natural instincts to develop into a great tennis player, he can, even though pitted against mediocre material, lay the foundation for success. Polo and team work are synonymous. Now that the game is developing interest among a number of good men in each section, the percentage of well-schooled candidates should increase. That polo will ultimately develop along lines which will promote competition for the national title among clubs all over the United States is my opinion."

It happens that most of the best-known American polo players are men whose names are familiar for other reasons, but that they are far and away the ablest players in this country is a statement which cannot be challenged. Yet they would be the first to declare that polo does not need fashionable patronage to win on its merits as a sport. If long, smooth stretches of turf were available near every center of population and if good mounts could be had for the ask-

ing, polo might supplant baseball as the American national game. If you don't believe it ask the baseball writers, temporarily released from their daily ordeal, who saw the last international matches. Some who came with patronizing manner admitted at the end of the first period of play that polo is the game of games.

Take the succession of unexpected emergencies in baseball, the team generalship of American college football, the thrills of thoroughbred competition in horse racing, the technical perfection of golf, the dangers of a cavalry charge, and a setting which for brilliance is unequalled in the category of modern sporting spectacles, and you have a combination of the fascinations of international polo when played between two teams as evenly matched as the fours which represented England and America in the encounter of a year ago.

No variety of competition has served to bring out more sharply the difference between the American and English temperaments than the clashes between representatives of the two nations on the polo field. American ability to concentrate nervous energy into the psychological moments kept the trophy on this side of the Atlantic a year ago.

The Spirit That Wins

There is no game in which the "get there" spirit is more important. The quartet of army officers who represented England in 1913 were better horsemen than America's representatives. In the initial engagement at least the British ponies were on a par of efficiency with the American mounts. The verdict of a physician examining the eight men before they responded to the referee's whistle would have favored the foreign combination. Yet by playing at high tension the American quartet won—won in the first five minutes of the contest.

Recklessly, but with the determination of men committed to a prearranged plan, the American team, playing a chance-taking game from the start, swept the challengers down the field before them. Contrasted with the more conservative style of the English, the tactics of H. P. Whitney, Devereux Milburn, and the

two Waterbury brothers, who comprised the American four, seemed free and easy. Yet it was not the recklessness of ignorance nor the carelessness of inefficiency. Audacity, nerve, and pace were the foundation upon which the American scheme of attack was built.

Like a small troop of cavalry, they came thundering down the field. By all the time-tried rules of polo, even with every allowance made for the increased latitude afforded by the elimination of the old off-side rule, Milburn, who was playing back, should have remained in the rear, ready to defend his own goal in case of emergency. But he violated tradition. The assumption of the American four was that a tally for the United States would be registered in the first few moments of play. It was. And Milburn made the first scores possible.

"The American plan was to hit the ball quickly or miss it altogether," said a noted English critic in pointing out the importance of the opening attack in deciding the final outcome of the engagement. "It was a flyaway game. It took to the end of the fourth chukker for our men to realize the requirements of this style of play."

It would be a libel on the generalship of the Yankee brand of polo to say that the last defense of the international trophy was successful because the veteran Meadowbrook quartet paid no attention to defense. They had a defense, daring but skillfully planned, even in the first few moments of dashing play. It consisted principally of a swift exchange of playing responsibilities. Almost always there was one man watching for the chance of an unexpected repulse and the danger of an English player carrying the ball into scoring territory. The problem which the English could not solve was which American had the responsibility. Each member of the defending four was capable of interchanging positions temporarily with any other; but the American assumption, especially in those first deciding seconds of competition, was that the English team would have to do the defending. "Yankee cheek" was what a disgusted member of the staff of foreign grooms called it.

From the time of the ancient Persians,

who if the evidence in European historical museums is trustworthy, broke many a mallet-head in practice, polo has never been a pastime calculated to soothe the nerves of the timid. It is a hard game, meant for hardy men and hardy mounts. The best evidence of its prospects for development in the future is its history. Since it originated as an ancient test for skill of horsemen and the handiness of ponies, polo has continued to improve through the study of its devotees.

The English, following the national habit of putting every sport on a systematic basis, developed it on symmetrical lines when they brought it out of the East. And the American, although acquiring the elementary technique much more slowly than his British teachers, has in the end come to the front by building farther and more daringly. If future historians seek for an example of international relationship which will serve to illustrate clearly the difference between

the American and foreign temperaments in this period, they can search for and find nothing more typical than the brilliant, impatient success attained by Yankee "get there" methods on the polo field.

It remains to be seen whether, having blazed the trail, America will be able to maintain her leadership for an indefinite period. At the present time the English standard of polo horsemanship is far ahead of our own both as regards the average and the riding abilities of internationalists. The margin which has accounted for the American victories has been one of nerve and brains. How the balance rests in the next decade will depend on whether America can develop more players among her younger athletic generation or whether England can inspire some of her many crack performers to acquire some of the fire and dash which the veteran Meadowbrook outfit have used so effectively.

A PORTABLE DARKROOM

By A. E. SWOYER

DIAGRAMS BY THE AUTHOR

MANY sportsman-photographers bent upon serious work in the new hunting have a decided preference for plates as compared to roll films, and this in spite of the manifest convenience of the latter in carriage, use and development afield. This may be due to the fact that, particularly in the larger sizes, the entire surface of the plate is sure to be in the focal plane, whereas a film may not be entirely taut and thus produce an image lacking in absolute and uniform sharpness; moreover, the plate lends itself, perhaps, more readily to retouching and other after processes.

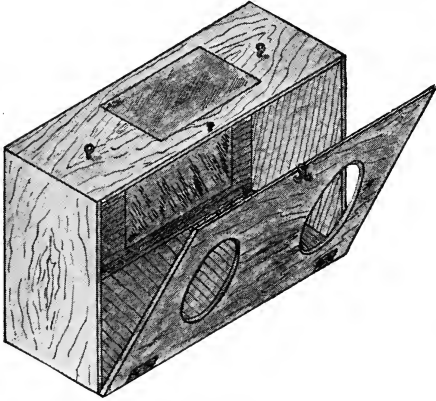
This is not intended to be a résumé of the old argument upon the merits of "Plates vs. Film," however, but rather as a direct solution of the problem that the plate-user meets when he wants to develop negatives or refill holders

when he is one hundred and eighty-seven miles from the nearest darkroom. Those among us who have tried to do the trick by the sense of touch while muffled up under three layers of blankets on a hot August night will admit that it is some problem at that!

The writer has found that a portable darkroom somewhat on the order of that shown in the illustration will fill this need nicely, while because of its construction it may also be used to carry camera and odds and ends of equipment, so that it really adds but little to the bulk of the outfit. In general design it is simply a light-tight box of suitcase form, having a pane of ruby glass at the top and another at the front, together with a hinged door and arm-holes therein through which the photographer can conduct his operations; it is easy to make and does the work satisfactorily.

Although such a darkroom might be

made up from the foregoing brief description taken in connection with the illustrations, there are a few little points which might be overlooked. For example, the interior of the box should be painted a dead black, and the rim upon



DARKROOM OPEN

which the door closes should have strips of felt or of black velvet glued to it in order that no light may enter.* Then, too, the ruby glasses must be accurately fitted and fastened with strips so that they are light-tight, while if the handle is fitted with snap-hooks at each end it may be got entirely out of the way when desired.

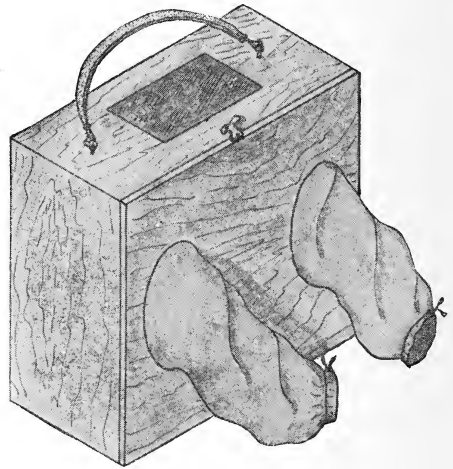
The chief care, however, will be in fitting the armllets; these may be made of black sateen or black velvet, and need not be as long as shown in the illustration. They should be run through the openings in the door and either tacked or glued to the inner edge, allowing plenty of overlap; the free ends should be fitted with rubber bands or laces in order that they may be made to fit the arms tightly.

In size the box may be made to fit your individual needs; if you want it only to change plates in, it may be quite small, but for developing it must be sufficiently large to hold two or three trays, with extra room for your plate-holders. The material should be one-half inch wood of any clear-grained sort—whitewood is as good as any except the hard woods, which are not easy to work and more expensive to buy. It should be thoroughly painted or var-

nished in order to prevent any warping.

To use the box, the photographer puts in it the materials that he is to employ and closes the door, then inserts his arms through the sleeves and sees that they are pulled well up on his wrists; if the box faces the light, whether it be the sun or some artificial source, the interior will be visible through the glass at the top, and all necessary operations may be conducted as usual.

At first glance it might appear as if this darkroom violated one of the cardinal principles of the outdoor man not



READY FOR BUSINESS

to have glass of any sort in his equipment, and that this might make it unsuited either for use as a suit-case or for carrying empty. But in the first place it is not supposed that a man going upon a rough-and-ready camping trip would burden himself with anything but a roll-film camera, anyway, while the camerist lugging a plate outfit and in search of photographs alone would find that the darkroom required but little more care, and was but slightly more liable to breakage than his plates or his camera. At that if the fear existed it might well be eliminated by doing without the front glass and substituting therefor a small ruby lamp carried in the interior of the box—the remaining glass would allow of watching the work illuminated by the lamp, while because of its position it would be almost immune from danger of breakage.

LEARNING THE GAME OF TRAP-SHOOTING

By C. O. PROWSE

What One Ambitious Amateur Has Found Out by a Careful Study of His Own Performance

LIKE all the rest of them, after reading the article in the February issue of this magazine, "The Fun of Trap-Shooting," by Mr. Cushing, I am forced to exclaim, "that reminds me" of the "trials and tribulations" of friends, as well as my own, in wooing the fickle Goddess of Fortune, in this, the greatest of all sports.

Be it field, stream, marsh, or blind; be it "horn and hounds" or the cold gray dawn with rifle, fighting your way along the tortuous trail or through the great forests; be the sport in any form, few indeed are its followers who reap greater pleasure than the writer. And yet would I compare the "sport" of trap-shooting, when the game is fair and equal, as being the greatest of all games and the equal of any sport with rod or gun. Too much, in my opinion, could not be said in its behalf, for, as every trap-shooter knows, first, it proves a man's character to be only that which it is, and, secondly, it develops the best that lies within the man.

The writer believes it possible for any well-developed man or woman to climb to the 90 per cent class, and this, permit me to add, with a medium amount of practice. In my second year I passed this mark, shooting at approximately one thousand targets per year, and I don't believe that I have any more ability than the average trapshot throughout the country. Like Mr. Cushing, I began the "game" with a field gun with results such as Mr. Cushing has described, and therefore I shall not repeat his story, for mine in this respect is but a repetition.

My first suggestion is to examine your physical self and by some form of proper exercise tone yourself up, for this means control of the nervous system, without which there can be no hope of success. It will also add strength to those sluggish muscles, for we all know that live, active muscles give wonderful results in every game where quick action and accurate aim are required. The physical condition must and does play an important part in this "game."

In taking your position for the shot, be careful that the body is not strained and that the feet are so placed as to support the body evenly, allowing the turning movement necessary to "follow up" either extreme quartering target. Do not permit the muscles of the legs and body to become rigid, preferring always the most graceful movement, as this alone indicates ease, and ease will always eliminate those jerks or spasmodic movements that cost so dearly when the score is counted.

Purely for practice, the writer, in his room and at such times as would be convenient, would get out his "shooting iron" and, assuming as relaxed a position as possible for the body, gun firmly but not rigidly held, face glued, would point at and follow up right and left quartering mixed with straight-away imaginary blue-rocks, turning or swinging in as easy and graceful a movement as possible, until all of those "spasmodic jerks," born of a stiff or weak muscle, were eliminated. And I found that this little practice elongated many a "goose egg" into the "straight and narrow" line we all love to gaze upon at the end of the score.

Did you ever go to the score, run

fifteen, eighteen, or twenty straights, then seemingly without cause miss one or two of the easiest birds thrown? But why ask this question, for I know you have, and been thoroughly disgusted with yourself for missing, as I have stated, perhaps the easiest target encountered. You break your gun, extract the shell, and, as if it were the real offender, throw it violently to the ground, or, as I have seen some of them do, toward the spot where the target lay at rest. Then, calmly and as accurately as with your first shot, you complete the score with the remaining targets broken clean.

Now, really, what excuse did you have? This may not have been the one, but did it ever occur to you that while breaking the first fifteen or more straights, during the acts of loading, shooting, reloading, and waiting your shot, you held both of your arms under tension, and that at no time were the muscles of either arm relaxed—no blood allowed to circulate freely, clearing the “telegraphic lines” of the nervous system? Then, with the act of throwing away the “offending” shell, you forced through the tired and strained muscles just the blood necessary, clearing the clogged “telegraphic lines” of the nervous system, and with unflinching certainty you again heard the sweet, lingering sound of “dead”—the rasping “lost” forgotten. This may not have happened to you in this manner, but it has to me, and more than once have I seen it demonstrated, especially with the man who has not had considerable practice.

In regard to “anticipating the target,” I have found the following suggestion helpful. Forget that there is a target coming; assume position, gun firmly held, face glued; glance along the barrel, both eyes open, aiming your gun at an imaginary spot just a few inches below the comb of the trap-house and as near as possible at the point where the target “breaks” into view, without relaxing your hold on the gun in any manner. When proper position has been assumed, concentrate the vision along the comb of the trap-house and about the center of where the different targets break; think of following up the target that will appear somewhere near the spot at which

you are looking. This should give you, in my opinion, the best of all shots, the “follow-up shot,” as when it appears your aim is behind it. Now, don’t take the eyes off the target, but follow up smoothly, not spasmodically, easy yet with speed, and the nervous system will make the proper telegraphic call and respond with the proper pull.

I believe there is more in the fit of the gun than in any one thing in the game, and to this most all agree; yet this brings the next question: when do we know that our gun fits? I contend that this can only be determined by actual experimenting, and to illustrate this I shall give an actual experience covering a period of more than three years. Beginning trap-shooting with the field gun, shooting at slow-moving, high-angle targets—for this is nearly always the kind thrown at a new club—I easily climbed to the 85 per cent mark.

Breaking into Fast Company

A shoot was given some fifty miles away, and, being an enthusiast, nothing would suffice but that I should make my debut. So on the opening morning there I was, field gun and all, anxious for the fray. It came, and the result was startling; at least, it was to me. The fast, low-flying targets were a revelation, and the way the “goose eggs” piled up was, I will admit, a bit discouraging. About the fourth “string” I had the good fortune to break a spring in my gun, and a competitor, ready for the next string and standing just a few feet away, seeing my trouble, proffered his gun.

The thought of looking at the gun or making an examination as to fit, etc., never entered my head at the time, my object being to relieve the wait. So, loading quickly and yelling pull, I was surprised when there was but a cloud of dust where my target had been. Smash after smash continued for the rest of the string, some six or eight birds. This same gun was used for the remainder of the day and I found out what a straight-stock gun really meant. It is needless perhaps to say that full measurements of this gun were taken and a duplicate in a cheap grade was procured.

Regular practice of approximately fifty targets per week settled my score around the 88 per cent mark, and seemingly nothing I could do would change it in the least. My right and left targets were well broken, as a rule, while the straight-away were many times barely splintered. Here is where my experimenting began. Boring a hole in the stock of the gun, four ounces of shot were placed therein, and a little practice with this brought my average up to 91 and 92 per cent. Placing an additional two ounces of lead in the butt increased my average still more, and ere the end of the second season I found myself making runs of 75 straight and better—scores of 98 and 99 x 100, with my best of 124 x 125.

This gun, being an experiment on my part, was of the lowest grade made by a good manufacturer, and with the two seasons' practice began to show wear and become loose in the breech. So a new gun was purchased, this being made as near a duplicate as possible, not only as to measurement, but as to point of balance. However, this new gun, being a single barrel where the old one was a double barrel, it seemed impossible to tell the difference between the two guns in so far as balance and the feel were concerned, yet I could not shoot the gun for some reason, and rather than repeat the experimenting to determine the real trouble, I sold this one and purchased still another.

Determined to do some good shooting, I began a systematic practice, even to the point of going to the traps alone and there having targets thrown high and low, fast and slow, and, in fact, every conceivable position that one would be liable to meet with in a score. A whole season was taken up with this kind of practice, yet out of about two thousand shots I don't believe I ever made a better score than 80 x 100. Absolutely disgusted, I decided to quit and for perhaps two or three practice shoots I didn't go near the traps. But "murder will out."

It happened one day that the man to whom I had sold my first gun came to town to have some repairs made on this particular old "shooting iron." I hardly

knew the gun when it was shown to me, but by inspecting. I soon found that one barrel was in working order, and while talking I saw some of the boys on their way out to the traps. Telling my friend that I would have his gun fixed up for him provided he would let me take it out and shoot it that afternoon, I slipped out to the club grounds and managed to get up my nerve to face the traps again. The result of this practice was 91 x 100. Then it was the gun, after all.

Convinced beyond question that it was the gun, I again purchased one, having the stock made very straight and exceptionally broad at the comb. At my first practice with this gun, using a very light load, I was able to average 88 per cent, but found that my face was a little sore. Experimenting on different angles and heights, I soon demonstrated that high targets were ground to dust while the low ones were overshot, and those broken or merely splintered were driven downward, indicating that I was shooting too high.

Making the Stock Fit

Using a piece of glass, emery paper, and emery dust mixed with plenty of elbow grease, the stock was reduced in height as well as breadth. Practice proved about the same results, possibly a little better, and this without a bruised face. Again and again this operation was repeated; little by little the thickness of the comb was reduced. All this time and after each reduction a practice of at least fifty targets was indulged in, showing a slow but sure increase, as the stock of the gun was gradually brought to a perfect fit. This was continued for approximately three months and I found myself making again the long runs and averaging weekly practices of about 94 per cent.

As much as I loved the sport, reluctantly I gave it up, not from choice, but for other reasons, and for more than three years I never shot at more than one hundred targets. Only once in the last twelve months have I tried the game, and then, with this same gun so carefully measured and balanced, I found 93 x 100, which one could not consider

bad. Therefore I contend, and that strongly, that the average man or woman in good health, with the proper "post-hole digger," can go to the traps and stay within the 90 per cent mark. I would not suggest a wholesale "building up" or "reducing" of gun stocks until you have gone to the traps, changed the heights of the flight of the targets, tried your gun and noted results. Try them faster and slower, noting results with every change, and I am sure you will convince yourself whether or not your gun stock is exactly right.

Have you ever shot in the face of an exceedingly strong wind? And if so, what was the result as compared with your average, and why was it not as good as, or, the question may be, why was it better than your average? If it was better, use a straighter stock gun; that is, build the stock up and get the same results from the average target. This can be done by lacing thin leather over the stock, broadening the comb, and straightening the stock.

Each individual shooter can, I firmly believe, improve his score by watching these things, but the majority, according to my observation, forget every score they ever made, unless it be an exceptionally good one, the moment they leave the trap and never figure to improve except under the one maxim, "Practice makes perfect." Practice will not make perfect with a tool, implement, or gun that does not fit.

As to the thickness of the comb of the

stock, ordinarily one will look down the barrels with face glued to the stock, and if the barrels "line up" properly it is considered a fit and no more attention is paid to it. Here may be a mistake. In sighting the barrels one may hold a little tight; when firing a few shots and receiving slight shocks on the face, the gun will not be held as tight. The consequence will be that one extreme quartering bird will be ground to dust and the other splintered or missed completely, for the shooter will unintentionally draw the face away from the stock and away from the proper line of sighting just as the fire is made.

I saw this demonstrated, and with the aid of emery the width of the stock was removed slightly with a result of increased score, all of which leads me to inquire: Do you know that your gun fits properly? If you don't, permit me to suggest a little experimenting sufficient to determine this one and the most important point in the game. To prove beyond question that this is an essential point, take the case of any "expert" along any line; take away from him the tool or implement with which he does his work, give him one that is not properly balanced or has some other slight imperfection, and request a repetition of his best labor. It will be anything but satisfactory. He must have perfect tools, they must have perfect balance with that to which he has been accustomed, and then he must have practice to reach anything like perfection.

"Canoe, Camp and Canal," by C. H. Claudy—April
OUTING—shows that you do not need to go to the North
Woods to find pleasure with a canoe and a camping outfit.

WHAT ABOUT THE SHARP-TAIL?

By HAMILTON M. LAING

PHOTOGRAPHS BY THE AUTHOR

The Beauty, Use, Problems, and Possibilities of the Favorite Grouse of the Northwest

WHEN the Great Giver of good things in far bygone times planned for the coming generations of the children of men who were to love the pursuit of things out of doors, He planned wisely. For He gave to us the grouse kind—a race of many tribes, all strong, hardy, and fruitful, fit to inherit the earth. They were a rugged race and they took possession where the climate had a sting to it, where to live was to be sturdy. The warm South they left to their quail cousins, and they themselves held the land to the northward. One tribe took possession of the mountain land, another of the spruce woods, another of the prairies, and so on, till each had a well-defined homeland.

All these grouse tribes are toothsome to the palates of the hunters of beak and claw and fang; and some in particular have ways of life that are called gamey, and these have been much sought by human hunters. Of the gamey grouse none perhaps is a stronger favorite than the sharp-tail, and to-day he has a host of friend-enemies—men who annually make him their excuse for getting out in the autumn world and instilling new blood and fiber in their business-worn bodies.

The sharp-tail is one of three prime favorites: the ruffed and pinnated are the other two. He does for the sportsmen of the Northwest what the quail does in the South, the ruffed grouse—what is left of his tribe—in the East, and the pinnated—also a sad remnant—in the Mississippi Valley plainland. The sharp-tail is the northwestern representa-

tive of this trio; and, taking the three varieties of his race collectively, his range extends from Wisconsin west to Oregon and Washington, and from Colorado on the south to Alaska and Hudson Bay on the north.

This is a vast range, and much of it, especially to the northward, is unsettled; but where it is settled well—and these are the regions that are much concerned with the sharp-tail as a game-bird—the problem has become: Can he hold it? Can he survive civilization? Western sportsmen are well aware of the hard fate of the ruffed grouse in the East and the equally hard lot of the pinnated, that also has been swept off much of its range to the eastward, and they cannot do other than cast an eye into the future and speculate on the chance of their own grouse holding his own. In the regions where the ranges of the pinnated and sharp-tail species overlap, every shooter knows well that the sharp-tail is much less able than his relative to take care of himself. From this view-point the outlook is black, but there are other factors that enter the problem, and it may not be so dark as it would appear.

The question of grouse perpetuation is roughly this: when the West was in possession of the red man there was some sort of average grouse population. This was not necessarily fixed, for doubtless then as now their numbers rose and fell in cycles. Then came the farmer. He drove his breaking plow through their spring carnivals—they did not like this at all, but immediately repaired to another soddy knoll and cried, "On with the dance!"—he sowed his fields and raised an extra supply of comfortable

food for them; and also at very regular intervals he shot woeful gaps in their coveys.

Thus at first he turned the natural balance against the bird and started it on that sad trail followed by the buffalo out toward the Great Divide. But he did more than this: he killed off many of the natural foes of the bird and thus gave it opportunity for greater productivity. It is this increase, then, that must be the yearly tribute of the gunners. If the latter take more, they are drawing on the original stock, and the bird ceases to hold his own.

His World Against Him

That he held his own against his natural foes in the early days speaks well for his racial strength and hardihood. He had a host of enemies who loved to pick his bones. The larger hawks and owls, the crow, the golden eagle, the wolf, coyote, fox, lynx, badger, skunk, mink, weasel, and the ground-squirrels all in some form or other—from fresh-laid egg to stamping cock—had sharp-tail written once on their bill of fare. But the settlers made great inroads in the ranks of these enemies. Most of them were shot on sight, their numbers were greatly reduced, and the grouse profited accordingly.

In addition to the foregoing list of foes, there is another that in the nesting season must always have been a deadly scourge. This was the prairie fire; and it is still a menace where thoughtless settlers burn their grass lands in the spring. Of all these foes, but one has really prospered with civilization. The rascally crow, that with devilish cunning finds and sacks the nests, has multiplied. That this bird is more numerous than formerly in the cultivated parts of the sharp-tail range there can be no doubt. In sections where to-day a flock of five hundred black knaves is a common sight, the old-timers maintain that twenty-five or thirty years ago these birds were comparatively scarce.

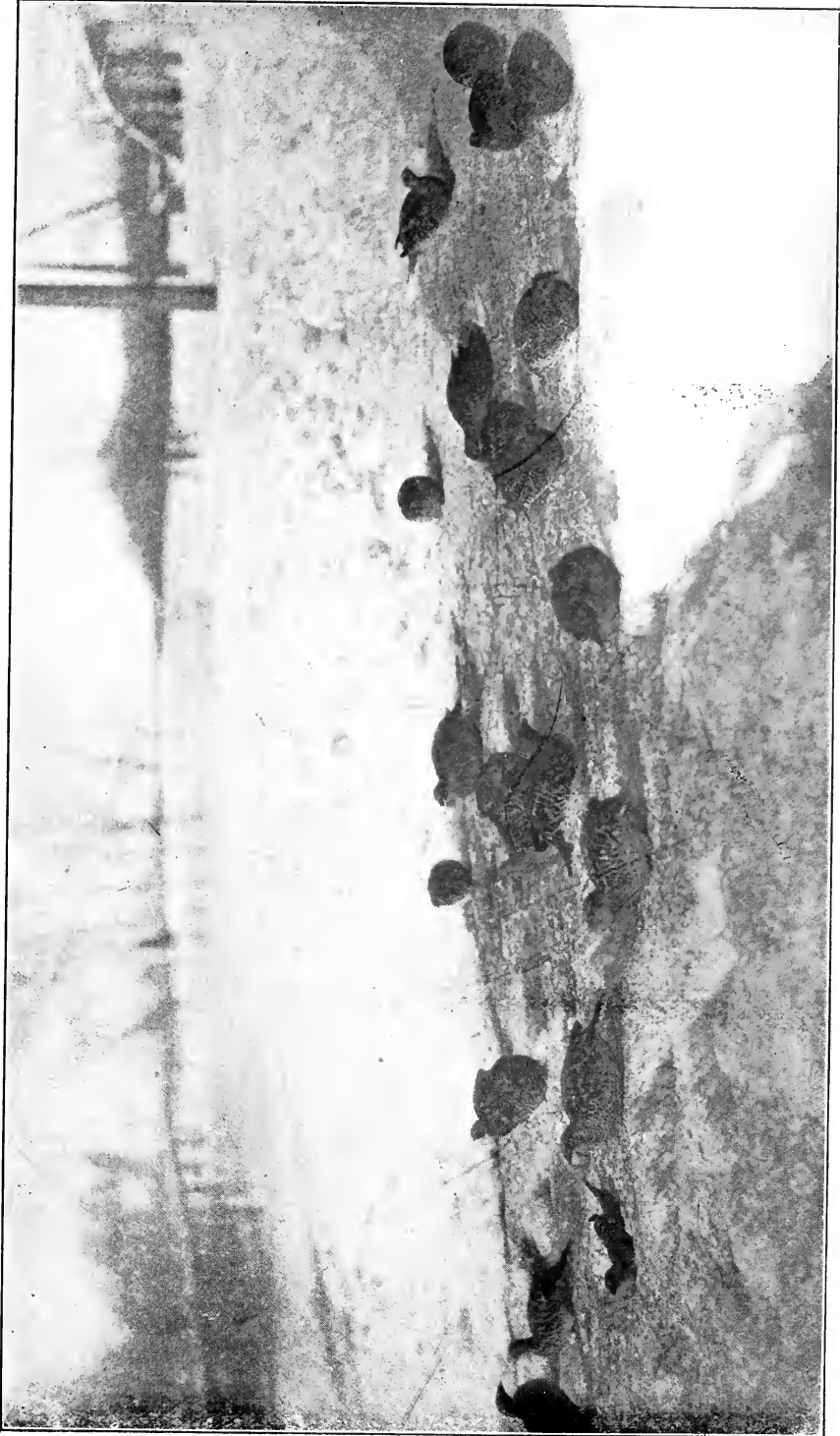
In the problem of grouse perpetuation the crow is indeed a big factor. Though his depredations are confined to the nesting season (May and June), when he

eats eggs and chicks, the extent of his destruction sometimes is terrible. If the hatching grouse is located in good cover, where she is not disturbed, she has a fair chance; but when she is in scanty cover and is molested while there are crows in the vicinity, her chances are slim indeed. When she bursts from her nest in fright and flutters off close to the ground, or plays cripple, as she usually does, every crow within eye and ear-shot knows the secret, and instantly heads in the direction of the nest. If one of the villains gets his eye on the eggs, that hatching is doomed.

Numerous as are these foes, the sharp-tail has ways of his own for combating most of them. The prairie fire in the nesting season is quite beyond him; the man with dog and gun creates havoc in his coveys; but the others have to work hard for their earnings. In summer he is fairly safe. The grass is long, the scrubby cover is thick, and, as the old birds are nimble of foot and wing and very expert at hiding, it is only the young that fall prey to any great extent to the prowlers. But the mother is an excellent guardian; she has an artful way of playing the cripple trick and decoying an animal foe off on a wrong scent while the peepers scatter in safety; and, as the latter can fly like bullets shortly after hatching, this combination is fairly successful.

I recall well a skirmish I once had with a mother sharp-tail and her young when a friend and I were camera hunting in some Manitoba sand-hills. We came over a little grassy knoll and suddenly there was a burst at our feet and an inflated, berumpled grouse-mother was fluttering around us, while a dozen little chaps scarce larger than sparrows whizzed off in a dozen directions. The last one to strike off got tangled in some pea-vines and I made a dash for him and caught him. Then the mother began in earnest. She darted at one of us, then at the other, she whined and cried and croaked in her rage, and all but struck us. Nothing short of a photograph could have induced us to withstand such a plea or onslaught.

My assistant took charge of the silent captive—he had cheeped like a



IN WINTER THEY HAVE LITTLE FEAR

chicken at first—while I set up the machine. It was impossible to photograph him in the grass, so he was placed on a perch. But the instant his feet touched the stick he shot off like a rocket, and for a time he proved an impossible subject. He could fly only in a straight line, so his captor sat down ahead of him, and caught him like a ball each time he flew, till finally I managed to get the shutter working while he clutched the perch.

After the first wild onslaught the

winter that the mortality of the old birds is highest—that is, highest from causes other than human hunters. After the autumn shooting is over, the winter foes begin their devastating raids. Then because the cover is thin, the big owls become a menace, and the fierce goshawk, perhaps the worst winter foe, now comes southward and does deadly work. He can strike down the grouse a-wing, and their only refuge from him is in the thick scrub.

Now also much food is locked away



HE HAS A TRICK OR TWO IN GETTING AWAY

mother had retired to the thicket about thirty feet distant, and from this stronghold she kept talking away continuously, as though advising her youngster to keep up heart and to try again. She must have had her eye on him all the time, for the instant we released him she darted from the thicket to meet him for an instant, then whirled back at us again, as though to prevent our pursuit. She followed us a long way, called us contemptible villains at every breath, and doubtless marked us down in her catalogue of foes with as many underscores as she did the Krider red-tail hawk that half an hour later we found with a half-caten young grouse in his nest.

Though in summer the death rate is high on account of the many foes of the tender chicks, it is in the long, hard

from the four-footed prowlers and they turn their attention to the grouse. And against these many enemies they have a few stock tricks. They burrow in the soft, dry snow at night, also in the middle of the day; and during the morning and afternoon, when they are forced out in quest of food, they hold to the vicinity of the scrubby woods. At this cold and dangerous time of the year very few of the birds remain in the really open country.

In this long array of enemies it is easy to pick out the most dangerous. It is man—the man with the gun. Yet he can be the best friend if he will, for the grouse is everywhere a local bird and his fate is in human hands. He can adapt himself to civilization; he is doing it. The clearing of the woods in

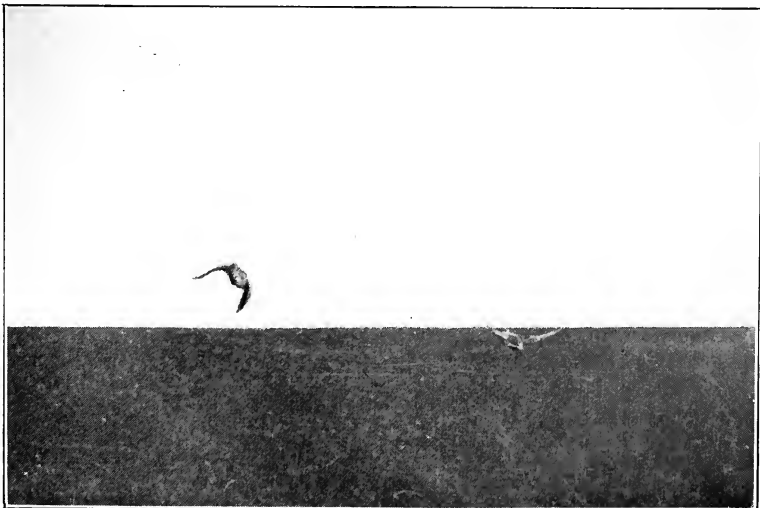


NO WINTER'S TRAMP WOULD SEEM NATURAL WITHOUT HIS
BURROWS IN THE SNOW

the East may have had much to do with the disappearance of the ruffed grouse there; the draining of marsh lands may have been partly instrumental in bringing the decline of the pinnated; but no such argument or excuse will hold with the sharp-tail. He lives upon the higher land, and cultivated fields are his delight. He is very adaptable. A knoll green with the sprouting grain will serve as a stamping-ground; a horse-track in the stubble is often turned into a nest; the standing grain makes good cover for the birds during the summer; the glean-

ings provide him with rich food in the autumn. Cultivation will not bring his downfall. If he disappears from the settled portions of his range it is not the plow that is to blame; it is the shotgun.

The mother sharp-tail shows her adaptability to conditions very well in her choice of nesting site. I have noted nests in the prairie grass, in the silver-berry thickets on the knolls, in a hoof-print in the stubble, in the dead leaves of a poplar wood, in a clump of dwarf birch in a pasture field, and in a tussock of grass on a hummock in a spruce bog.



HE IS SPEEDY AWING



GOSHAWK—DEADLY WINTER FOE OF THE SHARP-TAIL—PHOTOGRAPH FROM MOUNTED SPECIMEN

There are few spots within her range where she cannot find a suitable nesting site. And she is an expert at hiding it. When she is located in the short prairie grass on a knoll—her favorite spot—she always snuggles under the grass a little; and then she is about as invisible as the stars at noontide. Often I have marked nests so that I knew within a foot where the hatching bird was located, yet, on a second visit, have had to bear on hard with my eye and feel about for a time before discovering the only discernible mark—her round, black eye.

This grouse nowhere shows his adaptability to civilization better than in the winter. I know well a little town in Western Manitoba where every day in winters of heavy or average snowfall these birds come right into the heart of the place and pick up grain about the flour-mill and elevators. It is an everyday occurrence to meet them in the back yard, or on the fence palings in front, or running down Main Street, or perched upon So-and-So's ridge-board.

A number of the townfolk scatter grain for them and they come to feed twice daily. They have little fear of anyone, and seem to know that they are protected. Yet these same birds showed an entirely different disposition the preceding October.

In the matter of grouse protection it might be well for some of the other States owning sharp-tail territory to take a leaf out of Manitoba's book. A few years ago the grouse season there opened usually on the 15th of September and remained open till November 1st. The birds could not stand the drain, and about 1904 the cry arose for better protection. So the season was shortened to twenty days for the next year, and opened on October 1st. This policy immediately bore good fruit. In three or four years the birds were numerous again; now there is an abundance, and the season stands at twenty days.

That they thrive on the cultivated lands is shown by the fact that on the opening day of the season of 1910 in one of the oldest districts of the province, settled nearly forty years ago, three farmers known to the writer shot fifty-four of these birds. They used no dogs;



YOUNG SHARP-TAIL FOR WHOM THE MOTHER GROUSE FOUGHT

they simply drove around the fields and potted the greater number of the birds on the shocks and stacks. Among a great many other things, this shows that there could have been no lack of birds.

Such shooting as the above—it was an exceptional day—could be done on but one day of the season—the first. And herein lies the whole secret of sharp-tail protection; the season ought to be

one or two at a time from a single acre and knocked down with ease, but this does not happen often in October. In September the man with the dog has his innings, and as the birds then fly short distances when flushed, it is entirely possible to wipe out almost an entire covey. A month later the dog is of less advantage, except in the scrub at mid-day, for the birds are wild and un-



THE OTHER HALF OF SHARP-TAIL HUNTING

late in the fall, October 1st at least. There is little use in opening it early and making a bag limit. Bag laws cannot be enforced properly, and about one man in one hundred will take the shells—loaded—from his gun when there is a possibility of a bird getting up in the vicinity. But with a late season the birds are strong and wild and wise; they flush at long range—barring, perhaps, the first day—and thus, in taking good care of themselves, attend quite well to the bag limit.

On the 15th of September half a dozen stupid young birds may be routed

approachable in the open; and, though this appears hard on the lover of a good dog, he gets his compensation in the increased number of birds, and no right-thinking man objects.

Manitoba has shown, then, that it is quite possible to have three weeks' good shooting and still maintain an abundant supply of birds. Now let us turn to the game laws of some of the other States and provinces that are concerned with the welfare of the sharp-tail—at least with the prairie form of the bird east of the mountains—and see how sportsmen and legislators there deal with them.



THE MOTHER IS A GENIUS AT HIDING HER NEST. PEEPERS
REMAIN IN NEST BUT A FEW HOURS

For the year 1913 the following dates represent the grouse law in seven of these territories:

Manitoba, Oct. 1 to Oct. 20, or 21 days—less two or three Sundays, for the Sunday law is enforced.

Wisconsin, Sept. 7 to Oct. 2, or 26 days.

South Dakota, Sept. 10 to Oct. 10, or 31 days.

Montana, Oct. 1 to Nov. 1, or 32 days.

Saskatchewan, Oct. 1 to Nov. 1, or 32 days.

North Dakota, Sept. 7 to Nov. 2, or 57 days.

Minnesota, Sept. 7 to Nov. 7, or 62 days.

A range of from 18 to 62 days; I think I know, but nothing short of wild horses could induce me to tell, which of the foregoing territories have the most grouse and the best shooting.

The fate of the sharp-tail, like that of most other grouse, lies in the hands of the people who own his range. Unlike the pinnated he is non-migratory; and other than a short movement to the scrub at the coming of cold weather he sticks to his haunts throughout the year. He is essentially a local bird. When he is properly protected it is possible to have him and shoot him to a limited extent; but when it becomes a question of having him or shooting him by all means let us have him.

The October mornings would not be just right without his resounding "Cock-a-luk!" shouted from a poplar tip where he mounts to sun himself; the farmers would miss him in the hayfields in July when the mother and her half-grown brood pursue and capture the furtive grasshoppers; no winter's snowshoe tramp would seem natural without his burrows and chain-tracks in the soft snow; and no spring morning could be complete without a dozen or two on the old, time-proved stamping-ground, where they whirr, and toot as they reel off a quadrille compared with which certain new-fashioned dances are comparatively tame.

If the sportsmen of the country had combined to order an upland game bird of the grouse kind they could scarcely have conceived of anything more fitting for their purpose than the sharp-tail. He is hardy and prolific; he is fast of wing; he may be successfully hunted by anyone who has the time, and when he comes from the oven he is delicious. More than most other grouse he provides for the gunner that tingle of excitement on rising, without which no bird can be classed as gamey. In starting from cover his loud "Cuk-cuk-cuk!" combined with his explosive burst from the ground is always a thriller.

A little more speed would be of advantage to him when flushing from grass knolls in the open, but in scrubby cover

—his favorite retreat—he has a trick or two to offset any slowness in getting started. At such times he has a provoking and tantalizing knack of covering his retreat with a willow clump or poplar tree and making it a buffer for a charge of shot intended for himself.

Many Hunters on His Trail

Few other grouse are hunted in so many ways as the sharp-tail. The dyed-in-the-wool grouse hunter, of course, goes afield with a good setter or pointer; the small-caliber rifle crank drives about in a buggy and pins the birds with a .22 while they perch on shock or stack or tree—this method works well on frosty October mornings; the ordinary, casual shooter wanders afield and does his own hunting and gets his birds by flushing them from their mid-day cover; the farmer's boy brings his shooting-iron to the field, carries it on the plow or stands it against the fence till the birds come to feed in the stubble, when he pots them; and perhaps the newest method in sharp-tail hunting is to shoot from the front seat of an automobile. For, though these birds nowadays are rather shy at cultivating an acquaintance with a khaki-coated chap carrying a gun, they show a huge streak of stupidity when approached by any large thing. Birds that flush wildly from the hunter on foot will sit and stolidly eye the approach of any sort of an outfit ranging from a horse and buggy to a light battery in the form of a democrat load of hunters bristling with guns.

Sharp-tail hunting at its best is only half hunting; the other half is real outdoor enjoyment. Duck and goose days are the raw blustery ones when there is scant pleasure in the out-of-doors world; but grouse time is in October when the days are clear and silent, and the finest thing in the world seems just to be abroad foot-loose—when each hour of sun and tonic air adds years to one's life span. It is good then to sally out into the fields in the unfrequented places and spend a day with the grouse. You have your double barrel and plenty of shells, also a liberal lunch, and if you are one of the been-there fellows you will wear a

pair of heavy-soled, spiked shoes. And you tramp and tramp among sunny copses and pastures and old fields and twist about in a thousand zigzags, always with your ear tuned for a burst of wings and your gun ready for instant use.

Whir! Whir! "Cuk-cuk-cuk-cuk!" There they go! You have a fresh heart palpitation every half hour at least. You flush them in the open and miss them and wonder how it happened; you drive them from the scrub and nick a brace neatly with a right and left and feel pleased with yourself; you find a large covey in a poplar wood where you have to go in to rout the sleepy birds, and here you get half a dozen snap-shots as they burst up and ricochet over the trees; and you travel miles—if you had to re-

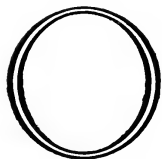
trace your steps, fatigue would kill you—till at last you turn away satisfied and throw yourself down by a shock in the mellow sun to enjoy the other half of sharp-tail hunting.

According to your nature or inclination this may consist of a pipe, a day-dream or a real snooze, or just that general feeling of well-being that comes from being alive and out under the sky on an October day. And so you bask and dream an hour away without knowing it till the rumble of a grain wagon brings you to more practical interests and you rise and set out towards the road. Soon you are perched up on the big double box, cushioned in the new-threshed grain, and getting a very welcome lift homeward.

PACKS AND PACKSACKS

By W. DUSTIN WHITE

How to Carry the Most with the Least Effort on Your Tramping Trips



NE of the most popular, enjoyable, and healthful ways of spending a vacation nowadays is to take a combination tramping and camping trip, carrying the entire outfit—food, shelter, clothing—upon the back and traveling through the forest wherever the fancy leads. The finest vacation land, the real wilderness of the present day, is not easily accessible, either by railway, waterway, or buckboard, but lies at the end of the hard trail or beyond the long portage. If you go there you have to carry your entire outfit, a part of the way at least, upon your back. When one starts on such a trip it is very essential that his outfit shall combine the maximum service and utility with the minimum weight and bulk. The first step toward that combination is the proper choice of a pack and harness.

Referring to the library of sporting goods catalogues, we find a wide variety

of packs, ranging from the Adirondack pack basket through several models of rucksacks, knapsacks, packsacks, and pack harnesses to the tump line. Each has its own sphere of usefulness and will serve admirably the purpose for which it was intended. What the prospective purchaser must consider, therefore, is its adaptability to his own particular requirements. The rucksack would be out of place on the long up-river portage as much as the tump line in carrying the noonday lunch.

Working out some certain cranky notions of my own, I have got together an outfit that enables me to eliminate the packsack entirely on the long, camping-out trips. I'll tell you all about that outfit and how I tote it after we have discussed packsacks a little. No outdoor person's equipment is complete without some kind of a packsack, and there is practically no limit to its uses.

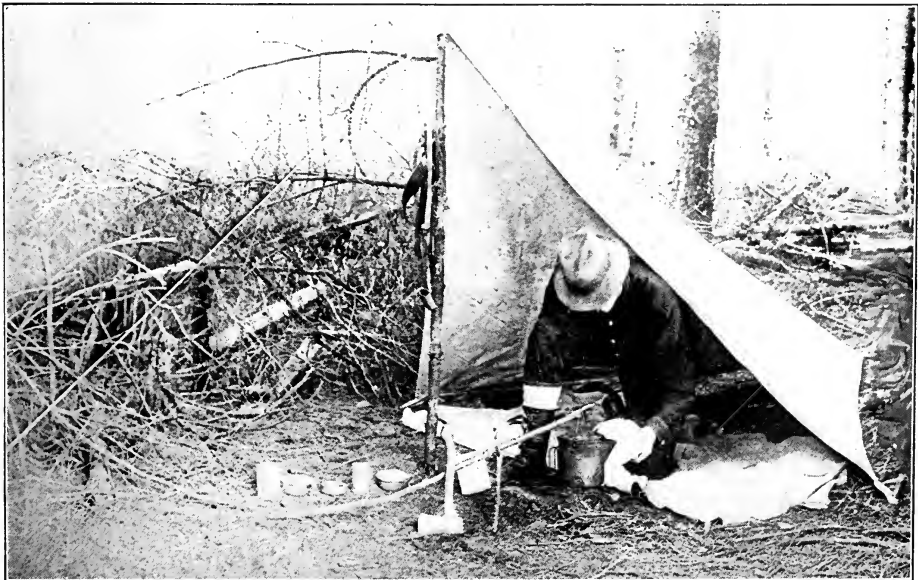
My first was an Adirondack pack-basket. I bought it several years ago,



THE NESSMUK SACK

when there were not as many to choose from as at the present time. It stood a whole lot of service and I thought it a marvel at first, but it was not convenient to pack, being rigid and not shaping

itself to the articles placed within. It was not waterproof and was bungling to wear through the brush. They are now made in a canvas-covered model which is absolutely waterproof. They have al-



SHOWING METHOD OF PITCHING THE PACK CLOTH AS A SHELTER TENT



THE SECOND-HAND ARMY KNAPSACK

ways been popular with guides, who use them principally between the home camp and the outlying lean-tos. In many localities, however, even the guides are now giving the packsack of some form the preference.

The rucksack is an oblong, pillow-shaped bag, usually about 16 x 20 inches. It was designed by Alpine mountain men and, I understand, is much used by those climbers. Personally I have had little experience with them. I always thought they were too small and too light for the real woods work for which I wanted a pack. They are ideal, however, for the outdoor woman or boy, and very convenient for carrying the camera, the lunch, and the extra garments on the short trips. They retail for three or four dollars and I decided that the second-hand army knapsack, which I got for one, would answer my purpose for a while.

These are made of canvas and carried

by means of adjustable leather shoulder straps, which are attached with brass rings. There are extra straps for the blanket. I have found a dozen little unthought-of uses for mine and it has paid for itself twenty times over. It has carried the extra clothing on many a mountain climb. It has transported the lunch on many a hunting trip. It has toted fishing tackle between lakes and ponds without number. I carried it on one long trip through the Maine woods, when my companion wanted to take along a little tent to try it out. The army knapsack proved a little too small for convenience on such a trip and I lost some photographic films on account of its not being waterproof.

If you feel that you need a better sack than the army knapsack, buy a "Nessmuk" pack. This was designed by that famous old woodsman and author and is a good, roomy pack, made of brown waterproof canvas. The sides are tapered, the pack being largest at the bottom, which brings the weight well down on the hips, where it carries easily. The opening is closed with an inner throat piece and draw-string and covered by an outer flap that buckles down. It is absolutely waterproof, which is a very desirable feature in a pack.

The "Nessmuk" is made in two grades. By all means get the best, if only for the reason that it has leather shoulder straps instead of stitched cloth, which will curl and cut into your shoulders. Anyhow, it doesn't pay to economize on a pack that you intend to place any dependence upon.

The pack harness is simply a set of straps readily adapted to tying all shapes and sizes of bags, boxes, game animals, or any duffle and attached to shoulder straps for carrying.

The tump line consists of a broad leather head band with two long thongs

attached for tying the load. The head strap is sometimes used in connection with the pack harness to relieve the strain from the shoulders, but usually no shoulder straps are used. Indian and Canadian guides carry enormous loads on these tump lines—some of them as much as five hundred pounds. One advantage of this method in carrying heavy loads is the speed with which one can get free from the pack in case of a slip or fall. Duffle-bags are usually used in connection with the tump line, several of them being tied with the thongs.

If you are an outdoor man and have not a packsack, by all means get one at once—either a Nessmuk or a rucksack or an army knapsack—whatever you think best suited to your needs. You will find it one of the most useful articles you own and one of the best investments you ever made. And now I am going to tell you about my outfit.

As before stated, when one makes up an outfit to be carried on the back, it is essential that it shall combine maximum service with minimum weight; therefore, if it is possible to make one article serve two purposes, we get double service with half weight. Now, a packsack is a mighty fine thing on the trail, but no earthly use when you stop to make camp. Soon after that thought had penetrated my think-box (and it was on a hard trail where it happened), there came the idea of utilizing a piece of canvas for a packsack on the trail and a shelter tent when camp was made. The idea grew with each day's travel and before the trip was over had developed into a full-sized plan, and the plan was put into execution before another trip was undertaken.

In the first place, I got a piece of canvas seven feet square. I bought the kind

that was woven eighty-four inches wide, so that there would be no seams. At each of the four corners I attached a generous loop of the same material, twice doubled. This cost me a little over three dollars and a couple of hours' work on the sewing-machine. To make up for wear I spread it on the floor and laid my blankets, which I had folded into a package about 16 x 22 inches, diagonally across it about a foot and a half from one corner. The blankets were to form the back of the pack and would come next to my back, and the nearest corner was to be the flap or cover when all was complete. On the blankets I placed all the other duffle, using a little care to place such articles as I would



SHOWING CLOTH USED IN PLACE OF PACK SACK, NOTE METHOD OF BRINGING TOP FLAP DOWN UNDER THE LOWER STRAP AND FASTENING WITH DIPPER



A NESSMUK PACK WITH SMALL TENT
ROLLED UP ON TOP

not need until I made a permanent camp, so that they would be in the bottom of the pack, and such as I might wish to get at en route near the top.

When all was on I began at each side corner and doubled it, in about three folds over the duffle in the center. Then, going to the lower corner, I folded that up over in the same way and slipped the pack harness over the bundle. The upper corner, or cover, was left up until each little forgotten article was hunted up and put in, then brought down, the loop on the corner drawn under the lower strap on the harness, and an open-handle tin cup hung on the loop. Here again we get double service, for the dipper not only serves to hold down the cover, but is also very conveniently reached when we pass a cold spring.

My pack harness is one of the combination type—with head-strap attached.

I do not use this very much, as the pack when made up with a week's provisions weighs but little over thirty pounds, but it furnishes a pleasant change when the shoulders get tired, and on slippery going or dangerous ice I sometimes slip my arms out of the shoulder straps and carry it by the tump alone. This gives me a chance to throw it quickly in case of a fall or a break-through.

The canvas may be pitched in almost any shape as a shelter. Oftentimes, when the weather is good, I do not pitch it at all, but simply pull it over me as a blanket to keep off the dampness. It makes an endless "Baker," or shelter tent, but I usually pitch it as shown in



THE UPPER CORNER, OR COVER, IS
LEFT UP UNTIL EACH LITTLE FORGOT-
TEN ARTICLE IS PUT IN

the photo and build the fire in front. It keeps away the mosquitoes in warm weather and makes a cheerful warmth in cold.

In July OUTING—"How We Built
a Canvas House," by Will C. Stevens



PACKING

By C. L. GILMAN

YOUR friends may drop
behind you at

Some turning of the trail,
And enemies—or rumor
lies—

Are sometimes known to
fail.

But one thing you can count
on to

Be sticking at your back
More faithful than a brother,
and

The same it is your pack.

No need to fret about it or
Keep feeling if it's there;

No use to hunch your shoul-
ders or

Strew cuss words on the
air;

You just forget about it,
plumb dismiss it from
your mind,

For, like old faithful Fido,
it's a-tagging on behind.

A battle with your packsack is a thing which doesn't pay,
It makes your mileage shorter and it lengthens out the day;
Leave it to its devices, and you'll find, without a fail,
Your pack a-waiting for you—at the ending of the trail.



FOR LOVE OF SPORT

By WALTER PRICHARD EATON

DRAWING BY WALTER KING STONE AND PHILLIPPS WARD

“**W**HOA, Nellie!” “Giddup there, Bob! what’s the matter with you?”
“Come around there, Nellie!” “Giddup, you Bob! don’t be so lazy.”

Tugging on the reins, your eyes too busy ahead keeping the horses at work and on the line to look where your own footsteps went, so that you stumbled and jolted over the broken, brown earth turned up in shining furrows which glistened for half an hour before the spring sun dried off their sheen, you panted back and forth, back and forth, across the field—a pleasant way, to be sure, to spend a bright May Saturday! But the plowing had to be done; it had been delayed by late frost, by an April snow, by wet ground.

“Whoa, Nellie—pull up there, Bob—pull!”

Old Bob was getting lazy again and making Nellie do the work. It was a way he had. How big the horses were, and how strong their great, sweating shoulder muscles. They were getting a soapy lather under collars and along the flanks. The earth was still a little moist and broke hard. The smell of the horses mingled with the smell of the fresh turned soil.

Over in the next field Joe Shelburn was driving for his father, too. Now and then you looked up and saw him. You tried to make the furrow come out so that he and you would meet by the fence, where the blackberries and goldenrods grew; and he tried for the same result. Finally, you succeeded.

“Nellie can beat Dobbin!” you shouted.

“Can’t, neither!” shouted Joe.

“Betcher.”

“Betcher.”

Again the teams turned and the tugging horses pulled the two plows farther and farther apart. But the challenge had been given, and you watched impatiently the sun’s decline.

Nellie was quite as tired as you were, when the day’s work was over, but you didn’t care—not just then. You unhitched her from the plow, coiled fast the superfluous harness and vaulted to her great, broad, sweaty back, by the aid of her mane. You left Bob for father. In the next field Joe was already mounted on Dobbin. (Are horses ever named Dobbin any more?) Slowly you both trotted out to the road, and the two patient horses turned their heads toward home and supper. Only a word, a jab with your heels, and the race was on, the two small jockeys bobbing on the great cavorting backs and shouting words of encouragement—and defiance.

Your house came first up the road, and if you got there first, you tugged Nellie down to a walk and taunted your baffled opponent. If he won, he did the same. That was the way we boys “played the ponies” in those early days. And it was for the pure love of the sport, too, for I cannot recall that the magic “Betcher” signified anything but the bare challenge. Again the boy is the true amateur!



ONLY A WORD, A JAB WITH YOUR HEELS, AND THE RACE WAS ON

OUTFITTING FOR NEWFOUNDLAND SALMON

By A. B. BAYLIS

The Rod, the Line, the Leader, and the Fly That Have Done the Trick

THE following lines are addressed primarily to those fishermen who are thinking of trying a bout with the salmon of Newfoundland for the first time, in the hope that there may be something brought forth from my many pleasant years of fishing to assist the novice, and, if it is not asking too much, to interest some of those who have the patience to read from end to end.

To begin with the rod! Any trout rod of sufficient strength and stiffness to cast a fairly long fly will do, but to my mind, the best rod is a grilse rod, fourteen or fifteen feet long. My own equipment, settled on after much experimenting, is a fourteen-foot split bamboo, and a fifteen-foot greenheart. I like these two rods, as I have found that the bamboo, being much lighter, is a pleasanter rod to swing for three or four hours at a stretch, while the greenheart, with its slower, more powerful spring, will drive a line into the wind farther and with less effort than the stiffer, lighter bamboo, and the extra foot of length means yards of line at times when distance is of the greatest importance.

On English, Canadian and Norwegian rivers, the pools are so wide and large that eighteen- to twenty-foot rods are the usual equipment of the angler, but the Newfoundland pools are rarely of a size to require more line than the average fisherman can get out with a fifteen-foot rod. Any fisherman can loop about two yards of line under the first finger of his upper hand, and by letting go just before his fly has started

to drop, add that much distance to his cast, and more, make the fly drop on the water without causing a ripple. Then, when the fly has been worked all across the pool and fished out at the end, by drawing back through the rings the same amount of line, he can recover his line for the next cast quite as easily as if that two yards of line was on the reel.

If anyone wants to use a longer rod, let him do so by all means, the length I have given suited me better than any others I tried, but the extra strong man might want a heavier rod, while the exceptionally long caster might cover the same distance with shorter, lighter rods. Every fisherman knows, or ought to know, his own limitations in casting, and it is for the average caster in the usual physical condition of a business man when he takes his vacation that I am writing. My rods are heavy enough for me at the beginning of the season, but after a month's fishing I can use my bamboo rod with one hand almost as well as I can with both when starting.

I have gone into the length of the rod with considerable detail, as I believe that the distance covered by the cast is almost everything. Most of the water fished is so rough that a small splash of the fly on alighting is of small consequence, but the sight of two moving rocks (your legs), or the noise of a displaced stone, will often put to flight the waiting salmon. Where the pool can be fished without wading a short line can be used, but if I am wading, I want to cast as far away from myself as I possibly can. If you can handle eighty

feet of line with comfort and precision, other conditions being equal, you will get more fish than if you can only cast sixty feet, and the longer your rod, provided you are strong enough to use it, the farther you will cast your fly.

I have known tournament casters to get out around one hundred feet of line with a trout rod (five ounces the limit weight) and better than 125 feet with a salmon rod, but that was done from a platform, with no wind to bother them. To my mind, the man who can handle his eighty feet of line while standing nearly waist deep in a five-mile current, and against the wind, drop his fly nearly where he wants to, is some fisherman. The finest exhibition of fly-casting I have ever seen was given me in the first year I went to Newfoundland. The fisherman was an Englishman, a surgeon on one of the cruisers stationed off the Newfoundland coast. He was using an English trout rod—nearly fourteen feet long and weighing about thirty ounces. With one hand he swung that pole as if it was one of the daintiest toy rods ever made by an American maker, and using almost no arm movement he dropped his fly exactly where he wanted it to go.

As I want this to be a truthful article I will not guess at the length of line he was using, but I doubt if after many years of practise, I can get out as much with two hands and a longer rod. His wrist looked as if it were made of flesh and blood, but it must have been reinforced with steel rods for bones and whalebone strips for sinews. I almost gave up fishing then and there, but instead set up that man as an ideal and his casting as a goal toward which I might struggle, but which was never to be attained.

In buying lines it is always best to consult your rod-maker. Get a line heavy enough to bend your rod and make it do its share of the work. I found that with my two rods mentioned above, I got the best results by having three lines. On calm days I used a D line on the bamboo rod and a C line on the greenheart. When there was any wind I used the C on the bamboo, and a B on the greenheart, and on very windy

days fished entirely with the greenheart and used a B line.

All my lines are sixty yards long, double tapered, the C and D spliced to one hundred yards of 12-thread Cuttyhunk line, and the B to one hundred yards of 16-thread Cuttyhunk line. This may seem an unnecessary amount of line, but the backing takes up comparatively little room on the reel and, although you don't often need it at all, when you do need it you need it badly. I have killed good-sized fish without ever wetting the backing, and then have had smaller ones strip out my line until I could see the spindle of my reel. Once I had the extreme anguish of seeing a new fly, leader, and line go rushing seawards towed by a fish that undoubtedly was late for an appointment there, all because I had forgotten to make the line fast to the reel. Something would have gone anyway, as there was no stopping that fish, but I might have saved the line, and more backing might have turned the fish. It is only once in a lifetime, however, that you will be so situated that there is no possibility of following a determined fish along the shore, and when it can be so followed 160 yards of line ought to account for the wildest fish.

The Right Leaders

Use only the very best single leaders you can buy. Two really good leaders are worth five others at half the price, and by buying a hank of gut a size or two smaller than your leaders and using a strand of this to tie on your flies, you will be surprised to find how well your leaders last. Look over carefully, at frequent intervals, the leader you are using and take out any badly chafed or otherwise weakened strands. Beware the knots tied by any other agency than the maker, and pick them out carefully. There is the place your big fish will break loose.

I approach the subject of flies with fear and trembling. Ask ten fishermen what is the best fly for a certain water with which all are familiar, and the chances are that nine of them will each name a different fly. I am going to be

the tenth man and say, "I do not know." From a careful record of many a fishing trip, where I noted down each day the fish taken and the fly used, I find that in every instance the fly on which I took my first fish was for that season the most successful one, but that there were two flies which in every season finished either first and second, or second and third.

My first season the Jock Scott was my best fly, with the Silver Doctor the second best. The second year they finished Silver Doctor first, Jock Scott second; the third season the Butcher beat them both, but Silver Doctor was second and Jock Scott third. In many years' fishing I have never but once killed a fish with the Durham Ranger, yet I know men who fish the same rivers I have fished who use it constantly and find it their most killing fly.

This is accounted for, I think, by the psychology of the fisherman, rather than by any peculiarity of the fish. My theory is that the fly you have on when the fish want to rise is the best fly for that day, and any other fly you might have been using would have proved equally killing. But if a fly has already proved itself, that fly is going to get a whole lot more use than one that has yet to make good. The Jock Scott is going to get a half hour's trial before the Silver Doctor goes on for fifteen minutes, and then it gets another half hour before the Durham Ranger, or other pattern gets its trial. Psychology is working on me even at this distance from my beloved rivers, as my first fish ever killed was taken on a Jock Scott, and that has always been my favorite fly, although as a matter of fact I have killed more fish on a Silver Doctor.

I notice that the London *Times*, and more recently the New York *Sun*, has been inviting correspondence as to whether fish can distinguish colors. My experience leaves me rather doubtful. I never but once killed a fish to which the color of the fly seemed to matter, but in that case it certainly seemed to have a marked effect. I was fishing a short, narrow pool, where low water and lack of current enabled me to see

the fish I was after so that I know that there was only the one fish in the pool. I rose it first to a Jock Scott, waited and tried again with the same fly, and got no response. Then I fished over the pool with a Silver Doctor, and then a Durham Ranger, without moving the fish; got a lazy flop to a Black Dose; a slightly stronger rise to a Jock Scott used again, and finally got him with a Dunkeld.

I worked for that fish all morning, going over it carefully, twice with each fly, giving plenty of time between trips, and when the fish was finally beached I put up my tackle and quit for the day. I was worn out. That fish seemed to distinguish colors. In every case he rose to flies in which yellow and gold predominated. The Dunkeld—I do not know whether the modern fly called Dunkeld is the same fly or not; I had these flies tied for me after the description given by Ephemera in his "Book of the Salmon," page 89—is almost all yellow with a great deal of Golden Pheasant in it.

Size of Fly, Not Color

With all the other fish I have killed, I cannot but feel that the size of the fly, and not the color, made the difference. Once, fishing from a ledge, and rising each fish in almost exactly the same place, in an afternoon I killed five and lost three, and I used three flies differing as much as possible, Black Dose, Silver Doctor and Butcher; but they were all short tied, on No. 6 hooks. I think that I believe that with only one pattern of fly, tied on different size hooks, of course, and persistence, I could take as many fish as if I had a dozen different patterns. And yet I like to see my book filled with the standard patterns, and every year I add one or two freaks, maybe to be used once, on rare occasions, like the Dunkeld, to attain an honored position as one of the season's best killers and a constant favorite ever after.

To the man who, like myself, has not the strength of mind to take only one kind with him, I would recommend the following, in order named: Jock Scott,

Dunkeld (see above), Silver Doctor, Black Dose, Butcher, Durham Ranger, Silver Gray, Nepissiquit. Any good sporting-goods store can have the Dunkeld tied after the Ephemera pattern for you.

There is no use taking a lot of big flies to Newfoundland. They cost a lot of money and will never be used. For very early fishing, say the first week in June, a very few No. 2 hooks will be useful, but after that time No. 4 and No. 6 hooks will be what you will need. A great many fishermen use No. 8 double hooks, but I do not like the double hook and have found a short-tied fly on a No. 6 single hook to be quite as killing for low waters. The body of this fly is no bigger than the double No. 8, and the larger hook gives more chance of saving the fish, while the fact that the shank of the hook projects beyond the tail of the fly gives a better chance of hooking a short-rising fish, striking at the tip of the tag. A few No. 4 tied for short-rising fish are quite as useful in getting results as their smaller brothers.

I have always had my flies tied on Pennell downeyed hooks and fastened to the leader with a short strand of gut. In this way there is only a single strand of gut leading away from the fly, and the metal eye is far stronger than the gut loop found on the usual f

of commerce. I like the hook because I think that the long, straight barb hooks a fish far more securely and makes him more surely yours than does the shorter, curved barb of the ordinary Sproat hook, but that is a matter of opinion, as is the use of single or double hooks. I like the single hook, others swear by the double hook. Take your choice.

I am not going to try to tell any fisherman how to play the fish, but to any trout fisherman I will say: Try and forget how to strike a fish. I think that more fish are lost by jerking the fly away from them just as they are making up their minds to take it than in any other way. Salmon are slow, deliberate fish, until the hook really pricks them hard, and once the fish feels the barb, he is off at a speed that will drive it in more firmly than any fancy wrist motion of yours. Once the hook is in the fight is on, and may the best man win.

I cannot close better than by quoting Ephemera: "I dare not think myself orthodox, and if any kind being more skilled in piscatorial polemics than I am will, in a spirit of toleration, convince me of any halieutic heresies I may have herein promulgated I do solemnly vow to recant them publicly in a second edition"—if I get a chance to write any more.



"Stealing Signals in Baseball"—This is the title of Edward Lyle Fox's article in July OUTING. It tells of the efforts players make to find out the instructions the catcher is flashing to the pitcher, and shows the good and bad side of it.

EASIER EATING IN CAMP

By GEORGE FORTISS

Some Things You Can Take Along to Relieve the Monotony of Beans and Bacon

WHEN you have been out on a camping trip and have eaten, for three days running, bacon and beans and soup and trout and

tea, and maybe even venison or broiled grouse, have you suddenly awakened to the realization that something was wrong with your diet—that you were beset by a longing for something that was growing momentarily more conspicuous by its absence? Of course you have, if you are the average town-bred American. Perhaps at the time you have not analyzed this longing and discovered what occasioned it, but if you remember back you recollect the rush you made to the candy counter of the country store when you came out of the woods after a week or two of living on the staple foods. What you had been missing in your daily diet was sugar, one of the greatest heat-producing agents in the human body, the absence of which the average man feels keenly after a few days.

Sugar on the one hand and acid, or correctives, on the other are parts of a camp diet that are quite often overlooked by the camper when he fills out his larder list. As a matter of fact it is all very well to cut your grub list down to the most nutritive staples when you are going on a long trip where it is imperative that you travel light, but on the average camping or cruising expedition the matter of minimum weight and bulk of the grub kit is not of such great importance, and camp diet is made a good deal more pleasant, as well as more normal, by taking with you a judicious, though not unwieldy, selection of what may properly be called table luxuries, but which at the same time have a mighty potent

value in making rough cookery agreeable.

Under this classification of edibles come such delicacies as jellies, condiments, potted and canned meats, dried and fresh fruits, patent desserts, prepared salads, canned fish, pickles, and other "trimmings" which, in comparison with the sturdy beans and cornmeal and bacon of the dyed-in-the-wool camper, may be considered bric-à-brac, but which, nevertheless, are as welcome to the variety-longing palate of the frugal explorer as manna to the Israelites.

With a view to providing some of the luxuries in such shape as to be practicable to take on the trail, several manufacturers have devoted some time to preparing in convenient form a number of delicacies that are of real value to the man who wants to go camping fairly unincumbered, yet has arranged his trip so that it will not be imperative for him to resort to the extreme lightness of highly concentrated foods, such, for instance, as dehydrated products.

All veteran campers will tell you that there is a good concentrated meal in a cake of sweet chocolate, and chocolate, requiring no preparation of any sort and being the most nutritive of sweets, is without doubt the most practical article to round out the larder and meet the call of the body for a proportion of sugar fuel. A five-cent cake of sweet chocolate makes a sustaining lunch when there is no time to build a fire and go into more extensive food-preparing operations. And chocolate is neither so heavy nor so bulky that it cannot enter into the grub kit of even the man who is making a trip on which he feels that the necessity for lightness commands the use of dehydrated foods.

But for the camper or cruiser who intends to tote his supplies to a base from which he himself will not wander far, the latitude for an extended and varied larder is greatly increased. For these campers there is a host of palatable yet conveniently packed food articles which, particularly if there are ladies in the party, will render camp diet a good deal more agreeable than it otherwise would be.

Take jelly powder, for instance. At least two manufacturers to-day put out powders which need only to be put into hot water and allowed to cool to make extremely tasty jellies. These powders come in little jars, weighing but a few ounces, yet one ten-cent package is sufficient to make jelly for six to eight persons. In a mold of jelly there is mighty relief from a camp diet of bacon and beans, particularly in the warm weather of summer camping.

Even Fruit Salad

Then there is fruit salad. No, you haven't got to steal the fruit from the orchard of the nearest farmer, nor need you take oil and eggs and the other essentials to home-manufactured salads. All that is necessary is for you to open the round jar in which the salad comes, all made and mixed, put it on your plate, and—go to it. This ready-made salad is composed of pineapple, peaches, pears, apples, cherries, and cumquats preserved in fruit juice or brandy or other dressing, and besides being a tempting dish, is useful in providing a sugar and fruit food.

The canned and jarred fruits, such as canned peaches, pears, apricots and cherries, are too well known almost to require mention as articles of the camper's diet. It is true that for long voyages, where the travel must be light, they are cumbersome, but such trips are the exception with the average camper, who usually can, without difficulty, carry a fair supply of these pleasant and useful delicacies.

In the case of the man who feels that canned fruits are too bulky and weighty, there are the dried apricots and peaches, which are extremely nourishing and

tasty when soaked and boiled, besides being very light.

Dates, figs, and shelled nuts are three highly nourishing yet concentrated foods, the values of which are frequently overlooked. Usually, in the camp larder the place of the two former is taken by the long-famous prune, and there is no denying that the prune was one of the most useful foods in the old-time camp grub-sack, not alone because of its laxative qualities, but because of the sugar in it and the change it gives from the regular cut-and-dried diet of the camp.

Dates and figs are fully as nourishing as prunes, the former perhaps being even more so. They are no heavier, and add to the variety. A good combination to take into camp is one composed of one-half prunes and one-quarter each of dates and figs.

The nutritive value of nuts has long been recognized, yet as a camp food the nut has been practically overlooked. All the big grocers carry shelled nuts in jars. A good way to do is to take the nuts out of the jars and place them in cheese-cloth bags, which are much lighter and more easily stowed and carried. A handful of shelled nuts and a cake of chocolate in your pocket when you start off in the morning will furnish ample lunch, and if, perchance, you get caught out over-night, you will be a long way from starvation in the morning.

The ingenuity of manufacturers of canned goods seems never to rest. One of the latest inventions is codfish balls in cans. All you have to do is to open the can, stick in a spoon and dig out a lump of the moist codfish batter, and drop it into the greased frying-pan. In five minutes your breakfast, crisp and brown, is ready.

From a camper's viewpoint these canned codfish balls are a revelation in time-saving. The old dried and shredded codfish which had to be soaked all night, however, still has its place, as it is lighter than the canned product and, when prepared, equally nourishing.

Chipped beef and potted minced tongue and ham have long been known, but the camper can now drop a jar in a kettle of boiling water, in five minutes remove and open it, and sit down to a

dinner of beef à la mode after the most improved hotel style.

Then there is canned Mexican tamale, and there are jars containing whole lambs' tongues that need only to be taken out and sliced just as you would get them sliced at the delicatessen. And there are all the varieties of canned and jarred fish and shellfish, to say nothing of canned ribs of beef.

All these are semi-concentrated foods that will keep for months, and without exception they are valuable to the camper. If you are going into a country where you expect to catch an abundance of fish, do not make up your mind that you will leave out of your grub outfit the fish that you would otherwise have bought put up in glass jars, for the fish in the lake or river are problematical, while the fish in the glass jars are not. The writer once lived for three days on a single can of dried beef because it took him two weeks to find out how to catch the fish in the lakes through which he was making a canoe trip.

The relishes should not be overlooked either. Pickles are perhaps the most practicable of these for camp use. They have a nourishing body besides supplying the acid and snap which some other sauces, etc., contain without an equal amount of nourishment.

Cake in camp is the exception, but there are always sweet crackers, which do not get stale, to take its place. You might include a box of marshmallow whip on your list. Marshmallow whip is nothing more nor less than melted marshmallows, thinned out. It is an excellent substitute for whipped cream, and at the same time can be used for cake icing, provided you have the tools in camp to concoct the cake. Whether you have or not is of little importance if you will include in your larder some large, sweet, vanilla-flavored crackers. Upon

the crackers spread a generous layer of marshmallow whip, and into the whip set the berries you gather, whether they be huckleberries, raspberries, blackberries, or what not. When the dish is completed you have an incomparable shortcake.

To map out a delicacy larder for a party of four persons for a two weeks' camping trip is practically impossible, since tastes differ so widely. One man may prefer fish in preponderance to canned meat; another pickles in excess of chocolate. All that can be done is to state a list of food luxuries that can be added to the regular staples of a camp larder where the exigencies do not demand long and hard travel, and consequently a minimum of weight to be carried.

For four people the list might run something like this:

Sweet chocolate, 20 cakes.
 Marshmallow whip, 2 boxes.
 Dates, 4 pounds.
 Figs, 4 pounds.
 Shelled nuts, 3 pounds.
 Pickles (sweet) 2 bottles (large).
 Pickles (sour), 2 bottles (large).
 Fruit salad, 6 jars.
 Jelly powder, 6 packages.
 Codfish balls, 4 cans.
 Filet of herring (wine sauce), 2 cans.
 Sliced smoked salmon, 4 cans.
 Canned roast beef, 4 cans.
 Chicken livers (canned), 2 jars.
 Beef à la mode, 4 jars.
 Canned cherries, 2 cans.
 Peaches, 6 cans.
 Pears, 4 cans.
 Mandalay sauce, 1 bottle.
 Sweet crackers, 10 pounds.
 Peanut butter, 2 jars (large).

The above list, added to the staples of the larder mentioned in last month's article, will round out a camp grub outfit so that it will approach luxury without at the same time stepping into the field of unwieldiness.

Would you like to know where Polo originated and how it is played in the land of its birth? Then read "The Cradle of Polo" in an early number of OUTING.

RELAXING YOUR BAMBOO ROD

By THOMAS JENKYNS

How to Solve the Problem of Caring for Your Rod When It Is Not in Use

THE life of a rod of split-bamboo depends much upon its use when on the stream, but even more upon its handling when put away; in fact, probably seventy-five per cent of the rods whose days of usefulness are over owe their untimely demise to improper storage. It is far too common a custom to put away a fine rod in a closed closet in a steam-heated room, or even to keep it in an attic whose temperature fluctuates between zero and one hundred degrees—with the equally universal result that the maker is blamed for loosened ferrules, softening of the glue, and general disintegration.

The basement, not too close to heater or chimney, is the proper place to dispose of such tools not only during the off season, but between trips in summer as well; the air is sufficiently moist to keep the rod in shape and the temperature is much more even than that of any room. Yet if we simply hang the rod to one of the cellar beams, it is going to get dusty and covered with grit in the form of fine coal dust and ashes—particles which when wiped off are apt to score the rod or even to mar and weaken the windings. The solution is to build a dust-tight cabinet that may be fastened to one of the basement columns or hung from a beam, and in which the rod may have all of the advantages of the moist air and even temperature without the drawbacks of soot and grime.

The cabinet illustrated is intended for short casting-rods, which are to be hung up jointed; it is six feet long (six inches of this length being taken up by the tackle drawer), one foot wide and six inches deep. Any other size may, of

course, be adopted, inasmuch as the separate joints may be hung up instead of the complete rod. The material is yellow pine, matched ceiling boards being used, and the finish applied being a coat of filler and two or three coats of good



THE CASE FOR HANGING THE ROD WITH THE TACKLE DRAWER AT THE BOTTOM

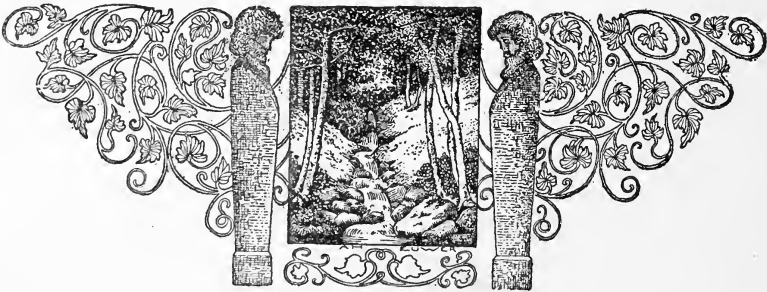
varnish. Two or three brass screw hooks are fixed at the top, and the cabinet is complete.

When returning from a trip the rod should be wiped thoroughly dry, and, if short enough, suspended from one of the hooks without unjointing or removing the reel—the weight of the latter will keep the rod from getting “set” and will tend to take out any curve that the day’s fishing may have started. Failing this, the separate joints may be hung up with a weight attached to each—although this will be of scant help in keeping the entire rod in alignment, it will at least keep each joint straight and free from kinks.

At the end of the season the rod should be gone over very carefully, and all frayed windings rewound; loose ferrules, if any, should be reset, and the entire rod

be given one or two coats of good varnish. This latter process is often a bugaboo to the inexperienced, who seem to think it a job for an expert; but if you warm the rod, warm the varnish, and do the work near the kitchen stove, the varnish will flow evenly, will not show brush marks, and is not apt to check or to crawl. If possible, the rod should be hung to dry in the center of a warm room; this is not often practicable, however, and the writer has produced a good finish by hanging the varnished rod in the cabinet.

When the rod has been thoroughly gone over, hang it jointed in the cabinet—and when spring comes and the music of the streams is in your ears you will find it straight, tight and new-looking, instead of a warped and lifeless thing unfit to be called a rod.





THE WORLD OF SPORT

Rubber Core Nine up in thirty-six holes!
vs. That is the tale of the match
Gutty over the Sandy Lodge course in England to test the respective merits of the rubber-cored golf ball and the old gutty, the advantage being with the rubber-core. The players were Harry Vardon and George Duncan against James Braid and James Taylor. In the morning round Vardon and Duncan, playing with the rubber-core, finished five up. Then in the afternoon the same men, playing this time with the gutty, lost four of the five-hole lead, finishing one up, thus giving the advantage to the newer ball by nine holes. As usually happens in such cases, both parties to the controversy were satisfied that all their theories were fully demonstrated and everybody was happy.

were usually penalized very definitely. There was none of the lucky run from a half top that often makes a similar shot with the rubber-core almost as useful as a well-hit ball. The slice, too, seemed more positive with the gutty, developing earlier in the flight of the ball and, perhaps on account of the shorter distance, usually fetching up in a worse position for the next shot. Of course, thirty-six holes, played by four of the leading players of Great Britain, is not conclusive as to the merits of the two types of ball. A full season of play by average amateurs would provide much more adequate data as to performance. In any case, the experiment was valuable solely as a stunt. The rubber-core is here to stay and the gutty is an interesting antiquity.

Which Is the Better? The difficulty, of course, is in determining just what is meant by the "better ball" when such comparisons are made. In the matter of length the rubber-core naturally had the advantage, thirty to forty yards, other things being equal. On the other hand, when it was necessary to lay a long putt close to the hole with a green sloping away, the gutty was apparently more obedient. Also it was possible to hit it more decisively in the tricky putts. On the one-shot holes there was not much to choose, although something might be conceded to the gutty on the ground of its shorter roll and its consequent greater tendency to hold the green on a full, hard shot. It was noted at Sandy Lodge that the old ball showed up more strongly the difference between good and bad shots. With its bad shots

The American Invasion By the time this issue is on sale the British amateur golf championship will have been decided, and we shall know whether the American invasion has been a successful one from the standpoint of matches won. For our part, we wish to declare here and now that we consider it a complete success before it begins. We are strongly for international sport and rivalry in the right spirit, and we know no game that is better adapted to the development of that spirit than is golf. Messrs. Ouimet, Travers, *et al.* are in England to win if possible, but, win or lose, we are glad to see them playing at Sandwich, and we hope that English players will return the visit this year and every succeeding year. Such contests make for a better understanding and for the clearing away of the old fogs of con-

troversy that have at times tended to obscure the trans-Atlantic vision from both shores.

Good on Both Sides And this is a good time also to deprecate the attempts that are made from time to time to raise the old bogies of jealousy. We have had occasion frequently to point out certain peculiarities that appear to us as shortcomings in British sports. We have attempted to render the same service to American sport, usually in much more emphatic terms. This we shall not cease to do. Conditions are not yet ideal on either side of the water. But there are many things that we can learn from England—in spirit if not in method—and vice versa there are a few things which we modestly protest England can learn from America. Just at present it is the Continent that seems most anxious to copy American methods and, as often happens in such cases, they are in danger of copying incorrectly. If the press dispatches from Berlin tell the whole truth—which we may be permitted to doubt—the Fatherland is in danger of professionalizing their entire force of Olympic athletes. If the proposed plan of national subsidy goes through, we do not see how a fair-minded Olympic Committee can avoid putting the whole Berlin team under the ban.

The Reason for Sport Athletics in the English or American sense are a product of such recent growth on the Continent that there is grave danger of imitating unessential details and missing the fundamental spirit entirely. The object of Olympic competition is to win. The object of general athletic exercise is improvement, physical, mental and moral. Between these two forms of sport there is a wide gulf. A nation that becomes athletic merely in the hope that it may outshine the rest of the world is debasing a noble thing. At its best, sport is a flowering of the spirit of competitive play, and those who enter it in that attitude find the highest pleasure and the greatest good. France seems to have set about the task in a somewhat different state of mind from that of Germany. For more than a generation the specter of national deca-

dence has been hovering over all Gaul, and some of the best minds of the nation have seen in athletics a corrective for the evils of alcoholism and the other vices that threaten. This is all very well in its way, but it is somewhat of a shock to an Englishman or an American to regard sport as a substitute for the gold cure or as a form of medical treatment.

Each to Its Own Game The prime difficulty in this whole business of international comparisons in sport is that it is an attempt to compare two things that are not comparable. Potatoes and peaches are both good, but no one would make the mistake of saying that one is better than the other. Yet that is what is done too often in matters of national differences in sport. At the time the American baseball teams were in London English critics of the game aroused the mingled wrath and amusement of American baseball writers by calling the game "glorified rounders" and declaring that while it might be very good for people who like it, yet Englishmen preferred cricket. Such statements are of course very amusing to the young gentlemen who make their living by writing about America's favorite game. Nevertheless they are strictly true. Baseball is a development from the earlier, cruder schoolboy games — "glorified" being a sufficiently elastic term to cover any necessary amount of development—and Englishmen do prefer cricket. Therefore any attempt to decide which is the "better" game is bound to be futile. There is here no question of worse or better. Each nation plays the game it likes in the way it likes, and there you are. Furthermore, a world that played nothing but baseball, or cricket, or pelota, or what you please, would be a very stupid world.

Cleaner College Baseball Turning for the moment to certain specific conditions in American sport, it is worth while considering the recommendations of the baseball committee of the National Collegiate Athletic Association. This is a voluntary body with no real power. It can only suggest, but that is often more influential in the long run than drastic

legislation. The only reforms that are worth while are those that originate from within and not those that are forced from without. If college baseball is ever to be the ideal game that its friends want it to be it must be because the players themselves see the light. Outside agencies can do little more than agitate and instruct as far as in them lies. To this end the recommendations of the baseball committee of the Association deal entirely with the spirit of the game. They are aimed mainly against the evil of unnecessary coaching, especially that foolish chatter kept up by the outfield in the vague hope of steadying a pitcher. It is suggested also that a catcher be restricted in his conversation with the batter to such remarks as are necessary to the proper conduct of the game, in the way of caution, etc. Coaching from the bench is frowned upon, and also that particularly obnoxious form of coaching designed to rattle the opposing pitcher.

Public Opinion the Cure Of the vexing question of summer ball and professionalism of other forms the committee wisely says nothing. That problem is, in the last analysis, something that each college must deal with itself according to its own conditions. We do not, however, sympathize in the least with that attitude of some of the authorities which makes of this a vast and perplexing question. It is simply one of common, everyday honesty. We doubt if there is any college player or athletic committee that is greatly in the dark as to the standing of any members of the team if they will only be honest with themselves. At Princeton we have seen the heartening spectacle of the students putting in force the honor system in examinations and making it work. We have heard, also, the captain of the Princeton baseball team declare in favor of summer baseball partly on the ground that it cannot be eradicated. Yet the cheating in examinations would seem to the crude observer far more difficult of suppression by public opinion than dishonesty in sport. The thing that is lacking in the latter case is the organized public opinion. Given that and the problem will solve itself.

Balking in the Senate The United States Senate has done all that it could to render futile its own good work in the protection of the birds of the country. A year ago it passed the Weeks-McLean bill for the protection of migratory birds. Obviously the enforcement of any law calls for the spending of money, in the present instance not a great deal as government appropriations go, but still a fair lump of a sum. Fifty thousand dollars was the amount called for in the Agricultural Appropriations Bill when it went into the committee. Ten thousand was the sum that remained when that committee completed its deliberations. This is about the same as nothing at all. This magazine has chronicled the claims that have been made in various parts of the country that the law need not be observed in states where state law permits spring shooting. If the Senate's attitude is to govern why observe any part of it anywhere? It is the Senate that is the chief law-breaker.

Let the Courts Decide The excuse offered by the Senators who oppose the appropriation, especially Senator Reed of Missouri and Senator Robinson of Arkansas, is that the law is unconstitutional and that the country might as well save money by not trying to enforce it. This is a curious attitude for a United States Senator to adopt toward a bill which the Senate passed only a year ago. We do not know how these two Senators voted at that time, nor do we care. The law once passed is the law of the whole country, and the duty rests upon all the Senators to provide the means for its enforcement. As to the question of its constitutionality we seem to have heard somewhere of a body known as the Supreme Court of the United States. We have heard, too, that it is the duty of that court to pass upon the constitutionality of the laws placed upon the statute books by the legislative department of the government. Why not leave this question to that court—if it is still in existence? This sounds like elementary political science, but apparently there are some United States Senators who are in need of just such instruction.

Working for the Birds While the United States Senate is thus dallying with its plain duty, private individuals and associations are doing what lies in their power to check the destruction of our wild life. Herbert K. Job, a well-known contributor to this magazine, is lecturing before the Granges of Connecticut on "Value and Profit from Wild Birds on the Farm." His lectures are being financed by an unnamed friend

of wild life in the hope that the farmers of the state may be awakened to a sense of their share in the work before it is too late. The owners of the land can do more than anyone else to preserve birds of all kinds, and without their full cooperation success is practically impossible. But it will be little short of criminal negligence if the Federal Government turns back from the great work it has begun.

WHAT READERS THINK

Two Opinions on Rugby Football and One Experience with a Gun When the Safety Was On

Rugby or No Rugby

CALIFORNIA is agitated over the question of Rugby. Since the publication of the article, "Why California Likes Rugby," in the March OUTING, several letters have been received indicating that not all Californians do like Rugby. Two of these are published herewith. Since the first letter was received from Mr. Bovard the University of Southern California has taken definite steps toward dropping the Rugby game, and it is expected that several of the high schools of that section will follow the lead of the university. Mr. Bovard reports in another letter that the students are prepared to back up the new move, and that there is every prospect that they will greatly prefer the American game. Mr. Bovard is Graduate Manager of the Associated Students of the University of Southern California. His letter follows:

Editor, OUTING:

I was very much interested in your March issue, due to an article on Rugby football, page 742, and an editorial remark entitled "Why This Indifference?" on page 765.

The article on Rugby is good from the Rugby enthusiast standpoint, from the standpoint, I should say, of the man who has forgotten or who knows nothing

of the new American game of football.

Fans and players alike, after eight years of Rugby, naturally are not familiar with the changes in our great American game. In southern California the two styles of football are fighting side by side under almost equal terms. The University of Southern California, the largest institution in the south, numbering some 2,600 students, has been playing Rugby now for three years, and has contended with the northern universities for the State title. Meanwhile, the smaller colleges of southern California, four in number, and half the high schools, have continued to play the American brand.

Last year we lost to Stanford by a score of 10 to 0 and tied California 3 to 3. The game has come to be popular with students and players alike, but, as noted in your editorial, page 765, Rugby is the fly in the intercollegiate ointment. It is a great game and fitted to an inter-club series with regular league officials. When it is shoved into the place of the American intercollegiate game that is given to the college athlete during the period that he is pitting his well-trained might against that of his intercollegiate rival, the game is altogether too unrestricted. Foul tactics are so easy that apparently the man who does not resort to them is the loser. The game

frequently breaks from under the control of the officials.

The talk of descending to intramural athletics in the University of California is perhaps induced by a lack of interest on the part of the students, but a great deal more, I believe, by the constant intercollegiate troubles with Stanford University. Almost every one of the recent disputes can be traced directly to the game of Rugby football. It is true that this game is controlled by a Rugby Union, but this is a very doubtful advantage.

Leaders in intercollegiate circles have suggested time and again that radical changes should be made in the game if it is to be the leading intercollegiate sport. The final answer in each case is that the game has been good enough for Anglo-Saxons the world over and a change would destroy the chance of international contests (proven to be another doubtful advantage in football).

After our third year of experience, we admit that Rugby is a very good game, but, on demanding changes, we have come to the conclusion that we might as well adopt the changes which were made by the big athletic men of the East and return to the American game—at least we are seriously considering such a change next year or the year after.

The high schools of southern California are about evenly divided as to the style of football played, but the Rugbyites are having so much trouble securing competent referees (an almost impossible feat in Rugby) that several of them are considering reverting to the American game in case the University of Southern California takes such action.

I merely wanted to let you know that while Mr. Goldsmith was right from his standpoint, at the same time your guess as to the fly in the ointment is right and Rugby is not an undivided success by a long way. Rugby enthusiasts contend that it is less rough, absolutely devoid of fatalities, and more open. All of these contentions have not been borne out by experience when the two games are carefully analyzed.

Yours very truly,
W. B. BOVARD.

Los Angeles, Cal.

A Stanford Opinion

ANOTHER letter has been received from a student at Stanford who has apparently had opportunities of observing both games and making his own comparisons. We do not know how widespread is the sentiment he represents, and therefore publish his letter for what it is worth as an individual opinion:

Editor, OUTING:

The recent article in your magazine on "Why California Likes Rugby," illustrated by "well-chosen" pictures, demands an answer, for it is rather a boast and a challenge at the same time. I believe an answer will be much more forcible coming from the ground of the original statements, and rely on your justice to put in a few words on the other side of the argument.

The statement that after the second game of Rugby not a man in the bleachers would go back to the intercollegiate game is typical of the exaggerated tone of the whole article. This is an unwarranted assumption, for after eight years of "bred-in-the-bone Rugby" there are many here who would gladly turn back to the "old game."

Mr. Goldsmith's ideas of the "old game," as he calls it, are likely gleaned from "brutal" pictures, and thrilling *magazine articles*, for I have not seen a man here who has seen the intercollegiate game played between two good teams lately who will admit Rugby is anywhere near the "class" of the "old game." They judge "football" here by what it used to be back in the "old days," and pictures of the old mass plays. Therefore, I pronounce any of these men incapable of "pronouncing judgment" on the other game.

Remember that Rugby's supposed popularity is merely a *forced* popularity. You don't see the colleges of southern California taking it up in a hurry or any of the strong college teams of the Northwest. Rugby interest centers around San Francisco, and in northern and southern California we find the high schools still playing the "intercollegiate" game. The game was *forced* on Stanford by the fac-

ulty; California was forced to take it up, as Stanford was her only rival; the high schools nearby naturally were *forced* to take it up. And it is a strong commentary on the status of the game that they *have* to import players and teams from other countries to play here. It does not show the international character of the game at all, as Mr. Goldsmith would have you Easterners believe.

There is no doubt that "Danny" Carroll, an "import" from the Australian team, won the "big game" for Stanford last year. It is a significant fact that, after eight years, Rugby has not spread beyond the territory "athletically supervised" by these two schools—California and Stanford. It is a notable fact that there are many teams in and around San Francisco which have stuck to the "old" game, in spite of the "popularity" of Rugby.

The claim that Rugby is safer, faster, cleaner, and less exhausting I deny in each and every count. It is another case of comparing two things when you haven't seen one even, as is the case with most of these Rugby "enthusiasts" and the intercollegiate football game. They don't know what a "forward pass" means. They say the "forward pass" came from Rugby. Not so! a forward pass is *absolutely* against Rugby rules and is severely penalized.

As for the safety of the game, there is little to judge from. There is only *one* big game. All others are mere practice games with alumni, small schools and athletic clubs. There is only one real fighting game to judge from. These practice games are played in an easy way, many substitutes are sent in and ordered to take it easy and not get "banged up" for the big game. No wonder the game isn't "brutal" and the men don't get exhausted. You should see the "crowds" (?) of a few hundred at these preliminary games. They show how much interest is really shown in Rugby, *as a game*.

The "big game" is a fashion show, an alumni reunion, and a general holiday, which takes some credit of the crowds away from Rugby. But I was talking about safety. The spirit of laxity in these early games, and the soft turf field, account in a large measure for the ab-

sence of injuries, but there is by no means a "total absence"; strains are numerous and broken bones not unknown. I saw one leg broken on our field last year and many a man carried off.

It was notable that the Stanford and California teams used *every* substitute they were allowed in the big game, and a fight developed over the fact that the California coach ran in one more substitute than Stanford. It was a notable fact that one extra man was playing part of the time for California, and their lone touchdown was due to this fresh man. Imagine such a state of affairs in the "old game"! Such work is O. K. in this game; as long as the other team doesn't catch on, it is none of the referee's business.

As for dirty work, you can imagine with one lone referee and thirty men scattered around there is plenty of chance for it. It is the clean idea of sportsmanship here that makes Rugby a cleaner game, in one respect, and not any power of the referee or rules of Rugby. I notice that when the New Zealand team killed the full-back of an opposing team on their late trip over here the Rugby "enthusiasts" enthusiastically suppressed all evidence in the papers. If he had been a college man in the "old game" we would never have heard the end of it.

Another thing which keeps down injuries is the careful medical supervision and training, which prevents any man not up to the pink of condition from playing. Brown, Stanford's star full-back, was kept from the big game because of minor injuries, whereas he would have been allowed to play in many other schools. It is a significant fact that Stanford, having a regularly scheduled game with Santa Clara *ten days* before the "big game," called it off, for fear of injury to some of Stanford's players. This shows how much they care about playing hard in practice games, and how the only game they let loose in is the one big game a year.

I believe it would be safe to say that there are vastly more injuries *proportionately* in Rugby in real contests than in the other game. "Hurdling" is allowed; you can kick a man and fall all over him when he falls on the ball; the crowded

"ruck" play and "scrum" give ample chance for injury and dirty work.

As for Rugby being faster, you might as well say baseball is faster, or basketball, or soccer. *The game is as fast as the man.* The fact that the New Zealand team was so fast does not show Rugby is fast. Rugby is a pretty game as a foot-race when one team is running away from another, as the New Zealand team did. Anyhow Rugby is not faster as a game, and some of the lightning combination plays of the "old game" would make these boys' eyes hang out till they could see their own shins.

Goldsmith claims Rugby is characterized by "clean tackling"—clean misses, I call most of them. Why, a coach in the "old game" would go wild over some of the rotten tackling that goes on there. They stand and wait for a man to come to them, and then can't stop him even when he don't "stiff arm." A Mahan or a Guyon would run through a whole Rugby team and they would wonder what had struck them.

The only play of the whole year which all vividly remember here (and Goldsmith condescends to mention in his article) was "Rougie" Macgregor's run in the New Zealand game. It was pure "old game" football and poor Rugby (for you are supposed to "pass" in Rugby) and brought stands to their feet, as no pure Rugby playing ever did. Macgregor tucked the ball under his arm and ran through the *whole* Stanford team, à la "old game" style. Why, man, us "old game" sports fairly wept with joy; it was the real stuff like the good old days, and the Rugby men *had to admit* that there was more thrill in that one single-handed run than in the whole season of Rugby passing and kicking. Why, if there had been a decent tackler on the team Macgregor could never have done it, for he didn't even have to use a "stiff arm." It was awful, also, the way a team of "old" men ran over these Rugby stars in a mixed game at Los Angeles, Christmas—25-2 was the score.

The fact that the boys out here wear track "panties" should not deceive you, for I notice the California team wear "old style" pants clear up to the final game, and leave them off only for speed

then. In the mud and cold weather of Eastern fall games Rugby would be a dismal failure, and is anyhow beside a *real* game. I noticed that Carroll, the star Australian on Stanford's team, was careful to use headgear, etc., even in the "big game."

We have been discussing Rugby as a game; *it is not a game, it is a foot-race.* The teamwork, the versatile combinations and attacks, the well-planned interference, the man-to-man fight, are totally absent. Goldsmith deprecates the efforts of the "weight-lifting" tackle in the old line. I guess his description of what he thought the tackle does is a good showing of his knowledge of the "old game," as he calls it.

No team is given definite possession of the ball. It is thrown in haphazard from a "line-out," or into a "scrum," and does not go definitely to one side to carry. Frequent kicking "into touch," or, as we would call it in the intercollegiate game, "kicking out of bounds," mars the game, however much skill in booting it displays, for it takes out much time. This leaves the element of pure luck a large sway, and headwork and formations and real teamwork go for naught.

I hope to enlist your favor in getting Stanford and California back to the "promised land" of the much-maligned "intercollegiate football" after eight years of "wandering in the wilderness" of Rugby. Rugby is English; Rugby is the only thing the English ever "handed" us. Hand it back. A pernicious faculty influence of "English" professors, and a training up of the "younger generation" here to Rugby (in utter ignorance of a real game) is what holds us shackled to this track meet on a football field. I hope I have given you a few pointers, though in a Rambling Rameses style.

Yours very truly,

"AN EASTERN STANFORDITE."

Stanford University, Cal.

Safety First

IT is evident that Mr. Crossman's article, "Safety First," in the April number, attracted wide attention as a reasonable discussion of a vital problem. There is every prospect that the

next few years will see a greatly increased stringency in legislation governing the possession and use of firearms. There are few men who have done any shooting at all who are not familiar with the dangers that arise from careless use of a gun and who do not know of a number of close calls or worse from that cause. Some of the instances in the following letter will find an echo in the memories of all of us:

Editor, OUTING:

I am writing you in appreciation of E. C. Crossman's article, "Safety First," in the April *OUTING*. I do not know E. C. Crossman, but he should be thanked by every careful shooter, and his article, "Safety First," should be given with every shooting license and posted in every club-house and store where firearms are sold.

As an example of how the careful man is sometimes fooled, I will give my experience with a box magazine rifle of a well-known make. In the beginning let me say that it was always my custom when in the game country to carry the rifle loaded and the hammer in the safety notch.

One early fall day while walking

along a range line, I stumbled and fell at full length, letting loose of the rifle as I fell. I was brought out of my trance by the roar of seventy-two grains of black powder about six inches from my face. An examination showed the hammer still in the "safety" notch.

On another occasion, just after a fall of snow, a tree unloaded about a bushel of snow as I went under it. I was carrying the rifle across my arm with the muzzle up and back. I was brushing the snow off the receiver with my mittened hand when I struck the hammer. The rifle nearly jumped out of my hand. The hammer was still in place in the "safety" notch.

A careful investigation showed that the firing-pin had enough play that when the muzzle of the rifle was elevated the firing-pin would rest against the hammer, even though it was on the safety notch. It was found by trial that if the hammer was drawn back half way and released it would fire the cartridge without touching the trigger.

I wonder how many guns there are in daily use in the country having the same defect?

A. M. ALLEN.

Daysland, Alta.

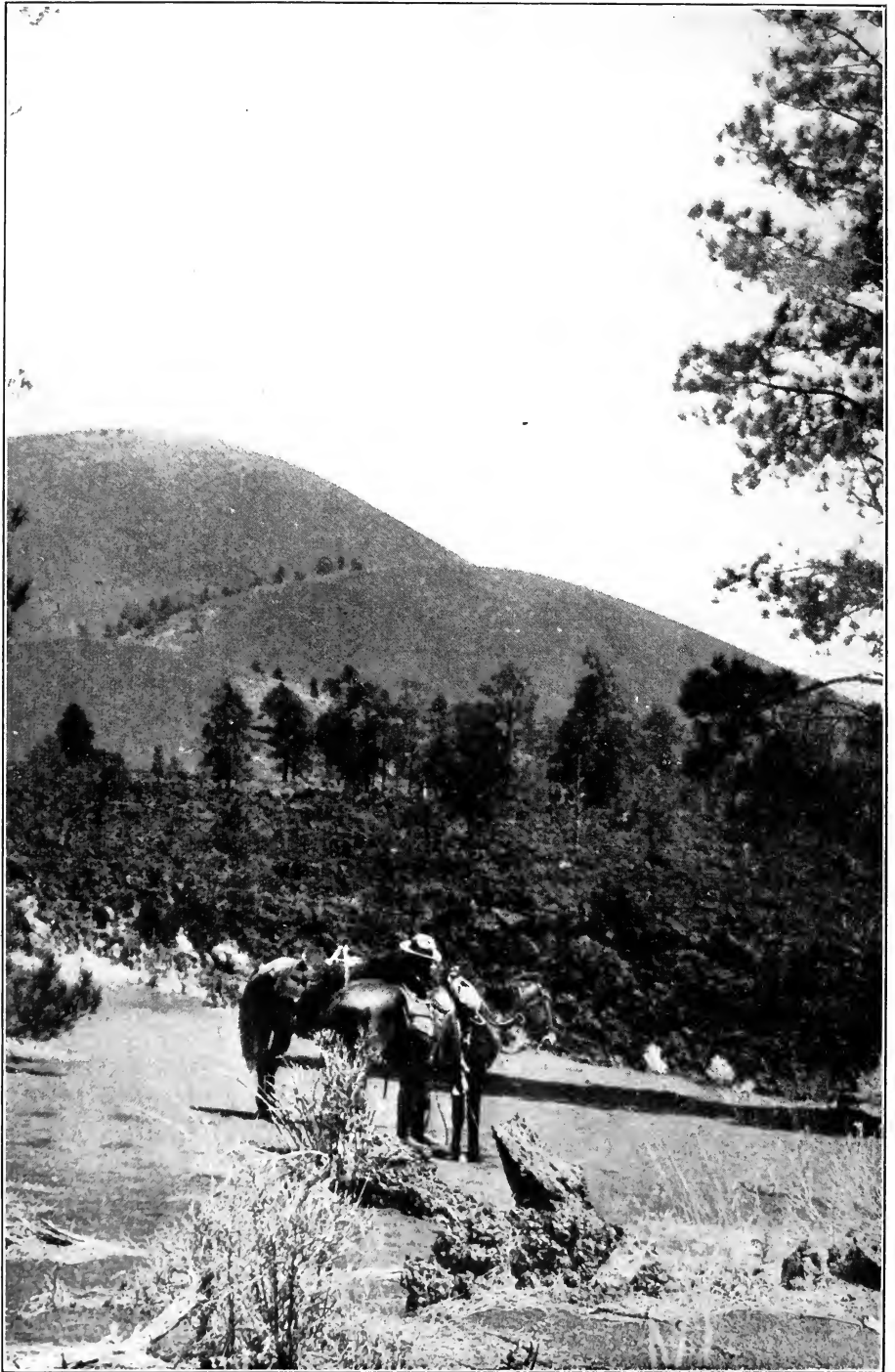
THE POLE-VAULTER

*Balancing 'twixt earth and sky
Unto you an instant's given
Shared with birds that soar and fly
In and from the vaulting heaven.*

*With a grace deliberate
That firm wand in hand retain you;
As a ladder starward set,
Yet a bond on earth to chain you.*

*Then: an agile twist and weave
Onward, upward, and you hover
Hawklike, as the rod you leave
Instantly, and down—you're over!*

—From "The Athlete's Garland."
(Anonymous)



AT THE LAVA BEDS. NEAR THE EDGE OF THE PINES

Illustration for "The Road to Betatakin"

OUTING

JULY
1914



VOL. LXIV

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THE ROAD TO BETATAKIN

By JOHN OSKISON

PHOTOGRAPHS BY THE AUTHOR AND BY CHARLES A. McLEAN

I ON THE WAY

THIS is a tale of hardship with the suffering left out. That's the kind we all like—either to experience or to read about. Mr. Oskison and his two companions had trouble enough, but they were never in great danger of starvation, nor were they seriously threatened by storm or cold. And yet it's a story of adventure—adventure over new trails into a land new to them yet older than history to the people who first set the monuments of a crude civilization there. Look on the map and you will find it in northern Arizona—which is a mere detail. The spirit is of the old adventure, the desire to “go—look—see,” that has characterized explorers, large and small, from the beginning of time.

SOME day I may meet Dr. Fewkes, author of Bulletin 50 of the Bureau of American Ethnology; and, if I do, I shall say to him:

“Sir, I now thank you for the vagueness of your directions for getting to the Arizona cliff-dweller ruins at Marsh Pass. If I had happened to meet you about noon of September 16, 1913, however, I should have greeted you differently!”

I took Bulletin 50 from New York, and when I joined Martin in Chicago, on September 5, I exhibited it proudly.

“Here's a miracle!” I said—“a scien-

tific investigator who tells how to get to the ruins, as well as what they look like.” And while Martin gazed out of his office window across the gray, restless lake, I began to read:

“Three routes to the Navaho National Monument have been used by visitors, namely: (1) That from Bluff, Utah, by way of Oljato or Moonwater Canyon; (2) that from Gallup, New Mexico, via Chin Lee Valley; and (3) that from Flagstaff, via Tuba and the Moenkapi wash. . . .

“The writer outfitted at Flagstaff, Arizona, and, following the ‘Tuba road,’ forded the Little Colorado at Tanners



ACROSS THE GREAT SAND DUNES
NORTH OF TUBA CITY

Crossing, and continued on to Tuba, a Navaho Indian agency situated near the Moenkapi wash, where there is a trading place at which provisions can be had. The road from Flagstaff to Tuba is well traveled——” Martin interrupted:

“You’ve read all that. How far is it, what kind of country does the road go through, and how long will it take us to go in there and get back?”

Martin is a busy man and had to be back in Chicago on the afternoon of September 25.

“Why, that ought to be easy,” I said, relying upon the printed words of the Government man. “We’ll go in to the Grand Canyon for two days, come back to Flagstaff on the night of the tenth, allow one day to get an outfit together, and pull out for Marsh Pass, 170 miles to the north, early on the morning of the twelfth. This book says it’s five sleeps to Marsh Pass. You see, that’ll take us to Marsh Pass for night camp on the fifteenth. Then if we start back on the morning of the eighteenth you can get Number 6 out of Flagstaff after supper on the twenty-second, and back you’ll be in plenty of time.”

“Desert country?” asked Martin.

“All kinds,” I said. “Dr. Fewkes had evidently recovered from his enthusiasm for scenery when he wrote this report; but by reading it thoroughly I’ve discovered that we shall have a wonderful pine forest to go through, then a long slope of cedar-covered country, a stretch of the painted desert, a lake called red and one

which spreads out over a grassy expanse at the mouth of a canyon, more cedars, and at last a climb to Marsh Pass, which I take to be in the mountains. Let me read you one sentence I found hidden in a page of talk about the peculiar culture of the Hopi clans:

“In previous years the writer had often looked with longing eyes to the mountains that formed the Hopi horizon on the north, where these mysterious homes of the Snake and Flue clans were said to be situated, but had never been able to explore them.”

“All right,” Martin said. “Any mountains which stir the imagination of old Dry-as-dust ought to do for us. It’s all camping out, I suppose?”

“I think,” I added, “that if we get a buckboard, a driver, and two saddle-horses we’ll be sure of getting through on time, and I’m crazy for some real horseback riding.”

“Sure, Joe Miller knows all that country between here and Tooby City; he’s rode it fer the Babbits; sure, it’s a good road into Marsh Pass—only when you git up there you want to watch out fer them Navahos! They have a way of running off your stock into a canyon somewher an’ holding it till ye pay ‘em fer bringin’ it back.”

So said “Pop,” at the blackened livery barn down on the cross street to the right as you go north from the Flagstaff sta-



MARTIN AND I RODE HORSEBACK—
LAVA FIELDS ARE BEHIND ME IN
THIS PICTURE

tion. I asked "Pop" if he'd ever been to Marsh Pass.

"No," he confessed, "I ain't never been in any further than Tooby City." Did he know anybody in Flagstaff who had been to Marsh Pass? "No, but ye git to Tooby City an' anybody can tell ye how to git on to the Pass from there. Joe, he knows all that country." Martin sat his flea-bitten roan in silence, while Joe and "Pop" loaded the last of the bed-rolls into the back end of the buckboard and lashed them fast. As we fox-trotted out of Flagstaff the just-risen sun was shining into our faces, and the patterns of the great-stemmed scattering pines against the red ball in the east made us think of a Maxfield Parrish picture. With his fresh team Joe Miller hit up a fast pace on the splendid road through the pines.

A big automobile caught up to us, whizzed by, and was lost to sight in the billowing pines beyond; a Ford met us, two women with streaming veils in the tonneau turning unmistakable tourist gaze upon us; another and yet another automobile passed us, and just beyond the sawmill (which seems to be a little city in itself), we came to a sign nailed high on a big tree:

"New Road and Graded Well;
Autos Now Can Go Like Hell!"

"They sure do, anyway!" said Martin, spurring his feebly-shying roan into the road after pulling out the fifth time



A GRIM ADVERTISEMENT OF THE DESERT—THE DONKEY'S SKELETON SET UP BESIDE THE ROAD TO THE NAVAHO COUNTRY



NAVAHO TRAVELERS—A MAN AND HIS WIFE GOING TO THE TRADER'S POST AT RED LAKE

for a whizzing, hooting car. When we caught up to Joe Miller, at the end of the second hour, we learned that the automobiles were taking tourists either to the near-by cliff ruins south of Flagstaff or to the lava beds which lay 25 miles out on the Tuba road.

"Maybe it's all right," said Martin, "but this looks too civilized to me." He was pointing to long, straight lines of new wire fence criss-crossing a wide, lovely glade among the pines, and to the neat new shacks of homesteaders. Shining pools of water lay in depressions in the road, and over the San Francisco Peaks hovered a flock of rain-laden clouds.

"So far my only criticism of Arizona is that it rains too much," he added soberly. It had rained most of the day we were waiting for the assembling of our outfit in Flagstaff; it had rained while we were at the Grand Canyon; and as he spoke Martin was untying his rain-coat from the saddle. I felt sorry, but I couldn't offer any convincing defense of Arizona. I could only beg Martin to look at the marvelous wild flowers which made patches of pure color in the grass-covered glades. That was as surprising as the rain and the thunder—never have I seen wild flowers of more delicate and entrancing shades of color, more odorous, when you got close enough to catch the odor, or more vigorous. And the rain and the driving wind in the tall, long-needed yellow pines, with the sun trying to break through a bank of whirling, high-flung clouds!



THIS IS THE "WHITE MESA NATURAL BRIDGE," A TREMENDOUS ARCH RISING FROM A TANGLE OF CLIFFS AND CANYONS, VISIBLE FOR FIFTY MILES—WHITE DOT IN LOWER LEFT-HAND CORNER IS A MAN IN A WHITE SHIRT

Twenty-two miles from Flagstaff, according to Joe's figures, we came into the cedars at the further edge of the great Coconino National Forest and made noon camp. The brief rain had ceased; the sky was brilliant and cloudless.

It was our first getting-acquainted time. Joe is of the cowboy breed; he had never acted as a guide and buckboard driver before; he had put away his spurs, boots and wide hat, but the sagging, opened vest and the tiny wrinkles at the corners of his blue eyes remained to verify the stories he told us later of his years of work on the Coconino range and down on the Gila River.

Joe made some sort of feeble attempt to play the conventional guide—I believe he called out to us that he'd unsaddle and feed our horses—but neither Martin nor I would stand for it. While Martin led our two horses to a cedar and unsaddled, I went to help Joe unhitch his team and convert four grain-bags into nose-bags; then Joe distributed some of the oats from the supply under the seat of the buckboard, Martin built a fire, and I hauled off the bed-rolls which lay atop the grub-boxes.

"You fellows hungry?" asked Joe, the smile of a friend and intended benefactor breaking across his sun-burned face.

"Hungry!" cried Martin, a savage note in his voice. "It's nearly 1 o'clock, and ever since 11 I've been expecting you to stop and give us something to eat. I feel like this: If I should eat a third of all the grub we've got with us I'd be just right for a good smoke! Come on, what are we goin' to have?"

Joe was hungry and I was hungry, so we opened a can of beans, a can of tomatoes, a can of corn and a can of peaches; we sliced some bacon and mutilated a loaf of bread; we drank tea from our shiny new tin cups. Long before we saw the bottom of the stewpan in which we had cooked the conglomerate mess of beans, tomatoes and corn we were eating languidly and moving into position for an orderly attack on the can of peaches. At the very end we simply had to leave two luscious half-slices of peaches in the can, which we sent rolling under a cedar. Next Joe rolled a cigarette; Martin lighted a pipe, leaned

back against the trunk of a cedar, and stretched out his legs.

"Little stiffness, just there," said Martin, touching the inside of his knees.

"I'm untouched!" I boasted, reaching for the tobacco. Joe smiled blandly in our faces and said nothing definite except:

"Twenty-three miles further to the Half-way House, an' we got to sift!" He consulted his dollar watch, then strode forth to harness the rested team. I repacked the buckboard, and Martin resaddled—nobody washed the dishes!

Just after we started from our camping place we met a Navaho freighting outfit—a big, wide-tired wagon piled high with wooolsacks and dried sheepskins, and, snubbed close up to it, a smaller "trailer," piled not quite so high with the same merchantable wealth of the desert Indians. Pulling these two wagons were eight animals ranging in size and shape from a big burro to a tall, gaunt-flanked horse. As the train rattled and squeaked up the long, gentle slope, two Indian drivers employed themselves in energetic assaults upon the team. A third sat among the wooolsacks in front.

"Ho, Navaho!" cried Joe, pulling up, whereupon the tall fellow, halting the lead team before which he walked, came to a stand beside our buckboard. Joe gave him the makings of a cigarette, and, jerking his head back in the direction of Flagstaff, asked "You go Flag?"

"O-o-h," said the Navaho, using the gently spoken tribal word that means "yes"; he finished rolling the cigarette before he spoke again. He was one of the tall, thin, long-haired fellows; he wore no hat, but a band of dull blue was about his forehead, and his hair was done up at the back in a tightly bound flat knot which sagged below the level of his ears. About his neck was knotted an ample blue handkerchief; he wore a brown smock-like shirt outside his blue, tight-hipped overalls. His feet, splendid in size and toughness, were bare. Small, crude squares of turquoise, pierced near one edge, were tied with bits of woolen string into his ears, while about his neck hung a wonderful necklace of hollow silver beads, terminating in a finely wrought triple crescent of beaten silver



A NAVAHO MAIL CARRIER

in which small bits of turquoise were set.

"Over there—water, no?" So this Navaho could speak English! But Joe replied with the slow, careful intonations of a mother teaching her baby to say "da-da":

"Plenty water all along—mucho rain, sabe?" The Navaho nodded. Joe explained to us:

"He wants to know if he has to go round by Indian Tanks to find water—we didn't come that road." The second driver of the Navaho outfit, a shy youth who leaned against the shoulder of one of the mules flicking the short leather lash of his whip, spoke to the big Indian.

"Plenty good road?" the tall fellow asked.

"Ah-h bueno, bueno!" assured Joe (as Joe said it, the Spanish word became "wāno!"). After another minute of contemplation the Navaho went back to his team, picked up the whip he had dropped, and began silently to flog the pulling stock into action. We rode on over Deadman's Flat, through the sprawling, orchard-like cedars, and out upon the tongue of a grass-covered promontory.

At our right the lava beds, black and fantastically serrated, rose to some small peaks, while to the left dropped a plain which stretched clear to the canyon of the Colorado, fifty miles. Ahead of us, for seventy miles, rolled the desert, dipping to the great depression through which the Little Colorado River runs.

In the black-bound book by Dr. Fewkes, that stretch of road from Indian Tanks to the Half-way House is called a semi-arid desert, "where wood and water are hard to find." Presently, when we were two miles or more from the cedars, Martin recalled that description.

"Why didn't we load some wood into the buckboard before we left the timber!"

"Gee, I'd hate to think we were provided with everything!" I protested. "Anyway, I'll bet Joe knows how to take care of himself in this country. . . . Wonder what he's pointing to?" Four hundred yards ahead of us Joe was thrusting his left arm over the side of the buckboard and holding in his plunging horses. We spurred ahead, but Joe did not stop.

Close beside the road, in a clump of sparse, waving grass, knelt a gruesome, cynical advertisement of the desert. It was the hide-clothed, dried-up skeleton of a burro; its front legs were doubled un-

der, its rump was heaved high as if making the effort to rise; its jaws were open, and some Indian whose sense of humor ran to the ironical had stuffed a liberal handful of grass between the teeth.

"Look at it!" cried Martin. "That—that thing is one of the perfect symbols. I've read lots about the desert, and talked a lot with desert men, but I never before got just this impression, and its placing is perfect!" He looked back toward the green freshness of the cedars, then pointed forward to where Joe's team was disappearing over the edge of the shimmering mesa-tongue.

The day rolled on, and we with it. For the last hour and a half before we came to the Half-way House Martin and I rode in grim silence. I assumed that he was suffering as terribly as I, and therefore refrained from asking him what I wanted to ask—whether he, too, was tired in every fiber, racked like a child who has come down with diphtheria, maddened by the endless jog-jog of the ponies, furious at the vision of Joe Miller lolling in the buckboard seat whistling his team forward.

The sun had sunk below the top of the long mesa running away to a promontory which Joe Miller told us was Coconino Point when we topped a slight rise to see, two miles ahead, a blank-walled stone house, with a corrugated iron roof. Joe, reaching it, turned out of the road and stopped his team close to a covered buggy to which a pair of tiny black Indian ponies was hitched. It was the Half-way House, built by the Indian Office as a shelter for the Government people who travel the ninety-mile road between Flagstaff and Tuba.

We forced aching and stiffened muscles to the task of unsaddling and unharnessing; Joe slipped the feed-bags

over the ears of our horses, as I tumbled the bed-rolls to the ground and yanked out the grub-boxes with a feeling that it would probably be the last time in this world I should want food. There was a completeness of desolation about this Half-way House and its desert and rock surroundings that seemed to make even the symbol of the skeleton mule inadequate.

By now we had passed out of the region of casual pools of rain-water, and from this time forward the thought of where we should find the next water was never absent from our minds. Close beside the Half-way House was a stinking, nearly dry pond, but Joe told us



THE TWO YOUNG TRADERS WHO KEPT THE STORE
AT RED LAKE

that good clean water lay at the bottom of the deep gash in the earth a hundred yards away. So, as the last daylight was fading, we scrambled down to a lovely and mysterious pool in the rocks, leading our sliding ponies; it was dark as we climbed up in the face of the stars.

Our fire we built of a tiny handful of splinters and charred stick-ends, but later Joe made short, rather unsuccessful excursions into the encroaching desert in search of dead sticks of sage brush. A



A NAVAHO HERDSMAN

high wind fanned the flame into a waving banner of pure color—a fire of quick flame and a little heat, as we discovered while waiting with a desperate patience for the coffee water (taken from a keg in the buckboard) to boil. As we were pouring this finally boiling water into our cups on a prepared coffee we had fortunately been advised to take, the driver of the buggy came suddenly upon us.

He was a young Navaho, taller than the driver we had met, with a general effect of being dressed in black velveteen. Coming swiftly toward our fire, he stood silent within two feet of me. By this time the smell of something Martin and Joe were cooking had made me wolfish, and it was all I could do to restrain myself from springing upon the intruding Navaho to push him away from our camp. I asked him instead to join us; he smiled an assent, and, later, after un-

harnessing his team and feeding it, he produced from the bottom of his buggy a round, delicious casaba melon, which he offered us with another brilliant smile of friendliness. I was then completely reconciled to having him as the companion of our first desert night.

"Let's take a look at our quarters," suggested Martin, as Joe stolidly tackled the job of cleaning our dishes with a frying-pan full of hot water. It was dark by now, though as we went round to the door, facing the east, we could see that a moon would soon be up. In the pit blackness of the stone house we struck matches and wondered why we hadn't remembered candles.

Dirt floor, a rough stone fireplace, and a window closed with a heavy wooder shutter—that was absolutely all to be seen, except for a doorway leading into the other room, closed by a heavy steel grating. We explored for but a moment, and as we retreated into the starlight Martin shook the steel grating and called out to Joe:

"One room of this shack seems to be a prison—what's the idea?"

"They do use it for that sometimes," said Joe. "Whenever any of them Navahos goes wild and have to be arrested and brought out under guard they keep 'em here over night. They's bars on the window in the other end of the house. You fellows goin' to sleep in there?"

"Not for a million dollars—ugh!" Martin began to figure out the exact spot outside the walls of the stone house where we would be longest shielded from the light of the now-rising full moon. There he spread the tarpaulin, oblivious to the circumstance that a mosaic of small stones made the foundation of his bed.

"H-a-a-a-a-h!" Martin's sigh as he stretched himself under the blankets was as good to hear, and nearly as long drawn out, as the gruntings of a tired mule that rolls over seven times in the dust of the barnyard.

"Same here!" I grunted, but presently I began to twist my body just a bit to get away from a sharp-cornered little rock that was boring a hole between my shoulder-blades. A little turn would do, I thought; of course I had expected that

the ground would be hard with only a tarpaulin, a rubber poncho and one pair of double blankets between me and it. But that durned stone jabbed me wherever I moved! I sat up to run my hand under the tarpaulin, capture the pebble, and heave it across the road. Now I'd be all right!

I was—for five minutes; then other stones began to rise up through the blankets and search out my bony structure. For the sake of historical accuracy, I will add that just when I had decided all was serene for sleeping, the song of an undoubted mosquito greeted my ears. I rose up cursing.

"So, you hear 'em, too, do you?" asked Martin in a tired voice. "Mosquitoes at a dry camp in the desert, in a high wind, with the temperature close to freezing—this is the last touch!" And it *was* growing cold! Martin and I waited the attack of the humming mosquitoes, but it never came; at length we realized that they were harmless. We groaned, turned, watched the shifting shadow of the stone house, refolded the coats we had arranged as pillows, made low-pitched conversation on the probability of being able to ride to-morrow. I reared up again to see if Joe and the Navaho were able to sleep. Yes; there they lay, unstimulating heaps, utterly dead to the world, as still as though the moon had stricken them into eternal oblivion.

Presently a faint, far-away humming, a strangely familiar vibration, began beating in my ears. I shifted to the



JOE MILLER AND HIS OUTFIT

other side, and yet the sound did not cease. I felt it growing more distinct, yet by degrees so slight that it might be some subtlety of a waking dream. Long and long I lay quiet and listened, and at last Martin spoke:

"What's that noise?"

"Yes—what?" I said, and once more sat up. My eyes searched the vast moonlit distances—the sound might be coming from any one of half a dozen points of the compass. Grayness and silence—except for that throbbing murmur. Then, suddenly, a faint, far gleam of light sprang into view on the desert.

"Say, what's that light?" I pointed eagerly. Martin sat up, looked, and answered in a matter-of-fact tone:

"Automobile—we might have recognized that sound; but she's a long way off yet." The car was really more than twenty-five miles away then—when we first caught the sound of its running it must have been almost thirty miles from us.

Well, we had another hour of wakefulness until the automobile came roaring up the grade, flooding us and the Half-way House in the glare of its headlights as it passed on toward Flagstaff. I laughed, and said to Martin:

"Remember what the Doctor says about the road from Flagstaff to Tuba—one of the best in this part of Arizona—best traveled, I suppose he meant. I hope we won't be kept awake all night by passing automobiles! I'll dream we're in New York."

"Well, it's sure a strange country!" confessed Martin.

But that was the last motor we saw on the trip!



NOON CAMP HALF WAY BETWEEN
THE LITTLE COLORADO RIVER AND
TUBA CITY

Before either Martin or I woke at sunrise Joe was out of sight on the trail of our hobbled horses. Those intelligent beasts must have remembered the good grazing they passed on the road from Flagstaff, for Joe had to walk three miles before he caught up to them, and by the time he came back Martin and I

stopped to ask every question we could think of, merely to hear the slow, careful reply. He was a well-dressed, clean-limbed man, looking straight at us when he talked.

"Is that the kind they call 'Greasers' out here?" asked Martin as we rode up to Joe Miller.



HERE IS TYPICAL DESERT; THE SAN FRANCISCO PEAKS IN THE BACKGROUND ARE A LONG DAY'S DRIVE AWAY

had some sort of a breakfast ready. Joe arrived swearing that he would never let the blank, blank-blanks loose again. But when he saw us two tenderfeet hobbling gamely about the camp he lost his ill-humor, and over the coffee told us that he'd met a picturesque Mexican who had camped half a mile away on the skyline toward the west (with his saddle-horse and two burros), and was now heading for Tuba, probably on his way to some sheep camp in Utah.

Later we had the opportunity to observe the Mexican's outfit as we passed him on the long hill just beyond the Half-way House. It was a good outfit—an excellent saddle-horse, a modern saddle; the burros were strong and in good condition; the grub-boxes slung from one of the pack-saddles looked like polished rosewood bound with brass. A plain, big six-gun was hanging from the Mexican's belt, and in a scabbard at his saddle-horn was thrust a modern, high-powered rifle. As we came up to him Martin spoke. The answer came in English of an academic correctness, and in a voice of velvet smoothness. Martin and I

"Uh-huh," said Joe, and then explained: "They's all kinds of Mexicans, o' course—people call 'em all 'Greasers,' same as you call all the Navahos an' Yumas an' Apaches an' Utes an' Havasupais Indians. That was a mighty high-grade feller fer a Mexican."

As the morning wore on we dropped behind Joe, letting our horses walk, while we shifted in our saddles, hanging first one and then the other of our bruised and stiffened legs over the saddle-horn in the hope of getting some relief from the racking pain of riding. So far we fell behind that we had to gallop half a mile and trot fast for another mile before we picked up the team; and this faster riding showed us—well—I imagine that if Charley Brickley of Harvard went into the annual football game against Yale without any training, and next day had to play the whole afternoon against Princeton, he would be able to sympathize intelligently with Martin and me as we hit that forty miles of rainbow desert road between the Half-way House and the peach orchard, in which we camped at Tuba City. None of you

casual readers can understand just how we felt.

To you I will merely suggest that if you want to understand, get some strong friend to beat you all over for an hour or two with a heavy wooden maul (omitting no part of your anatomy), then spend next day rehearsing with a troupe of circus acrobats. If you'll do that, I may count upon you to grasp the fact that Martin and I were glad to get down from our mounts at noon camp, miles beyond the Little Colorado, on the edge of a water-hole paved with three feet of red mud. Near the opposite edge of this rainy weather lake in the sand-hills (to which we had been pointed by a cairn of stones built by the Navahos on a hill beside the road) floated a flock of silent ducks. During the hour we stayed there those ducks scarcely stirred.

Late in the afternoon we dropped down from the road which runs alongside reddish, crumbling gargoyle cliffs and crossed the Moenkapi wash on a

"Or green and peaceful as a vale in Arcady!" I pointed forward to the fields of the Hopis, whose last outpost in this Western Navaho land is the village settlement called Moenkapi (the place of running water!).

"Sure," said Martin. "As I get the story from the history and ethnology sharks, these very fields may be older than the briar-covered and abandoned farms of Cape Cod."

Our road ran between the fields and the foot of a shouldering wall of red rock in the fantastically eroded crevices of which were erected the brush summer shelters of the families who tilled the fields. Children swarmed over the rocks, companions of the goats and the dogs; old women and young sat in highly colored groups, sheer curiosity lighting their faces as we rode past; in the fields men worked deliberately at the corn-stalks, hilled so high that the ears all but dragged on the ground; melons of all shapes, sizes and colors lay between the



UNDER THE SAN FRANCISCO PEAKS

stout wooden bridge. A great volume of silt-laden water rushed between the perpendicular banks of the wash, and close to the bridge was the stranded trunk of a huge cottonwood.

"This country is violent when it gets going!" said Martin, pointing to the drifted tree-trunk.

widely spaced hills of corn; here and there the more vivid green of an alfalfa patch showed, and down by the main wash, or beside the ancient ditches which bear the rich, silt-laden water to the fields between rounded banks hidden by grass, rose beautiful old cottonwoods. There were orchards, too, their fruits

ripening to a tempting redness. At frames stretched either out of doors or just inside the wide entrances of the brush shelters, women were working slowly at the making of blankets; scarlet strings of peppers hung about on poles and over fences, and yellow strips of melon (perhaps they were squash) were drying beside piles of multi-colored corn ears.

Color—vivid and appealing—was everywhere, the more marvelous for its contrast with the pale glory of the desert. Up on the mesa top, where the permanent stone and adobe houses of the Hopis are set, there was more color and more movement. Great piles of golden corn were spread on the roofs to dry; an old woman was bathing a very active and angry child with water dipped from a huge earthenware olla; another five-year-old, stark naked, played with some companions in the empty bed of a farm-wagon (he resolutely turned a shy back on me when I wanted to get his picture!).

"This is a piece of the Orient, certainly!" said Martin, as he turned the head of his flea-bitten roan toward the edge of the mesa and looked out across the fields of the Hopis, across the broken point of the long mesa beyond the wash, and on across the Little Colorado clear to Coconino Point and the Grand Canyon. He liked it!

"Unchanging, silent, vast, smeared with color! And these people! They aren't Indians, but Orientals." Martin knew what impression he got from this sudden, amazing Moenkapi—so did I; but neither he nor I could put it into words. We turned our horses' heads at last toward the grove of tall poplars in the distance which, Joe assured us, hid Tuba City.

Tuba City is a monument to the enterprise and persistence of the pioneer Mormons. More than thirty years ago they came upon the spring in the hills and said, "Here we will stop and build a settlement!" So they dug out the big spring, led ditches away from it, cut fields out of the rank sagebrush, and planted two long, unbelievable rows of poplar trees. Years later the Government came along and bought fields,

ditches and buildings for an Indian boarding-school.

A trader (a quiet, wise and hospitable man whose hair is turning gray) has a new store at one end of the long alley of poplars. It is an octagonal affair of white stone, lighted by skylights in a tower roof; below, behind its heavy doors, the store is a wonderful affair of mounting shelves and counters which run around the walls, topped by heavy wire screens. Here oats for our horses cost \$4 a sack (Joe thought at that they must come to about a cent apiece, but he exaggerated), and we couldn't get any alfalfa at all. As a special favor, the farmer attached to the Government school sold us, for \$2, a bale which I could carry under my arm.

"I feel sorry fer these horses if they ain't no better grass from here on than we've had so far!" said Joe with gloom. We camped in an orchard on the school grounds (on the very spot, the school farmer assured us, where Colonel Roosevelt had pitched his camp three weeks before), and four restless cows plodded snuffing about our buckboard all night. There was rain in the night, just a sprinkle, and when daybreak came we rose up to view a freshened and glorious world. Miraculously all our stiffness had vanished. We moved about with pleasure; our breakfast was a symphony of tempting food (though I couldn't prove it merely by telling what we had to eat), and we were impatient to get away for Red Lake.

"If I was in your place, boys," said the farmer, coming upon us at breakfast, "I'd not try to get any fu'ther than Red Lake to-day. Let the horses rest another hour or two, and after breakfast you come on over into the orchard across the road and load up with peaches and apples."

I shall always remember Mr. Stanton, the farmer, as a man with a high estimate of true hospitality. In the lot where our horses had been turned was spread a liberal supply of the precious alfalfa; while the fruit he insisted upon loading into our buckboard proved to be the manna we best appreciated in the next seven days. We figured, from the talk of the men at the trader's store and



A VIEW OF "KEETSEEL," ONE OF THE RUINED CITIES THE AUTHOR VISITED, LOOKING TOWARD THE SOUTH

that of Mr. Stanton, that by starting at ten o'clock we could easily make Red Lake, twenty-five miles away, by sunset.

I hauled Dr. Fewkes's book from under the cushion of the buckboard as we turned away from Mr. Preston's store and headed for Red Lake.

"Beyond Tuba," I read, "the road is rough, running over upturned strata of rocks and extending along sandy stretches

Moenkapi wash. About noon we looked back and saw through the heat haze a monstrous black thunder-cloud coming across the desert we had passed over the day before. An hour later it hit us; at first, instead of rain, this fierce-driven storm hurled sand upon us! Sand in wonderful streamers, sand in high-tossed waves, sand in outspread, obscuring curtains blown fantastically, sand in whirl-



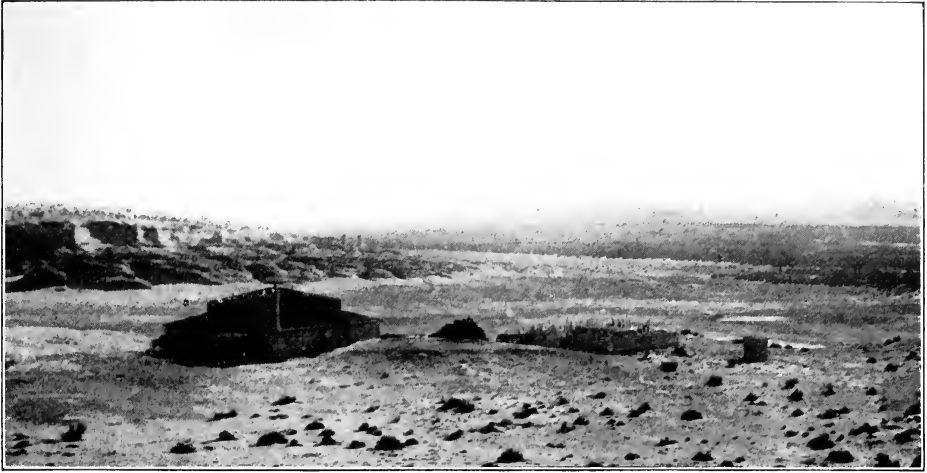
NAVAHO VISITORS AT OUR NOON CAMP

of plain and hills to Red Lake." I wish that we, too, could have been as happily unconscious of the flight of hours as to dismiss that twenty-five miles of going in so brief a passage! But, oh, the weariness of that road! Straight out of the Sabbath calm of the fat, green oasis of Tuba and the lush fields of Moenkapi we plunged, at ten o'clock of a blistering morning, into heavy sand and sparse sagebrush. The sand dragged at the wheels of the buckboard, the horses crawled; the heat became a shivery, brutal thing. Martin and I tied handkerchiefs over our faces to protect our noses and eyelids from the burning reflection of the sun on the reddish sand, but Joe drove on unnoticing.

Mile after mile this road mounted gradually to the backbone of a mesa lying parallel with the upper reaches of the

ing spirals, and sand in dull, level-driven streams whipped, stung and caressed us, sifted into our hair and through our clothes. It was a roaring, stunning sort of assault, but luckily it came upon us from behind. We plodded on, hunched against it under our ponchos, in default of anything better to do. Then came the torrent downpour.

An hour later we scrambled down over a mass of that upturned rock the doctor spoke about in his book to a narrow valley covered with greasewood. Here in new fallen pools was water for the horses, and we made two-o'clock camp before a ruined stone structure that, years ago, must have been the home of some adventurous white man, for no Navaho ever built so solidly or took so much care in fashioning a fireplace. Perhaps the southward-faring Mormons had



THE TRADER'S POST AT RED LAKE

tried to make this end of the greasewood valley flourish — a cottonwood or two hinted this. Joe came back from watering his team at the rain-pools to say that the stream in the flood-full arroyo was too alkaline for him even to swim in.

"Is there enough water for that?" asked Martin eagerly.

"They's enough," said Joe, "but *I* sure wouldn't hop into that alkali water!"

"Why not?" Martin and I both called as we struck across the sand toward the stream. The sun was at full force again!

"Ye can't tell what it might do to the skin," warned Joe; "maybe it'll burn right through!" but we only laughed at him.

Down-stream a little way we came upon one of the loveliest pools I ever saw. It had been ground out of the soft rock to a depth of four and a half feet, and in the center was a perfect rock table, its top rising just to the surface of the pool. On both sides of the pool rose fifteen-foot walls of soft rock, closer together at the top than at the pool's edge.



NOON CAMP ON THE LITTLE COLORADO AT THE OLD TANNERS' CROSSING

A tiny waterfall let the flow from the wash into the pool.

In that pool it was cool—we forgot our weariness there. Saddle soreness and the excruciating tenderness of our sun-blistered and sand-abraded faces were both forgotten. We stayed so long in the pool, and took so long a time afterwards to eat the good meal we cooked that there wasn't more than an hour of sunlight left when we started on. We knew that it must be ten miles or more to Red Lake, and when we struck the road through the greasewood we found that the rain had turned it into a nightmare of a road, inches deep with adobe mud, than which nothing in the world is more sticky or slippery.

As we splashed and slid on darkness fell; then the big full moon came up, turning the rain-pools by the road into patches of quiet silver. Back and forth across the wide flat, seeking the driest going, the vague road to Red Lake meandered; now we rode for a time under the shadow of tall cliffs, then we scraped our stirrups against a moonlighted palisade showing fantastic carvings and unexpected recesses where branch arroyos broke in from the desert above.

Occasionally the road became firm. Under the brilliant moonlight we could see that the buckboard made only a faint track; at those times we heard Joe's faint and cheerful whistling far ahead of us. We had no incentive to hurry, for we knew that at the next stretch of sticky going we should come up to the buckboard again; while our horses were fagged to the point where it was sheer cruelty to urge them beyond a walk.

Martin began to whistle, let the notes of his melody die away, and rode forward with his hands piled lightly on the saddle-horn and his head lifted. I tried to fit some of the Western songs and ballads I had learned in my youth to the mood of vast silence and remoteness which came upon us. But they wouldn't fit. Think of trying to fill the silver silence with this:

"My ceiling's the sky, my floor it's the grass,
My music the lowing of herds as they pass;
My books are the brooks, my sermons the stones;
My parson's a wolf on his pulpit of bones."

or that night-herding song of Harry Stephens':

"Oh, slow up, dogies, quit your rovin' around,
You have wandered and tramped all over
the ground;

Oh, graze along, dogies, an' feed kinda slow,
An' don't forever be on the go—

Oh, move slow, dogies, move slow!"

"No," said Martin, after listening for a while, "they won't do; the cowboy sent his muse to bed at sunset. Daytime and the rattle and bang of the round-up and the dance-hall he could express, but he was afraid to talk about the stars and the moon!"

"What about this?—I've just remembered it." And I quoted:

"The window curtain of heaven is pinned
back by the stars,
And the dewdrops are kissing the roses."

"I learned that from a cow-puncher."

"I suppose they sing 'Barbara Allen,' too, don't they?" asked Martin. "Such things are like imported sweets, Oriental dates and such—you eat 'em, but you don't regard 'em as vital to your happiness. What's the realest Western song you know?"

"The Old Chisholm,' of course."

"And that's rag-time!"

No, it wouldn't do! Perhaps all that long procession of gold-hunters, Mormon missionaries, traders and cowboys who have passed across the vast moonlighted desert learned that it is not sound which expresses its spirit. Its eternal remoteness and silence, the great masses of light and shadow which meet the eye as the trail leads up and down and around the mesas, the faintly sweet breath of sun-dried vegetation cooling—who could put these into rhyme? People speak of the shrill, throat-straining yelping of the coyote as the typical night voice of the desert; to me, the coyote's challenge and answer no more fits the desert night's mood than the clanking of a steam pipe chimes with the solemnity of a cathedral interior.

Better is the deliberate, sweetly melancholy voice of the owl that lives in the rocks. Martin and I heard it when we were still two miles from Red Lake, and we listened for each repetition of the long-drawn "Whoo-hoo-hu-hoo!" with

every sense alert, riding so that there should be the least possible squeaking of saddle leather. That voice is like the soft tap of a prompter's gong heard as the curtain goes up on the first scene of a desert drama. You could shut your eyes on hearing the hoot of the rock-owl and evoke dramas to fit exactly into the mood of the night. Its voice is only a hint, like a whiff of perfume you once smelled, like the break in the voice of a friend noted but once—yet it swings wide for you those magic casements opening on the perilous seas of the sand-swept desert—and the tossing continents of memory.

But the Arizona Keats has not yet made his songs!

Red Lake is another hexagonal trader's store, a stout palisade corral, with a combination stable and hay-barn, about as big as a freight-car, built of stone—all set on the barren shoulder of a hill. Up to a height of ten feet the store is built of stone; a wooden second story has been added, and there the two young men who manage the store live in a large pleasant room, gay with Navaho rugs and pictures cut from magazines.

There are doors to this room opening straight on space, as well as broad windows; imaginary lines only mark the boundaries of kitchen, dining-room, office and bedrooms; hats and coats hang on spikes driven into the huge center

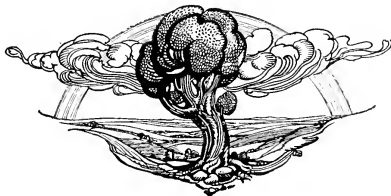
pole which runs up through the floor to the peak of the roof.

From one elevated doorway, with a friendly, excited dog beside him, one of the young men greeted us, while the other hurried out to help us unharness and turn our horses into the corral. Then he piloted us up stairs that led steeply from the ware-room piled with flour-sacks and boxes of canned goods. The two made welcome guests of us; the Navaho beef they sliced and fried, followed by hot cakes and syrup, tasted about as good as anything ever set before hungry travelers.

We had expected to unroll our tarpaulins on the wet ground. Instead, Martin and I piled Navaho blankets from the stack in the corner of the store-room, placed our own bedding on top, and went to sleep with our heads close to the open door. All night the cool breath of the desert swept in; until I lost myself in sleep, I listened for the faint hoot of the rock-owls. The store cat streaked across us unafraid, pounded up the steps with the noise of an army, fled down with the merest whisper of sound, going about its hunting through the store-room with all the practised thoroughness of a veteran. Upstairs Joe talked long and late with the two traders before occupying the bed they offered. He did not even unroll his own bedding.

(To be continued)

Next month Mr. Oskison tells how they were lost and found again and how they found the ruined city of Kitseel—older than history—last record of a vanished people





THROUGH THE SWAMPS TOWARD LAKE NATRON

IN BACK OF BEYOND

By STEWART EDWARD WHITE

PHOTOGRAPHS BY THE AUTHOR

IV

SWAMPS AND SWAMP-DWELLERS

IN previous issues Mr. White has described their hard grind through the ranges to reach the pleasant hunting ground that was promised them. They have already encountered many of the trials of travel in an unknown land, and unfriendly natives have increased the difficulties of trail finding. In the last issue they came at last into their "Pleasant Valley" on the far side of the main range and turned east toward Lake Natron, their first objective point. Now they begin to encounter swamps and have a taste of native buffalo hunting.

NEXT morning we all marched by my blazes to the bend of the river, still doubtful as to whether we could get around the cliff. There to our delight we found a monkey trail. A half-hour's work widened it so we could lead the animals around the forty feet of cliffs.

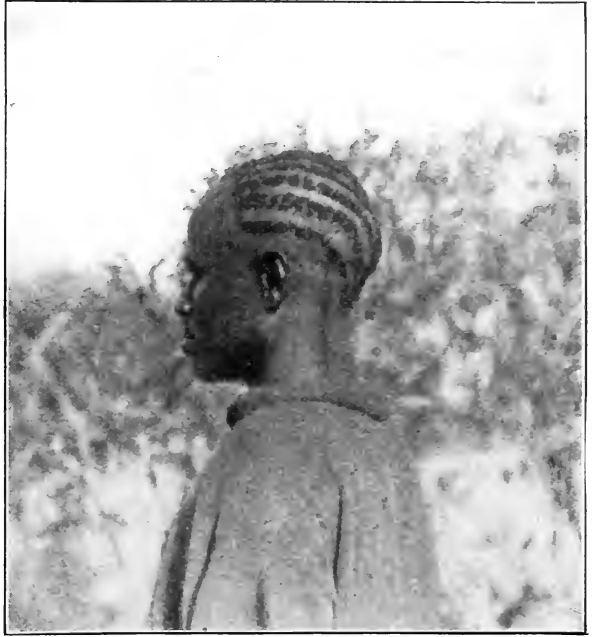
We then found ourselves in a wide canyon bordered by low and diminishing

hills and thickly grown with dense thorn scrub. The river wound from side to side, leaving a flat, first to right, then to left. This meant finding a ford every mile or so and getting donkeys through it —no small task, as they remembered their former experience. It meant that we waded across several times to find a way; that all the men had to lay down their loads and form double lines (hip-deep), between which those besotted

donkeys were to go; and that a howling mob of us gave each beast individual and protracted attention to get him into the water at all. We were alternately wet to the waist and baked by the furnace-heat. When we had had enough, which was generally by noon, we camped in the scrub.

The trouble was we did not seem to be getting anywhere. The small hills on either side looked always the same; the river did not vary. Then one morning at about ten o'clock we came upon a crude dam that backed the water up in a long, deep pool. A friendly native—the first human being this side the Ranges—appeared on the opposite bank and shouted at us.

Since he seemed to know of no crossing by which we could get over to his side, I struck off to the left, soon found a rhino trail along the side hills,



SHAVED HEAD OF PORTER

and signalled the rest to come on. Across the river I could see bananas and other signs of cultivation. I went on ahead,



WILDEBEESTE IN THE SCRUB AT THE FOOT OF THE RANGE



LARGE HERDS OF THE ORDINARY GAME

blazing a way. About two miles down I struggled through a particularly dense thicket—and came out plop! on an old beanfield and easy walking! The mountains had let go of us at last!

It certainly felt good to stride out upright and unimpeded. We went down the old beanfield, crossed the river again at a little rapids, and struck across an-

other beanfield. High up on the side of the mountain we finally made out a native village, its scattered roofs so much like the gray rocks about them that for a long time none of us distinguished them.

Here an old man met us and signalled us to follow him. He took us at right angles through the field out onto a broad path, led us past a second dam, and up to



A WASONZI HUT



THE OPEN COUNTRY. NOTE GAME ON LEFT SIDE



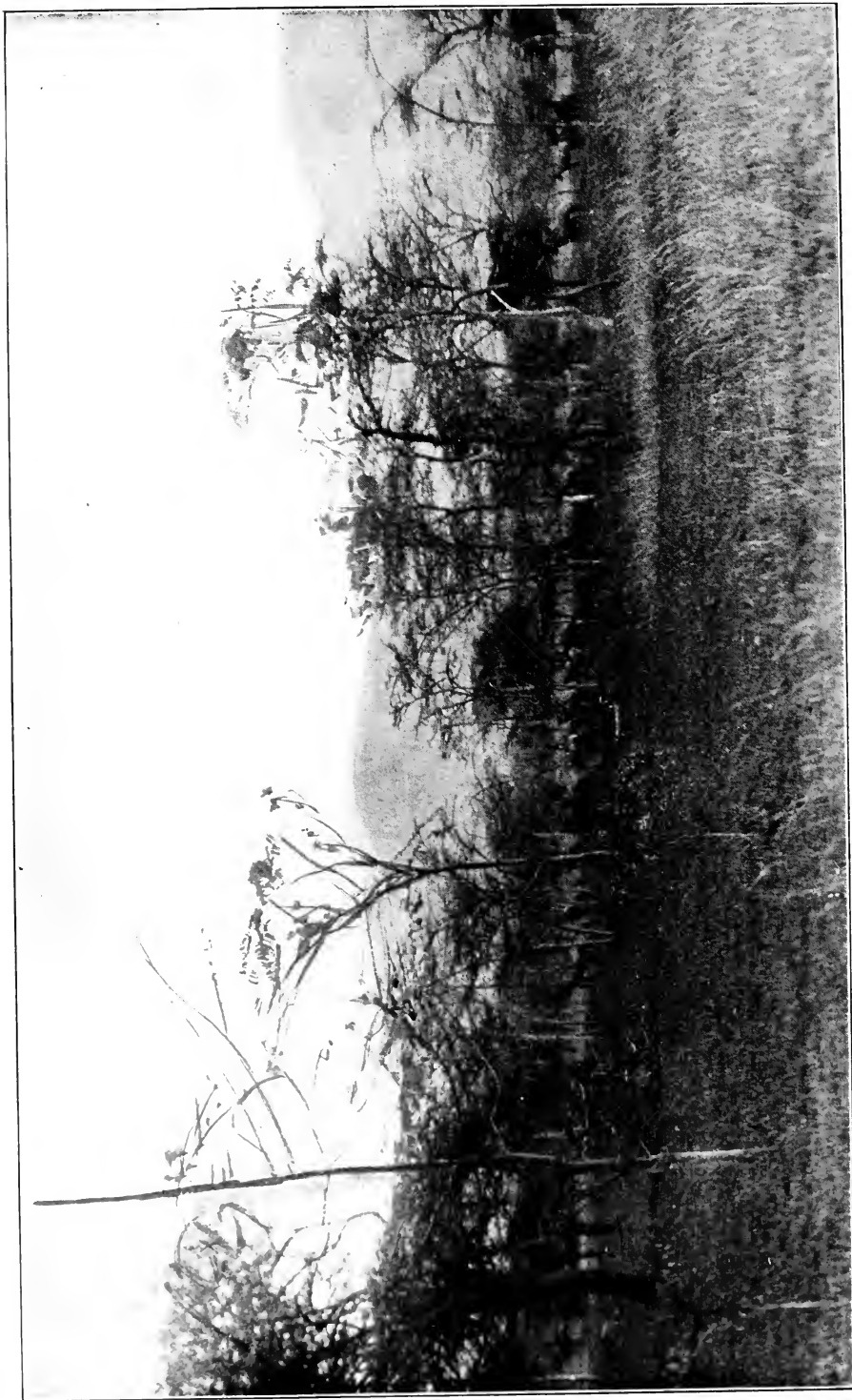
EXAMPLES OF FANCY HEAD SHAVING AMONG OUR PORTERS



RESTING ON THE BANKS OF A STREAM ABOVE LAKE NATRON



CROSSING TO THE ISLAND ABOVE NATRON—THIS WAS THE BUFFALO COUNTRY



GAME HERDS. WHERE THE WASONZI SNARES HAD NOT MADE THEM WILD

a little open patch among the scrub. Here were some trees. He seemed to think that a good place for us to camp. We agreed with him, in the first place because we were tired, and in the second because we wanted to get into communication with his people.

A half-hour's work cleared us a shady room in the thicket.

By this time a dozen savages were in camp. They resembled the Kikuyus somewhat, only they were better built, wore a negligent skin across the shoulder, and were armed exclusively with bows and arrows and short swords. Their expression was alert and intelligent, and they were most eager to be friendly and answer all our questions. Their ear ornaments were of red clay, polished, in which had been imbedded scraps of bright wire. The whole was molded around the lower side of the stretched lobe, and so could never be removed. The bows were short and powerful, the arrows broadly headed and with the poison smeared in back of the head.

They told me they approached game by feeding flocks of sheep and goats toward the quarry, accompanying the flocks on all-fours. Their dams they use for irrigation; and later we found an elaborate system of checks and ditches with wicker and earth gates. In their fields they raised rape, beans and tobacco, beside a sort of sweet potato and a vegetable somewhat like squash.

In times past they have been victims of slave-raiders from Tabora and Ikoma, and have been much attacked by the Masai: hence they build high up the mountain, whence they descend to their fields, and whither every drop of water is carried in gourds! We told them slave days were over and the Masai moved away; why did they not build now in a more convenient place? They shook their heads quite unconvinced. After all, what are ten years of peace after two hundred of war?

There is another village three days to the south, and one four hours to the west; that is the remnant of the tribe.

We engaged two to guide us for ten days to Lake Natron at an equivalent of two rupees (66 cents) each. Also we sent a present of a blanket to the chief

with a request that he call to see us. All this via M'ganga, who talks their tongue. We did a little trading with beads and snuff for vegetables.

Our guides then took us on a long hike over the hills to a long slope of grass and scattered bush, where we saw one herd of kongoni, one of zebra and a single duiker. These beasts departed the very instant they caught sight of us at three or four hundred yards and never even turned back to look.

M'ganga and two of the men signaled our arrival by coming down with fever.

Preparing for the March East

Since we had planned first to go east to Lake Natron and then to return through this village on our way to the unknown country to the west, we decided to leave here in *boma* all the donkeys, our own and Vanderweyer's (together with our surplus effects), until we came back from Natron. In charge we deputed our own donkey men and all of Vanderweyer's.

The guides were on time at 6, for a wonder, and before we had gone a mile three others had joined us. One beautiful little red savage had in our honor donned a horrible greasy old patched khaki suit eight sizes too large for him. He had been once to Moschi, he proudly explained, when we asked him where he had got so much finery. He certainly looked like a scarecrow. The other three, they told us, expected no wages, but would go along on the chance of meat.

We rode our mules for two hours, then sent them back. In all we have used said mules only about twenty-five miles. The rest of the time we have been too busy scouting, or the country has been too rough.

We marched along the base of high mountains on a plateau of long grass and thin scrub. Far to the south, over the edge of the world, we could see immense craters. They were forty or fifty miles away and glittered as though with snow, each rising by itself from the plain. At the end of ten miles we approached the edge of the escarpment, and the last

water before that plunge. As it was now late in the morning, we camped at this spot, leaving the precipitous descent until the morrow.

Leaving the men to make camp, I went out to see if it were possible to land any meat. It had been in the dark ages since either we or the men had had any, and one cannot work long, even under the equator, for ten or twelve hours a day without meat and plenty of it. All the game here was very wild. It saw you a long way off and immediately ran without waiting to stare for an instant, as does even the wildest game anywhere else. We finally hit on the reason: the Wasonzi are great on snares for small stuff, and probably every beast in the district had at one time or another had to kick itself out of one of these snares. It took a good deal of time and patience, but finally I managed to get enough for everybody.

I left a savage on guard at each carcass, hunted up camp and sent out men for the meat.

For some time we have had a very silent camp in the evenings. To-night racks are up drying meat, spits are up roasting it, pots bubble, bright little fires gleam, and a continuous chanting arises.

This happy *kalele* (noise, row, chatter), which I had not the heart to stop, and the hot night kept me awake for an hour. Suddenly I heard a scurrying outside and agonized calls for "Ali! Ali!"

"Nini," says Ali.

"Call the *bwana*; a rhinoceros is very near and coming into camp."

Get the point? Even a rhino attack was not enough to induce them to overstep etiquette and call the *bwana* themselves.

I hopped out with a Colt's. Advancing cautiously beyond the dazzle of the fire, I could make out the great black mass advancing steadily about twenty-five yards away. I fired over its head. The flash and noise turned it. Another shot sent it crashing away.

By sunrise of the following morning we were at the edge of the escarpment, and looked down 2,300 feet to the broad, lower, map-like expanse in which lay Natron. It extended farther than we could see to the south. Its upper end

was guarded by two great lava mountains with faces that ran almost sheer for over 4,000 feet, and about eight miles apart. The flats at the upper lake-end for miles and miles shimmered white with soda. A green line marked the meanderings of the N'gouramani, and the nearer flats were covered with scrub. The distance melted into illimitable plains.

At our right was a deep-riven canyon, to the edge of which our guides led us for a look. After admiring the grandeur and blue distances of this very impressive scenery we commenced the descent. It was by way of a very steep little spur jutting from the main escarpment and went almost straight down by a series of zigzags. Two rhinos across a ravine stared at us and we at them. We were both safe from each other.

Meat and Trails

It was a hard descent for men, but everybody was happy because we were carrying meat. The guides, Cuninghame, myself, and the gun-bearers pushed ahead. I have, to the great delight of everybody, introduced the practice of blazing trails, of which they knew nothing. Everybody blazes madly, even when he goes ten feet from camp after firewood. The next man will be puzzled to know where it all leads.

It was sweltering hot and the sun very strong. In the lower scrub it was fearful. We arrived at an ordinary mud-puddle in an opening at 11:00, which the Wasonzi said was the only water. Many zebra, wildebeeste and impalla, and hundreds of game and other birds were here gathered. Cuninghame and I crawled under the shade of a bush to await the safari. One sort of brown bird with a very long tail was so abundant that when they flew they roared like the wind, and the aggregate weight of them bent over a fair-sized sapling.

When the safari arrived we tackled the mud-puddle. First we dug a ditch and drained off all the foul water. Then we extended the hole. This accomplished, Mamba Sasa planted a staff in the middle tied peculiarly with wisps of grass—a sort of magic. For some time we

watched anxiously to see whether it would fill again. The water started to trickle. Reassured we pitched camp.

After a rest Cuninghame and I scouted in different directions, and saw much of the ordinary game—impalla, zebra, wildebeeste, waterbuck, and Grant's gazelle, dikdik and game birds; also an ostrich nest with two eggs. Toward evening we came out on a coarse grass savannah near the head of the Lake, and there enjoyed some marvelous mirage effects on game, on the flat, and on distant mountains. Here fed a herd of zebra. We already had our camp meat, but I killed one of these for the Wasonzi, to their huge delight. They use every scrap of a beast, even to the sinews for bow-strings, and were much chagrined that I would not shoot another before the herd got out of range. They are a cheerful, friendly lot.

This evening the little fires down the length of our tiny glade, the light reflected from the leaves, were very fine.

Having a general desire to see the other side of the flat where the N'gouramani enters the lake, we got up at daylight and marched across the soda flats at the head of the lake. The whole surface looked like a map of the moon, mountains, craters, queer knife-edge peaks, but all in a miniature of four inches high. When we stepped on them they collapsed with a loud crackling. Distances were very deceptive. An object might be a mile away or ten yards, and you could not tell what the thing might be. A herd of zebra looked like an orange grove until we came close. A rosy cloud that we thought a product of sunrise proved to be thousands and thousands of flamingoes. Later they settled near the edge of the water and turned the shore pink for miles. This is, in its way, one of the most wonderful sights I have ever seen. A white cloud proved to be snow-geese. Another was of white pelicans.

By and by we came to a papyrus marsh in the water along the edge of which were countless hordes of geese, ducks, waders, and many sorts of ibis, plover, egrets, etc. Never have I seen so many and so varied waterfowl. They were quite tame and did not take wing until

we were less than forty yards away. Over them wheeled a cloud of insect-catching birds. A great deal of game came here for salt—wildebeeste, ostrich, zebra, and many giraffe.

We wanted to get over to an island, and slopped about for an hour trying to find a ford. The river had here overflowed for a quarter of a mile, and the channel was discoverable only when one fell in. Finally we made passage a little over waist-deep, and camped on our island, four by a half mile.

The sun here was very strong and there was no shelter, so for the first time we adopted the African expedient of spreading our blankets over the tent for additional shade.

Trying for Buffalo

About 3:00 we went scouting for buffalo. Cuninghame took one side of the island, I the other. I managed to kill a good bull in the edge of the papyrus, but he fell in the river and was swept away by the strong current, so I lost him. Splashing about waist-deep in water with the high papyrus was very weird. Waterbirds were all about us, indignant hippos boomed to right and left, very much on the alert.

In the evening mosquitoes were out by millions. Some of the boys built platforms in the leafless little trees and slept aloft.

We were up and out before daybreak next morning, and saw three "buffs" on the edge of the swamp across the river. We got close by, but could not see them on account of the high reeds. We concluded that this would be a good place in a dryer season, but now that the river was in flood it was hopeless.

It was interesting to see the waterfowl, however, and our rosy cloud of flamingoes was again in the sky.

We decided to return to our waterhole and take a fresh start up-river to a place where buffalo used to be plenty. There we found a fresh lot of Wasonzi in after meat.

The march up-river proved to be a very hard one, through stifling scrub and all up-hill. It was very thorny, and we had difficulty at times in picking a way.

We thought it *hot*, but I overheard one porter saying to another, "Fine weather, just like Mombasa."

Saw a number of rhinos and baboons. Just before the day's end, when we were walking in single file between heavy thorn scrub, I saw a scurry ahead and some animal tearing down the trail. Porters were dropping loads and dodging to left and right. I had just time to leap aside before it tore by me. So close did it pass to me that it caught my rifle sling and broke it!

Memba Sasa was not so lucky. The beast hit him square in the tummy. He was knocked flying and fell heavily on his shoulder.

The beast was an ordinary bushbuck doe, frantic with terror, apparently running with both eyes shut!

A Dying Tribe

This little incident freshened us up somewhat (all but Memba Sasa) and we finished the day at a village of the N'gouramani. These dwell under the escarpment, keep goats, and occupy individual *bomas*. They resemble the Wasonzi, but are poor and few in numbers, probably the last remnants of a large tribe.

We camped thankfully under a wide tree completely overgrown by a thick dense vine so it was like an umbrella. At supper came the hunter of the village. After long parley we agreed with him; one buffalo *equals* one blanket *plus* five rupees. He was a very old and skinny man, and we soon discovered that outside the fact that he knew where the buffalo were he was beyond his usefulness. I could not help but be sorry for the poor old thing, and speculate on his latter end, and was glad he made something of us.

Our rather scattered dispositions were now as follows: Two men at water-hole living in *banda* guarding supplies; eight men on the road to the donkey *boma* to bring up potio; one man sick and three donkey-men at the village; the rest with us. Consequently we were traveling with only bare necessities.

Our old N'gouramani was promptly on hand at dawn, so we were off by sun-

rise. He led us by a rocky trail down a series of steps and over a 600-foot escarpment back to the river level. On the way we flushed hundreds of grouse. The cliffs were occupied by hordes of baboons that came out and barked at us.

We are now so used to heat that our morning temperature of 60° seems chilly!

We saw some fresh tracks of greater kudu; and in a tree a huge structure five feet high by three broad, pear-shaped, with a wide hole at the top. I thought it some sort of a hunter's blind, but Memba Sasa says it is the nest of the crested ibis.

Our camp was among thin thorn trees, but by the banks of a crystal clear stream flowing over rocks. In the afternoon our old guide led us an hour through the thorn to the border of a long wet marsh. He sneaked along the edge of this looking for buffalo. Finally he had us lie down in a thicket until near dusk. The idea was to wait until the buffalo came out to feed, but there would have to be a thousand thousand of them or else mighty good luck to bring them out at exactly our spot. On his way across a little wet arm he stooped over, without bending his knees, and drank, which shows he was a limber old gentleman after all!

We lay in the thicket for an hour. A rhino came and sniffed at us ten yards away, but decided to depart. I had sufficient amusement watching the various birds. Of course nothing happened, but on the way home, when out of earshot of the buffalo swamp, I killed an impalla buck for meat with the .465—rather like using a club on a humming bird.

One experience of native methods was enough for us, so we resolved that next day we would hunt buffalo our own way, viz., look for fresh spoor and follow that until something happened. Accordingly, we returned to the swamp, waded it, and began to cast about on the other side. At 7:30 we found tracks of a bull, and for two hours puzzled along it. The ground was hard and confused with all sorts of other tracks, new and old. The men were often at fault, and by ninety-three we had followed the brute only about a half mile. The spoor led across a small opening, through a fringe of

sparse brush, and apparently to a distant thicket. Eleven giraffe ambled across in front of us in single file. The spoor finally led to a dark ant-heap under an isolated small tree in high grass.

When thirty yards from it I saw it heave slightly and suddenly recognized it as the curve of the buffalo's back. I promptly planted a .465 where the shoulder ought to be. The beast leaped to his feet and rushed in our direction. My second barrel in the chest turned him. Cuninghame gave him both barrels in the side, and he came down within fifty yards. Another in the spine finished him. He was a good big one, 5' 2" at shoulder and 8' 11" in straight line, as he lay, from nose to rump.

We left the old savage to sit by him, sent Sanguiki to camp for men, and went on. We hunted hard for eight hours more, always on fresh spoor, stooping double in hot thickets, crawling, scratched by thorns, and generally working hard. Had lunch under a shady bush, where a whole lot of monkeys scouted us thoroughly. Then, as the day was well advanced, we returned home.

In camp we found everybody with heads freshly shaved in the most marvelous designs. Some of the most fantastic I collected for a picture. M'ganga's tent burned up. He is most heartily ashamed.

(To be continued)

Bad enough for such an accident to happen to a porter, but horrible disgrace to a head man! The potio men were back, accompanied by *nine* more Wasonzi, after meat. Our fame as providers was spreading. At least, it gave us legitimate reason for enjoying some of this splendid shooting. Everyone departed for the buffalo carcass, where they made fires and stayed all night.

The next day we spooed buffalo all day without result, except to trail them into impossible places. By noon we had reached out to the N'gouramani River, here a big, wide, rushing stream with a forest strip. It was very cool and pleasant under the trees—cool as compared to a stifling 140° in the sun outside! Thousands of game birds were everywhere on this grassy, thorn-brush flat. Jumped a giraffe at close range, and was much amused at the rear view. He held his tail stiffly upright at an affected and rakish angle to one side for about a dozen steps, then *swish!* he flopped it over to the other side for about the same length of time. Saw two leopards together, but did not get a shot. Sun very powerful.

In camp we found the third mediocre batch of bread in four days. Had the cook up on the carpet and cut his wages in half. Had no more trouble the rest of the trip.

Next month Mr. White tells of the first experiences after he turned back west and began to thread his way into the really Unknown Land. They also have the first bout with the tse-tse fly.



DUB TENNIS FOR TENNIS DUBS

By C. H. CLAUDY

ILLUSTRATED WITH DIAGRAMS

Sound Advice by a Man Who Establishes His Right to Speak to Dubs by Calling Himself One

MAGAZINE stories on "How to Play Tennis," illustrated with pictures of McLoughlin serving an ace or Wright jumping three feet in the air and killing a lob, are very interesting. But they don't tell the average tennis player anything about the game of tennis as he knows it! They don't tell him what to do to improve his own game, because the things they advise are the things which only champions can do!

There are three classes of players—the champions and near-champions, the Dubs and the beginners.

Beginners frequently become Dubs, and Dubs once in a while become champions. But the vast majority of tennis players either stay beginners all their tennis life or graduate into the Dub class, and happily knock the balls about, without improving very much from year to year, getting health, strength, wind, and recreation from the well-loved game.

Why not, then, a magazine story for the Dub? About the Dub? Written by a very Dub of Dubs, who knows how Dubs feel and play and believe? For he has peculiar ideas, has the true tennis Dub, and they don't line up with the champion's ideas a little bit. For instance, there is that overworked bromide in tennisdom, which every author of magazine tennis yarns who speaks with authority brings into play. "Play for the sake of the game, not to win," he writes.

Doubtless that is the way a champion does and the way he ought to do. But every real Dub knows that most of the time he goes out on the court with the settled intention of licking the other fel-

low off the court if he can, and if he has to throw his racket at a lob or shift it to his left hand, or take both hands to it, he is going to do it. The main thing is, get the ball back—never mind "form" and "stance" and "follow through," and all the rest of the things that a champion has and does because he is a champion—what the Dub wants to do is to keep the ball going until the other fellow nets it or outs it or loses it, and form can just go hang!

Agreed that this is all wrong—but it is the way the Dubs have. And, after all, isn't it as much fun in the end to win, even with an awkward stroke, as to lose always in the hope that *some day* one may play in perfect form? Dub tennis is a *game*, not a striving to imitate a heaven-born expert!

Nevertheless, there are certain things a Dub believes about his tennis which even a champion would not deny. Beginning at the beginning—anyone will admit that is the proper place—let us, all Dubs together, consider our service. If we are a regular, sure-enough Class A Dub, we have, most probably, a peculiar, difficult, abstruse, and altogether, championly speaking, impossible pet service of our own, in which we believe implicitly. We use this to vary our attack, serving part of the time a straight ball as hard as we dare, and the rest of the time our pet "teaser." Most of these teaser services are of the back-hand variety, or some modification of the screw service.

Now, let it be said, with the experience of many years of Dubdom, and the weight of authority of many champions, that the screw service is a dangerous thing to have around. It is like these

automatic guns with all sorts of safety catches and things—perfectly safe as long as it works, but extremely disastrous when it doesn't! The screw service, in its full flower of perfection, will worry McLoughlin himself. Anything short of that, and any Dub can murder it after half a dozen tries. The "back-hand" service, on the other hand, even if not perfected, is no more unreliable than the old "straight away." No real Dub need be told that the "back-hand" service, so-called, has the racket strike the ball while the gut is moving across the face from right to left. It gives a neat but not gaudy curve to the ball, which makes it effective in serving to the left-hand court, because, if properly placed, it throws the receiver away over to his left, makes him take it on his back hand, and, if he isn't looking for it, surprises him.

The Dub who has learned to place his service is dangerously close to the near-champion class. Oh, I know—we all admit that a service should be placed, and we all talk about doing it, and most of us have a particular and pet spot where the most of our services hit the dirt. But comparatively few Dubs really can place their service to right corner or left at will. He who can is able to dispense with all personal varieties of screws, twists, and cuts—his armory is greater than all of the tricks put together.

"Serve your second ball as hard as your first." That's another one of the championly written remarks which always arouse my Dubby ire. I won't say no real, sure-enough champion does it, because that would be a very inclusive remark. But I will say that of all the champions I have ever seen—which may be, perhaps, a dozen or so of the first twenty-five—none of them ever *did* serve his second ball like his first, consistently and continuously throughout a match! It's fine to talk about, and it must be wonderful to do or to watch, but it isn't worth the Dub's time because he would spend the rest of his life making double faults—and he makes too many as it is! Let us try for a decent, man-sized second ball, indeed, we Dubs, but unless we have championship aspirations, let us make our second serve accurate and sure, rather than wild and deadly once a set.

However, we are out on the court now, you and I, both Dubs, both keen on the game, and both mentally resolving that the other fellow is going to get beat unless he is stronger than we think he is. I serve you a ball in my best style, and feel a satisfied thrill as it cuts the line. You do a kangaroo to the right and swing at the ball as if you meant it. I smile a smile, because I have seen 'em missed before. However, this isn't my time to smile. You catch that low, bounding ball fair and your stroke is made with a mighty lift. It looks as if it was going to clear the back-stop, but it doesn't—it drops about a foot inside, and it is my return which clears your back-stop.

The Real Difference

The pity of it is you can't do it all the time! That's the difference between us and the champion fellow on the next court. He can go after his drive and nine times out of ten it will sizzle in, and make the other fellow do some hustling. You and I and all good Dubs believe mightily in "going after our drive," but we don't get it in more than three in five, and are rather cocky and chesty about that, if you please.

Here we are dreadfully inconsistent. We go out to beat the other fellow, and beat him any way we can. Yet we will go after that drive, even when we know that the chances are against us. For we know, you and I, and all the rest of the Dubs, that with the possible exception of the smash of a lob, there is no stroke on the court which gives its maker quite so much pleasure as the forehand Lawford drive, made with a full, free sweep, every muscle in the swing, and hope and fear for its destiny hanging in the balance as it clears the net!

But we overdo it. If we pay close and analytical attention to a championship match, in which either or both players use the Lawford, we will see that they don't play it with all their strength unless they have to. Here is half the secret of many successful efforts. If the other fellow is fifteen feet offside and you have the whole court to place in, what's the use of beating the cover off the ball?

Takes strength, risks a net or an out, and for what? A spectacular play.

We do love these spectacular things, we Dubs. There is that back-hand Lawford drive, for instance. Here is a stroke you can't play easy—don't ask me why, for I don't know—but you can't do it. You make it with a sort of pivot-blow effect, bringing the racket against, then over the ball. And it is a regular peach of a shot when it goes in. But—when does it? About once in seventeen Dub tries! Like the screw service, it is a fine thing to have around if you own it. If you are just on speaking acquaintance with it, however, it's a fine stroke for the Dub to let alone!

"Play your strokes all straight and hard—let cuts alone."

So sayeth the tennis wise man, and the obedient Dub can hardly find room to cavil at the saying. But there must be made a clean-cut distinction between those "cut strokes" which are made of malice aforethought, with the deliberate intention of "fooling" the other fellow by a crooked bounce, and those strokes, forehand or backhand, which are "chops" or "cut" because that is the, to you and me, natural way to hit. Personally, I can control a backhand stroke much better when the racket doesn't strike the ball fair and square, but does hit it enough on the slant to make the ball have a certain amount of "draw" or "English" to it. A forehand "chop" stroke is a deadly weapon against the free driver, because the blame thing doesn't bounce. But to the fellow who can play a Lawford underhand as well as side wheel, the low, bounding chop stroke is meat and drink!

One of the biggest points of difference between the *real* player and the Dub is the number of "flub shots" the latter makes. Why do we do it, you and I? Why do we sometimes have a racket with a wooden edge three inches thick and with gut the size of a teaspoon? Why does the throat of my racket sometimes crawl up to the rim? Why do you sometimes swing with a terrible swing, and so easily and so gracefully miss the ball entirely?

I'll tell you. No, it isn't because we are Dubs. We are Dubs because we

don't keep our eyes on the ball long enough, and because we haven't that accuracy of judgment necessary to hit the place where the ball is going to be, when the ball in the meantime has made up its mind to go somewhere else!

That is a complicated sentence, but it has meat in it if you will only dig. Every Dub who stops to think knows that no one hits a tennis ball while looking at it. We watch the ball as it comes towards us, we swing our racket back, and mentally plan where gut and ball are to meet. Then we look to the place we hope the ball is going to go. The champion reduces this interval of time to the minimum and increases his judgment of the place the ball is to be when hit, to the maximum of accuracy. His "timing" is so perfect that he almost invariably hits the ball in the center of the gut. You and I, lacking this accuracy, hit the ball on the wood, on the throat, or miss it altogether and talk disgustedly about there being a "hole in my racket." The only remedy is practice, plus a slowing up of speed—for speed and accuracy are seldom born together and have to be wedded with long experience.

Dub vs. Beginner

The real sure-enough Dub doesn't use "teasing" cuts or love taps. He is too anxious to hit the ball. But your beginner, before he graduates into a real Dub—whether that process takes him six months or six years is not material—frequently invents the "cut" shot all over again, and tries to "fool" his opponent by imparting a strange twist to his return. It is useless, as all genuine Dubs know, because one can't get a teasing twist and any speed together, except in an overhead shot, and generally those are played for place or speed rather than "fooling."

As for the "love tapper," he isn't really even in the beginners' class, and you and I and all good Dubs abominate him as we do the fellow who foot-faults every other serve. Truly, if there is any sport in tennis for the Dub, it is in trying to do something he hasn't mastered—the "love tapper" but tries to get the ball back over the net, careless and unques-

tioning as to what is going to happen to it next! But why waste space? We are Dubs, you and I, and while we may not break a frame every day, we do hit them up fairly hard, even if we do punch holes in the back-stop occasionally!

Almost relegated to the same category as the "love tapper" is the "lobster." The "lobster" is he who lobs in season and out. Of course, it's no use lobbing against a real, sure-enough, honest-to-goodness, dyed-in-the-wool player. Chaps like the Californian, or Williams, or Wright, or that lot, merely wander a few steps backward, leap eleven feet in the air, and sweep around in the atmosphere with a racket as big as a fish-net. There is a white flash, which is the ball, and a wild scramble, which is you or I, and it's all over.

But when Dub meets Dub, the lob has its uses. To be sure, even a Dub gets his racket on most lobs. But a real Dub can't smash from the base line, and so, in the lob, the other fellow finds a matter of gaining time to recover himself. Moreover, shame though it be to confess it, if you are an honest Dub you will agree with me that it is confoundedly tiresome to run up to the net and have the other chap put 'em over your head so you have to run back all the time! But, when so tired of running back, you try the real play, what a satisfaction when, you, too, make the aerial leap, the wild swing in the air, and catch that lofty ball on the end of the gut and just naturally slam it at the other fellow so he can't see it until it's all over! Even a Dub does it sometimes, and your simon-pure Dub never lets a chance go by for trying it. For hope springs eternal in the Dubbish, even as in the human, breast, and if this lob is sent sailing across the back-stop when you meant it to hit the base line, why, there are always other lobs a-coming!

The tennis beginner never volleys the ball. If you volley the ball at him he looks at you reproachfully, as if you were taking an unfair advantage. The champion volleys it every chance he gets. The Dub volleys when he has to—if he is a net player he looks for chances. But a Dub volley is all too often a thing to weep about rather than applaud.

Let us theorize a minute about this volley matter. What's the use of a volley, anyway? Why not stay back of the base line and hit everything on the bounce?

The reason is the matter of *time*. Time is a very important element in any tennis rally. To procure and use as much time for your own strokes as possible, to give your opponent the least possible amount of time to plan and execute his—that is half of the game.

Hence the net player and the volley—for the ball cut off in mid-air and shot back again quickly gives the other player less time to plan what he is going to do next, and less time in which to do it.

Play the Shots

If, then, the volley be soft and easy, gentle and a sort of dropping curve, it is, as far as its effect is concerned, no better than a ground stroke, if as good. If it is sharp and clean-cut and at an angle, it makes the other fellow tie himself into a knot to get it, and his return is weak and often ill-executed. It seems, therefore, even to a Dub, that he who cannot volley sharply had better not volley at all. The Dub who runs to the net and lets the ball meet his racket and bounce back from it may have a perfectly splendid time, and his actions may be fully justified by the fun he gets out of them, but as far as effective play is concerned he might as well save his strength and stay back. On the other hand, the chap who can hit a ball in the air, not merely let the ball hit his racket, is doing something for himself. If he can volley at an angle and make his opponent stretch his legs and run, so much the better. But even if his sharp volley is not placed, and but lobs in mid-court sharply, it is far better than the gentle return, miscalled a volley, of the Dub whose idea is only "get it back over the net."

And the same applies to the smash. If we smash, let us, in the name of the game, smash! To wave our rackets wildly overhead and bring them gently under the lob and bounce it back again is not even good sport. Never mind if they do go out or hit the net—the one is because the ball was allowed to get too much

back of one's head before striking, the other that one struck the ball too far in front. It is timing which can be learned, this matter of smashing, and should be learned by the Dubbiest of Dubs, for to play the overhead ball any other way than with intention and some speed is to retrograde to the class of the beginner whose whole ambition is to play "pat-ball," under the impression that he is playing tennis!

However, there is such a thing as overdoing it. Not for the champion—when the California gentleman of the mighty serve grows a foot in the air and smashes the ball, that's the end of the point. There is no doubt about that. He, and others cast in the same mold, can hit 'em hard just as surely as they can less sharply—that's what makes them what they are. For you and me, however,

interested in answering. Generally the answer is generalship.

There is a lot of "bunk" written about tennis generalship. The champion may and doubtless does analyze his prospective antagonist, look for his weak places, plan a campaign, and carry it out. The Dub doesn't bother. Beyond placing his drives at the other fellow's left when he can, and passing him if he comes to the net, or lofting them if he is weak overhead, his "generalship" is a minus quantity. But there are Dubs who take thought for the coming point, and some of their conclusions are interesting, especially when reduced to the cold facts of a diagram. For instance, there is that generalship-gone-wrong of the chap with the streak-lightning serve who stands as in A, Figure 1. He figures that because he has a hard serve he needs the greatest

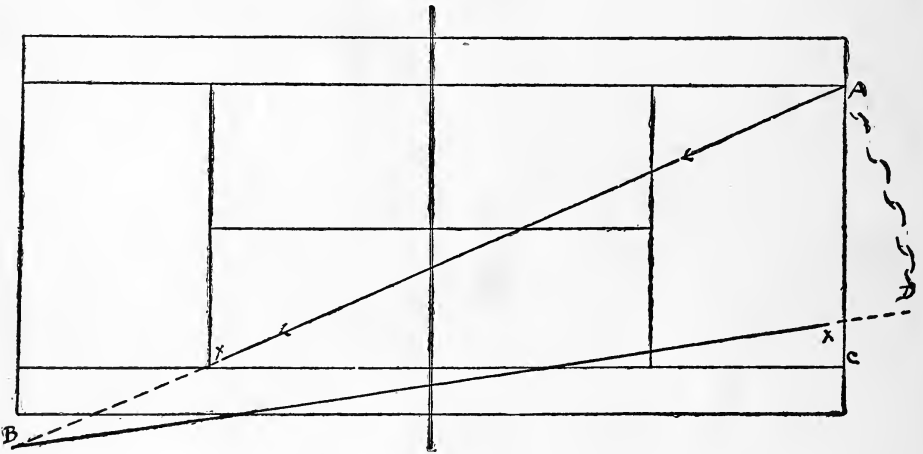


FIGURE 1

there is a middle ground. We are not playing against cracks, but against Dubs like ourselves. Frequently a hard smash, unplaced and directly at the other chap's feet, will win the point. As frequently, a straight cross-court smash, not at all hard, will win it as successfully. Far better to smash hard enough to win the point against the man you are playing, and win it, than beat the ball with all your strength so even Norman Brookes couldn't get it—and have it go out!

If A. beats B., and B. beats C., then A. ought to eat C. alive. But often he doesn't. "Why" is a question A. is in-

length for his shot, and also that if he can force B. away over and off the court he has a great advantage in handling the return.

He hasn't, of course. For B. can drive the ball back to C. and A. has to skedaddle over to D. to get hold of it, and handle it backhand at that, and by that time B. is up to the net and it is all over with A. unless he lobs, and a backhand lob made on a dead run is not apt to be very accurate. Generations of singles players have demonstrated that, in the long run, as close to the center of the court as possible is the place to stand

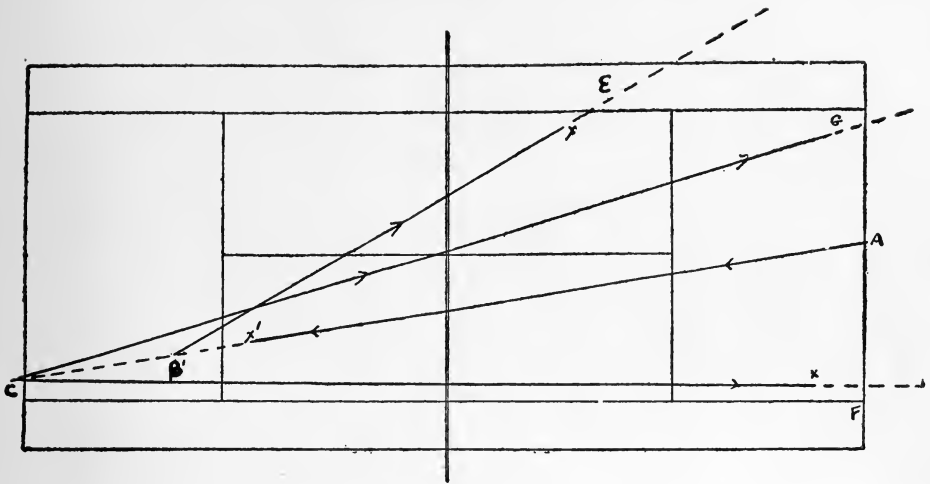


FIGURE 2

when serving, and no possession of any serve, no matter how peculiar, speedy or full of "shoots," has ever altered the fact to any noticeable extent.

What to do with the service is the first question which the Dub General has to determine. He who makes up his mind in advance is going to get into trouble! For no one except A. knows, and he isn't always at all sure, where his serve is going to go, and how high and how long it is going to bounce when it gets there! Consider Figure 2. A. serves an average Dub serve. It hits the ground at X¹. C. is standing on the base line, waiting for it. Suppose it bounces high and short—let us agree that A. is a Dub with a "measly" serve. C. runs in and gets his racket upon it at B¹. Surely E. is a

lovely place to put it! It can be put there and put there hard, because it bounced high.

But suppose A. serves a harder, straighter ball, which strikes at X¹ and which C. gets at the base line. He can't put it to E. now, because the bounce isn't high enough and he is so much farther from the net. He must slam it back to A., or try to put it down the alley line to F. or across court to G. Therefore, for C. to make up his mind what he is going to do before he sees that serve, is poor generalship, and likely to lose him the point. Probably that is why A. beats C.—because C. does too much cut-and-dried planning in advance!

However, if one knows one's opponent, there are certain things which can be

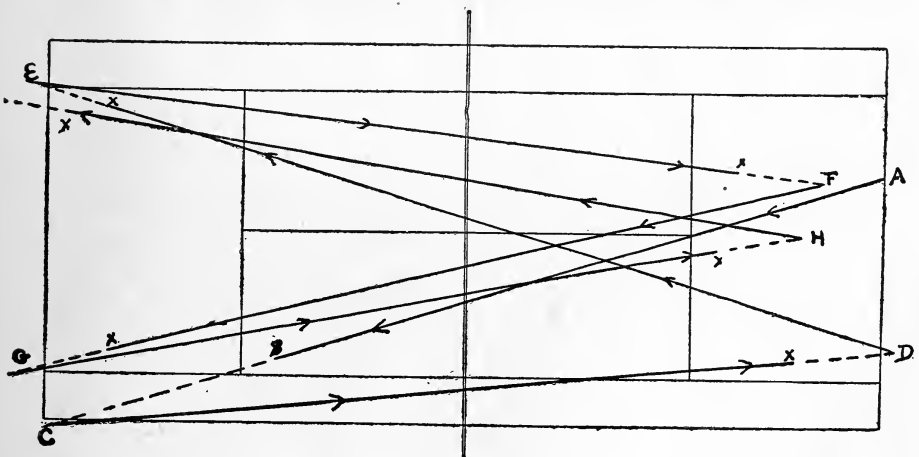


FIGURE 3

planned. Consider Figure 3. Here A. is our Dub friend and C. our Dub foe—and C. is slow on his feet. Perhaps he is overweight and plays tennis to reduce! Let us direct A. and help him to it!

A. serves the ball which strikes at B. C. returns it to D. A. lopes over and shoots it down to E. C. runs his legs off and manages to get it back again. He is less sure of his shot after his run and to make certain that it goes in he

C. returns to point B. (Figure 4) and promptly runs to C¹. at the net. A. has to take the ball backhand. He is afraid to send it straight back, because his sliced backhand curves, and he knows he cannot pass C. to A.'s right. He must lob—and he can't lob—or drive somewhere in the general direction of C. at the net. This he does, and with all his might, hoping C. will hit it and "flub" it. However, C. has a very good Dubbish command of his racket, if he is slow on his feet, and

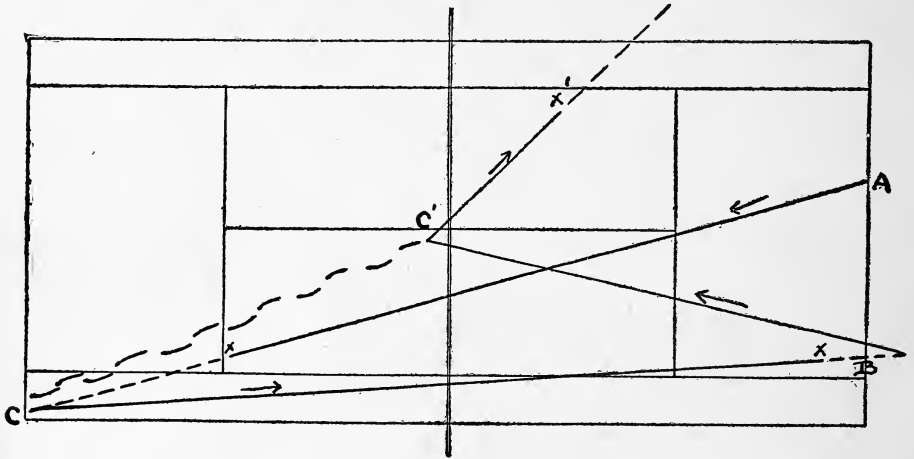


FIGURE 4

puts it well into the court at F. A., who is having the time of his life, promptly fires it down to G., and poor C. has to reverse and sprint for it. This time his main idea is "get it back"—never mind where. So back it comes in the middle of the court, and A. has hardly to move from his tracks to get it and put it back to E. again—and by this time C. is panting and inaccurate and his return hits the net or clears the base line.

All this couldn't happen if C. were not slow on his feet, because he would get across court in plenty of time to make his shots as accurately as A., and A. would have to do just as much running as C.

After a while C. gets tired and tries coming to the net on his return of service. A. is not much of a "lobster." Neither is he very accurate in his passing shots. So he falls back on mere speed, trusting to the force of his stroke "jamming it through." A. serves to C. and

he caroms the volleyed ball off to X¹ and that's the end of *that* point. That, too, is a form of generalship, only it, like the other, can't be planned in advance, because if C. does so A. will probably serve to the center court line, and C., running sidewise to get it, has no impetus to carry him to the net, and by the time he turns and starts for it A. has done some other devilish thing!

It's a lot of fun to tease the fellow who plays net—if he is Dubbish enough to be teased. First a lob over his head. Then a pass which he just reaches. Then jam one right at him, hard. Then, if he is still in the game, make him run a bit from side to side. But on the other hand, what beautiful sport it is to play at the net and worry the other chap! He tries to pass me, and he can't. True, I didn't kill it, but I made him run. There, he has tried a lob—it's a weak lob, and I go after it joyfully. Too bad I didn't smash more to one side, for he

got it back. But there—I will cross-court him and he will have to run with his tongue out. No, sir, you can't pass me that side, either—I can "grow" on my left as well as my right. Well, about time to end this thing—watch me kill it! Oh, well, of course, any one can win points that way—it looked good from here. However, probably it was out. It was close, anyway. I'll get him next time!

And it's nice to play with this chap because he plays the game according to the rules. There is that Dub Jones, however—don't let's get him in the game. Jones foot-faults all the time. No, of course he doesn't mean to take an unfair advantage—but he does. Gets peevish if you tell him, too. And one can't get Jones to call his score when he is serving. He is always surprised when he calls "Score?" in that inquiring tone, and you tell him it's forty-love.

Jones is exaggeratedly fair in his play. He is always wanting to "play it over." You and I know, and all good Dubs know, that "play it over" is sometimes a doubtful remedy. If the point was important, and you lose it on the play over, you may lose the match. True, if it was important to *him* and *he* loses it, *he* may lose the match. Personally we like the fellow who wants to play over the points which might benefit us more than himself, and never gives a doubtful decision when it benefits him.

Jones, too, returns balls so carelessly. He fires them over with all the speed he can, making a practice shot out of every chance he has to "shag" a ball. This is nice for Jones, but rough on you and me, who have to trot around collecting

them. I like to play with you for several reasons, not the least of which is that when you "hand" me the balls they always either roll to my feet or bounce to my hand. It's a little courtesy, but I appreciate it. You never make me wait between serves, either. I've noticed that when you dry your glasses or hitch up your trousers or tie your shoelace, it's never between serves. And then you don't return faults. You just knock 'em down or let 'em go. I know when you return anything it's a ball in play. I appreciate that, too.

If Jones knew how I dislike his methods of firing everything back, good or bad, he'd stop it. What? Yes, Smith fires everything back, too, but that's different. He shoots up an arm and yells "out" like a fog horn, and his return of the out ball is easy and for my convenience, not hard and for practice, like Jones'. Smith is a Dubby Dub. Jones is a very inferior order of Dub. You and I? Well, you are a good Dub and I try to be one, and I think we both get more fun out of the gentleman's game by trying to make the other have an enjoyable time, than even Robinson, who is a near-crack, does, with his infernal ability to lick us all without trying!

Any way, it's a good game, this tennis—a game worth while, whether we are just beginning and are despised "love-tappers," whether we are the crackiest of the cracks and serve like rockets and return like cannon balls and are eleven feet wide and nineteen high, like the big fellows, or whether, as you and I, we are just plain, homely, enthusiastic Dubs—and proud that we Dub as well as we Dubly do!

Mr. Claudy is a lover of the canoe as well as of the racket. See his article in August OUTING—"Canoe, Camp and Canal"

THE MASSACRE ON CEDAR CREEK

By CULLEN A. CAIN

The True and Simple Narrative of What Befell Five Topeka Pilgrims After Pleasure

I WENT fishing last May down on Cedar Creek, in Chase County, along with four friends, and we nearly died from exposure and starvation. I have sworn off three times on fishing trips, and every time comes some man or set of men and lures me away a day's journey into the wilderness to risk life and health and peace of mind trying to get a fish to stick my hook through the bridge of his mouth. It's a funny thing, this obsession in a man's head that makes him want to go fishing in the spring of the year.

It got hold of Roy Crawford and Bill Wikidal and Ike Barnum and Jay House. They came and sang me their little siren song and I went with them.

We hovered for a day between life and death and finally won our way back to town by a fevered heartbeat. We were sunstruck and starved and exhausted and bedraggled and lost and sleepless and footsore and worn to the last remnant of a frazzle. All in the course of a 36-hour fishing trip. Five able-bodied men cut down in a day. Five young men turned into Egyptian mummies in a night. Head, body, hands, and feet, all in the emergency ward with the "walk-softly" sign pinned on the door.

The story has features worth bringing to the attention of other men—and fishermen. And this is the true and simple narrative of what befell the five Topeka pilgrims after pleasure in the Cedar Creek vale of tears.

The start was made to the music of the military band. All starts are made in this manner. It was about 4:30 on a perfect May morning that Roy Crawford tooted the siren horn of his 50-hp. car in front of my rented house. I went

outside and climbed into that big car with the happy, hopeful heart of a little child. I climbed out at that same curbstone on the morning of the second day with a heart as old and worn as that of Methusaleh.

But to get on with the story. We rode out of town in the dawning and the gas-engine purred like a big cat. Speed? We had speed to burn in the fiery furnace. Nothing finer in this world below than a ride over the Kansas roads in the early morning. The miles slipped under the car like water under a bridge.

We had passed Burlingame before I thought of breakfast. I asked where we were to eat, and Roy gave out the town of Lebo as the first stopping-place. Now Lebo is in Coffey County, and I felt the pangs of hunger creep across my person. House added hunger to hunger by telling me every few minutes how far it was to Lebo and how long it was to breakfast. He hinted about tire trouble and engine failure. Cheerful and helpful traveling companion, he was.

Arrived at Lebo at 7:15. A little stage of fifty-five miles. Ham and eggs and twenty minutes.

Landed in Emporia at 8:30. Looked for Walt Mason. He was still in bed. Walt is fat and prosperous and lazy in his old age.

On the way again. The first trouble of the trip began to show its face here in the glory of the morning. Ike Barnum was wearing a broad-brim hat. Brought it to protect his face from the sunshine, he said. But the gods had made him mad before they set about to destroy him. The car traveled so fast that Ike could not keep that sombrero on his head. He put it in the bottom of

the car and placed his feet upon it. And the Kansas sunshine proceeded to decorate his face in scarlet and crimson. A hat with a narrow brim would have helped him a little, and a little is all that any man ought to be protected. Ike wanted too much protection.

The car passed over Lyon County like a wild duck's shadow over a pond. And soon we stopped at the northern end of the L. M. Crawford ranch in Chase County. A man met us there in a wagon and we proceeded three miles across that ranch with a bumping and a roughness that passeth all understanding.

Came to the ranch-house at last, and it was something to have come to. I wish I had the tongue of men and angels to tell people about L. M. Crawford's ranch-house, set up in the middle of the Chase County prairies.

It is an amateur theater, nothing more nor less. The ruling passion was strong in the old theater man, and he built a playhouse far from plays and players.

There is nothing like it anywhere within or without the borders of the civilized world. A house on the plains, appearing from the outside to be an ordinary ranchhouse, built for comfort without stint of money; a stone two-story structure with a sleeping-porch in front and a leanto kitchen behind. But enter the door and you rub your eyes. The center of the house greets you like the mask and bells of an actor on his stage. Only the orchestra is needed, and the wave of the baton and the lilt of the music, to make you hunt for your check to seat 1, N, right.

Such a ranchhouse! It is not two-story at all. The inside is sheer to the roof. There is only one room. It is a theater. The bay window forms a perfect little stage. On its platform sits a graphophone and its horn faces the pit, ready to play. There is a balcony eight feet above, extending across half of the lower room. The seats there are as good as any in the house. It was a matinee that day, and we all got in for a dollar apiece.

The room is finished in theater blue, the old-time sky tint that theater and actor folk know so well and see so much. And the finishing touches on the

inside of that blooming house! The El Paso Theater was called upon for a section of scenery for a wainscoting. Stage stuff from the Wichita house provided a door and a panel. The ceiling of the sleeping-porch drew on a St. Louis playhouse for its body and latitude. Frieze partitions that Dustin Farnum and Isadora Duncan knew had been transplanted from distant cities to this ranchhouse to serve a new and strange purpose. Every one of L. M. Crawford's theaters had furnished a portion. And he did own and yet owns many theaters.

Roy Crawford ushered in his guests with an air, seated them in front of the silent but ready horn of the phonograph on the stage, walked up in the balcony, waved his hand to the imaginary leader of the orchestra, and then sat down and laughed till he cried. And his guests laughed, too.

Theaters and Sheep

It was funny. Yes, and it was fine, too, this scene that showed how an old man clung to his first love, a man successful in every line of endeavor, grown rich and weary with the passing of the years that could now bring him nothing he had not already seen and done and known and gathered home. But a theater, with its tints of blue, and its stage and balcony, was his beginning and it was his last work when he built a ranchhouse in the West. And Bill Wikidal looked and gasped and said: "Why didn't he build a box-office and finish the job?"

There was a "Crawford posting service" sign that formed one of the clapboards on the barn.

We drove over that ranch, 1,900 acres that comprise its center and circumference. Roy rode a black pony and we rode a surrey.

As all men who read high-class farm journals know, L. M. Crawford is raising a wonderful brand of sheep on that ranch. It is the talk of the country; how he is the lone pioneer in the U. S. A., in crossing the Lincolnshire ewe sheep with a full-blood ram from Persia, or maybe it's Russia, and getting a lamb that has a coat of close-curl'd black silk that is

beautiful and indestructible. The pelt of this sheep is called astrakhan. The process beats a silkworm to death and makes Gobelin tapestry and Turkish rugs and sealskins look like the contents of a calico warehouse on display.

Think of it! Two thousand acres of land; a thousand Lincolnshire ewes; nearly two score of rams from Russia at \$1,000 per ram; and a ranchhouse with stage, pit and balcony and finished in theater blue.

Oh, yes, they call these black silk lambs "Karakules," but Ike Barnum called each one of them a gold mine and wondered how long it would be till he could save enough money to buy an 18-carat overcoat collar made from one of their pelts.

We ate a sumptuous dinner at the ranchhouse and drove away at 1 p. m.

Reached Cedar Point at 3:30. Just 110 miles from home.

House used to run a paper at Florence. He knew a man near Cedar Point named Charlie Sare, who had a cabin on Cedar Creek that he rented out to fishermen. House and Sare used to sing in the village choir twenty years ago, and for funerals and other social events. House sang baritone and Sare lyric tenor.

We drove to Sare's place. He appeared and piloted us to the creek and also across an alfalfa field half a mile wide. Stepping stones bridged the ford in the creek at this point and we crossed single file. Bill led, carrying the fishing tackle and a big fishbox. House came next with a sack of cornmeal. Roy had some groceries and Ike had some more, and I came last with a sack of potatoes. The sack had a hole in its side and a potato fell in the creek. I escaped by a fraction in the art of balancing. And this man Wikidal, standing on the bank, squat, bulky, and blackbrowed, abused me for wasting his potatoes. He looked like a yeggman in his ruin of a hat and corduroy pants.

We came to the cabin at last and laid our burdens down. It was a noble spot under the trees. There was a fine spring near by. We rigged up a seine and our fishing tackle and got down to business. That is, after we had crossed that alfalfa field to the creek.

We fished till sundown, and with gentle truth in my right hand I state that we didn't get a bite. We walked back that half-mile across the alfalfa field to the cabin. House cut the wood and Ike made the fire and Roy cooked supper and I walked a mile after some milk and eggs and Bill Wikidal spit on his hands and told a big lie about what he did on a fishing trip ten years ago. Bacon and eggs and coffee for supper. Good coffee. Roy is a good cook.

House went to bed and Roy and Ike and Bill Wikidal rigged up a trot line. House mumbled in his approaching sleep about the asinine act of setting a trot line in the night-time.

The Beginning of Wisdom

The fishermen came back at 10 o'clock from over the alfalfa field in glee. We went to bed. A lot of big rats held forth in the cabin—I was going to tell about these rats, but a friend of mine who heard the story first, a friend in whose judgment and preference I have unswerving confidence, advised me to cut out the details in order that the rest of my story might be believed.

After 4 a. m. we all repaired to the creek—except House. A channel cat and a bullhead adorned the night lines. Crossed the alfalfa field again. Getting breakfast was a struggle, but we made it. Roy served a scrambled-egg dish fit for princes and potentates.

Then to the creek again with hook and line. Crossed the alfalfa field again.

Up to this time we had fared fairly well. Had a noble ride, an interesting stay on the ranch, a good cabin, a good supper, and a fair night's sleep, but our troubles were drawing near.

The sun got hotter and seven times hotter. Bait grew scarce and hard to find. The rocks in the creek-bed were many and hard. The flies were a multitude. The sun increased in power.

Roy and I went back to the cabin. That alfalfa field was five miles wide. The sun kept growing hotter. Its heat multiplied. The other three fishermen straggled in. The cabin became a melting-pot.

We sought to discover the man who

had proposed that fishing trip and cast about to consider how we might slay him. Roy laid himself down to die. House took off his shoes and socks. Bill Wikidal sat down in the spring. Ike and I collapsed, speechless and helpless, on an alien soil.

No dinner and no man to get dinner. House, who had cut the wood the night before, showed me the ax and swore by the head of his ancestors that it weighed twelve pounds.

We blackguarded each other feebly in an effort to scourge some man into cooking something to eat, but it was in vain.

The ravages of one day of fishing and crossing that alfalfa field in the hot sun were something to behold. Roy's eyes were swollen nearly shut, and the skin was peeling off his forehead in layers. House had started out in a natty gray suit and white collar. He had stopped at Cottonwood Falls to be shaved and have his coat pressed. Now he was wearing a gray shirt and musty-looking black trousers that were wet to the knees from wading. He was rubbing his bare feet with McShane's horse liniment.

With the last remnant of possible motion we gathered up our traps and crossed that cursed alfalfa field (it was as wide and as hot as the Desert of Sahara by this time) and forded the creek and climbed in the car and started for home. Old man Sare tried to stop us, but all the king's horses and all the king's men could not have done that.

At Emporia we learned that the thermometer had reached the 100 mark that May day. No wonder we wilted on Cedar Creek. We broke fast in Emporia at 8 p. m., first food since 6 a. m. That is fourteen hours by the clock.

Then we proceeded on the way. The big car speeded along in the starlight. It was cooler and our spirits rose like the bubbles in the Gene Ware washer-woman's clothes. House sang a little song he and Charlie Sare used to sing in the meeting-house at Florence twenty years ago.

We passed through Lebo on a 30-mile-an-hour schedule. Then we got lost in

the dark. We had traveled eighteen miles out of our way when a boy in a buggy told us the way to go.

Bill Wikidal looked at the peaceful heavens and picked a certain star that he swore was the North star. He used it for proof that we were now traveling north. We got lost again and Bill picked out another North star, saying that his first one was the East star.

We traveled on in the darkness, guessing the way and passing many crossroads. Bill discovered a third North star and prattled about the wonders of the sky and the benefits of having an astronomer in the party. He showed us the big dipper and the juxtaposition of his latest North star to its handle. He read signs and portents from this event. He pointed out the track of the milky way and the wayward course of Saturn and the kennel of the dog star.

We arrived home at 2 a. m. I had a powerful good time—in spots—and wouldn't have missed the trip for a 400-acre farm and a baby grand piano factory. But! I'm not going fishing any more! My constitution doesn't seem to stand the strain. The fish are too far and too deep. The sun is too hot. The bait too hard to get. And yet a man may live long and read much and meet many people and it all profit him nothing unless he has ridden fifty miles on the way to Cedar Point before breakfast on a May morning, and crossed an alfalfa field forty times to look for little fishes, and drunk the waters of old man Sare's spring, and heard the rats in his cabin fight in the night-time, and fasted for fourteen hours, and broken out with prickly heat and broken down with fatigue.

He may have seen many things in many lands and yet not met a perfect night face to face unless he were present when Bill Wikidal found three North stars in one sky while traveling home in the dark from the Cedar Point massacre in a streamline-fifty auto with dandy people whose jangled hearts had all been reset to a lilting tune in harmony with a happy world by that two days' outing.

HOW TO BUILD A CANVAS HOUSE

By WILLIAM C. STEVENS

ILLUSTRATED WITH DIAGRAMS

With Full Details of Plans, Materials, Cost, and Method of Preparing and Erecting

THESE were four of us, two Jims, one John, and a Bill. We were the official builders of the tent, but when we ran foul of complications inside our two sewing machines we thanked the powers that there was an interested feminine contingent, of various relationships, to act as an advisory committee. We originated the design, cut and sewed the canvas, and made and assembled the frame. When the tent was finished we had a structure forty feet long, by fifteen feet wide, and eight feet high at the ridge-pole of the tent proper. There were three rooms. Not a guy rope was used, and the house has withstood the storms of two long seasons, although it was set up on dry, shifting sand.

Our location was just off the shore of one of Chicago's best beaches, but within seventy-five feet of the water, and we had access to every necessity such as running water, base of provisions, and sanitation. We lived there from April to October of each year, were cool on the hottest days, enjoyed most of the modern conveniences, had ample room for comfortable living and entertaining, and materially cut our living expenses for the summer months.

Anyone willing to undertake a little enjoyable hard work may construct a portable house such as we made, at a reasonable cost, and it may be successfully used at any summer resort or wilderness outing where the necessary transportation is available.

We used seven-ounce, non-water-proofed, white canvas for the side walls, drop curtains, and roof of the tent proper. For the fly roof we used the

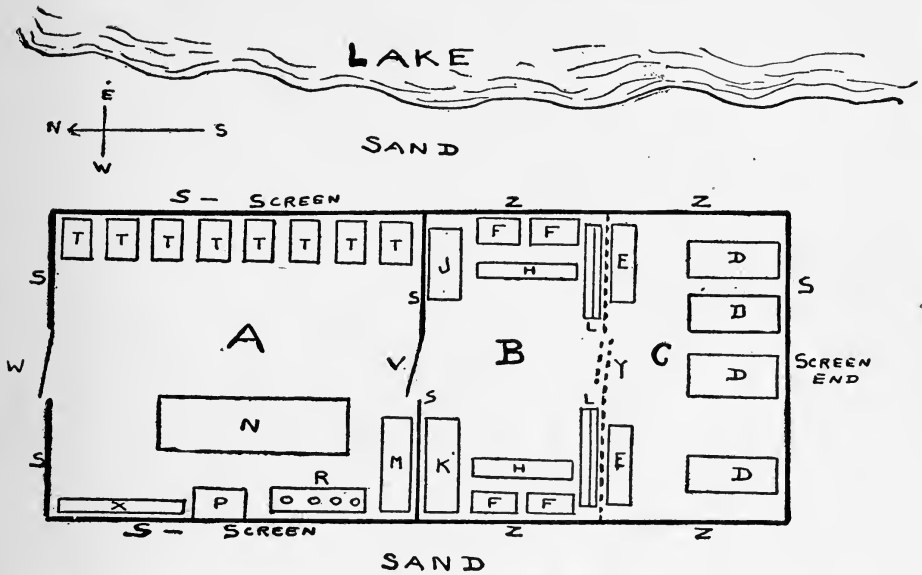
same quality in ten-ounce. The frame rafters and braces were of 1 x 6-inch selected pine. The upright posts were of 2 x 4-inch ordinary pine. The flooring was of 1 x 6-inch matched pine. If we ever build another tent, we will use tan-colored material to avoid sun glare and soil stains. Our cloth has weathered to a dull gray, but it took two seasons to do so.

Room "A"—Figure 1—was our living-room, twenty feet long and fifteen feet wide, the long side toward the lake. Our lounging chairs were arranged in a row along the lake side, and along the other long wall were our cook stove, kitchen cabinet, dish closet, and rack for oars and fishing tackle. Our long dining table was far enough at one side to allow freedom of movement in the lounging space.

Room "B" was our storeroom. It might possibly have been dispensed with, but we found it a great convenience at practically no added cost. In it we stored our trunks and extra clothing, leaving our bedroom less crowded. We removed wet bathing-suits there and avoided dampness and mud in other places, and thoughtless visitors could not sit on our beds and chat while water ran all over the blankets from their dripping suits. Four collapsible cots were stored there for the use of visitors, whom we cheerfully charged for meals and forced to assist in the housework. We cooked the meals, but the guests had to help wash the dishes, and sometimes we really longed for guests.

Room "C" was our private bedroom. It was our "sanctum sanctorum," and no outsider entered it without an invitation. The canvas wall at the rear end

FIGURE 1
GROUND PLAN



- | | |
|------------------------|-------------------------------------|
| A FRONT LIVING ROOM | N DINING TABLE |
| B CENTER GUEST " | P DISH CLOSET |
| C PRIVATE BED " | S SCREEN WALLS WITH CANVAS CURTAINS |
| D COTS | F LOUNGING CHAIRS |
| E DRESSERS | V SCREEN DOOR |
| F TRUNKS | W SCREEN DOOR-FRONT |
| H BENCHES FOR BATHERS. | X FISHING TACKLE & OARS |
| J ICE BOX | Y OVERLAPPING CURTAINS |
| K PROVISION CLOSET | Z WINDOWS |
| L COTS IN STORAGE | R FOUR BURNER STOVE |
| M KITCHEN CABINET | |

was split clear to the ridge-pole and was kept rolled up to the roof night and day, except in case of severe storm. The open space was entirely screened with wire mosquito netting.

The canvas curtains between the bedroom and the center room could likewise be rolled to the ceiling, and as the walls of the front room were also of screening, we never failed to have a constant and generous circulation of air. The construction of the tent may have encouraged air movement, but we certainly had a breeze at times when the other campers in wall tents and cottages suffered and groaned with the heat.

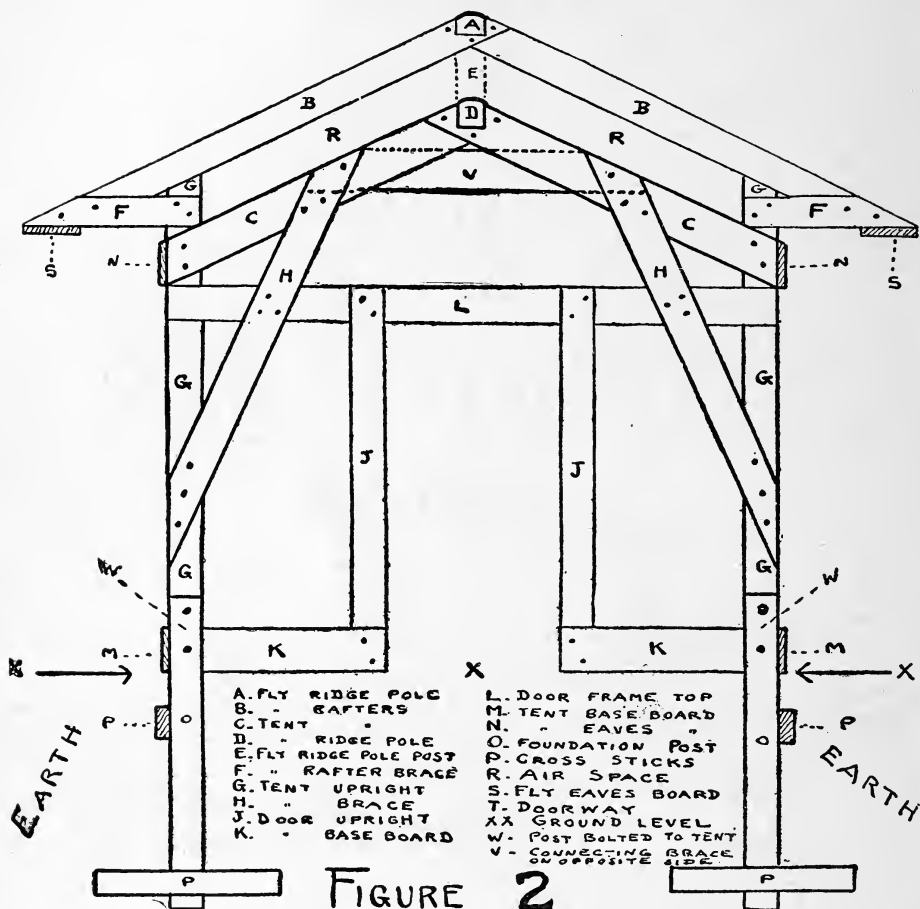
Within a month after we put up our tent, most of the other colonists adopted

our construction, and the following season there wasn't a guy-roped, sealed tent in the outfit, and many of the cottages were empty. We enjoyed comfort during the day, and sleeping at night was a pleasurable and refreshing experience.

Five wooden arches, equally distant apart, supported the ridge-pole of the tent proper, and when connected by baseboards and eaves boards, formed the framework over which the tent canvas was stretched. See Figure 2. The upright of each arch was bolted to a post of 2 x 4-inch pine, sunk about five feet into the ground. These posts, or "dead men," as they are technically known, are a vital feature of this form of tent construction, for they take the place of guy

DETAIL OF COMPLETE ARCH-TENT & FLY

HEAVY LINES - TENT FRAME
 LIGHT - - - - FLY & DOOR FRAME



ropes in anchoring the structure securely. A cross-piece was screwed on the side of each post near the lower end, and another was fastened at right angles to the first, but just below where the ground level would come for that particular post. When placed in position, and the sand well packed around them, these "dead men" afforded an anchorage as firm as a concrete foundation.

The frame gives the canvas tautness, and the sunken posts give the frame stability. Our structure withstood several wind storms that uprooted and flattened every guy-roped tent on the grounds.

Each arch was completely assembled and fastened together firmly with brass

screws, before it was set up, and we found it advisable to provide an arch for about every ten feet of ridge-pole length.

The diagram shows a spliced ridge-pole in Figure 3. We were obliged to do this splicing because we could not get a pole forty feet long, but it is worth remembering that selected pieces, spliced in this manner, are stronger than a natural piece of the required length, which has weak spots. The top edges of the pole should be planed to avoid friction on the canvas. The ridge rests in notches sunk into the apex of the joint of the arch rafters.

The uprights of the tent arches continue up in one piece, through the roof

of the tent proper, and form the uprights for the support of the rafters of the fly-frame arches.

These arch rafters were assembled in the same manner as the arches of the tent proper. They were complete, and ready to be fastened to the uprights, before they were set in place. Short posts, clamped to the tent ridge-pole through holes in the canvas, supported the fly ridge-pole, and anchored the fly arches at the apex, as shown in Figure 3. When the fly arches were screwed to the uprights, and connected by the eavesboards, they were finished.

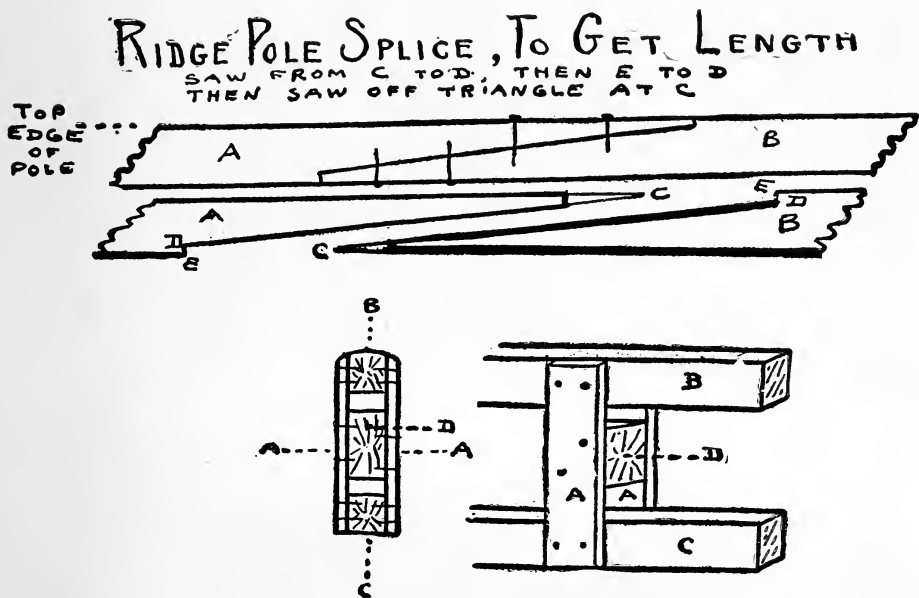
This framework for the fly was somewhat elaborate, but it made possible a very important advantage. The fly canvas did not touch the tent roof, and thus the air space between the two was unbroken and moisture could not be trans-

mitted at the point of contact of arches. The construction of the fly ridge-pole and the method of setting it in place were similar to the same features in the tent ridge-pole.

The floor of 1 x 6-inch matched pine rested on stringers of 2 x 4-inch pine, embedded in the sand, which came up to the floor level. There is room for some difference of opinion here. Some campers like an air space underneath the floor, and in some locations it is wise. It assures dryness, but it requires more permanently fastened stringers and it makes the floor noisy.

Wherever possible our stringers were fastened to the tent arch uprights. The balance of them were placed wherever needed, and snugly embedded in the sand. Bad carpentry, perhaps, but plenty practical.

FIGURE 3



POST BETWEEN TENT & FLY RIDGE POLES.

- A. SIDE BOARDS
- B. FLY RIDGE POLE
- C. TENT " "
- D. CONNECTING BLOCK

We made a careful diagram, and set of measurements, to determine just what the pattern of the walls and roof should be, before we sewed a stitch. Then we cut the strips of cloth, arranged them on a level place, and pinned the strips together, to insure the detection of any errors in measuring, before too late to make corrections easily. Mating points of contact were then marked on the overlapping edges of each strip, and the strips were numbered and piled together in the order in which they were to be sewn.

This preliminary care is worth while, for it is easy to become confused in handling such a bulk of material, and when the strips are incorrectly sewn, it is tedious and damaging work to make corrections.

Getting the Canvas Ready

When a strip was to be added to those already sewn, it was first pinned in position along its entire length. We found this very essential. The action of the sewing machine, at least the ordinary kind, has a tendency to stretch the upper strip of canvas more tightly than the lower along the sewing edge, and results in a warped, poorly sewn job unless corrected before it has continued very long. The pins warn you of this condition every foot or so, and also help to hold the edges in position. We worked in pairs, one man sewing and the other handling the bulky material. The canvas of the tent proper for the entire roof and the walls of the two rear rooms is shown completely assembled in Figure 5.

The two wings "E-E" are the two side walls for the two rear rooms, which fall from the eaves boards at "X-X." Each wing had two window spaces, giving a window on each side of each rear room.

"R-R" are the holes through which the uprights of the tent-frame arches pass, to form the uprights for the fly-frame. These holes should be a little larger than the diameter of the uprights, because the canvas will require space to allow for movement as weather conditions stretch and slack it. They may be screened with cloth netting, or funnels of canvas may be sewn over them and

tacked around the uprights, to afford protection against the rain.

"F-F" are the holes through which pass the posts which support the fly ridge-pole, and should also be a little larger than the diameter of the posts, but netting is sufficient protection for them, as the fly keeps out the rain.

Edge "J-H" overlapped the rafters of the rear arch and was securely fastened with lath held in place with small lath nails snugly driven in—a form of fastening we used wherever possible.

Edges "J-S" and "H-S," which are the bottom edges of the side walls of the two rear rooms, were fastened to the base boards.

Edges "K-K" were fastened to the arch uprights at the division between the center and front rooms.

Edges "L to K" are the eaves edges of the front room, and were securely attached to the eaves boards.

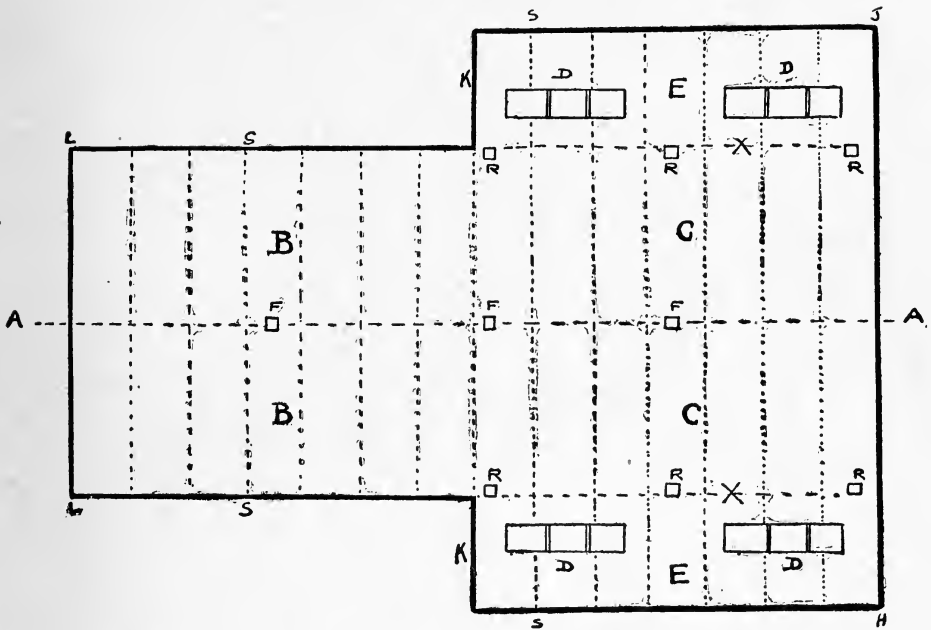
Edge "L-L" was fastened to the rafters of the front arch.

The canvas was not fastened to the eaves boards where the side walls passed over the boards at "X-X."

The canvas walls of the rear room rear wall and the side and front walls of the front room were put on after the tent was up and the roof on. These, with the curtains between the center and rear room, could be rolled up and tied to the boards to which they were fastened, and they were kept tied most of the time. A careful pattern was outlined for each, and it was then completely finished and fastened in place. The side walls of the front room were fastened with lath to the inside of the eaves boards, on the outside of which the roof canvas was fastened. The drop curtains between the center and rear rooms had a vertical cut up the center from floor to ridge-pole, and were fastened to the arch rafters, as were the curtains at the rear-room end. These two sections overlapped about six inches. The front screen door had a curtain of its own, as did the spaces on each side and above the door.

All the curtains of the front room and the two sections of the curtain on the rear room rear wall had brass eyelets in the edges which hooked over brass pegs driven into the frame. When the canvas

TENT ROOF CANVAS
WITH REAR ROOM WALLS



- A-A CENTER OF ROOF ALONG RIDGE POLE
- B-B ROOF OVER FRONT ROOM
- C-C ROOF OVER TWO REAR ROOMS
- D-D WINDOWS IN WALLS OF REAR ROOMS
- E-E TWO SIDE WALLS OF TWO REAR ROOMS
- F-F HOLES FOR PASSAGE OF FLY RIDGE POLE POSTS
- R-R " " " " " EAVES BOARD "
- X-X LINE WHERE REAR ROOM WALLS FALL
- S-S SEAMS OF CANVAS.

FIGURE 5

was stretched tightly enough to snugly hook over these pegs the curtains easily withstood the onslaughts of the fiercest wind we experienced. The eyelets and the tools for fastening them in were purchased from a tent supply house, at a low figure. The turn buttons which are used on automobile curtains are excellent for this purpose and are easily put on.

The sides and front of the front room and the entire rear end of the rear room had walls of wire mosquito netting which extended from base boards to eaves. This netting was held in place with tacks until the drop curtains of canvas were put up, when both were fastened with lath. The

seams were vertical, overlapped about two inches, and were sewn together with waxed linen shoe thread. One sewing lasted all summer.

A wire-netting partition was put between the front and center room, fastened to the arch and floor, and had a screen door in the center which locked. This closed off the two rear rooms and prevented uninvited visitors from roaming into our private quarters, but did not interfere with the air circulation.

The window openings were cut and the edge reinforcing done, as shown in Figure 4, before the canvas was put on the frame. After the canvas was on

wire netting was sewn over the space with waxed thread. All edges were taped, and the corners were reinforced with diagonal straps "A-A." The straps "B-B" prevented the opening from sagging and weakening the wall and straining the corners. Outside drop awnings were sewn on, which had sticks in the bottom edges. These awnings protected the window from the sun when open, and when closed and the stick tied to the base board, the rain and wind were kept out.

The seams all ran up the walls and across the roof. They stand the strain best that way. Edges overlapped about an inch and were sewn with two seams on ordinary sewing machines with ordinary needles. Heavy needles may be secured for this work for almost any machine, but we never had much trouble in sewing four thicknesses of canvas with the ordinary kind. We kept most of the strain off the needles by having one man arrange the work in the most advantageous positions while the second man did the pedaling and guided the seam.

The same care was used in designing and sewing the fly as with the tent proper, the seams running across the roof. The length was about the same as the tent, but the width considerably greater, for it had to far overlap the tent eaves to keep off the rain. All four edges, including the selvage, were turned over and sewn for strength. Where the seams ended, at the edges, patches were sewn connecting the two strips, as shown in Figure 4.

The fly was not fastened to the fly ridge-pole or at the ends to the arch rafters. The side edges had loops sewn on, into which light, strong ropes were tied, and these ropes were tied to the under side of the eaves boards after the fly had been brought over the top of the board. These edges must be tied and not nailed on, because it is necessary to release the fly occasionally to stretch it as weather conditions affect it. It must be kept tightly stretched, for if it is loose enough to "balloon" in a wind it may rip or tear loose and go sailing away into the "milky way," taking the fly framework with it.

Our furniture was simple. Much of it was home-made. We bought our

steamer chairs and cots for seventy-five cents each. We had two modern dressers, borrowed from home, as were our bedclothes, and their condition at the end of the season necessitated several painful interviews with the feminine powers aforementioned. Our dining-table and sideboard were both home-made and cost very little. Our dishes were a mixture of enameled ware and cheap china, partly purchased, partly donated, and partly left by tender-hearted feminines who brought us pies and baked beans. Our dining-chairs were planks placed on up-ended provision boxes, which were piled under the table when not in use.

No Cook Tent Necessary

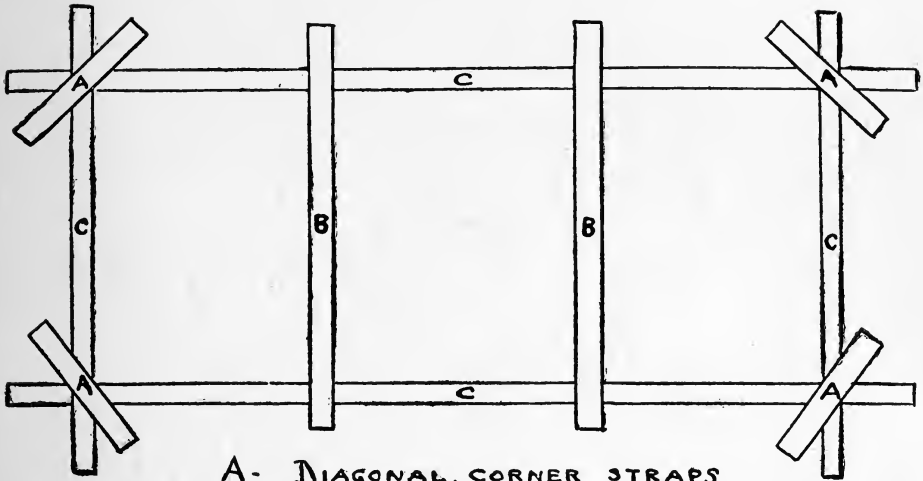
Many campers prefer a separate cooking tent. We never found it necessary. When our main room was entirely open the odors were quickly blown away. When the tent was closed we dropped canvas curtains about the cooking space and rolled back a canvas curtain in the roof over the stove, and the smoke or odors escaped into the air space between the tent roof and the fly. This opening was screened and the fly prevented the rain from coming through.

Our cook-stove burned kerosene oil, which it converted into a blue gas flame. These stoves do not give the intense heat of gasolene, but are absolutely safe and the flame is easily controlled. The supply of fuel is also safely handled and stored. Their only real defect is that they are apt to smoke if not kept perfectly clean. They come with one, two, or three burners, stand on their own framework, are easily cleaned, cost from two to five dollars, and are very durable. They are nicely finished and are practical and satisfactory for use in the home when no longer needed for more important duties at camp.

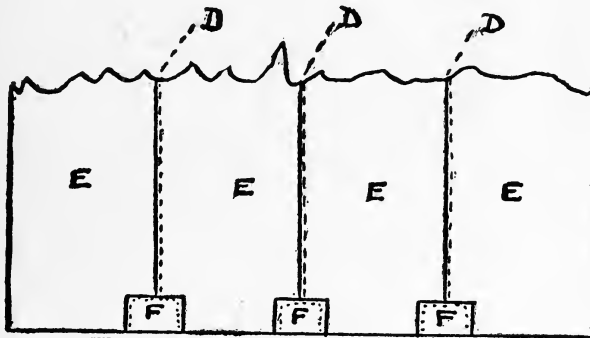
Avoid tacks, nails, or screws that will rust, especially in fastening the canvas. Rust will eat the cloth and cause it to tear away from the point of fastening. This not only makes a weak fastening, but destroys the edge of the fabric. Put in every nail and screw carefully, so that it is secure and does not split the wood.

WINDOW CONSTRUCTION

SHOWING CANVAS STRAP REINFORCING.



- A- DIAGONAL, CORNER STRAPS.
- B- VERTICAL, EDGE CONNECTORS
- C- TAPED EDGES



SEAM PATCHING

- D- SEAMS
- E- STRIPS OF CANVAS
- F- PATCHES AT EDGE OVERLAPPING TO OTHER SIDE

SHOWING HOW PATCHES REINFORCE SEAMS AT EDGE OF MATERIAL OF FLY

FIGURE 4

For heavy fastening we used large brass screws and drilled holes before we inserted the screw. For timber joints screws are best, although their insertion requires more time than nails, but they come out easily and quickly when taking down the tent, and their withdrawal does not damage the board. Common light lath nails driven through lath give an excellent fastening for canvas. This plan holds securely and snugly and may be removed easily.

The fly roof, or awning, or second roof, breaks the force of the sun's rays, prevents them from overheating the air inside the tent, and lessens the glare of light. Rain may be driven through the fly, but will not go through the roof of the tent proper, because its force is spent, and it will never soak through the lower roof unless the canvas is touched. That is one important reason why we had a separate ridge-pole for the fly.

A high ridge in a tent is a mistake. High tents are targets for the wind, and it is far better to provide ample air circulation than to have a reservoir for foul air at the tent top.

The Order of Operation

After our plans were thoroughly worked out and the work intelligently distributed, it took four of us fifty working hours to sew the canvas and construct the frame. It took us eight working hours to erect the tent at the beach, and two working hours to lay the floor. We proceeded about the erection as follows:

- A. Set and pack foundation posts.
 - B. Erect and bolt arches to posts.
 - C. Connect arches with eaves and base boards.
 - D. Place and fasten tent ridge-pole.
 - E. Put on tent canvas and fasten.
 - F. Place fly ridge-pole posts on tent ridge-pole.
 - G. Erect and fasten fly frame arches.
 - H. Place and fasten fly eaves boards.
 - I. Place and fasten fly ridge-pole.
 - J. Put on fly and tie to eaves boards.
 - K. Lay flooring.
 - L. Put on screening.
 - M. Hang drop curtains.
- In this connection we experienced no

danger or difficulty in climbing up on the arches to work when necessary.

Bugs, flies, and mosquitoes will get inside the best-regulated tent. It is wise to permit no unprotected openings. Do not allow fair feminine visitors to stand in the doorway with the screen door held open while they converse. It is a labor worthy of Hercules to prevent this, but it is worth the effort. When these pests *do* get in (the mosquitoes, not the fair visitors), either shoo them out or suffocate them with the fumes of a good fumigator, such as formaldehyde or burning sulphur.

A low ridge makes it easy to do the shooing. Call in all the other campers and arm them with towels. Get at one end of the tent with the front door open at the other. Then drive all the insects along before you until they fly out the open door. Avoid doing this work yourself, but serve supper to the other campers when the task is finished.

If you fumigate, seal the tent tightly, but provide some way of partly airing off the tent without entering while the fumes are powerful.

The first year we put up our tent many campers who were using army wall tents abandoned guy ropes, set their canvas on frames, slit the front and rear walls to the ridge-pole, slit the four corners to the eaves, put up screening, and had a first-class affair which gave them far more breeze, cool comfort, and outlook than the old way. By sewing on mating tapes to the edges of the slits, the walls could be sealed in case of storm.

We priced several ready-made, portable, canvas houses, all of them about our size and general design, but without any real fly and with *many useless features*, and found the cost to be about four hundred dollars. Ours cost about ninety. I believe the same proportions would hold good in smaller houses. A good second-hand wall tent may be bought at a low figure and remodeled with very good satisfaction and at small cost if you do the work yourself. Most of the lumber we used was second hand, purchased of a house-wrecking firm. Wire mosquito netting is inexpensive if bought by the roll.

The tent we built on the plans given

here was very roomy, but the same construction detail may be applied to a larger or smaller scale with equal success. For temporary camping, the guy-rope style is best, of course, for the ropes are quickly arranged and weigh little, but for a canvas home, to be used all summer, either in your yard or at your summering place, the frame construction is far better and worth the expense and work.

This tent may be set up in a smaller space than the other style, it is far better able to resist the wind, you get substantial anchorage in any kind of soil, the canvas is stretched tighter, and so gives the maximum space inside, and sheds rain better. Even if you do not use sunken foundation posts, the fact that the floor is fastened to the frame uprights will give far better anchorage than guy ropes. There is nothing to slip or break and cause the entire tent to collapse in a storm. The frame arches provide useful supports for clothes, partition drop curtains and screens, and there are no obstructing center poles.

A good adaptation of this design has permanently fastened canvas walls on all sides, but the upper half is on frames, which swing out and up like windows, with the resulting open space screened. The fly rests on the tent ridge-pole and is tied to rails running parallel with the side walls, which are set on frames braced against the tent frame. This is practical, but unsightly, requires more ground space, and there is not as much air between the tent roof and the fly.

Matters of ground drainage, high location, and the stern necessity for sanitation in all things will not be dwelt on here. A good wood floor helps to provide a dry footing and promotes cleanliness and neatness. Whatever you do or do not do, brother camper, get the walls of your tent up and let the air through, and enjoy the coolness and dryness of the fly roof. The camper who uses the usual style of tent deliberately sacrifices two of the most beneficial features of his outing, lots of fresh air while he sleeps and restful comfort while he is awake.



THE OPEN

By CHARLES BADGER CLARK, Jr.

WEAVING of a saddle and a wind across my eyes,
 Blowing from the wideness of a sun-brimmed plain,
 Hush my hurts to slumber and sing my spirit wise,
 Wafting woe behind me where the market clatter dies
 Back along the skyline with its dim smoke stain.

Humming in the rhythm of the hoof-timed lays,
 I can see the glory of the worldling rise
 Where the dusty pillar of the whirlwind sways,
 And my lips are laughing while the glad soul prays—
 Weaving of a saddle and a wind across my eyes!

STEALING BASEBALL SIGNALS

By EDWARD LYELL FOX

Battles of Wits to Find Out What Other Players Intend Doing Before They Do It

SIGNAL-STEALING has worn itself threadbare as plot material for writers of college and school sport fiction. Some young rascal always steals, sometimes sells (generally to pay a gambling debt) the signals of the other team. *Writers of football fiction assure us it is not an uncommon practice on the gridiron, and there have been examples of it in fact. It is something very common to most forms of contest, this signal-stealing. It is like learning the mechanical idiosyncrasies of a certain roulette wheel and taking advantage of it. It is a case of stacked cards, loaded dice, fixed jockies. So is there signal-stealing in professional baseball, only today there is nothing crooked about it. Ball players have arbitrarily and paradoxically divided signal-stealing into two departments—dishonest stealing and honest stealing. For example:

In what we now call the older days of baseball, the Philadelphia team of the National League was breaking the hearts of pitchers. To most of the best boxmen the Philadelphia batting order looked like Murderers' Row. It was at the time when Washington was still in the National League and the Senators were playing a series in Philadelphia.

One morning it rained, and in those days the fields, not being equipped with very good drainage systems, it was doubtful when it cleared in the afternoon if a game could be played. Washington insisted on it, and was rather surprised at Philadelphia's unwillingness to go on with the contest. Philadelphia had such heavy hitters that one would suppose they would be willing to jump out and club a pitcher to death in rain or snow. Latham, until recently the New York Giants'

coach, was playing third base for Washington. Now it wasn't long before Latham saw why Philadelphia did not want to play with the coaching lines covered with puddles and how they were stealing signals.

Latham likes to tell the story, and he generally does it in this way:

"When I was standing near third base I saw that the coacher's box was half filled with water. In a couple of innings I noticed that Cupid Childs, one of the Philadelphia players, came out to the coaching lines and deliberately stood with one foot in the puddle. The water came up to his shoe-laces. There was plenty of turf unsubmerged that Childs could have stood on, but he persistently stood with his foot in the puddle. Besides, Childs was a man who generally spent his time dancing around. His stolid, statuesque pose made me think it a little queer, and I yelled:

"'Better go put your rubbers on, Cupid, if you're going to stand like that with your foot in the water! You'll have a fine case of rheumatism if you don't!'

"But Childs ignored me—he was generally quick with a 'comeback'—and kept his feet in the puddle. Also, the next few batters cracked out safe hits with surprising ease. More to josh him than anything else, I called:

"'So that's where you're getting your signals, is it?'

"As I say, the remark was just a shot in the dark. But as soon as I made it, Childs jumped away from the puddle and began dancing up and down the coaching line. That, also, struck me as being rather strange, and when the next Philadelphia batters were put out with surprising ease, I began to suspect some-

thing. It was significant that they were retired when Childs's foot was not in the puddle.

"When we came into the bench I ran back to the coaching line and stuck my foot in the puddle just as Childs had done. Still in the dark, but feeling that signal-stealing somehow revolved around that puddle, I shouted:

"'Now here's where we get a few of their signals.'

"I turned to look at the Philadelphia bench, and they all were sitting with their caps pulled down over their faces, avoiding my glance. So with the men in the field, they all turned the other way. The trail was getting warm.

"When our side was put out, and we again took our positions in the field, I told Corcoran, one of our infielders, that Philadelphia was stealing our signals from the third base coaching box and that I did not know how they were doing it. Corcoran at once ran over and began feeling around in the puddle. In a moment he dug out of the soggy turf a square block of wood with a buzzer on the underside. He kept on pulling. Up came a wire. He pulled some more and found that the grass was beginning to rip away in the thin line.

"The wire was buried about an inch under the sod and, still pulling, Corcoran began galloping across the field, tearing up yards and yards of wire as he ran, the trail leading across the outfield. Soon Corcoran had more than one hundred yards of wire trailing after him and he was still ripping it up. The wire led to the clubhouse porch, where a man named Morgan Murphy was seated with a pair of field-glasses on his lap.

"'What are you doing, Murph?' asked Corcoran.

"'Watching the game,' he said.

"'Can't you see it better from the bench?' asked Corcoran. 'And what did they connect you up with this machine for?'

"'He shoved the piece of wood with the buzzer under Murphy's nose.

"'I guess you've got the goods,' smiled Murphy, and, putting aside his field-glasses, he went out and sat on the Philadelphia bench. That is one of the reasons why the old Philadelphia Nationals

got such a name as 'sluggers' on their home field. Day after day Murphy used to sit out there, train his glasses on our catcher, spot the signals he was giving the pitcher, and then flash it through the wire to the buzzer on the third base coaching line. There the coacher would hear it and tip off the batter what kind of a ball was going to be pitched.

"It was like 'playing against loaded dice,' is the way Latham always ends his account of this, the most ingenious bit of signal-stealing known to baseball. Now, that is what ball players call dishonest signal-stealing. The difference between honest and dishonest theft of the other team's signs is the use of mechanical devices. If you get the signals as did the old Phillies you are dishonest. If you do it by natural means it is perfectly legitimate. Queer ethics? Who shall say they are wrong?

There is still active stealing—signal-stealing, the players call it—done in all the leagues, big and small. The Philadelphia Athletics are supposed to be the most dangerous team for stealing signals. Hans Wagner of Pittsburgh, Evers of Boston, Bresnahan of Chicago, Tinker, now with the Federal League; Leach, Clarke, Collins of the Athletics, and Griffith of Washington are the slickest signal-stealers in the game.

George Wiltse, the Giants' hero of the last World Series against Philadelphia, is also quick to catch on to the tricks of the other team. The following bit of signal-stealing accomplished successfully by Wiltse against Pittsburgh is what ball players to-day call an honest theft.

With Byrne safe on first, Clarke, the Pittsburgh manager, came to bat. Evidently Pittsburgh signalled for the "hit and run," for Byrne dashed for second and Clarke smashed the first ball pitched into right field, Byrne dashing all the way to third base on the play.

At once the Giants on the bench were alert, especially so the pitchers, for it is their business to check the "hit and run."

"What did Clarke do?" asked Ames.

"I don't know," said Mathewson; he turned to Wiltse, "Did you get it, George?"

"I think I did," said Wiltse. "The sign is tapping the bat on the home plate.

Clarke did that as soon as he came up."

It happened that later in the game Clarke again came up, with Byrne again on first base. Wiltse was watching him like a hawk. He saw the Pittsburgh manager fix his cap, lift up his shoes, and knock the dirt out of his spikes. Then at the last minute Clarke tapped his bat on the rubber plate.

At once Wiltse shouted to Meyers, the catcher:

"Make him put them over, Chief!" he yelled, which, translated in the Giants' signal code, meant:

"Signal for a pitch-out, Chief. Clarke just gave Byrne the 'hit-and-run' sign."

Meyers accordingly signalled the pitcher to throw the ball so wide of the plate that Clarke would be unable to reach it. Obeying his manager's signal, Byrne dashed for second base and was thrown out ten feet from the bag. It was really Wiltse's signal-stealing, though, that had put him out.

Of late years baseball in the big leagues and in the higher class of minor leagues, like the International and American Association, has developed into a battle of wits. That is why so few dull-witted baseball players make good these days, no matter how perfect mechanically they may be. It is easy for a clever ball player to catch on to signals if he can only see them given. Between big league catchers there are only three real signs flashed to the pitcher. One is for a fast ball, the other for a curve, and the third for the pitch-out, on which Byrne was caught. After the coacher has detected the signal he must be shrewd enough to flash them to his teammates without the other club catching on. To do this there are many ways, all of which must appear to be unconscious.

Watch a coacher on the third baseline. Nine times out of ten if he straightens up from a crouching position, or if he bends over, or if he folds his arms, it means that he thinks he has caught on to the signals and is tipping off a batter or a baserunner. But it is dangerous business to try to use stolen signals unless you have all of them. Half the pie is worse than none at all. Many a good ball player has been injured by incorrect signal stealing, and injured stars

have often meant the loss of pennants."

There was a striking example of this when Kelly was manager of Cincinnati. "Eagle-Eye Jake" Beckley, the veteran Cincinnati first baseman, was at bat, and Kelly on the third base lines thought he knew the signs that catcher Warner was flashing Mathewson. Apparently Kelly was sure of it, for he signalled something to Beckley, and on the next ball Mathewson delivered the old first baseman stepped almost across the plate, expecting a curve. Instead it was a high, fast ball, and it brought a lump on Beckley's head. He was unconscious for two days and in the hospital several weeks. When he got back into harness, Beckley buttonholed Mathewson and said:

"Matty, why didn't you throw me that curve that Kelly tipped me off to?"

"Were you tipped off?" asked Mathewson; "then blame it on Kelly, not on me."

"Matty," declared Beckley, "if I ever take another sign from a coacher I hope the ball kills me."

"It will," replied Matty. "That one nearly did."

Because of the Beckley accident Manager McGraw ordered the Giants to stop signal-stealing. It is a risky business at best, but still the ball players keep after it. There is something fascinating about it if you only get it. It was one of the reasons that resulted in the loss of Kling to the Chicago Cubs. When the Cubs were defeated in the World Series by the Athletics they immediately set up a howl that their signals had been stolen by the American League champions, and that as a result their pitchers had been unable to hold the batters in check. It is significant that the Cubs made no complaint against the ethics of the Athletics. By one of the queer kinks of baseball tradition, they immediately turned on one of their own men, catcher Kling, and blamed him for the loss of the series.

After one of the Chicago pitchers had been beaten he complained:

"How can you expect a fellow to win when his catcher is such a chump as to give away the signals and let the other team in on it, so they can tip off their batters what I'm going to throw?"

Kling heard the remark and snapped back:

"You can't expect a catcher to win a game for you if you haven't got anything on the ball."

But the other Cubs had heard the pitcher's remark, and the blame was put on Kling. They charged he had been careless "covering 'em up," and that Philadelphia's coaches, especially Hartsell, had seen the signals from the third base lines. After the games were over many of the Cubs, especially the pitchers, would hardly speak to Kling.

George Stallings, the managerial wizard who is now handling the Boston National League Club, was accused of dishonest signal-stealing by the Athletics, themselves the greatest crowd of signal-stealers in the business. When Stallings was manager of the New York Yankees, it was charged that he had a system whereby a man stood behind a pair of field-glasses in the left field fence, read the catcher's signals, and then shifted a movable board on the top of the fence one way or another according to what signal was given. Stallings laughed at this charge and it was never proved.

The New York Giants, however, did encounter a queer bit of signal-stealing during the 1911 World Series in Philadelphia. The outfield fences around Shibe Park are low and on either side behind them is visible a row of little dwellings. The Giants were told that the Athletics had a way of lowering and raising an awning on one of these houses to tip off the batter what ball to expect. Some of the Giants kept their eyes on that awning all during the series, but they could never get anything definite. They maintained the same kind of a watch one year in Pittsburgh, where a painted letter on a big billboard was supposed to move, giving signals.

Mathewson has made a specialty of studying the question of signal-stealing, and just before the World Series in 1911 he decided to try it out. The Giants were playing the wind-up game of the National League season against Brooklyn, and Mathewson was pitching.

"Dahlen," he said to the Brooklyn manager, "see if you can get Meyers' signs."

Dahlen went to the third base coaching lines, and after the inning was over

he came across to the New York bench.

"Matty," he said, "the Chief shows them a little bit."

Mathewson made it his business to have a talk with Meyers that night. After warning the Chief about being careful to cover up his signs and telling him that the Athletics were the slickest signal-stealers in the business, he thereupon devised a new code. Meyers was to give fake signals that meant nothing; Mathewson himself would give the real signals. In this way he planned to double-cross the Athletics. It was further agreed that they were not to use this trick unless Philadelphia gave signs of being on to their signals.

Accordingly in the first game Meyers gave the real signals until Davis deliberately stepped across the plate, reached for a curve, and smashed it out, scoring a run. That meant the Athletics knew what balls were coming. At once Mathewson switched the signals and began giving them himself. The Philadelphia coaches, watching Meyers's signs, which were phoney, flashed the wrong information to their batters, thus double-crossing them.

Signal-stealing was the innocent cause of a comeback last summer that left Frank Chance, the aggressive manager of the New York Yankees, without a thing to say.

Cree, who used to play baseball at Pennsylvania State College, was on first base. The New York coacher on the third baseline gave Cree the signal to steal. The Cleveland shortstop caught the signal, flashed it to the catcher, who signalled for a pitch-out and caught Cree standing up as he tried to steal second. Disconsolately Cree came into the New York bench, his pride hurt, for he is a very shifty baserunner. Now Frank Chance, coming from his four years of championships with the Chicago Cubs, and leading a team that was now breaking a record for *losing* consecutive games, was in a surly mood. As Cree took a seat on the bench Chance growled:

"There are some ball players around here who are living on their reputations."

"Not only ball players," remarked Cree.

And he wasn't fined, at that.

WASHINGTON—A UNIVERSITY OF THE NORTHWEST

By HENRY JAY CASE

ILLUSTRATED WITH PHOTOGRAPHS

THE United States is big enough to maintain many different kinds of colleges. The East is not the West and the Western college is of very different stuff and history from most of the colleges of the East. This is especially true of the Northwest where the pioneer days are not far distant—in fact, are still being lived. Therefore it is fair to call the University of Washington a university of pioneers—pioneers in spirit, in method, and in many of the problems which they set themselves to solve. For this reason Mr. Case has selected Washington as the University of the Coast that is at once typical and different.

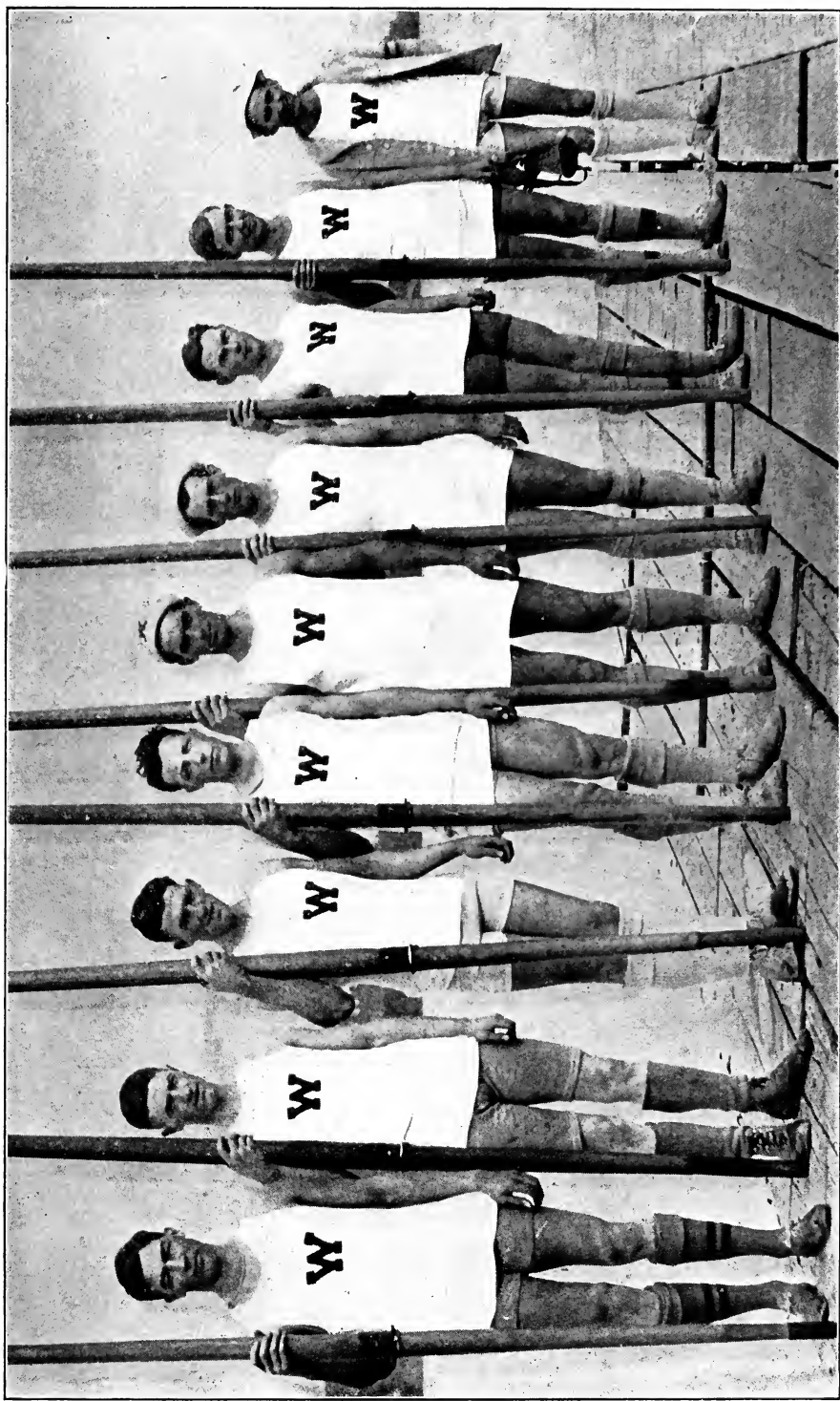
WHEN a university can send its crew 3,000 miles East for a boat race on the Hudson and its ball nine 4,000 miles West for a series with Japan, it is safe to assume that this university has begun to get a reputation. And yet not a quarter of the thousands who gather each year at Poughkeepsie know what part of the country the Washington eight comes from. Of this quarter probably fifty per cent don't know that the University of Washington has a student body of nearly 4,000 and a campus of 350 acres, all in the shadow of the mountains 'way up in the great Northwest.

This student body may not be surrounded by classic traditions nor ancient vine-clad walls. The "college" atmosphere of the East may be lacking. The students are, practically, pioneers. They have push and energy and a great deal of the common sense of pioneers. They are making their own athletic history and traditions, the log cabin itself is not very far removed, and virgin timber still stands on the campus. It is a student body which does things and does them in new and original ways.

The presidency of the A. S. U. W. (Associated Students of the University of Washington) is the big university honor. It means more than a senior election at Yale, or a scholastic honor at Harvard. There is no class or clique about it. The student president is the strongest man in the undergraduate body, and is the guiding spirit and director of all the student activities. A board of control is elected to sit with him on which there is a delegation from the faculty and the alumni, but the students have the majority vote and run the business. They manage all athletics, the university daily newspaper, the musical clubs, the bookstore and the student welfare movements.

Naturally there is more or less politics played in the annual elections. In fact, politics in the University of Washington is as much in evidence as football, baseball, or tennis. It figures in about everything, even in athletics, but it is clean politics and the battles are fought in the open.

Not so many years ago a citizen of Seattle purchased a costly set of chimes for the campus. Engraved upon them was a record of his achievements in the cause of good government for the State and the people. The University Presi-

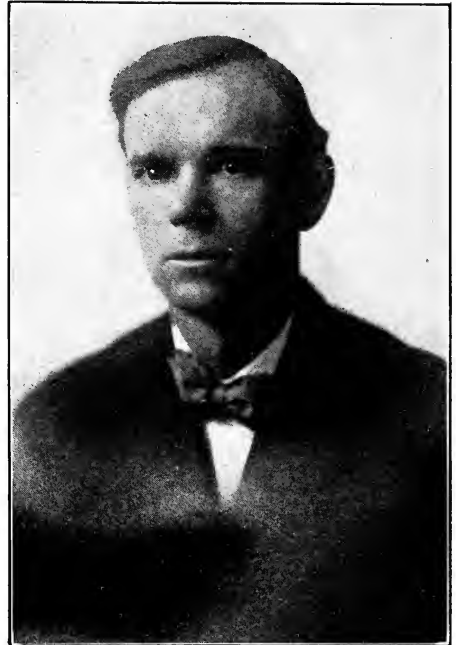


UNIVERSITY OF WASHINGTON CREW, 1914

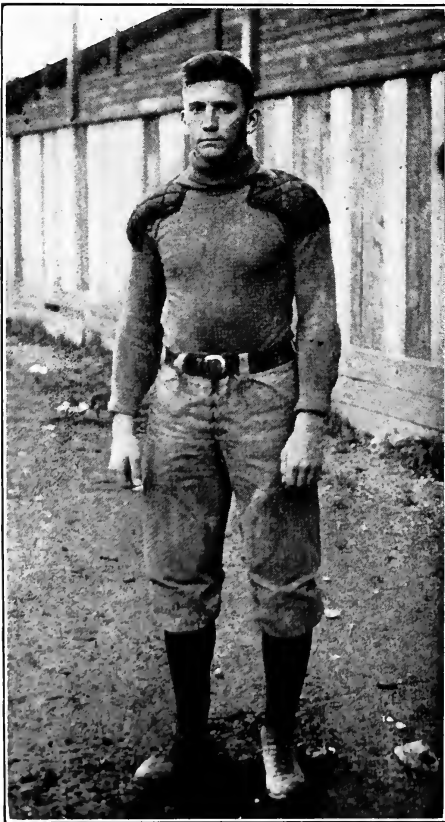
Left to right: Clyde Brokaw, bow; W. C. Kriem, No. 2; Clyde Rose, No. 3; Hal Schumacher, No. 4; Max Walske, No. 5; Claude Catlin, No. 6; Russell Callow, No. 7; J. Frankland, stroke; Walter Dunbar, Coxswain.

dent accepted the gift, and it was about to be installed when a committee of some fifty men and women students signed a statement calling attention to notorious incidents in the donor's life not mentioned in the eulogy on the bells. They urged a mass-meeting to discuss whether, in view of the facts, the university should accept such a memorial.

The President of the University notified the student editor not to print the communication. The editor replied that the communication had been properly signed and transmitted, and that as college editor he was in honor bound to print it in its proper column. If the President insisted upon his right of censorship, the editor declared he would suspend publication of the paper. The President insisted, and the publication of the college daily was suspended. For three days there was no paper, and when



GILMOUR DOBIE, FOOTBALL COACH OF THE UNIVERSITY OF WASHINGTON AND A PUPIL OF DR. WILLIAMS OF MINNESOTA. HIS TEAM FOR SIX YEARS HAS HELD THE UNDISPUTED CHAMPIONSHIP OF THE PACIFIC COAST

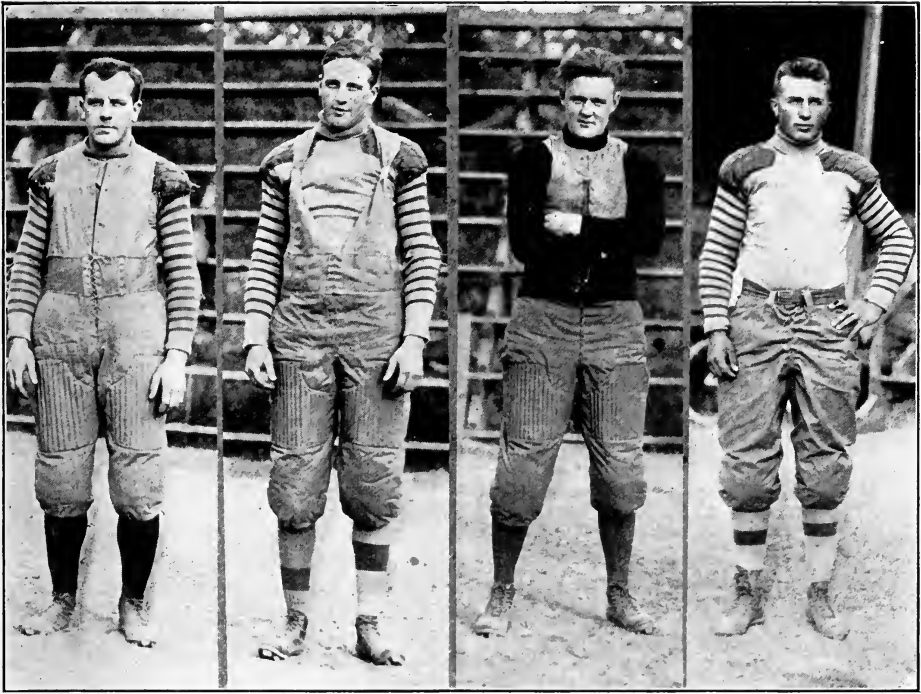


ALLAN "BUD" YOUNG, SOPHOMORE, QUARTER-BACK, AGE 21

the students demanded an explanation and received it there was open rebellion.

Handbills were issued in place of the daily paper. The action of the President was openly denounced, a mass-meeting was called, and from the platform students demanded not only the return of their paper, but that the University return the chimes to the donor. Meetings were held in the city of Seattle. Students were asked to address them. Citizens took up the cause of the students and a strike movement was averted by the State Board of Regents stepping in and arbitrating the whole question. The publication of the paper has never since been interfered with.

If things aren't going right with this team or that, if the University isn't winning its share of victories, on track, water, or field, the students call a mass-meeting and want to know what is the matter. The manager or other officers responsible are called before the meeting and made to explain.



Bevan Presley, Senior, Center, Age, 24
 Wayne Sutton, Senior, Rt. End, Age, 22

Cedric Miller, Soph., Left Half, Age, 21
 Herman Anderson, Senior, Rt. Tackle, Age, 23

STARS IN THE WASHINGTON FOOTBALL FIRMAMENT

Two weeks before one election opposition started against the leading candidate for the presidency of the students' organization, and at the eleventh hour one of the hitherto most popular students at the University was defeated by an overwhelming vote, because, it was discovered, he enjoyed visits, *sub rosa*, to places where lights blazed all night and gay companions assembled.

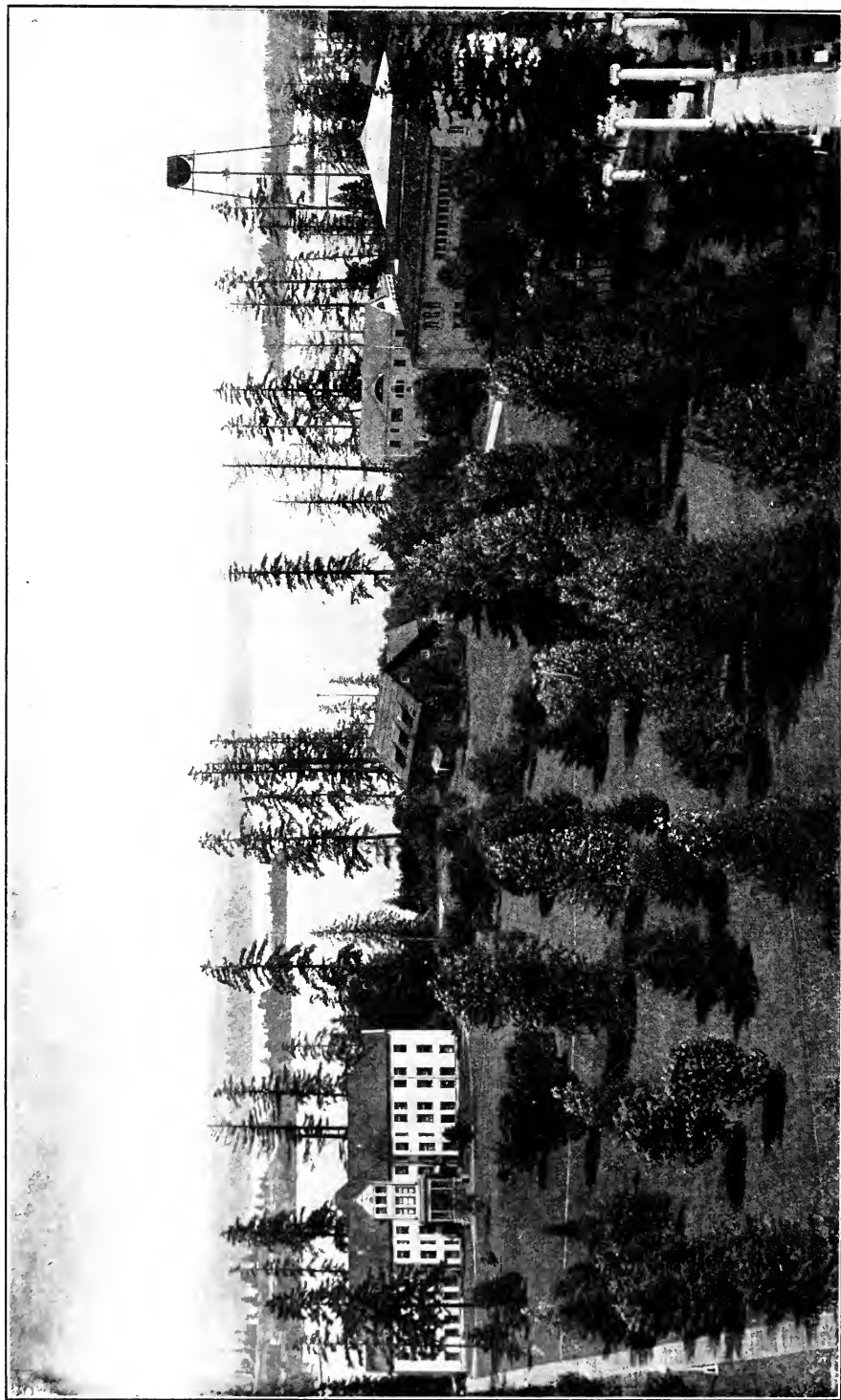
"We are not here to discuss personal liberties," declared a student orator at the campus mass-meeting called in that campaign, "or to legislate morals into the student body. But we do insist that the personal life of each candidate bear the scrutiny that we care to give it. We have put the search-light upon Candidate No. 1 and he won't do!

"Such men may be good fellows and popular. I don't doubt it. It is said they are good sportsmen. We challenge that! 'Sports' possibly, 'sporting' men, maybe, but not *sportsmen*. We don't want frequenters of sporting places nor

patrons of sporting resorts at the head of our organization. Their private life is their own affair, but if they prefer to *play* with 'sporting' persons 'on the quiet' they cannot expect to *work* with us in public!"

Student government is a big, serious thing with these young men and women at the University of Washington, and the campus is the forum. Each student has a vote, and there isn't a man or a girl registered who doesn't exercise and enjoy the right of franchise. In no other university is there such a standard set for clean, out-of-door life.

The women are for it as keenly as the men, and in the election above referred to their vote was cast solidly for the "anti-sporting" ticket. The fraternities had their candidates, the sororities theirs, and the "barbs" theirs. There had been as many splits and trades and combinations as in the days of the "grand old party," but the speech quoted swung the university to the support of a student



PART OF THE UNIVERSITY CAMPUS AT WASHINGTON SHOWING LAKE WASHINGTON, WITH THE MOUNTAINS
IN THE BACKGROUND

heretofore little known, a quiet, simple-spoken, big-hearted son of the Northwest, who had worked for everything he ever had, including his education.

Out of this forum there have been developed athletic teams that have with monotonous regularity, for several years, taken the scalps of competing clubs and colleges up and down the Pacific Coast, and on the lake close by was trained the crew which came across the continent to row on the Hudson, and with the valuable experience of a big regatta the University of Washington came back again this year to once more match its prowess with the oarsmen of Cornell, Columbia, Syracuse, Pennsylvania, and Wisconsin.

Washington draws a cosmopolitan class of students. The fact that it is a State University does not mean that it enrolls none but men and women from the State of Washington. Students enter from the South as far as Texas, from California, Oregon, Idaho, and Utah. There have been students from the Middle West, from the East as far as Boston, and each year there is a representation from British Columbia, from Alaska, from India, and from China and Japan. This year thirty-four States and Alaska are represented. There have been at times representatives from the now fast-dwindling race of red men, but these have been few.

Washington's athletic material comes from the old-settler stock, from the forests, the mines, the lumber camps, from Alaska, and from the canneries, orchards, and fruit farms. Most of them enter from the high schools, as the educational system in the State is built upon the public schools. These high schools have but few equals, East or West. They are the last word in building construction and equipped with most efficient staffs of teachers.

Hand in hand with the development of the public school system has been that of the parks and playgrounds. Seattle itself has spent nearly a million dollars in additions and improvements to parks and playgrounds during the last five years. It now has thirty public parks, including fresh and salt-water beaches; twenty-five playgrounds, comprising 205 acres, with modern apparatus, and a sta-

dium under construction. Tacoma's public stadium, in the shadow of its modern high school, is most impressive. The University of Washington needs no feeders in the form of private preparatory schools to furnish it with athletic material, so long as it seems to be the aim of the State to turn out such a highly finished product of young man and young woman.

Another factor in building this athletic material at the University of Washington is the practice of a large percentage of students to work a year or two between their high school and matriculation. This gives them a maturity and seasoning highly advantageous in building any sort of a machine. The youth in trade, in the lumber mills, forests, mines, and fruit fields, who dreams of the time when he can pick up his books again and finish a college course, is not, when he finally realizes his ambition, apt to worry about how he will spend his week-end, or whether the color of his socks matches the color of his tie. He is more apt to be thinking of the length of time that will pass before he can get back again to his particular corner of the earth to get a toe-hold in business, and to beat out some competitor.

Such young people have come through the first part of their life in competition. They have earned what position they have by hard toil and are ready to earn the rest by the same means. They have seen educated men and women over them get quicker results than they with their limited facilities; experts in this and that master problems which they, through ignorance and inexperience, have been unable to handle, and they have sworn that some day they will fit themselves for the same jobs. So they have grubbed along, saving when they could, and they enter up in the University with a meager capital as a stake, ready to peg along for a few more years before going after the big money.

Boys who come from classes like these, inured to hardship, make the finest athletic material in the world. They have heart, head, and body. "Pim" Rice, the Columbia coach, when he first set eyes on the crew from the Pacific Coast, said it was the greatest boatload of brawn he

had ever seen in a shell. The football teams are the same rugged set of men, and so are the baseball nines, fast on their feet, sure of eye, and hard, aggressive opponents. The women are the same fine physical specimens. They have

member of the organization which controls student activities outside the classrooms. It gives him or her a seat at each of the games and entertainments, a vote in the election of officers, and the expression of student policy, and that



RALPH A. HARR AND H. B. CONIBEAR, GRADUATE MANAGER AND COACH OF THE WASHINGTON CREW

their own athletics, go in for interclass games, play basket-ball and hockey, and have their eight-oared class crews.

For just such as they the University was founded. No tuition is required. Room and board may be had as low as twenty dollars a month, and probably half the students are working to pay for this. Some make enough money in addition for their books and some even finish the college year with a surplus. In the summer, students get employment in the stores, lumber camps, mines, on the farms, and in the canneries. There are plenty of things to which they can turn their hands and earn money, and few for which they are required to pay.

One of these, and quite the feature of his cost account, is the five-dollar fee for the fund for student activities. Each student who enrolls is taxed this amount at the beginning of each fall term. This is the first step in the extension of the university spirit in many of the minds of these serious students of the Northwest. This five-dollar fee makes him or her a

five-dollar interest is a big thing in such students' lives. At once they begin to take an interest in the crew, the football and baseball teams, the track team, the college newspaper, debating society, and many other things they never knew.

The same spirit of "best" in these boys and girls, the same ambition that prompted them to try for a university course and a higher education, in order to get ahead the faster, now crops out in social and athletic endeavor. These students pull for the best candidate for office and for the player who will help make the strongest team. They want to see the strongest combination in the field. They want to see a crew boated that will "lick" anything on the Coast, and, if possible, a crew that can go East and clean up the river with the crack shells from the older and more conservative universities of the East.

Three hundred acres or more of forest land, nearly 350 all told, is the playground given by the State to these young men and women. On two sides of the

tract are fresh-water lakes. Tide-water almost touches a third. Great fir trees, red cedars, hemlocks, and spruce spread their fragrance across the campus and through their green branches appear vistas of mountain peaks, snow-capped summer and winter. But snow and ice rarely block either the lake or the campus, and while cross-country running is popular the year round and the freshmen are put on the water in mid-winter, there is, for the body of students, a break in out-of-door athletics from the end of the football season in early winter to the time when the first eight-oared shells appear on the lake, which is just as soon as the early spring air takes the sting from the lake water splashing from the oar-tips.

Campus Day officially opens the spring season. This comes in March. It is a regular, old-fashioned, out-of-doors house-cleaning in which the entire Uni-

each under a capable squad leader. This is one of the ways in which the University of Washington is modeling its virgin timber campus. These students build the walks and drives—trails, they call them up there—and it is an echo of frontier days to hear them talk of “blazing” trails to this place, and “running” lines to that. The noonday meal is spread in the field by the women.

Junior Day, the next big out-of-doors event, follows about a month later, and this finds the entire University afloat. The interclass races are run off on this day. The women crews have their trials. There are canoe races, singles and doubles, with a big event for war canoes. There are tilting matches, tub races, and swimming races, and in the evening a big dance in the gymnasium.

Then comes the day when the high schools of the State have their inter-scholastic track meet on the athletic field



THE UNIVERSITY OF WASHINGTON IS USUALLY ABLE TO MUSTER AT LEAST FOUR FAIRLY STRONG CREWS FOR ELIMINATION WORK IN PICKING THE 'VARSITY

versity takes part. Men in flannel shirts and overalls; women in short skirts, “middies,” and sunbonnets, with picks, axes, shovels, and rakes; the women with cooking things and baskets to carry food and drink to the men, all take the field. The work is laid out as a field-marshal plans a campaign, the workers in squads,

and the University turns out to give the youngsters a greeting, make them feel welcome, and incidentally lay their lines for getting every mother’s son and daughter of them to enter as soon as they can pass their examinations. The callow sub-freshman here gets his first touch of university politics.

All this time, since February first, the crews have been on the water, and along in late March the coach begins to pick his men for the 'varsity boat. With Hiram Conibear, coach, no student, or group of students, has a "cinch" on a seat in the shell. The captain, even, is not excepted. Conibear doesn't pretend to be a racing coach or an oarsman for that matter. He is just a long-headed, shrewd Yankee, a conditioner of men and a lover of everything that grows sturdy and clean and sweet under the open sky. He has knocked around pretty nearly all over the world and has trained about every imaginable class of athletes, from a six-day "bike" rider to a big league baseball team.

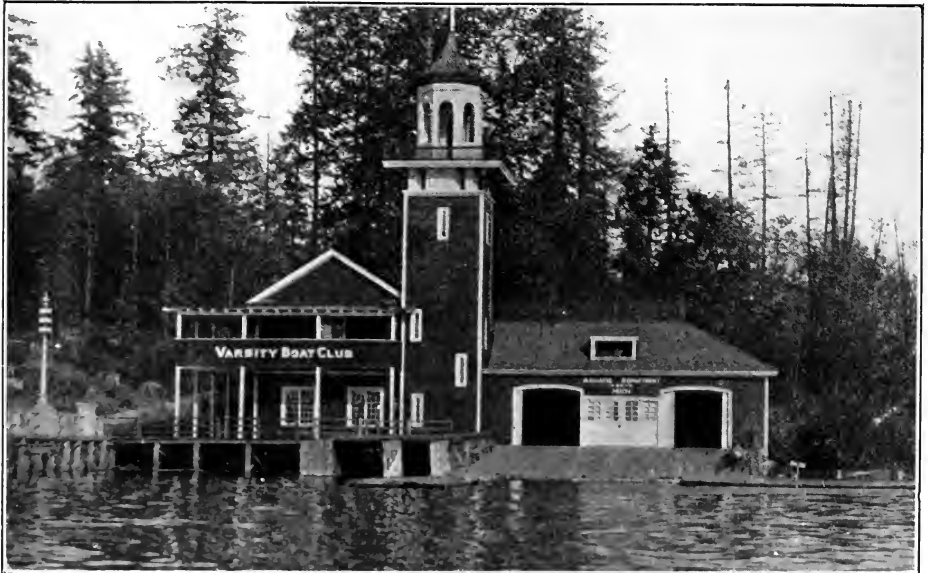
One June day when he was living in New England he went to New London and watched two miserably conditioned eights fight it out for four miles, and almost tumble from their shells at the finish. Conibear declared then and there that he could put eight men in a boat that could row away from either Yale or Harvard. The more he thought about it, the more he was determined to try; and it was only a few weeks later that he made arrangements to cross the conti-

nent to handle the crew of the University of Washington.

Conibear was as enthusiastic over his new job as the small boy with a ticket to the big show. He didn't know the first A, B, C of rowing and he didn't much care. The way it looked to him was this: Here were 1,000 men, not immature boys just parted from their "schoolmarm's" apron-strings, but husky types in the prime of young manhood, the sons of pioneers, most of them, with the qualities the name implies, and a still-water lake in their front yard to work upon.

What did he care about details of boat-rigging and theories of stroke with such a layout? He knew how to handle men and how to condition them, and if he could discover how to make a shell travel between two given points in the least possible time, he ought at least to hold his job. And plain Hiram Conibear from 'way down East did this very thing. He learned by quiet, persistent application how to make eight men row a shell faster than the eight or sixteen or twenty-four other fellows trying to beat them.

Hiram had been out on the Coast putting his principles into execution for about eight years, when the University



TRAINING QUARTERS FOR THE 'VARSITY CREW. THE PATH BEHIND THE BUILDING LEADS THROUGH THE WOODS TO THE MEN'S DORMITORY ON THE CAMPUS AND IS LESS THAN 300 YARDS AWAY



UNIVERSITY OF WASHINGTON FOOTBALL TEAM IN ACTION

alumni, undergraduates, and the city of Seattle got together and raised the price to send him and his eight across the continent for the Poughkeepsie regatta. These Pacific Coast oarsmen and their coach didn't even know what shell they were going to row in when they finally reached the Hudson. They had no coaching launch, they didn't have a boathouse, nor even a house to sleep and eat in during the eleven days left in which to train and get the feel of the river.

But can you imagine the satisfaction in the breast of Hiram when he at last boated his crew and saw them swing away up the Hudson for their first stretch in Eastern water? Neither he nor his crew worried over missing equipment, or a place in which to eat or sleep. What disappointed Washington was that neither Harvard nor Yale were going to give it a chance to lick them. That's the Western confidence these fellows carried. Hiram coached from the river bank. Some days he was able to borrow a lame motor boat, "putter" out on the water, and shout instructions as the crew flashed past.

Both Courtney and "Jim" Rice sympathized with the students from the Coast and came over to help with counsel and advice, but the others on the river showed only a passing interest. From the showing Stanford had made

one year before there wasn't much fear that the Washington crew would prove a serious contender. However, the boat hadn't been on the river four days before scouts along the bank, with binoculars pressed to their eyes, began to take notice. There was power, barrels of it, in that boat from the Coast, and there was a grip and a heave in the long swing of the oars that never lagged.

A trip to Conibear's camp, where the men from Washington State were living under canvas, found eight bronzed young giants. The bow oar, himself a well-set-up man of 150 pounds, was a midget alongside of No. 5, who weighed 195 stripped, and stood an inch over six feet in his woolen stockings. No. 6 stripped at 190, and the boat averaged something over 175. About a week before the race, when the coaches were announcing their time trials, Conibear modestly slipped a piece of paper to the newspapermen one day. It read:

First mile	4:50
Second mile.....	9:56
Third mile.....	14:51
Fourth mile.....	19:28

Four miles..... 19:28

This was within a fraction of a minute of the record and the river was agog! "I don't want you Easterners to think



TACOMA'S HIGH SCHOOL STADIUM. BUILT BY POPULAR SUBSCRIPTION. IT IS FROM SUCH INSTITUTIONS AS THIS THAT THE UNIVERSITY OF WASHINGTON GETS ITS FINE ATHLETIC MATERIAL

we're a lot of wind-jammers," said Conibear, "but as long as you're going to print something you might as well get it right."

After that the rowing sharps from the East studied this shell as it swept impressively by, much in the same attitude of mind that men on that river, hundreds of years before, watched the approach of a war canoe full of mighty, bronzed men knowing hardly what to expect, but sure that if their own oarsmen beat off the strangers, they would have to row as they never rowed before. And the story of that June afternoon in 1913 proved all of that. Washington, fresh as a mountain daisy, after shaking off Wisconsin and Pennsylvania and passing Columbia, came booming along toward the finish in full pursuit of Syracuse and Cornell, and looking like a winner. But it wasn't destined to be. Washington had timed its sprint too late. Besides, one of the crew was in trouble with his foot-brace and seven men were pulling the boat.

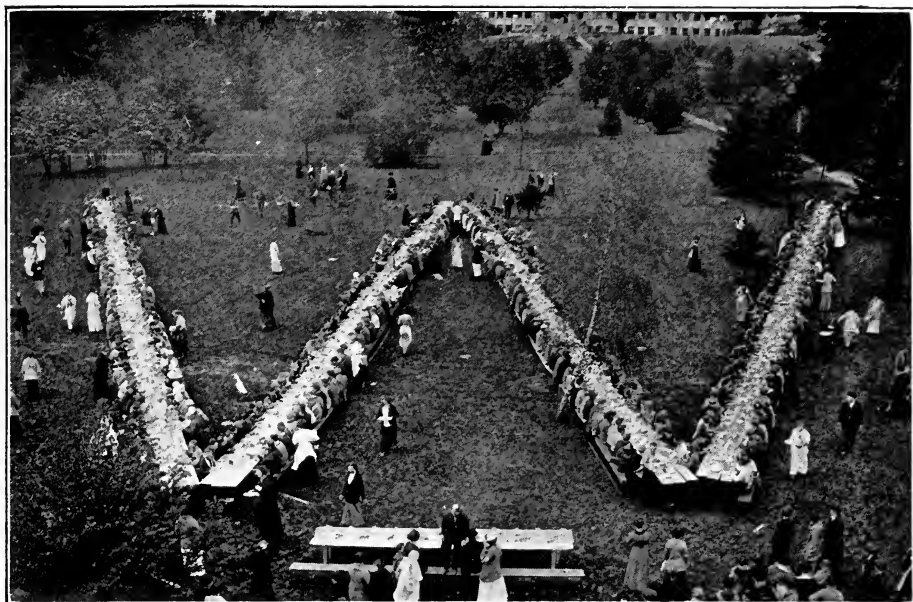
At that Cornell was barely able to get the nose of its shell across the line ahead of Washington, and third was the best the Pacific Coast could do. But the oarsmen went home happy, and the happiest

man in the party was Conibear. He had tested his methods against the best rowing coaches in the country and had won a "place."

The following is the record of the University of Washington on the water up and down the Pacific Coast since 1907:

- 1907. Washington first, Stanford second.
- 1908. Washington first, California second.
- 1909. Stanford first, Washington second.
- 1910. Washington first, California second.
- 1911. Washington first, Stanford second.
- 1912. Stanford first, Washington second.
- 1913. Washington first, Stanford second.
- 1914. Washington first, Stanford second.

Rowing is popular at the University. All water sports are. The spirit of the University extends to the city of Seattle, and the two fine fresh-water lakes keep it alive. In the summer, during the college vacation, the University boathouse is kept open and the public, under certain restrictions, are allowed to use the single and pair-oared shells. There isn't any mystery about rowing up here in the Northwest, any more than there is about paddling a canoe. Boys and girls are encouraged to try it, and to "make" the University crew is an honor almost equal to that of being elected president of the



ON CAMPUS DAY, WHEN THE WHOLE UNIVERSITY GOES AFIELD IN ROUGH WORKING CLOTHES, THE CO-EDS SERVE THE NOON-DAY MEAL TO THE OTHER STUDENTS ACTING AS WOODSMEN, GARDENERS AND ENGINEERS

A. S. U. W. The women students have their crews. There are class crews and scrub crews and the greatest rivalry exists between them, as also between the scrub crews and boat clubs up and down the coast from Vancouver to Oregon.

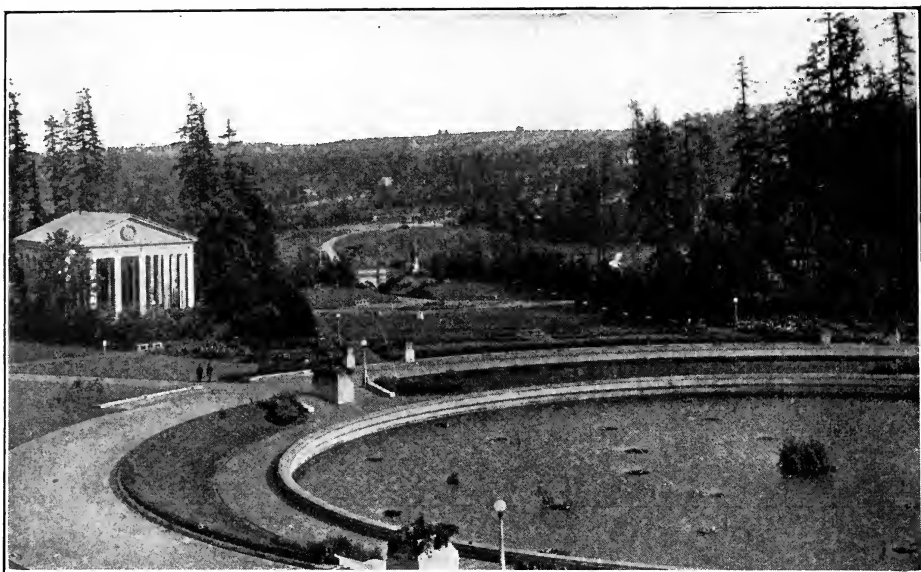
Yet Conibear complains that he doesn't have enough competition for positions in the 'varsity shell. In his eight years' experience on the Coast he has never had a man report to him as a crew candidate who has rowed before in a shell; most of them have never been in a rowboat. There are no big "prep" schools where rowing is taught as a fine art. Not one of the men has ever seen an oar, shell, or boat race unless it has been in Seattle. Conibear has no rowing machines, because it is the opinion out there that the lake is good enough for both instruction and practice.

While for the greater part of the time this spring there have been five crews on the lake, Conibear had only four coxswains and eighteen upper-class men trying for the 'varsity boat, and he eliminated five of the eighteen early in the season. That brought his squad down to thirteen men outside of the coxswains.

Somebody has said that Hiram has so much material that he is always "cracked" on "weight." For an Easterner to look at this superb material and then hear Conibear rave over the scarcity of good men takes one back to the training camps on the Hudson last summer, when coaches like Courtney, Rice, and Ten Eyck, after looking over the Washington group, would growl good-naturedly: "It's too bad about Hiram."

In the East, it seems to be the opinion that the secret of Washington's strength lies in its open water the year round. Conibear doesn't deny having this extra season in the shell, but it is so cold in December and January, when he is working his freshmen, that ice forms on the sweeps. It is laboring under difficulties to teach a student how to row when his fingers are so numb he can hardly hang on to his oar. It requires more than the usual patience for both coach and students to stop under such conditions long enough to correct faults.

"Give me," says Hiram, "a nice, warm place where a man can sweat and not freeze, and where I can get hold of him and show him just what I want him to



BASIN AND MUSIC BUILDING—AT THE UNIVERSITY OF WASHINGTON

do, and I am quite sure that I can make more good oarsmen than I can under Arctic conditions and with no rowing machine indoors."

At the University of Washington the 'varsity squads report about February 1st each year. By that date the Freshmen are ready for their racing shells, and Conibear starts all the crews to work on the water. He coaches from a launch each day from about 4:30 to 5:30 p. m., and often up to 6 o'clock, trying to make an average of one full hour except on Saturdays, when all the crews are working from 3 to 5 p. m. This program is strictly carried out through the months of February, March, April, and May.

Last year the alumni and the people of Seattle contributed \$3,600 to send the crew East after the dual race with California on Lake Washington in May, in which Golden Bear oarsmen lost by seven lengths—the second defeat in the season at the University of Washington's hands. This spring Washington again defeated California, and the alumni and the city of Seattle raised \$4,000 more to send the crew East again. This sum will provide the necessary funds to include a high-power launch for Conibear's use in coaching on the Hudson. To raise the money a State-wide campaign was undertaken, with committees in every

town of any size, each working to outdo the other in the amount it collected. The University undergraduates have purchased two new shells, one built for a heavy crew, and the other for an eight of an average weight. They are said to be the finest shells ever seen on the Pacific Coast.

Football, more than rowing, seems to fit the power and energy of this big, rangy type of man in the Northwest. In popularity, too, it breaks a little more than even. The public follows the fortunes of the 'varsity eleven as it does the professional baseball scores, and supports it by packing the stands at each of the championship games in Seattle. Every community in the State which can boast of a boy on the University of Washington football team is pretty nearly as proud as though it had a Governor or a President. Not long ago the folks from the township that produced an all-Pacific back sent a delegation to one of the big games, members of which, between halves, passed through the stands handing out enormous rosy-cheeked apples, saying:

"Have one on Bill, who comes from the home of the big, red apple!"

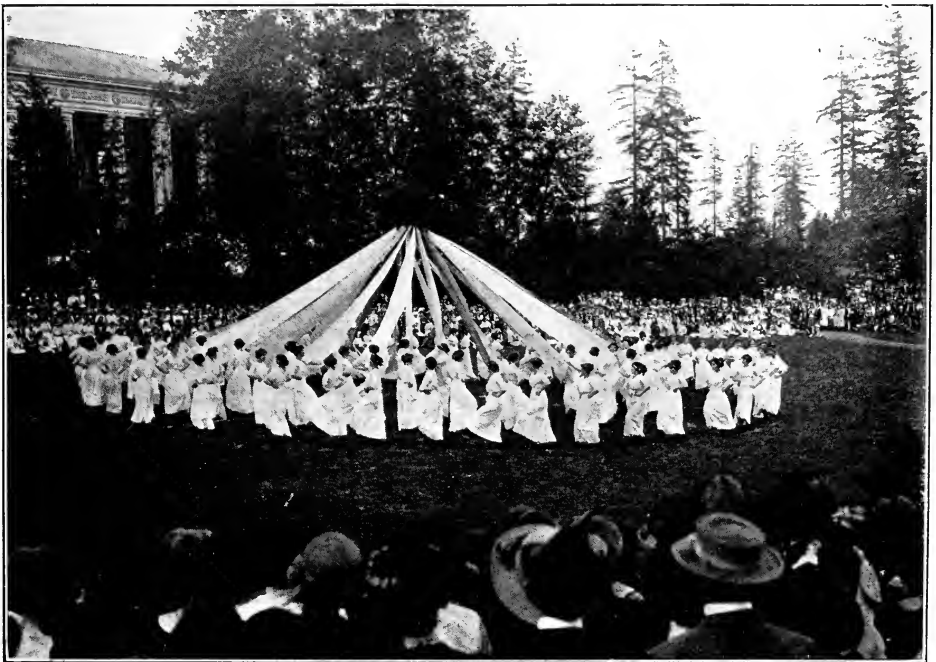
The coach who has given this University its brand of football is Gilmour Dobie, a man little known to the East, but

who, from Chicago west, is quickly recognized wherever the game is played. Dobie came to Washington in the fall of 1908, having had nine years' experience at playing and coaching. He played end and quarterback on the Minnesota team for three years, beginning in 1899; then he assisted Dr. Williams as assistant coach for four years. In 1906-7 he was athletic director and coach at the North Dakota Agricultural College. During his stay at Minnesota he was in touch with all of the big teams in and out of the Conference, knew intimately the individual players, and had carefully studied several of the Eastern teams in action.

It is just as difficult to get a comparative line on the strength of the teams of the Pacific Coast as compared to those of the Middle West as it is between the latter and those of the East. Dobie claims—and he ought to know—that the teams of the Coast are on a par to-day with those of Minnesota, Wisconsin, Chicago, and Illinois; that the players are just as fleet of foot, just as heavy and strong, and with the same courage and gameness.

Frank G. Kane, of the faculty of the University of Washington, and for several years a writer on college athletics at Ann Arbor for Chicago and Detroit newspapers, states unqualifiedly that the University of Washington eleven takes rank with any team, big or little, in the Middle West. He has been a close student of Middle-Western football since 1903.

"I have seen two of Dobie's championship teams in action," writes Mr. Kane. "One was the team of 1909 and the other last year's team, which won the last game with Pullman, and thereby added the sixth consecutive championship to Washington's gridiron fame. Either the 1909 or the 1913 team would furnish a 7 to 0 game with the best of the Middle-Westerners—the Class A teams—Michigan, Chicago, Wisconsin, or Minnesota, if the range and versatility of Washington's play in the last six years could be sustained, as there is every reason to believe it could be. I believe Washington ought to give a slashing, stand-up battle with any team in any section of the country—except, possibly, one



"CO-EDS" IN A MAYPOLE DANCE DURING THE UNIVERSITY'S BIG OUT-OF-DOORS FESTIVAL IN EARLY SPRING

or two in New England. I add this qualification for the reason that we in the West have no means of gauging the real strength of Yale or Harvard."

This is the record of the University's football team since 1908:

SEASON OF 1908	
Washington	Whitworth .....24-4
Washington	Whitman 6-0
Washington	Pullman 6-6
Washington	Oregon .....15-0
Washington	O. A. C. ....32-0

SEASON OF 1909	
Washington	Idaho .....52-0
Washington	Whitman .....19-0
Washington	O. A. C. ....18-0
Washington	Oregon .....23-6

SEASON OF 1910	
Washington	Whitman .....12-8
Washington	Idaho .....29-0
Washington	Pullman .....16-0
Washington	O. A. C. ....22-0

SEASON OF 1911	
Washington	Idaho .....18-0
Washington	O. A. C. ....32-0
Washington	Oregon .....29-3
Washington	Pullman .....32-6

SEASON OF 1912	
Washington	Idaho .....22-0
Washington	O. A. C. 9-3
Washington	Oregon .....30-14
Washington	Pullman .....19-0

SEASON OF 1913	
Washington	O. A. C. ....47-0
Washington	Whitman .....41-7
Washington	Oregon .....10-7
Washington	Pullman .....20-0

Dobie has been coaching the University of Washington since 1908, and in that time his team has not lost a single game, playing schedules each fall composed of seven or eight games, four being championship contests and the other practice games in which the scores are usually very high.

Dobie lays the success of the Washington team very largely to the use of the forward pass and says that all the big games have been clinched by its execution at the psychological moment. He does not depend upon it alone. He tries to send his team into each game just as well trained in the kicking and end running and line plays, and then resorts to that style of play which proves to be the most effective.

"Invariably," he adds, "the forward

pass is the play that does the business."

The average weight of the University of Washington's teams in the past eight years has varied from 172 to 176 pounds, and as a rule they meet teams that are heavier and older. The squads usually number about fifty men at the opening of the fall term, and are then gradually weeded down to about thirty. In addition, there are, each fall, the class teams which have their own schedule of games.

If the East has not seen the Pacific Coast team in action it has from time to time seen some of the players on Eastern gridirons. William Matson, right end at Washington in 1908-09, subsequently won his University letter at Pennsylvania, playing a good end for that team two years later. Matthews, a Washington half-back, afterwards made the Notre Dame team, and Spidel, a quarter-back, later played brilliantly on the Chicago University team. "Dan" Pullen, the giant tackle of the Army eleven and by many picked as all-American, came from the University of Washington, where he played two years.

Several of the players on the Eastern and Middle-Western college teams came from the Northwest, through Eastern preparatory schools, direct to their respective colleges. Several have come from other Northwestern colleges. Philbrook and Dimmick, of Notre Dame, previously played at Whitman College; Sam Dolan, of Notre Dame, played at the Oregon Agricultural College. Leslie Englehorn, Captain of Dartmouth, and DeWitt, of Princeton, both played football at Washington State College. Stanley Burlesky, of Michigan; Fitzgerald, of Notre Dame, and Gottstein, of Brown, all came from preparatory schools in the Northwest. Of all these players only three—Pullen, Dimmick, and Philbrook—were considered particularly good players out on the Coast.

Of the younger players rated as good representatives of Northwestern football, Shiel, fullback, is a husky type of the Coast; rugged and courageous, a fine line-plunger, and a heavy defensive player, in both close and open formations. He tips the beam at 180 pounds. "Hap" Miller, half-back, weighs five pounds more, is fast on his feet, an expert at

forward passing, can punt forty yards on the average and is proficient at goal kicking. Presley at center weighs 176 pounds, and is just as fast and as good a ground-gainer as any of the backs. Sutton at end, about the same weight as Presley, is another fast man who shows at his best in boxing the opposing tackle and can be depended upon to be where he is wanted at the receiving end of the forward pass.

Dobie shows his Minnesota training under Williams by using such a man as Anderson, the captain of last year's team, at tackle. This player tips the beam at 185, and is invaluable at diagnosing plays and breaking up interference, requirements of the perfect defensive tackle. Again in using a man of the type of "Bud" Young for quarter-back Dobie displays the generalship of the East. This player is worked in about every combination on the offense, whether running, kicking, or passing the ball. Young punts an average of forty-five yards and is a drop-kicker of unusual accuracy. He has the reputation of being as fast around the ends as he is effective in line-plunging,

and on the defensive he has the reputation of never having missed a punt down the field to his position.

The following line-up of the 1913 team gives one a good idea of the even weight of these Pacific Coast football teams, and the speed and alertness of big men:

Hunt, left end.....	178 lbs.
Leader, l. t.....	170 "
Griffiths, l. g.....	180 "
Presley, center	178 "
Seagraves, r. g.....	182 "
Anderson, r. t.....	186 "
Sutton, r. end.....	170 "
Young, q. b.....	165 "
Miller, l. h.....	185 "
Shiel, f. b.....	180 "
Jaquot, r. h.....	170 "

In baseball, the University nine last year tied for first place in the intercollegiate honors of the Coast, and this was the nine that made the trip to Japan at the invitation of Keio University. Washington won the majority of games played on the Islands. The basket-ball team last winter won the championship of the Northwest, as did the track and wrestling teams.



TEMPERAMENT IN TENNIS, in August OUTING, will be an unusually timely article. It is in the middle of August that the last match in the struggle for the Davis Cup will be played.



OURS WAS THE DAYBREAK RAPTURE OF THE YACHTSMAN'S JOY

A decorative border with a repeating floral and vine motif surrounds the text. The border is composed of small flowers, leaves, and scrolling vines, creating a classic, ornate frame.

THE FIRST YACHTSMAN

By WALTER PRICHARD EATON

DRAWING BY WALTER KING STONE AND PHILLIPPS WARD

THEY say no child is happy without a place to wet its feet in. Certainly no boy is quite happy without water to play both in and on. Preferably it should be a mill-pond. Nothing is more fascinating than an old-fashioned mill-pond. Alas, with the disappearance of our forests, they are becoming more and more rare! The lumber must now come from far afield. Our flour is ground in Minneapolis. The old-fashioned mill, which cut the logs or ground the corn of the neighborhood, wherever a six-foot fall could be secured in some meandering stream, is either a memory now, or at best a picturesque ruin, with the dam destroyed. And our present generation of boys is the poorer for that loss.

We learned to swim in the old mill-pond, stripping unashamedly beneath the arching willow near the dam. We gathered pond lilies from it, working from the shore with a long pole slit at the end to catch hold of the stem, or else "borrowing" the miller's flat-bottomed boat. We "ran logs" in the mill-pond—an exciting sport, never popular with parents. When the winter cutting came down the stream and lay jammed criss-cross in the pond, it seemed to make a dry flooring from bank to bank, and no dare, not even one to run tiddly-benders on thin ice, was so irresistible as the cry, "I dare yer to cross on the logs!"

The logs rolled. More than half submerged in water, they might have been hung on ball bearings, they responded so easily to the slightest touch; and once started on a career of rolling, a twelve-inch pine log gathered momentum enough to counteract any mad efforts a mere boy might make to stop it. It pitched him forward or backward, unless he could jump in time to another log, and he had to land on the exact center of that!

When the logs were out of the pond, and the great pile of new sawdust by the mill smelled sweet and resinous in the July heat, and the miller chanced to be good-natured (or away from the mill!), we used to beg a couple of planks, hunt out a log or two which had escaped attention, pick up a few old boards, "sneak" a hammer and some nails from our homes, and emulate the pioneers of river navigation. We would build a raft! Has the boy ever lived who did not love to make a raft? No matter if it sank two inches under water when two navigators stood on the same side, soaking their boots. No matter if the improvised mast and sail were quite ineffective. It held us up on the bosom of the waters, and we had made it with our own hands. No knockabout nor motorboat of the after years has ever given half the thrill. Ours was the daybreak rapture of the yachtsman's joy.

That old mill-pond is no more now. The mill has been destroyed, the timber dam allowed to rot away. The great willow has vanished. A shrunken and sluggish stream flows past little frame houses on the bank, and a trolley goes past on the road. There are no more pine logs to come down the current in spring. And the saddest part of it is, perhaps, that the logs and the mill might both be there to-day if we and our fathers had possessed six grains of foresight!

NOTED AMERICAN GOLFERS AND COURSES

By HARRY VARDON

The Famous English Professional's Opinions as a Result of His American Tour Last Year

DURING my recent brief tour of your country, I had hardly the opportunity I wanted to study your golfers and your courses. Ray and I worked overtime. We took part in matches on the Pacific Coast and in Texas. We made some pretty quick jumps, a series of them, and in that time we saw more or less of your prominent golfers. We had opportunities of playing on some of your best courses and it is at the request of OUTING that I shall try to tell you briefly my impressions of your noted players and courses.

I shall not discuss American golf, its needs, and assets. Neither shall I go into a comparison of the game in this country and in Europe, nor record what is the matter with the great mass of your golfers and the reason for it. I have just been asked to say something about your best players and courses. If you are expecting me to consider the mass of American golfers, you will be disappointed.

Of course, I did not have an opportunity of closely studying all your amateurs. I saw practically all your good ones, however, and I am ready to make this statement:

Charles Evans, Jr., struck me as being your best amateur. I noticed these points in his game: When he played in England in 1911, it occurred to me that his swing wasn't as good as it might be; it was too cramped. Seeing him in action last year, however, he seemed to have eliminated that fault. He now plays with a more upright stand. His style is not unlike that of the leading British golfers.

The point I liked best in Evans' game is the way he plays his iron shots. To be sure his driving is good. But his half iron shots up to the hole are the feature of his game. Evans plays a kind of push shot. He addresses the ball with his hands slightly in front of it, keeping it fairly low during the flight and making it drop dead soon after alighting. It is not quite the same push shot as that which the leading professionals in my own country have practised so assiduously and brought to a state bordering on perfection. Still it is an exceedingly good one. Of all the amateurs whom I saw in the States, Evans alone played this valuable stroke with the polish and incisiveness that it needs.

A good many people told me that he was a poor putter. I cannot understand how he got this reputation. The day I met him at Ravisloe he putted exceedingly well, and in good style. He assured me, however, that he did not often meet with such success on the greens. All in all, he is one cracking good amateur.

Francis Ouimet comes next to mind. He is a fine golfer. Ray and I are keenly looking forward to opposing him again in the English championships this summer. Personally I like Ouimet's wooden club play better than his iron club. He seems surer of his driver and his brassy. There is a certain swift precision to these strokes that I seemed to find lacking in his work with the irons. He drives splendidly. But about the way in which he executes his iron shots there is a certain element of "flabbiness," if I may so describe it.

Ouimet does not hit the ball with

the same iron as Evans. At this style of play, Evans seemed utterly to surpass him. I am sure that when Ouimet improves his work with the irons, he will be an even better golfer. It may be that his swing is a shade too long for his iron clubs. I cannot say this for certain, for I am frank to confess that I was so closely concerned about the scoring at Brookline that I did not watch Ouimet's swing very closely. If he was hitting the ball that way, taking too long a swing, it would explain the "flabbiness." For iron shots a compact swing is essential.

I fancy that one or two of Ouimet's strokes in the play-off for the championship at Brookline were not shown in quite the manner that he intended. It would be unfair to judge anybody under the conditions which prevailed on that occasion. The ground was so soft that the club-head simply skittered along on meeting the soaked turf. That may explain why Ouimet's work seemed flabby. Still it does seem to me that he would be even harder to beat were he to put more "devil" into his iron shots. His drives are excellent. They mostly carry. His short approaches are particularly good. Also, judging by what he did in winning the championship, he is a first-rate putter.

Dangers of the Hook

After seeing E. M. Byers play, I came to the conclusion that he is essentially a putter. True, on many occasions, he gets very long distances on his drives. He does this, however, by playing for the hook, risky business as I shall show. At other times Byers overdoes this style of driving and finishes in trouble on the left, the ball swooping into the rough. There is a slight excess to his pull. I have seen him come to grief several times, solely for this reason. In each case he obtained with it the length of his drive but the shot was in the wrong direction.

Such visitation of trouble is inevitable in the case of a golfer who always plays for the hook. It is a dangerous trick to attempt. The very smallest excess of the pulling element in the stroke makes a huge difference in the result.

Personally I feel that the risk is not worth taking. I would never under ordinary circumstances attempt to pull. I did at the ninth hole at Brookline and paid the penalty. The chances of failure were far too great.

By watching many of your amateurs I came to the conclusion that too many of them are ruining their prospects by attempting this kind of a game. It is all right when it comes off. The long run produces a long shot. It is sensational. But give me the more upright swing. This produces a stroke that is nearly all carry. There is little chance of getting into trouble, and in the end it is safer. A good player can always be sure of controlling direction in this manner. But to execute a stroke with a pull is such an extraordinarily delicate action that nobody can depend upon accomplishing it perfectly every time. But to return to Byers. As I stated, he is essentially a putter. On the greens he has what I once heard an old Scotch golfer say:

"That mon has the heart o' an ox."

Byers has what golfers call "cold nerve." Nothing seems to fluster him. I believe that if a championship rested on the result, nine times out of ten he would run down a nine-foot putt. I think it was in Cleveland that I saw him make an approach that left him to hole out a sixteen-footer and he needed it to halve the hole. He addressed the ball in perfect form, took his time, and never blinking an eye, sent it spinning true to the cup and he had to figure on a slight grade at that. He is certainly a splendid putter. I also noticed that he was very good at short pitch shots. He plays the right kind of an approach. At least he did when I saw him. He sends his ball high, dropping it on the green with all the roll taken off it.

Before I came to this country I heard a lot about Jerome Travers. I knew him well by reputation. We have heard much about his brilliant championship work. I saw Travers play only about eight shots, consequently I cannot pretend to be able to criticize him at any length. But from what I witnessed, he did not impress me as being a true championship golfer. I observed, to my

amazement, that Travers also is addicted to the hook game. During the brief period in which I watched him, however, he was obviously far below his best form. He played his wooden club shots but they were both erratic, mainly, I think, because of the attempt to get the hook. I stayed to see him putt, but I was disappointed again. His work on the greens that day was obviously far from being his best. I concluded I must have struck him at an off time, because everybody assured me he was a splendid putter. He has not, however, the all-round golfing form of Evans.

Unfortunately, I did not have a chance of watching Walter J. Travis, Heinrich Schmidt, Fred Herreshoff, and other prominent amateurs.

Promising Young Professionals

I was rather impressed with your younger professionals. The most promising whom I saw were Macdonald Smith and J. M. Barnes. I think that Smith is a real top-sawyer, a born champion. He is plainly a natural golfer. I have never seen anybody, young or old, in Britain or America, play iron shots up to the hole better than he plays them. It is clear that they are easy to him and as he is, I believe, only about nineteen years of age, he ought to have a great future as long as he takes care of himself.

He was in the couple behind me, in the United States Open Championship at Brookline. Thus I had many opportunities of observing him. Every time I looked around to see him play an iron shot, he put the ball close to the pin. I have never encountered a more promising golfer. Keep your eye on him for your next open champion.

Barnes reminds me of James Braid. Like him, he is tall and sturdy. He is an uncommonly good player. He has every shot in his bag. He knows how to use all his clubs perfectly, something not all your best professionals understand. Several other excellent young players impressed me. I wish I could recall their names, but it is difficult at the end of a three months' tour rushing from club to club and playing over forty matches.

Let me draw this conclusion, however. I was impressed with so many of your young professionals that it seems to me that in only a few years American championship golf is going to have a big boom. You have a lot of very promising young professionals, West as well as East, as your next open tourney ought to show.

Your Smiths all seem to be noteworthy golfers. Of the Smith brotherhood, Aleck is almost as good to watch as Macdonald. He plays his iron shots beautifully and is a wonderfully deadly putter. I like, too, the breezy, confident manner in which he sets about the game. It is something like the air which used to distinguish George Duncan. Aleck Smith seems to be animated by an ever-boyish spirit which says: "Here's a ball, let's hit it." Apparently the seriousness of the stroke never bothers him which is perhaps why he is so efficient.

I noticed that Willie Smith has changed his style. Now he is using the flat swing instead of the upright. Since he is playing for a pull to-day, I do not think he is as good a golfer as when I was in the States fourteen years ago. He was very hard to beat then. I was at my best (I wish I could play like that now), and I had to be right at the top of my form to defeat him by 2 and 1 at St. Augustine, Fla., and by 4 and 3 at Midlothian. If Willie Smith had been as good at Brookline last summer as he was in 1900, he would have won the championship comfortably.

Your other noteworthy professional, J. J. McDermott, has changed his methods since he took part in the British championship at Muirfield in 1911. He failed then to survive the qualifying round. Like Evans, McDermott has changed his style of play. By so doing, he has improved his game immensely. At Muirfield he used the flat swing and was continually getting into trouble. We could not see any future for him. When I saw him in action here, however, I was surprised at the change in his game. He has adopted a more upright swing, the British swing. He is to-day a splendid golfer, well rounded out in all his shots and thoroughly seasoned. Of the way he uses his clubs I

cannot make a criticism. Only one thing impressed me. McDermott might play a little more quickly. If he did so, I think he would show even better golf.

From watching all your amateurs and professionals, I concluded that slowness is one of the defects of their style. Slowness in golf is not generally calculated to bring success. At least, I feel certain that the first impulses are generally the best at golf. If it occurs to you, off hand, for instance, to slice deliberately—provided, of course, that the situation offers a slice—it is wise to act on that impulse. If you stop to consider you will instantly conceive several ways of playing the shot and you will find yourself in a dilemma. I know years ago it used to be that way with me. So many methods of solving a situation would come to me that when it came time to perform the business I would hardly know what I was trying to do.

I noticed that many amateurs in the States make a practice of disregarding their wooden clubs at the tee. On holes that call for long drives, I saw many players using the cleek, driving iron, even mid-irons. There is nothing so disturbing to a man who has studied golf as to witness such tactics. From time to time there appear in the British newspapers and golfing journals remarks which suggest that American amateurs are falling more and more every year into the habit of using iron clubs for all their tee shots. How far this is true I cannot say, but during my tour I saw enough to lead me to believe that there is a basis for the statement.

I hope that it is an exaggeration, because I am certain that where distance is wanted, a wooden club is the proper implement to take, and that in the great majority of cases the player who practises assiduously with the driver and the brassy will be able to control those clubs better than any cleek, driving iron, or similar instrument. Besides it is proper golf to drive with the driver.

That may seem a priggish, old-fashioned idea, based largely on sentiment. But I do not like to see a golfer using irons from the tee at long holes, because I always feel that he is injuring his chances of progress. Some golfers se-

cure amazingly good results in this unorthodox way, as, for instance, Jerome Travers. I cannot help thinking, however, that even Travers, excellent and successful player though he is, would be better off if he would give himself up wholly for some time to the task of mastering his wooden clubs. He is a born golfer and I feel sure he could do it if he would go about it in the right way. The use of iron from tees is the only criticism I have to make of Travers's game.

At home we have a good many men who are addicted to the regular use of irons from the tee, although there is no such player in the first-class ranks. It is my opinion that iron drivers are heretics. From the view-point of a conscientious golfer they cannot appear to be anything but that. They are not only unorthodox, but they are blind to their own interest and are moreover faint-hearted. They think that they cannot master wooden clubs and they have not the courage to make a determined effort to do so. They seek to evade the difficulties of the game, by accomplishing their tee shots with a driving mashie or kindred instrument. They will never make good players and they will never know the full joy of the links. Not one person in 10,000 is likely to derive real satisfaction from the game or obtain a high standard of ability, unless he learns to wield wooden clubs in the correct manner. That is one of the weaknesses, the biggest, in fact, of your mass of amateur players.

The Best Courses

So much for your best players as I observed them. I shall now consider those of your courses that impressed me. Of course, I did not have an opportunity of playing on all your links. The ones I did not have a chance to see, however, were ably described to me. Also, they were compared with courses that I played on. In general I must say that your golf grounds are not as good as those in England. The reason is that they are too easy. To be sure, you have some very splendid courses and the ones that impressed me most I shall dwell a

bit on, discussing specific points that appealed to me.

The course I liked best was Detroit. It has both cross hazards and wing hazards and they are excellently placed. I cannot think of any criticism that could be leveled at Detroit. It is a splendid test of golf. It demands the placing of shots, which after all is the sure test of an absolutely high-class course. There are many very fine holes at Detroit.

It was the second hole, however, that I liked best. This hole calls for two wooden club shots by a first-class player. On either side the bunkers hug the fair green so closely that unless you drive to the right spot you lose the advantage of the open approach for the second shot and have to try and carry the bunker. This is protection that a hole of that length should have. Were the Detroit course not laid out so scientifically, it would be possible to pull your ball and still be able to get through to the green unobstructed on the second. But pull, and you have to run the risk of being caught in a bunker. That is real golf. Proficiency with the wooden clubs is rewarded with the chance for a clear approach. Faulty use of your brassy and the hazard rises in your path.

Another very excellent course is at Mayfield (Cleveland, Ohio). At Mayfield there is something to carry at nearly every hole. This is a proper condition of affairs. Under such circumstances, the scuffling, half hit shot cannot very well be rewarded unduly. The brows of hills confront you from the teeing grounds, and the only way of getting over them is to carry them. You cannot accomplish anything with slipshod driving at Mayfield. You must make your long carry or take the consequences, which is as it should be.

I particularly remember one hole at Mayfield. It was a dog-legged contrivance and I was very fond of it. It called for a perfectly placed drive, then a chip over the corner of a river. A faulty drive and you were done for. It is a test of exquisitely delicate work with the wooden club. It makes a really beautiful hole. Moreover, the whole course at Mayfield looks natural. There is none of the artificiality about it so com-

mon to many American golf grounds. That in itself is a big asset.

I like the Toronto course, too. I thought it was admirably arranged. Here, too, I found plenty of cross and wing hazards and bunkers hugging the sides of the green. It is scientific without being foolish. That is, there are no holes so extremely difficult that they are almost impossible. When I was at Toronto they were changing two comparatively weak holes, and with these improvements the course will afford splendid golf.

Brookline Good, But—

While not what I would call a championship course, Brookline has several splendid holes. In view of our being defeated there for the championship, I shall go into this course more fully. I recall first a very good second hole. If you put your drive on the right spot, you have the full length of the green on to which to play the approach. But where a drive of the wrong kind is your best effort from the tee, you'll have to make amends. Your approach is not clear. You have to accomplish it by carrying a huge bunker. Then there is the fifth hole. It calls for a drive followed by a brassy or an iron. There is a big hill to carry from the tee and lying in wait is a great array of bunkers waiting to catch a faulty second shot.

It was at the fifth that Ouimet pulled himself out of the only tight place he really got into on the whole round. His second shot was a long brassy and he sliced it out of bounds. He dropped another ball and this time, making the edge of the green, he chipped his fourth shot up near enough to get the putt for a five. Fives were all Ray and I could get, although with better putting we should both have made fours.

The ninth, which I believed cost \$5,000 to make, might be converted into a better hole. It is not good now because you can reach the green with three indifferent shots, yet you cannot get on with two perfect strokes. Let me explain this:

Owing to bunkers, you have to take an iron for the second after a good drive

and play short. If you went for a full wooden club swipe with the second, you would be in the bunkers. This leaves you a third shot which is a pitch to a raised green that you cannot see; by either taking the tee back, or putting it forward, the hole could be made into a very fine three-shotter or a relatively good two-shotter. At present it is neither one nor the other.

I remember that ninth hole. It made me force my drive with the result that I had a pulled ball into the woods. I got out far enough to let me make the green on my third. Thus I was enabled to do the hole in five. As Ray and Ouimet both needed three shots to get to the green, due to the strange topography of the hole, I was thus able to halve it with them. This I would not have been able to do were the hole scientifically correct.

I think that the eleventh hole at Brookline is the best on the course. From the tee you have to carry about 150 yards of long grass. This accomplished, you take a cleek or an iron, according to circumstances, and get over a water hazard. You have to clear the water to reach a green which sloping toward you seems to be looking you straight in the face. There are bunkers on either side, so you must make your shot straight.

The fifteenth and sixteenth at Brookline are also good holes. The former is a drive and iron with a good carry from the tee and bunkers to be considered round the green. It is well trapped. It was on this hole that Ray's drive hit a spectator. Ouimet and I hit shorter balls and kept straight. Ray's drive left him with a difficult approach, and, as I said, the green is well trapped. The time for playing safe was past, however, and Ray had to take chances. So he played for the green and the ball ran into a trap which cost Ray dearly. Ouimet and I got fours.

There was nothing particularly impressive until we came down to the sixteenth. This is a beautiful short hole. It is only a mashie shot, but the green is an "island." That is, there are bunkers on three sides and the road beyond is out of bounds. You have to play your mashie shot carefully, though, to get

your three. I remember that Ray just made the edge of the green and it took him three putts to get down.

I think the second half of the course at Brookline is easier than the first half if you are playing well, but I think it is better. It gives you a greater sense of satisfaction.

Of the far Western courses, Portland and Seattle impressed me. Portland is a very good course. It has beautiful surroundings and holes that really test your game. Seattle could be made into a links possessing the best greens to be found anywhere. The general character of the ground reminds me very much of Sunningdale, one of the most famous of the English inland courses. Your Myopia is a good length, but the scheme of rendering it difficult impresses me as being fantastic. The holes are cut too near to the bunkers.

Some of the holes are excellent, but others introduce a big element of luck. At the sixth, for instance, the green is laid out on a kind of Brobdingnagian principle. It is a toss up as to whether you stay on the green even though you play your shot well. Myopia has just about the right number of bunkers, and it is because it might so easily be a splendid course that I mentioned what appeared to me to be its faults. Baltusrol is interesting. It is well bunkered and where there are not bunkers there are roads. The Ravisloe Club at Chicago is another that impressed me particularly.

Of course America and golf have not known each other long, in comparison to England's acquaintance with the game. In this connection I recall an incident of our tour. We were in one of the coast cities, I think it was Seattle. We had beaten the local professionals five up and three to play. After the match was over and we were on our way to our hotel, a man in our party called my attention to one of the newspaper offices. On the front of it was a big blackboard where they keep the baseball scores. On this day they had on the board a record of our golf game. This is what I read:

"Two Englishmen beat the local professionals, five up, and three to play—whatever that means."

THE BIG FOUR IN TENNIS

By EDWARD B. DEWHURST

THIS is a great year in American tennis. Win or lose, we are to have the pleasure of seeing the greatest tennis players of the world in action on our courts. It is fairly certain that England, Canada, Australasia, and perhaps Germany will play their cup ties for the Davis Cup on American soil, and then will come the challenge round in which America will withstand the winner of the preliminary in the matches for the Cup. It is proper, therefore, that we consider the men who stand highest among the players of the world and cast up the points for and against them in their style and method of play. So here are the four of them, Brookes, Wilding, Parke, and McLoughlin.

THE International matches last year, held in England, brought together all the best lawn tennis players in the world, with the exception of N. E. Brookes, the greatest Australian player.

France, Germany, Canada, Belgium, South Africa, America, and England were all represented by their most noted experts and, in the matches which followed, the individual powers of the four great players easily overshadowed the skill of all the rest. These great players, the "Big Four" of the tennis world to-day, are undoubtedly: A. F. Wilding, the great New Zealander; N. E. Brookes, the Australian; J. C. Parke, the hope of the English team, and M. E. McLoughlin, the undisputed American champion of to-day.

Here are the four champions differing from each other in skill by the merest fraction. So close together are they that each has practically beaten the other. McLoughlin has beaten Parke and been beaten by him; Wilding has beaten Brookes and McLoughlin, and he has been beaten by Parke; Brookes has fallen to the skill of Parke, and avenged his defeat twice afterwards.

Yet close as these men are bunched at the top of the tennis tree, each one plays the game in his own way and

stamps on his exposition the trade-mark of his own individuality and methods. Certain characteristics, however, they must all have in common. Lawn tennis of to-day has long "outlived the birth-stain" as a garden party recreation with which it began. The champion of to-day can only attain rank if he be a perfect physical specimen, possessing strength, activity, and unbounded lasting power, so he may not fail at the end of a long-drawn-out contest. To these he must add the perfect muscle co-ordination of the eye and hand; an indomitable determination and the mental characteristics that will render possible the crafty planning of a scheme of attack and defense, and the ready grasp of any opportunity such as an unexpected weakness which may become evident in some joint of his opponent's armor. All these qualities are notably present in all four men; yet, with all these things in common, no two of these champions play the game alike.

In a large way they may be divided into two pairs. Brookes and McLoughlin are the servers and volleyers, and Wilding and Parke are the base court players. By this it is not meant that Wilding and Parke do not volley or that McLoughlin and Brookes do not drive. It may be better expressed by saying that Brookes and McLoughlin rely upon the excellence of their service and volley

combination for their attack, while Wilding and Parke build their offensive tactics upon the solid foundation of their wonderful back court game.

That McLoughlin is a volleyer and server is not surprising. His game as he plays it shows the influence of the cement or dirt court. Where the surface of the court is absolutely true and hard, delicacy of placement goes for naught, as the ball will always rise high enough to be hit hard and, if one is only fleet enough of foot, it can always be returned. The one way to win points on these hard courts is by the "tour de force," the smashing lightning stroke that is past and away out of reach of the player be he never so fast on his feet. Hence the service appealed to McLoughlin as the commencement of the furious attack and the snapping volley as its natural corollary. So his game developed along those lines till to-day he is the fastest server in the world, and one of the finest and most aggressive volleyers.

As is well known now, McLoughlin is a server and volleyer only. There are times when he can and does drive magnificently, but in this latter department does not lie his strength. His skill in the base line game is so far behind his command of the volley that when one watches him play a match where he is all out to win, the strokes that remain in the recollection of the onlooker are almost invariably some of his magnificent smashes, services and volleys.

Realizing this, McLoughlin makes his attacks so fierce and so tremendous that he is able to make it a shield for his one palpable weakness—his backhand drive.

McLoughlin depends on his service to win him his matches because he is good enough from the striker's end to win an occasional service game from his opponent, and his own attack of service, smash and volley is as nearly irresistible as can be imagined.

Unlike some good volleyers McLoughlin has the capacity to count. By this is meant that he can average up the points that he makes and loses by volleying, and does not get scared away from his chosen game if he is passed a few times.

Many players whose strength lies almost solely in the volley, and whose place

to win is at the net, lose count when they are passed at the net a few times and flee incontinently to the base line to wage a battle from there, without their own particular weapons, against an enemy who has been trying to make them do just that thing. McLoughlin does not mind being passed. He knows with good reason that he will not be passed very frequently, and, if he is, he knows that the odds are on the next stroke being one on which he can swing his racquet.

Consequently all through the match he keeps on coming in, and if he fails to finish the point with his first volley he usually does with the second. If he fails to win one of these two chances he usually loses the point but this does not disconcert him at all. Usually two volleys are quite sufficient for him to win or lose the point as, from his position almost on the top of the net, his volley is so hard and deep that, while recovery from the first is quite difficult enough, recovery from his second is almost impossible.

McLoughlin's Weakness

When he is forced to drive the ball he hits it almost at the top of the bound with a tremendous abandon, and forces it over the net at immense pace and with enormous risk, but a surprising number go into the opposite court. His backhand drive is his one weak point, but he has cultivated it to the extent of making it a good defensive stroke—the only one he plays, for he seldom lobs—and, such is his extraordinary quickness of foot, he will run around many strokes that are meant for this weakness and slash them furiously over on his forehand.

Being essentially and almost solely a volleyer, he plays the game as a volleyer should. Having once served or returned the ball, he is firmly entrenched in his favorite position at the net, ready to pounce on the return and kill it once and for all.

His capacity for handling balls overhead is phenomenal and it is almost impossible to lob against him with any chance of success. Not only from close into the net, but from deep back in

the court, he will spring into the air and smash a lob as if it were the simplest thing imaginable, and when he hits one of these he puts the ball away with a finality which does not allow of it coming back at all. No such smashing has ever been seen as this player continually makes from all parts of the court. It is the most whole-souled ingredient in a game that abounds in daring abandon; the most risky and precarious weapon, and yet the one of all others with which he is most uniformly successful.

In temperament McLoughlin is all out a fighter, and he fights his match through much as the old crusaders did with the crashing blows of the mace. He is calm when not in action, but when he winds up his muscles for a stroke he is a picture of dynamic energy which bodes ill for the little white ball when his racket falls upon it.

Yet with all this he is not too overcome with his task to lack the charm of youthfulness. When he was playing Brookes in the Davis Cup match in New Zealand, an errant mongrel wandered through the lines of spectators on the court, and was met by the crowd with the universal "shoo!" McLoughlin's method was more effective. He turned around, grinned delightfully, and fired a ball off his racquet at the dog and went so close to hitting it that it fled instantly amid a roar of laughter from the gallery. Then he settled back to business and led Brookes for the first three sets.

Turning now to that other volleyer, Norman Brookes, we find methods that are distinct and different.

Like McLoughlin in America Brookes is also a result of environment. In Victoria, where he learned his game, the courts were mostly of asphalt and it is only in the last fifteen years that turf courts have come into universal favor there.

As a consequence Victorian tennis players from time immemorial have been volleyers. It is part of their tennis traditions and they follow it in their development to-day, hence it is natural that Brookes, following a long line of volleyers, should elect to make that game his own.

Brookes, too, is a great server, in fact

there are some who think that he is better than McLoughlin, for while his delivery lacks the immense pace and force of our own player he has a wonderful variety of services and can use any delivery he wishes. He can serve the ordinary service or the reverse twist at will and gets on the ball a most tremendous spin that makes its return with accuracy, a matter of great difficulty. But with all the spin he can place his service with extreme accuracy and so work the weak point of his opponent's game.

At the net he is a past master of the craft. Standing close in, he uses all the command his five feet eleven inches give him and he is quick as a flash to cover any return, be it ever so wide. His volleying is quite different from that of McLoughlin, in that he relies mostly on the sharp cross court volleys at difficult angles and the delicate drop volleys that fall dead close to the net. When he gets the chance he will hit his volley hard for the point, but the keynote of his game is that singular accuracy and finesse.

Brookes "Weak" Overhead

Overhead Brookes has not the crashing smash of McLoughlin; in fact he is reckoned weak in this department of the game; nevertheless he is able to smash with considerable speed and he places every ball he hits overhead so that the man returning them becomes the long end of a pendulum and must cover miles of court to win out.

Beals Wright, the best lobber in America, essayed to beat him this way in New Zealand two years ago, but he covered so much court in two sets that even this wonderful athlete was run out at the end at that time.

Off the ground Brookes is the master of his own kind of game. His drive is not the screaming ace of McLoughlin, but it is the particular kind of stroke that he needs to enable him to get to the net for his kill from there. Hence he has perfected the most difficult stroke in tennis, the accurate placing of a rising ball no matter how fast, and so gains a couple of yards on his opponent on his way to the net.

Every stroke that Brookes plays is

made with the one idea in his mind, to get into the net, and he has manufactured his game in every department to suit his own conception of it. His quickness of eye and hand is only matched by his wonderful footwork and he will take the ball anywhere it comes to him on his way in, either as a low volley, a pick-up, or a rising, lifted drive, and each of these strokes is made with the absolute confidence and skill of a master.

Mentally Brookes is a great court general and his temperament is just the right one for the game as he plays it. He is confident and yet reserved; determined and a good fighter to the bitter end.

When he met Doherty on the center court at Wimbledon for the first time some one asked him if he were not a little nervous at meeting such a champion on the historic center court? Brookes smiled and replied, "No, not particularly. You see I am something of a little champion where I come from myself."

Since Brookes won the All England Championship in 1907 he was only beaten once in a five set match and that was when Parke beat him in the Davis Cup matches in Melbourne two years ago and he revenged his defeat on the great Britisher by beating him twice in succession afterwards. To give an idea of what he can do when he is going at his top speed it may be remembered that he defeated C. P. Dixon—who ran Williams to five sets in England last year—by the wonderful score six-love, six-love, and in Dixon's own words "It was worth getting beaten and going half around the world to see such a marvelous exhibition."

Anthony F. Wilding, universally acclaimed the best player in the world today, is a notable example of the older and more conservative methods.

Coming originally from New Zealand where the courts are mostly turf, Wilding naturally fell into the base line game as the foundation on which to build his attack. In England he perfected this style of game and afterwards tacked on the volley as a point winner, but only when the excellence of his base line attack had made the opening for the net position.

This game as played by both Wilding

and Parke is the transitional stage between the absolute volley game and the now obsolete back court game. While it lacks the dash and daring of the volley game, it nevertheless seems to gather the good points of both games, and any lessening of the power of attack from a slightly less severe volley is amply compensated for by the much greater accuracy and force of the strokes played from the back of the court.

Wilding wins his matches by his wonderful command of the ball and his capacity to place his strokes on either hand with sufficient speed to any part of his opponent's court. He hits his drive with the long follow through that is so noticeable in all players of English training, and his heavily topped drive on his forehand has sufficient drop to it to make it hard to volley successfully. He, too, like Brookes, can take the ball on the rise and so plays closer in than he could if he were not a master of this stroke.

Wilding a Conservative Player

In his match with McLoughlin he stood fairly close in within the baseline to take those terrific services and dropped them sharply at the feet of his opponent as he came in to volley, and when he had him hanging back a little he would drive with great speed and precision to the sidelines. He has a good service, but it is not the consistent asset as a point winner that the services of McLoughlin and Brookes are; it is well placed and sufficiently fast to allow him the chance to go to the net when he wishes, though he seldom comes in on his services.

Overhead Wilding has a smash that, while it is good and accurate and with sufficient pace, lacks the spectacular features of that of our own champion. Like the rest of his game it is conservative and shows more care and decision than risk and daring.

Wilding's game on the tennis court is that of a chess player. He is fairly sure of making the ball go where he wishes and so he makes a careful diagnosis of his opponent's game as to where it is strong and where it may be best assailed and then sets out to play the "man" and not the "stroke."

In the English Championship, Wild-

ing early made up his mind that McLoughlin was the man who would be the challenger and give him battle for his title and so he watched him whenever he played. On the side lines of every match McLoughlin played was Wilding, keenly watching every stroke and studying the method of what was to be his adversary, and from this he learned enough to start right in on a definite plan of attack which resulted in his defeat of our player in the straight sets, though they were as close as sets could be.

During this match there were times when the ball was never hit by him out of a spot in the opposite court that could have been covered by a couple of pocket handkerchiefs, and this spot was the deep corner of McLoughlin's backhand court. Here he pounded the ball always to the one weakness of his opponent's game till he saw the chance to come right in to the net and then he would hit the return hard on the volley to the open point in the extreme corner of the forehand court, but only when he was reasonably sure that such a volley would not come back.

In temperament he is imperturbable. Nothing puts him out or detracts in any way from the clear vision that he has formed of what he wants to do and how he must do it. He is calm, deliberate, and forceful, but with all he is only mortal. Even his iron grip on his mind may fail, as was instanced in the final game of his match for the All England Championship. Last year, when he had 40—15 on the final game and his own service. With the match hanging on one of the two next points he served his first ball which was a fault, and then calmly stepped a full yard into the court for his second service and was promptly foot-faulted amid an audible murmur of laughter from the gallery.

This was his one lapse, however, and he recovered himself and pulled out the next point and the championship for the fourth consecutive time.

The last and perhaps not the least of this famous quartette is J. C. Parke, the leading British player of 1913, who in less than a year has gathered in the scalps of Brookes, Wilding and McLoughlin. J. C. Parke concluded the season of 1913

in England with the unprecedented record of having won every tournament in which he entered, with the exception of the championship, where he was beaten by McLoughlin in the semi-final round.

Parke belongs to the modified base line type of players as does Wilding and the rest of the English experts. That is to say, he built his game on the foundation of his base line play and then added on the volley as a point winner when he had made the opening for the stroke. When he strikes one of his great days Parke is the most spectacular driver in all the world. On the dead run, on either hand, from any part of the court, he will swing with all his force on the ball and hit it with unerring accuracy past his opponent at the net, be the opening never so narrow.

Parke a Spectacular Driver

In all his great matches it is the same. He sees the ball and he runs to it at full speed and he strikes it with all his might. There is perchance between the man at the net and the thin white side line an inch or so clear space. What is simpler than to drive the ball to that unguarded inch?

The thing is as simple to do as to imagine and, being once done, what is simpler than to do it again and again? And the wonderful thing is that Parke does do it again and again, till volleyers like Brookes and McLoughlin turn and stare with amazement and chagrin at the flying ball which, having passed them, finds a striking place in the ultimate inch of the boundaries of the court.

Like Wilding, Parke has no very definite weakness, but unlike Brookes and McLoughlin he has no wonderful service or volley. Parke's service is a good, straightforward delivery with a fair amount of pace and placement, but is far from untakable; and his volley, though well placed, lacks the immense pace of McLoughlin or the delicacy of Brookes. Where Wilding plays the "man," Parke plays the "stroke," and when he is having one of his days he plays the stroke so well that the man does not figure much.

Yet Parke, too, is crafty, but his craft is more allied to force than to finesse.

One qualification seems to stand out above all the others in the records of this player. When the stakes are highest, when he has most to lose and most to gain, then is the time when J. C. Parke is the one factor to be reckoned with.

In Australia he met Brookes, and there was not one person in a hundred who would have given him a chance to win, yet the Davis Cup was the stake and, playing like a man possessed, he defeated the unbeaten wonder of the world.

Again when he met McLoughlin in the Davis Cup match in England he played against the man who had beaten him in the championship the week before and there was no apparent reason why he should not repeat the performance. Yet Parke again uncovered a streak of his "Super-Parke" form at the time when it was most urgently needed by his country, outplayed McLoughlin, and won his match, a victory which he repeated the next round against Williams.

Physically Parke is a great athlete in other things than tennis. As a footballer he has been the mainstay of the Irish Rugby team for years and it was commented on that while he was in Australia winning the Davis Cup for England, Ireland suffered her first defeat for years on the football field, lacking the service of her great three-quarter back. Such magnificent stamina makes it possible for Parke to fling himself at full speed on the ball for the length of a long-drawn-out match.

Before he played McLoughlin in the Davis Cup match, just to warm up he had two fast sets with Lowe on the next court and came on the championship court for his struggle with the American dripping with perspiration but ready for the fray. Two hours afterwards, in the fifth set, against our best player, he had still enough in hand to make his spurt and win out by a narrow margin.

This then would seem to be the differences in the game of each of these players who are the best in the world to-day:

McLoughlin must serve his crashing ball, rush into the net position, and kill the return. He has no need to think much, nor has he need to plan. His

game is so sudden and his attack so fierce that, though the method of it be well known, it can hardly be resisted. Hence it is that McLoughlin is seldom seen maneuvering for position. It is quite unnecessary for the game as he plays it. All that he needs is supreme confidence in his own methods to keep him playing the game in his own way and to prevent him being driven back to play the game in any way other than his own.

In Brookes is seen a man who is always playing position; finessing his stroke to get his opponent off his balance; tricking him by the subtlety of his plays till he gets the opening for his winning stroke. For this there must never be a moment when he is not thinking of the stroke and of the opposite player and how he may best get him out of his stride and open up the court to his own attack. Where McLoughlin hammers his way to victory with a club, Brookes fights with lightning flashes of the rapier, parrying, feinting and thrusting always to the unguarded joint in his opponent's armor.

Wilding's superb game shows again the earmarks of the calm, judicial thinker; the man who will play away all day if necessary, concentrating his attack ruthlessly on the weak point of his opponent's game; the man who uses no spectacular plays when he knows that a series of strokes placed to some exact spot will later open up the way for the well-placed volley that will win the point. He is the determined fighter strong at all points of the game yet with no wonderful strokes in any one department, but with the brain to plan and the ability to carry out the determined attack on the one point that his opponent has already shown to be his vulnerable spot.

And finally there is Parke, the dashing Irishman who spares neither himself nor the ball, to whom risks are things to be taken, not avoided, and an inch along the side line is a wide-open opening that it would be ridiculous to miss; the mighty athlete who, when everything is against him, will throw discretion to the winds and by his supreme nerve and daring pull off shot after shot from positions that are well-nigh impossible, and win matches against odds so great that the tennis world stands aghast!

WHAT BECAME OF ALL THE PIGEONS?

By EDWARD T. MARTIN

*An Account of the Last Great Nestings of the Passenger Pigeons
by a Man Who Saw Them*

THE pigeons—were they exterminated? Is there a probability that any are yet alive? Much has been written concerning them, some by persons who knew; more by those who guessed. The writer is one of the few men living who spent months among the pigeons and the pigeon men; who visited two great nestings and one small one; who can tell at first hand what he saw and how he saw it, but can throw no light on the disappearance of a billion feathered people of the woods.

It was a bright, clear morning in June, or perhaps at the end of May, 1878, when the last great nesting broke, in the Crooked River country of Michigan. For three days the writer saw millions of pigeons, mostly young, flying south. He was told that an equally large number, all old birds, left the other end of the nesting, crossed the Straits, where, in the wilds of the Upper Peninsula, many built again and raised more young. The following year there was no beech mast in Michigan. These small nuts ripened in quantities only every second year. Consequently little was done with the pigeons during 1879, the birds scattering over four States in search of food. There was no large lot anywhere, the most in Wisconsin, some in Illinois and Indiana, then toward fall plenty in Michigan.

In 1880, there was again a heavy crop of mast in Michigan. This brought the netters—500 of them—also the pigeons. These hung around some heavy timber south of the Indian town of Cross Village, where a few built nests. Those not building were restless, very restless, mov-

ing constantly and working a little north all the time. The netters of most experience concluded the main nesting would be near Mackinaw City and cut in ahead of the birds to wait there.

The pigeons never came. A small body joined the first nest-builders below Cross Village, while much the largest lot continued flying uneasily from place to place, starting twice to build near the others, then one morning, instead of flying southeast to the beech woods, pointed north, crossed into the Upper Peninsula, and did not return. There all trace of them was lost.

A hundred netters kept keen lookout, hoping they would rejoin those nesting; others followed them across the Straits and searched far and near without success. No pigeons returned that spring or any other spring. They remained north of the Straits. Alive or dead is an open question. The one assured fact is, they remained and were hidden where no man ever found them.

Those already nesting stayed south of the Straits until their young were strong of wing, when they, too, moved north and disappeared instead of raising a second and third brood, as some did two years before.

The catch from so small a nesting was very light, not equal to the number of young birds hatched. It was made lighter because the best netters were not content to bother with such a small lot of birds, although prices were very high, but kept constantly on the go looking for the main body which all were satisfied would be found sooner or later. This left only some small fry with the Indians, to catch the few pigeons taken.

Contracts were outstanding for birds to be used in several large tournaments, and it was with great difficulty that they were obtained. The last shoot of importance where wild pigeons were used was that of the Illinois State Association, and the supply reserved for that—ten thousand—was not quite enough to finish the last day's program, so tame birds were substituted for the final event. This was early in August, 1880.

In 1881 the pigeons again scattered over Wisconsin, but so sparsely that the catch was almost nothing; five or six dozen one day; none for a week, then four or five dozen more. There was no regular nesting; no large body of birds although acorns were plentiful. Yet neither shooters nor netters talked extermination or believed it possible, and search for the missing birds was persevered in.

Where the Blame Belongs

The man with his net now receives universal blame for the lost army of pigeons. Unquestionably he was bad enough. The Indian, with his pole, did his part, poking squabs from every nest within reach. The beasts of the field and birds of the air were not idle. All, everything, from man down, considered the pigeons legitimate prey. Each did a share of killing, but the censure belongs to the white man—he who shot in the tournaments as well as he who caught in the nestings—for he alone knew better; but all these foes combined, while helping materially, did not exterminate the pigeon.

Let us go back to Shelby in 1876. There the slaughter was greater than at Crooked River in 1878. The birds were more "come-at-able," easier caught, easier shipped. They came to Chicago by boat, by rail, in such quantities as to swamp the buyers. Many barrels of those shipped dead were dumped into garbage wagons, spoiled—not even salable at half a dollar a barrel. Live birds arrived so fast pens could not be fitted up to hold them. Thousands were kept in small crates where thorough feeding and watering was impossible, until half had fretted themselves to death, or else perished for want of food and drink.

Yet with millions destroyed, two years after, when there was another bountiful crop of mast, they came to the cedar swamps of Crooked River and Lake in greater force than ever, showing that the record catch at Shelby had made no diminution in their numbers; that their natural increase had offset the loss at the hands of man and beast. The nesting of 1878 was more than thirty miles long and a mile or over in average width. Old pigeon men, by figuring birds to a nest, nests to a tree, trees to an acre, acres to a mile, square miles in the nesting, estimated there were a billion pigeons.

Southeast of the main nesting were two small ones hardly touched by netter. These were not included in the estimate, which probably was not too large considering that one sensational writer—a man of some prominence—placed the catch and kill at "One Thousand Million!" Of course he was romancing. However, those who saw the pigeons come and watched them when the nesting broke expressed no doubt that more birds went than came, the young birds raised there, as at Shelby, more than equaling the catch and kill made by all the pigeons' enemies.

A fact in connection with the nesting of 1878 which the writer has never seen in print is that when the first body of pigeons reached the Crooked River country, before their nests were completed, a heavy snowstorm came which caused the birds to drop millions of eggs on the frozen ground. After the storm abated and the snow melted, part of the swamp still was white, the eggs being so thick for several miles as to give the appearance of a snow-covered ground. These birds moved around for a week or two, roosting at night near those nesting, then built for themselves close by the others and raised their young as if nothing had happened.

There are several puzzling questions which the writer wishes could be answered. What became of the vast body of pigeons leaving the Crooked River country after the nesting broke? Why did they fail to come back when the mast ripened in 1880, as they came in 1878 after Shelby? What happened to all the birds that crossed the Straits in 1880 and

which no man troubled? Then, finally, where did those pigeons go that were scattered through the Wisconsin woods in 1881, the catch from which could be counted in hundreds only?

It is asking too much, this expecting a person to believe man killed them to the very last one; shot and trapped them until out of hundreds of millions but a few score were left; kept after this little remnant until but a dozen lived; pursued these to the last pair, and, when one was caught in the North Woods of Wisconsin and the other shot in Upper Michigan, shouted in unholy glee: "I've done it! I've done it! I've exterminated the pigeons!" Such an idea is absurd.

A few of the bison remained in far corners of the West until protected by law. The great auk disappeared so gradually that a writer gives time and place where the last one was killed. Long after the dodo was believed to be extinct it is said a single specimen was found. Not so the pigeons. They went as a cannon-ball is dropped into the ocean, now in plain sight, then a splash, a circle of ripples—and nothing. To-day, millions; then with neither shooting nor netting to decimate them, not even one. To a person who knew the vast number remaining after their last nesting, the millions crossing the Straits unharmed by man, it seems past belief—almost as if the earth had swallowed them.

How does the writer explain it? He does not try. Thirty years ago, when he said they had gone visiting and would return, he was wrong, and will guess no more.

A dozen years after the pigeons were supposed extinct the writer saw a flock of ten flying over a piece of oak timber bordering the Illinois River. There could be no mistake. He had seen too many in the old days for chance of error. Beyond question they were passenger pigeons. Could they have been the last of their race? A few like the dodo seen after all his kind were supposed dead?

Whence did they come? Where did they, too, vanish? The writer wishes he knew. It might throw light on the fate of the vanished millions. There is little doubt in his mind that something besides man wiped them off the board. Some-

thing more than net and gun. Might it not have been disease? Or is there yet a possibility they are yet hidden in the vast forests of the Amazon? Who can say?

The slaughter at Shelby and at Crooked River was unwarranted and largely in defiance of law. Had no catching been done within half a mile of any nesting a greatly reduced number of pigeons would have been taken, but with prices so much higher the netters would have made good money.

Many will be surprised to learn that very few pigeoniers made even expenses. It was only those on the ground early at either of the last large nestings that had a profitable season, and they, not only by reason of their getting the best locations, but because their catch met with ready sales at fancy prices—a dollar a dozen for dead or a dollar and a half for live—at the net. Later, both at Shelby and Crooked River, prices were as low as five and ten cents a dozen for live birds crated and delivered, and nothing, "Come - and - get - them - we - don't - want-them" for dead.

No Money In It

The writer saw one lot of 1,528 sold for \$5, nice, clean, lively birds. These were caught at a single throw of a large double net, the most, so far as he knows, taken at one time during the nesting. Talk of 500 dozen in a day is romancing, as a net could not be handled, the birds removed, and the feathers cleared away with such rapidity, about half that number, under favorable circumstances, being high-water mark; nor would a skilled netter throw his net if he thought over a hundred dozen would be under it when it fell; more might pull it loose and turn it over. Then every bird would escape.

Had law officers been energetic in pursuit of offenders it would have been better for themselves, the netters, and the birds. Local officers winked at open violation, and the few sent in by a game protective association cared but little.

The writer spent most of his time among the netters—buying—and although there were three or four hundred men catching in the nesting, contrary to

law, which provided no netting should be done within half a mile, or shooting done within a mile of any nesting, but one arrest was made, and nothing came of that.

Understand, I have no excuse to offer for those who decimated the two great nestings. Their work was most reprehensible. It is the exaggeration, the making of the slaughter so much greater than it was, I wish to condemn. Consider how absurd, how crazy, such claims were! Stop and think! A hundred million pigeons shipped alive would fill 1,390,000 crates; dead, 1,000,000 barrels. Yet some believed it true because the "newspapers said so."

With pigeons the most plentiful and prices at bottom, there was no year in which the demand for trap-shooting exceeded 500,000. Two Chicago dealers handled practically all the Western and Southern trade in live birds. The writer is in a position to know that in 1878 it reached top figures, about 250,000. The demand for trap-shooting was not so heavy in the East, say 150,000, which would leave 100,000 for scattered shipments direct from the nestings or by commission men.

The birds shipped dead in barrels cannot be figured so easily. The old pigeons were never considered a delicacy. Taken when nesting they were about as palatable as a setting hen. The young were fairly good for table use and squabs, just ready to leave home and make their own way in the world, as nice and fat as their tame cousins of the present, but hard to get, which made shipments of them very small.

In view of these facts how could a catch of even half a dozen millions have been marketed? Estimating shipments at 10,000 barrels, a hundred pigeons in each, which is sufficiently large, it would make the white man's toll 1,500,000 alive and dead. Now the actual shipments by rail from Petoskey and Boyne Falls—the two main points—from figures furnished the writer by railroad agents, were about 650,000 in crates and barrels; add boat shipments and those by rail from all other places, there is no way the writer can figure over 1,500,000 as the total.

Allow the Indians two-thirds as many—mostly smoked for winter use—call those destroyed by birds and beasts as equal to the number killed by man, and we have five millions as a grand total. Enough, more than enough, but for sake of argument, double it. Then halve the billion birds, for fear the estimate may be out of line, deduct the number killed, and there is a residue of 490,000,000 pigeons to be accounted for. Again for sake of argument, not because the writer thinks he is in error, quarter this, and what became of the 122,500,000 leaving Crooked River Swamp in 1878?

What Became of the Others?

The catch in Wisconsin during 1879 was much less than the natural increase should have been and did not exceed 150,000, while in 1880 that man would have to be some scholar who could figure the entire kill at 100,000. Then what became of the others?

Pigeons in captivity were very susceptible to disease. An instance came to the writer's knowledge where over 20,000 of them were penned in rooms sixteen feet square—a thousand to each room. They had cleaned the mud off their feathers, were eating well and appeared as strong, healthy a lot of birds as one could wish to buy. One morning they were fed as usual at sunrise, and the birds in every pen ate their half bushel of corn, then looked for more. An hour later nearly all the pigeons in number one room were dead or dying of canker. Before a man could return from downtown with sulphur and alum—a trip of an hour—the birds in the next pen were dying rapidly, and some were dropping from the perches in room number three.

Prompt action checked the disease there. Had no remedies been within reach nearly every one of the 20,000 pigeons would have died inside of a few hours.

Could such an epidemic have broken out among the birds in a nesting? But if so, again, what became of the dead? There seems no sure answer to the question, "What became of the pigeons?" and at best any reply would be guesswork.

THE BREAST STROKE FOR ALL-ROUND SWIMMING

By JOHN D. BROCK

The Possibilities of an Old-Fashioned Stroke with Some Modifications and Improvements

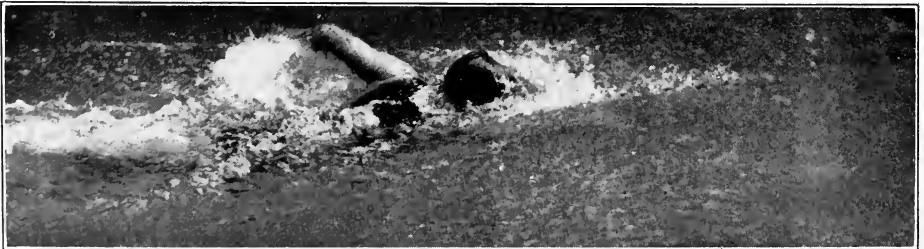
THESE are the days of fast swimming. Within the past few years all short-distance records have been broken, and man in his aquatic stunts appears as a rival to his prehistoric ancestor, the fish. This is the era of the rapid evolution of the trudgeon and crawl and modifications of these strokes.

The old breast stroke has been relegated to the background and is spoken of as obsolete. Recent descriptions allude to it as the most difficult stroke to learn. Many up-to-date swimming instructors are not teaching it to the beginner, but are first teaching the back stroke, the double overhand, or crawl—strokes the pupil easily and naturally learns. But the breast stroke, with its possibilities, is being overlooked in the

exponent of ze old school of fence. He instructed me, 'You use ze new method, but also learn ze old tricks, and you will get your opponent.'” So it is with swimming. Some of the newer developments of the art of swimming when applied to the old breast stroke give us most gratifying results.

Involved in the newer styles of strokes are some excellent basic points not developed to any extent previously. The breaking of all records is due to this fact, along with the increased interest in swimming as an athletic sport and a means of healthful recreation.

In a recent article on swimming and in other older descriptions the breast stroke has been described as *half standing, half lying* in the water on the stomach and breast. Application of new principles evolved from the recently de-

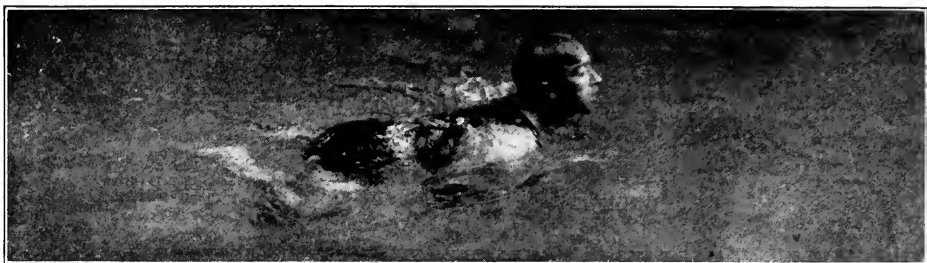


A—THE “CRAWL.” NOTICE SIMILARITY TO ILLUSTRATION “D”

veloped strokes will give better results. For instance, there is a great deal of wasted energy in pushing upward instead of forward if the position usually described is taken. And, again, too much resistance for rapid or easy progress is offered by the water, as shown in illustration E.

striving after speed and easy methods of acquiring the art of swimming. It is a method of propulsion which has been developed to its greatest possibilities as to form by few swimmers.

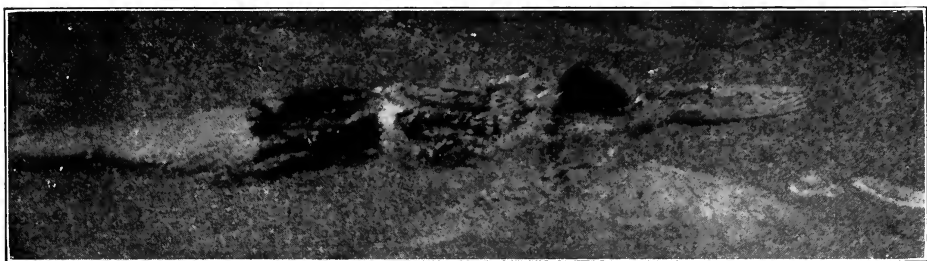
A Frenchman, a master of the art of the foil, in teaching me that ancient game, declared: “My father he was an



B—READY TO SHOOT ARMS FORWARD AND LEGS BACK INTO THE "GLIDE."
FINISH INHALING

Prominent among the reasons for the crawl's speediness is the fact that there is less resistance offered by the water than in other strokes. The body is not only in line with the surface of the water, but in many cases is only half submerged, and thus the body of water that is resist-

tions should not occur together, but rather the movements should be as follows: Arms are thrust forward at the same time legs shoot back and out (Illustration D). Arms stationary and extended at full length, with palms of hands together, while legs are snapped



C—AT THE FINISH OF THE "GLIDE" AFTER TRAVELING MORE THAN SIX FEET.
FINISH EXHALING

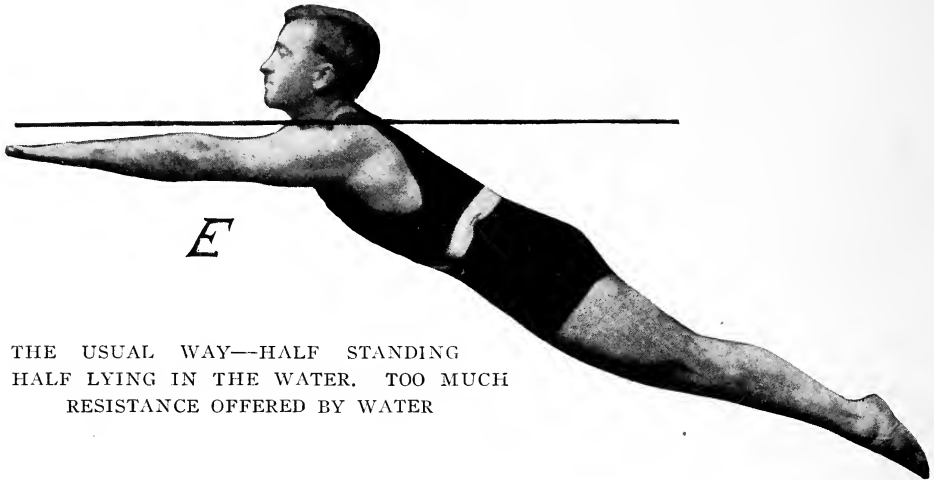
ing progress is much lessened (Illustration A). *This great advantage may be secured in the breast stroke by swimming with the whole body in line and near the surface of the water.* (Illustrations C, D, F, and G.)

Many descriptions call for the arm and leg motions to occur together. To obtain the best form, arm and leg mo-

together. The bringing together of the legs is done quickly and smoothly and immediately after arm movement forward and leg movement backward. Then comes a glide of from six to seven feet with arms and legs stretched out at full length (Illustrations C and D). (The Illustration E shows the finish of the glide.)



D—START OF THE "GLIDE." THE SWIMMER GLIDES FROM SIX TO SEVEN FEET.
DURING THIS PERIOD NO MUSCULAR WORK IS BEING DONE. START EXHALING



THE USUAL WAY—HALF STANDING
HALF LYING IN THE WATER. TOO MUCH
RESISTANCE OFFERED BY WATER

The arms are brought back *quickly* sideways to a point about in line with the shoulders (Illustration F); legs are still together. When arms are circling to starting position ready to shoot forward the legs are brought up in position ready to kick back (Illustration B). It will be seen that *there are two distinct periods in the complete stroke when arm and leg motions are not occurring together*; namely, when the arms are being brought back and when the legs are being snapped together.

Next comes one of the most important points of all. Usually the head is held right out of the water. Here another lesson may be learned from the crawl, trudgeon, and side strokes. As the arms shoot forward the head should be kept down and between the outstretched arms. By assuming this position there is less waste of energy than by holding up the head clear of the water all of the time. The head is nearly submerged, and this weight is taken care of without adding to the resistance by the water.

When the head is not tilted back and in a strained position it will also be found easier to keep the entire body near and in line with the surface of the water.

With the submerging of the head the question of breathing arises. We can apply here one of the new developments. The most practical way of breathing found by expert swimmers has been to breathe in through the mouth and out through the nose or mouth. Especially is this method better when the waves are choppy or bothersome in any way. If after forcing the air out through the nose under water the head is raised to inhale through the nose, some water will be drawn in and cause choking and gasping.

This disagreeable feature is almost negligible if the air is drawn in through the mouth. Again, a larger quantity of air can be taken in through the mouth in a shorter period of time, and the ability to breathe quickly and deeply is an essential point to master.

In applying these principles to the



THE ARMS ARE BROUGHT BACK QUICKLY SIDWAYS TO A POINT ABOUT IN LINE WITH THE SHOULDERS—THE LEGS ARE STILL TOGETHER. START INHALING

breast stroke the following should be the method and time. The intake of air occurs at the second part of the arm-stroke; that is, when the arms are coming down sideways (Illustration F). The head is raised just enough above the water to allow breathing in through the mouth. A quick, full breath is taken. As the arms shoot forward the head is lowered and the act of expiration occurs. This is done through the nose or mouth.

A point in favor of the breast stroke is that the period when the arms and legs

surf to better advantage than the back stroke.

Positions assumed in the breast stroke are corrective and tend to give an even bilateral muscular development, and from this standpoint alone is worthy of recommendation and mastery. The chief means of propulsion is from large muscle groups, those of the legs. Where groups of the large basic muscles are used the result is less tiring and can be sustained for a longer period of time.

It has well been said that the breast



JUST BEFORE BRINGING LEGS TOGETHER. THE BRINGING TOGETHER OF THE LEGS IS DONE QUICKLY AND SMOOTHLY IMMEDIATELY AFTER ARM MOVEMENT FORWARD AND LEGS BACKWARD

are *not* in motion is greatly in excess of the period of motion. If the stroke is mastered properly the body is gliding from six to seven feet after each stroke and no exertion is made at this time. For long distances, for ease and comfort, it can be made to have no rival except possibly the back stroke. But it can be used in a choppy or rough sea or in the

stroke is the hardest stroke to master and should be put last in the list to learn, but the stroke has many excellent points in its favor, and should have a place in the repertoire of the expert swimmer. Once mastered it becomes a source of pleasure and usefulness to the aquatic athlete who has in mind the acquiring of all-round ability in the art of swimming.

Use the arms as guides and balances, rather than a chief means of propulsion. The power of the stroke should come from the legs, especially at the time of snapping together.

Palms of hands should be slightly turned in making the arm stroke and not brought back flat against the water as an oar would be used in rowing. This is for two reasons: (1) Less effort is needed for the arm stroke. (2) The slightly turned palm helps to keep the body up and on the surface.

While legs are together in the "glide" position, feet should be extended and pointed in order to lessen resistance.

The extension of the feet is done at the time of snapping the legs together.

The foot should be flexed and as broad a surface as possible presented when extending the legs.

IN THE CRADLE OF POLO

By LEWIS R. FREEMAN

ILLUSTRATED WITH PHOTOGRAPHS

*Something of the Conditions Under Which the "Game of Kings"
Is Played in Its Native Land*

THE antiquity of polo is much more definitely established than is the region of its origin. As far back as the sixth century B. C. the praises of a "mounted ball game" called "Chaugan" were sung by the Persian poets, and Omar Khayyam's

"The ball no question makes of ayes and
noes,
But here and there as strikes the player
goes,"

indicates that something of the kind was played in that ancient empire at the time of the good old astronomer-poet of Nashipur. Persia's claim to having been the birthplace of polo, however, is disputed by the Chinese, who point out that one of their philosophers, writing a thousand years before the time of Christ, compared the ups and downs of life to the ebb and flow of the tide of the "horse-and-ball game."

An attempt to "back track" the path of polo from the frontier of India—from which country it reached the Western World by way of England—gives no indication as to which of the rival claimants is the legitimate one. The Mohammedans—probably the hordes of Ghengis Khan and Tamerlane—brought the game from somewhere to Tartary, and from there it found its way to India by one or both of two routes—via Afghanistan and the Khyber Pass, and across the "Roof of the World" and Kashmir. The marks on the former trail have disappeared, but along the latter—village by village and valley by valley—the footsteps of polo may be traced across the Vale of Kashmir to Gilgit and

Hunza-Nagar, over the Hindu Kush or Karakoram and down to the plains of Yarkand and Kashgar, where they are lost in the desert. The secret of the birthplace of the "Game of Kings" is lost in the shifting sands that have piled above the "Cradle of the Aryan Race."

The nearest thing to polo that one encounters in Central Asia to-day is a game of the Khirgiz in which each of the mounted sides endeavors to carry the body of a calf to opposite ends of the field. No ball or sticks are used, but the contest resolves itself into an equine rough-and-tumble which requires no end of dare-devil horsemanship and is almost as hard on the mounts as on the fiercely striven-for anatomy of the calf. Across the Pamirs to the south, however, the game begins to take shape, and there is no difficulty in recognizing in the fierce mounted contests of the hillmen the progenitor of modern polo. Wherever there is room between the soaring slide-scarred mountain walls and the foam-white glacial torrents that tumble through the narrow valleys, each little community of stone huts has its *maidan*, or village "green," upon which the "pulu" games are played, usually rough, informal bouts between the villagers themselves.

These mountain *maidans* are always cut up by runways and often littered with rocks and broken by jagged outcrops of native granite, all mere trifles, however, to men and ponies who have been teetering all their strenuous lives upon the serried ridge-poles of the "Roof of the World." Untrammelled by off-side rules, unmenaced by the threat of penalties for fouls, undismayed by the sticks of the air, the rocks of the earth, or the

waters under the earth, the Himalayan polo player is free to concentrate heart and head and body upon banging the battered chunk of willow or bamboo root between the two little cairns of razor-edged slate slabs that serve as goal-posts.

The game is as free from restrictions as the proverbial Love and War; liter-

to give ground in riding-off, but otherwise he will not waste the effort. An action that will enhance the chance of making a goal is its own excuse. Himalayan polo furnishes the most striking example of singleness of purpose of any game in the roster of outdoor sport.

The keenness of the hillmen for their



AN OLD VETERAN OF PALANPUR LOOKING OVER THE MOUNTS OF HIS RULER, THE NAWABZADAH, AT THE DURBAR TOURNAMENT

ally all is fair. To shoulder an opponent and send him raking along a jagged wall of rock is considered creditable and clever; but the acme of finesse in riding-off is to force him over a cut-bank into an icy stream. "Hooking across" for an opponent's mallet is rated good polo, but not nearly so much so as "hooking" the man himself off the precarious pad of sheepskin which serves him as a saddle by catching him under the chin from behind. Blows are often dealt with the stout sticks, but not quite indiscriminately. One player will belabor another to make him miss the ball or cause him

"pulu" is something amazing. Once, on the upper Indus, I saw a half-dozen players follow a ball into a roaring torrent, at the imminent risk of being carried down by the swirling current, for the slight advantage incident to "passing" to their team-mates on the bank. Just as the ball was bobbing out of reach, the foremost rider, lunging desperately, swept the crook of his stick under the buoyant chunk of willow and sent it flying back to the *maidan*. The long reach and the floundering pony upset his balance, however, and he toppled into the roaring waters and was carried away in

an instant. Not for a moment did the game halt. Not a player gave the unlucky wight a look, and by the time the pluckiest kind of swimming had just enabled him to grasp a jutting log in the wreck of an old cantilever bridge on the opposite bank the center of conflict was raging in a cloud of flying pebbles in front of his opponent's goal.

Did he give a thought to the fact that the wind, drawing down from the ice-caps of the Pamirs with the sting of a whip-lash in every gust, was stiffening the saturated folds of his felt jacket and woolen breeches? Apparently not. Floundering up to a little terrace of cultivation, where a couple of fellow villagers toiled in a barley patch, he seized one of their goat-skin swimming bags, kicked his way across the stream upon it, and was on a pony and back in the game in time to make a hair-breadth "save" as the shifting tide of the game put his own goal in danger.

It was in another game on this same *maidan* that a rather awkward player, unhorsed in a whirlwind scrimmage, was left lying among the rocks with a twisted knee. The pack swept on unheeding, and even among the spectators I seemed to be the only one who took his eyes off the play long enough to note the movements of the rumpled figure left in the wake of the flying ruck. Twice he tried to rise and mount the dancing little pony, whose reins he had pluckily retained in his fall, but both times the injured knee bent sideways and let him down. Releasing the pony in disgust, he pulled himself together and began closely to follow the progress of the play.

Twice or thrice, as the mob clattered by, I saw him lean forward eagerly, but it was not until one of his opponents, riding free on a clean run with the ball down the field, came charging almost across his prostrate form that he made a decisive move. Lunging sharply forward, he thrust his short, stubby mallet between the forelegs of the galloping pony, and an instant later two limp figures instead of one were lying in the middle of the stone-paved *maidan*.

The fringe of spectators, who up to this moment had confined their applause to chesty grunts of approval, broke into

a wild yell of delight and approbation as the second rider was overthrown, and I noticed that the men in a group standing near me were roaring with merriment at the comments of one of their number.

"What is he saying, Ganga?" I asked my Punjabi bearer, who betrayed in an unwonted smile evidence of being amused himself.

"He say, Sahib," was the reply, "that Mulik play the better polo from the earth than from the horse."

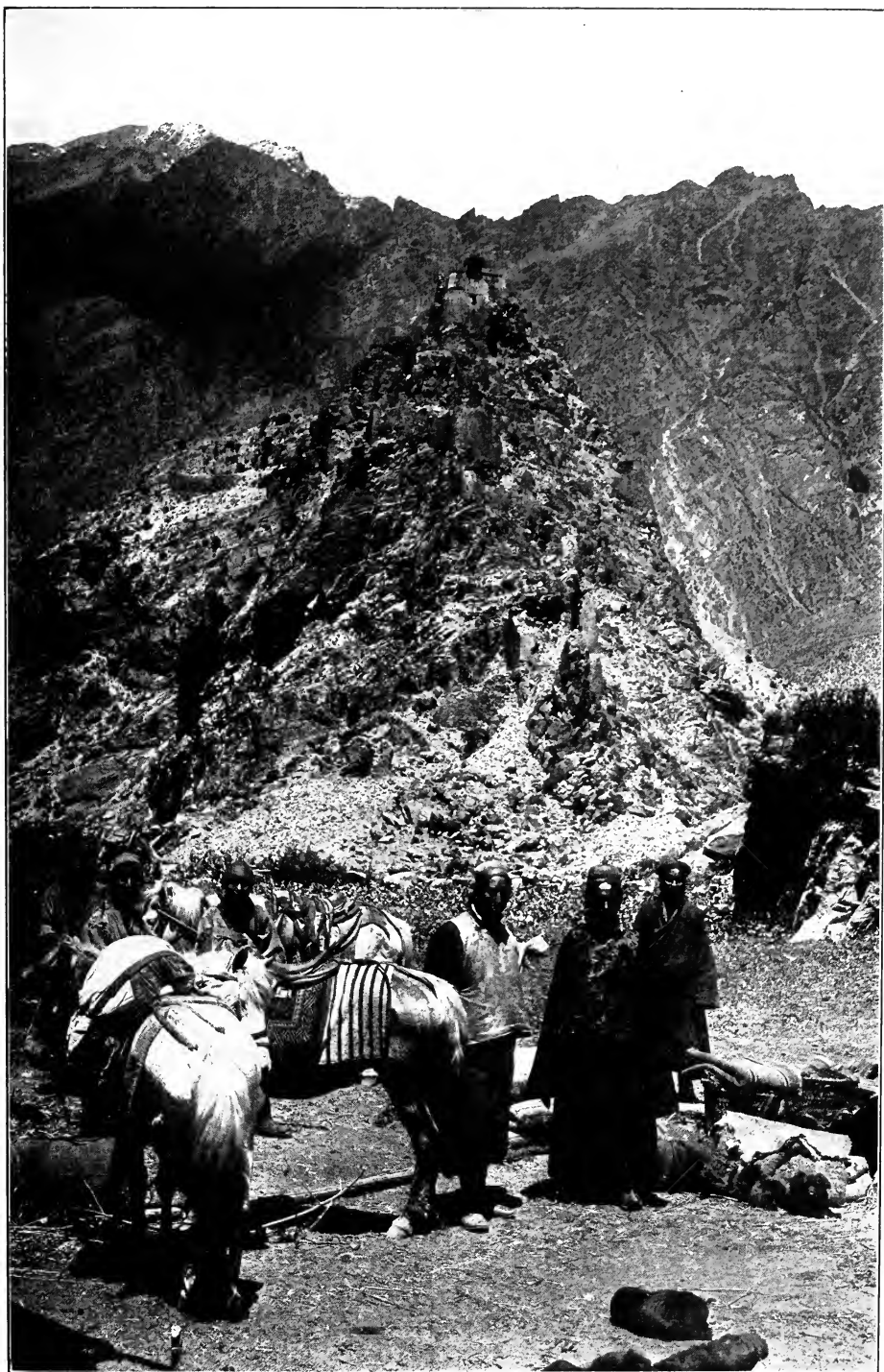
So keen is the hillman for his "pulu"—the word is from the Tibetan, by the way, and means a willow ball—that he no more thinks of foregoing it for lack of a field than does the street urchin his baseball for lack of a sand-lot. If topographical exigencies forbid a *maidan*, he plays in the village bazaar or up and down the solitary street. These are the wildest exhibitions of all.

"What in the name of common sense did you bring those old polo balls along for?" I asked the young British officer of an Indian regiment who had accompanied me on *shikar* in Kashmir. We had followed up the Sind from Srinagar, crossed the lofty Zoji La, and were in camp at Leh, the capital of Ladakh. With the country for hundreds of miles in every direction tipping one way or the other at an angle of forty-five degrees, my question was a natural one.

"For your especial amusement, old chap," was the reply. "Tossing a polo ball into a Ladaka bazaar beats throwing copper *pie* to famine sufferers for excitement. Come on down and see for yourself."

Tibetan, Ladaki, and Nepali shouldered Pathan, Khirgiz, and Dogra, and the gossip of half a continent buzzed in Leh bazaar as, pushing between ponies and yaks, goats and sheep, B—— and I picked our way to breathing room in the center of the little square. Shouting something in his fluent Hindustani, my companion held the battered ball aloft for a moment, and then tossed it upon the cobbles among the vendors of grains and ack gears.

The effect was electric, explosive. The vendors seized armfuls of their stock and bolted for shelter, hillmen of



TIBETAN MOUNTAINEERS AND PONIES OF THE TYPE USED IN POLO

a dozen races came running with stubby mallets in their hands, and, mounting the nearest pony, pressed upon the ball. Yaks grunted, goats and sheep bleated, ponies snorted, women chattered and screamed, and men yelled. Now a dozen ponies were stamping the tough lump of bamboo root into the stones; now a score. The air was black with flailing sticks, and their resounding thwacks, as they fell on man and beast alike, mingled with the bedlam of cries. Now the ball was kicked from the press and a quick wrist stroke sent it flying out of the bazaar and down the narrow street. A fugitive Tibetan girl with her arms full of

strings of turquoise hair ornaments blundered in front of the leader, fell sprawling, and half the clattering pack passed over her felt-padded anatomy without doing apparent harm to anything but the scattered stock of jewelry.

Every able-bodied pony in the bazaar was seized, mounted, and sent in pursuit of the flying pack. There was no endeavor to resolve into "sides." Each man strove only to hit the ball as hard and as often as possible—where it went was a secondary consideration. Wayfarers and loiterers seemed to understand what was coming, and the street cleared as before the charge of a troop



THE CROWN PRINCE OF GERMANY IN A PRACTICE GAME AT BOMBAY DURING HIS RECENT VISIT TO INDIA



CAPT. LESLIE ST. CLAIR CHEAPE OF THE KING'S DRAGOON GUARDS
ON THE DURBAR FIELD AT DELHI

of cavalry. Most of the traffic bolted to safety through windows and doors, but a small flock of fat-tailed sheep, which refused to be driven into someone's front parlor, was fed into the vortex of hoofs like meat into a sausage machine, to emerge in about the same condition.

A couple of unhorsed hillmen, scarcely distinguishable in their sheepskin coats from the bodies of the trampled wethers, were left floundering in the shambles as the press swept on. A blind side-swipe sent the ball caroming through an open window, and the iron-shod hoofs struck sparks from the flinty cobbles in the

rush to be first upon it as it was tossed out. Then a quick-eyed Tibetan, on a shaggy rat of a Tibetan pony, got away for a clean run, and hitting the ball time after time as it shuttled back and forth between sidewall and pavement, carried it out of sight around a corner.

B—— and I, already late for tea at the Commissioner's, had reluctantly to forego following further in the wake of the avalanche we had set in motion. As an aftermath, however, we were called upon that evening to give audience to a "damages deputation," and, after an hour's parley, paid for five fat-tailed sheep, a half-dozen sets of shat-



“TENT-PEGGING” CONTEST BETWEEN THE PLAYERS IN A POLO TOURNAMENT ON THE MAIDAN IN CALCUTTA

To “tent-pegging” and “pig-sticking” are attributed much of the credit for the accurate hitting and dare-devil horsemanship of the Anglo-Indian poloist.

tered hair ornaments, several bags of grain and a number of minor losses. The claims, strange to say, were entirely reasonable, amounting to less than thirty rupees—about ten dollars—in all, and the fun, especially for one interested in polo, was certainly cheap at the price.

The foregoing will give some idea of what early Indian polo must have been, the polo that was passed on from the Himalayan hill states to the sport-loving nobles of Rajputana and the Punjab. It was the game as developed by these latter that came to be known as “The Sport of Kings,” for the manly Nawabs, Rajahs, and Maharajahs of these warlike states, ever used to taking personal lead in battle and the chase, were not content to remain passive while any contest of strength or skill was going on before them.

Some of the best polo players the game has ever produced have been rulers of one or another of the native states of India, nor, indeed, need I use the past tense in making that assertion. The Maharajah of Kishangarh is unquestionably one of the most useful forwards in the world to-day. For sheer brilliancy, an exhibition of polo this young ruler gave in a game at the great Delhi Durbar tournament of 1911—a meet in which, by the way, all but one or two of the men who have represented England in the last three International Cup matches took part—stands out in my memory

above that of the individual work of any player I have ever seen.

The game in question was a semi-final of what proved one of the greatest tournaments in the history of polo. The Inniskillen Dragoons, led by the peerless Captain Ritson, having beaten a very fast scratch four called the “Scouts,” headed by the dashing Internationalist, Captain Barrett—a combination which, by the way, had already won from the redoubtable 17th Lancers, captained by another Internationalist, Vivian Lockett—was pitted against Kishangarh.

Those who remember the savage, relentless Ritson of the last Cup series will understand something of what an aggregation Inniskillen was when I say that his team-mates, Captain Nixon and Lieutenants Bowen and Colemore, were do-or-die players of the same stamp as their leader. They played clean, straight polo without question, but—when once their fighting Irish blood was up—quite the roughest I have ever seen, barring the Himalayas, of course. Kishangarh was a splendidly mounted four, rarely balanced and fast as lightning, and, in spite of Inniskillen’s brilliant wins in the preliminary ties, was considered to have an even break for the match.

Starting like whirlwind, the native four gained a 2 to 1 lead and seemed in a fair way to increase it when, in the second or third period, their clever back got in the way of an Inniskillen rush

and was knocked from his pony, receiving injuries from which, I believe he subsequently died.

For some reason, which I have never learned, Kishangarh had no regular substitute on hand, and the man who stripped off his coat and went in to take the place of the injured back was hardly a good second-classer. Over-riding and missing repeatedly, his blunders allowed Inniskillen to score two goals by the end of the fourth chukker, making the count 3 to 2 in their favor at the half-time interval.

Realizing that it was worse than hopeless to depend on the new man as a cog in his combination, the Maharajah threw team-work to the winds at the opening of the fifth chukker and started in to save the day alone. The red silk turban which distinguished him from his teammates flashed constantly in the thick of the fight, whether he was carrying the ball down into the enemy's territory, smothering an opposing forward to give his No. 1 a chance to score, or doubling

back to save a goal that his blundering No. 4 had left exposed. Riding like a spurt of flame and hitting with a sureness and force that seemed inspired, the Maharajah, with not any too effective assistance on the part of his demoralized team-mates, held even through four of the hardest-fought periods I have ever seen one of the greatest polo teams in the British army.

Each side made one goal in this half of the game, leaving the final score 4 to 3 in favor of Captain Ritson's fighting team, which latter, I may add, won the tournament a couple of days later by decisively defeating the famous four of the King's First Dragoon Guards, of which the two-times Internationalist, Captain Leslie Cheape, was a member. It was the consensus of opinion that Kishangarh, but for the loss of its No. 4, would have won premier honors with several goals to spare.

Native teams are, indeed, holding their own with the British almost as well at the present time as in the early days of



THE MAHARAJAH OF KISHANGARH ON "ALI," THE GREATEST NATIVE PLAYER AND ONE OF THE GREATEST PONIES IN INDIA

the game, and there is no question but what the standard of play of both is steadily improving. No native four of to-day, it is true, has attained the supremacy of that led by the late Maharajah of Patiala, which won the All-Indian championship for so many years, but this is due rather to the faster play and better mounting of the regimental teams than to any falling off of the native. Col. Chanda Singh, the fifty-year-old veteran of Patiala, is one of the most consistent backs in the world, and Captain Shah Mirza Beg of Hyderabad plays a brilliant No. 2. The Nawabs of Savanur and Jaora, H.H. The Rajah of Rutlan, and the Nawabzadah of Palanpur are young native rulers who give promise of becoming fine players.

Now as to Anglo-Indian polo. What of the school in which almost every man who has played for England in all of the International Cup series was trained? What are the conditions under which the game is played to develop men capable of making the rally the Challengers did after that paralyzing first chukker in the opening game of last year's series?

The principal difference between polo in India and polo in other parts of the world is that there it is an institution and elsewhere an incidental. This is, perhaps, partly due to the fact that India is the home of the modern game, and partly because the Anglo-Indian exile seems to find more time for outdoor sport than almost any other man of serious pursuits. And, be he army officer or civil servant, polo is his principal amusement.

Indian cricket, tennis, and golf are indifferent, but Indian polo, taken by and large, is the best in the world. Between native and British players, in fact, it is not improbable that a dozen polo teams could be put in the field by that country which would stand an excellent chance of carrying off the honors in a round robin with an equal number of fours picked from England and America, if not all the rest of the world.

The universality of polo in India is due, more than to anything else, to the fact that the foundations of the modern game were laid there at a time when almost anyone could afford to play. In no part of the world was it—or is it still,

for that matter—so much of a poor man's game. Ponies were cheap, fodder, and *syccas* cheaper still; so that it was possible for the most modestly paid civil servant or planter's assistant to get in the game. The Anglo-Indian of those days kept his ponies as a matter of course, whether he went in seriously for the game or not, and in spite of the increased cost of playing polo at the present time the Anglo-Indian of to-day has clung to it as tenaciously as to a number of other institutions of the past.

I mention this to account for the large number of men of moderate income who follow the game in India. All of the crack regimental teams, however, are backed by some of the oldest and largest fortunes in England, and as for the teams of the native princes, the wealth of the ancient Moguls is behind nearly every one of them. One of the best of the native fours, in fact, that of Hyderabad, plays under the name of Golconda, a word that is the synonym of riches even in the Occident.

The Anglo-Indian cavalry officer plays polo as a matter of course, whether he can afford it or not. The fact of a man's holding a commission in one of the famous regiments, such as the 10th Hussars and the First King's Dragoon Guards, usually means that he has a comfortable income of his own. If it chances, however, that family rather than fortune has been responsible for his commission, and if at the same time he has marked ability as a polo player, he will experience no difficulty in finding mounts among those of his more opulent brother officers.

At almost every one of even the remotest Indian frontier posts there is some kind of a polo field, though in many instances greater or less concession has had to be made to topographical or other exigencies. Some of the Himalayan grounds have been literally blasted out of the mountainside, and even the famous Annandale field, a thousand feet below Simla, turns up sharply at two or three of the corners, so restricted is the space. Some of these mountain fields slope at angles of ten or fifteen degrees, and there is one where a *nullah* or ravine has lopped off a considerable corner.

One of the most striking instances of polo enthusiasm I recall ever having encountered was that of a number of planters and army officers near Mergui, in the southern "panhandle" of Burma. That district, along with the lower end of the Malay Peninsula, was experiencing a rubber boom, and incidental to clearing a stretch of dense tropical jungle, it was planned to make a polo field.

happened every now and then, was not a serious handicap, and the stumps could generally be avoided; but the great prostrate trunks seemed to get mixed up in every run. Of course, there were a good many accidents at first, both to man and beast, and the feelings of one plantation manager—he was a Dutchman, from Sumatra, and had scant sympathy for sport of any kind—regarding the de-



THE 10TH HUSSARS AND THE SCOUTS AT UMBALLA

The famous Internationalist, Capt. Barrett, is the player at the extreme right.

All that cutting and burning could do, however, was to get rid of the lighter brush and timber. Several giant stumps still remained, together with a half dozen forty or fifty-foot lengths of prostrate trunk, while straight across the middle of the field meandered a little perennial streamlet for the diversion of which no practical means was discovered.

Several years would have to elapse before the timber and stumps would be dry enough to burn, and the expense of building an underground conduit for the streamlet was prohibitive; so the plucky enthusiasts, with true Oriental philosophy, simply did the best they could with the facilities offered. The stream, except when it ran away with the ball, as

moralization of his staff of assistants incident to the game as played, was summed up in the statement that "haff of mine men vas haff kilt, und all of dem vas all crazy."

At the end of a few weeks of this steeplechase polo the casualty list had increased to an extent that left neither ponies nor players enough to make a game, and before two full teams were ready again both elephants and dynamite became available. Between these two irresistible forces stumps and logs were soon blown up and dragged out of the way. When I visited Mergui, in September of a year ago, this remarkable field was two feet deep under water from the monsoon rains, but I was as-



THE HILLMEN NEVER HESITATE TO PLAY POLO ON A CLEARING SUCH AS THAT
IN THE FOREGROUND IF NOTHING BETTER OFFERS

sured that in the dry season, "though a bit soggy, it was really a very sporting bit of turf."

The story is told of a polo field at one of the northwestern frontier posts which was so near the Afghan border

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that the festive Afridis used occasionally to lie safely hidden among the rocks of their own hillsides and indulge in long-range target practice at the flying figures on the plain below. This was back in the 80's, and the making of any kind of

punitive sortie across the border was accompanied by so much red tape that these were generally limited to reprisals for big and destructive raids only. Scant attention was paid to pot-shooting, for the Afridis, though excellent marksmen, were rarely able to do much damage at long range with their "ten rupee jezails."

Polo went on as usual until, one day, some of the first fore-running Mausers from the yet undeveloped Persian Gulf smuggling trade fell into the hands of the tribesmen at this point. It was a Saturday afternoon, a game was on with a visiting team from Peshawar, and the players were just beginning to straggle out for a preliminary warming up. One of them—the visiting captain—was in the act of carrying a ball down the field at an easy canter, when there came the shriek of a flight of bullets in the air, and the rider went tumbling from his horse, shot through the chest, before the ringing cracks from the distant hillside told the startled officers that there were modern high-power rifles trained down from the brown rocks which they had so often before seen overhung with the drifting smoke-wreaths of the harmless old jezails. It was this incident which is said to have inspired Kipling's poem, "Arithmetic on the Frontier," in which occur the lines:

"The Crammer's boast, the Squadron's pride,
Shot like a rabbit in his ride."

I could tell the story of a tiger that was shot and killed one night almost between the goal posts of a polo field in Upper Burma, where he had dragged and was eating at leisure the body of the post's crack pony; or of how some rhinos came down early one morning to a polo ground in Upper Assam and, in endeavoring to reach the fodder that was stored for the ponies, completely wrecked the stables; but I will hardly need further to multiply instances to show the splendid sporting instinct which must imbue the Anglo-Indian poloist to lead him to play the game under such untoward conditions. Small wonder, is it, that he plays for all that is in him when he gets a chance in a normal contest.

The best Indian polo ponies are usually a cross between the desert Arab from the west and north of the Persian

Gulf—Bombay is one of the greatest Arab markets in the world—and the mountain pony of the frontier. This has produced a short-coupled animal of great endurance, "heart," and handiness, but rather undersized and somewhat less speedy than the best English-bred ponies, defects which are being remedied by crossing again with the rangier Australian.

There has never been a definite formula worked out for determining the relative value of man and pony in polo, but it is so palpable that the excellence of either one is so completely stultified by the lack of excellence in the other that, by and large, "half-and-half" is probably as near as one can get to it. In India, however, where the horse is, perhaps, more highly regarded than in any other country in the world with the possible exception of Australia, the sentiment seems to incline in favor of the pony. I recall an amusing but not any the less illuminative instance in point in connection with the Delhi Durbar tournament to which I have already referred.

This great meet brought out the cream of horse-lovers, not only of India, but of all the British Empire as well, and never was polo so fittingly attended. Nineteen men in every twenty—both European and native—were in riding togs, and I would venture to say that not far from that proportion of the women had known the exhilaration of the tug of bridle leather on their slender fingers and the rapture which comes with the "feel" of a hunter gathering himself for a jump. One didn't need to eavesdrop on their conversation to know that—he could read it in the poise and balance that not even the "geisha" pit-a-pat incident to walking in a hobble skirt could conceal. He could read it in the steadiness of eye and the "thoroughbred" set of the head seen only in the woman who can take a hedge or a water jump without the flicker of an eyelash.

The hysterical choruses of "Ohs" and "Ahs," so characteristic of the great polo gatherings at Hurlingham and Meadowbrook when the action on the field climaxes were rarely voiced by these seasoned enthusiasts at the Durbar. A tightening of the lips, a narrowing of the eyes

in a glance of fixed concentration, with a muttered "Well hit!" or "Hard luck!" as the tide of the game ebbed and flowed, and an occasional brisk clapping of hands at a timely "save" or a cleverly-driven goal—these were all the outward expressions one might note in the most intelligent gathering of polo enthusiasts I ever saw.

I did hear one exclamation during the whirlwind first round match between the K. D. G.'s and the 10th Hussars—two of the best mounted teams in the British army—and it was so illuminative of the stuff of which the Anglo-Indian horsewoman is made, as well as of the place polo occupies in her mind and heart, that it seems worth recording. This is the instance I had in mind.

As two ponies and riders mixed in an unavoidable "head-to-side" collision in the opening chukker, and the pony whose ribs had sustained the impact reeled groggily for an instant on trembling legs, a gasping "Oh, *mon Dieu!*" from a chair behind me was audible above the mutter of excitement that rippled through the crowd. I turned slightly and used the corner of my eye as unobtrusively as possible. French gown, French shoes, French hat, French schooling in the click of her words, but an English girl and a horsewoman in every line of her high-held head and willowy figure—apparently, also, that enchanting creature of whom Kipling rhapsodizes, "an Anglo-Indian 'spin' in her first season." Tense with excitement and apprehension, she had risen and stood with her eyes fixed on the stricken pony and rider, where the latter was gamely endeavoring to rally the senses of his dazed mount.

"Are you worrying about your friend, Captain X——?" An even, unemotional, and somewhat cynical masculine came from the next chair.

"X——! *Mon Dieu, non!*" (She spoke without taking her eyes from the distressed pony, but with the scorn she felt for the stupidity of so absurd a surmise showing in every line of her Frenchily shrugged shoulders.) "X——! I hadn't given him a thought. But I know that he counted on riding Flopper

again in the last chukker, and I'm afraid poor old Flopper's finished for to-day."

But Flopper wasn't finished by a long ways. Even as she spoke his rolling eye caught the familiar streak of the flying ball, and, game to the marrow of his slender bones, he dashed after it and kept in the thick of the fight till the end of the period.

Miss "French" sank to her chair with a gurgled cry of delight and relief as the fleet-footed Flopper "took the field" again, and no word escaped till the chukker was finished. Then she came to her feet again with another gurgle of rapture: "Oh, look!" she laughed, "he isn't even limping."

I looked and saw the shifty and useful Flopper walking evenly off toward the paddocks, the center of a knot of solicitous *syces*. Behind staggered a bedraggled figure in white who (I knew that his teeth were set and the lines of his forehead gathered in the pain he would not confess) gamely strove to hide the hurt he had sustained where his thigh had taken the main force of the impact of the shoulder of the colliding pony.

The masculine voice broke in again, this time with a note of concern and protest in it. "But he *is* limping, poor old chap; I'm afraid he's badly knocked up."

Again the scornful shrug of the shoulders and the crushing reply. "But I mean Flopper, won't you understand? Flopper was going strong at the finish and he'll be quite fit for the last chukker. Good old Flopper!"

Flopper merged into the crowd at the distant corner of the field, disappearing under a blanket, and the dancing eyes that had followed him had time to turn to the limping figure in white, now surrounded by a group of anxious men where he waited his next mount.

"Oh, is X—— hurt?" she cooed. "I hadn't thought of that. I'm so sorry."

"It's really a shame that girl isn't a man," said a friend who sat beside me. "What a polo player she would have made!"

THE FIRST AUTOMOBILE RACE IN AMERICA

By CHARLES FREDERICK CARTER

*Held in Chicago Only Nineteen Years Ago and Described by the
Official Photographer*

IF the American automobile lives till November 28, 1916, and there are grounds for thinking that it may do so, it will be old enough to vote. Accepting this statement as correct, a simple mathematical calculation develops the amazing fact that at the hour of going to press the American automobile was eighteen years old.

Any one who will pause long enough to remember that there are now 1,145,000 automobiles in the United States, which is more than five times as many as there are in the whole of Europe, where automobiles originated, valued at nearly two billion of dollars, will concede that the use of the term "amazing" in this connection is fully warranted. As bearing on the same point it may be well to mention that there are approximately seven hundred thousand licensed automobile drivers whose wages, calculated at the low average of fifteen dollars a week, would amount to more than half a billion dollars a year, merely for driving a machine that is still a minor and hence, in the eyes of the law, requiring a guardian, not to mention the nurse some drivers seem to need.

If to this item be added the wages of others employed in caring for cars, the cost of replacing cars at the rate of more than two hundred thousand a year, the cost of renewal of tires and other parts, supplies and repairs and indirect outlays such as special clothing, hotel and other traveling expenses, the bill of the American automobilist mounts to a figure too appalling even to be hinted at. And all this has been brought about within the brief space of eighteen years!

Why, the thing fairly staggers comprehension!

For me there is a special pride and pleasure in gloating over these automobile statistics, due to the fact that I was present, in the capacity of official photographer, at the coming-out party of the American automobile. I heard its first feeble snort, and made pictures of its first wabby attempts at locomotion. Given a sufficiently exuberant fancy one might derive from the memory of such participation in that historic event a sort of sense of proprietary interest in all automobiles in general, so to speak; a fatherly feeling toward the whole rubber-tired tribe, as it were.

This reminds me that the real Father of the American Automobile has thus far remained unknown, except to a few. Of all the astounding facts connected with its brief career the most extraordinary is that the man who, above any other one man, is to blame for the American automobile has never been suspected by the general public. Go through all the oceans of stuff that has been printed about the automobile with a search warrant, and nowhere will you find so much as a hint at the man who originated the idea of the first automobile show and the first automobile race ever held on American soil. Yet he not only originated the idea, but he hunted up the angel for these epoch-marking events, charmed upwards of fifteen thousand dollars from his bank account to defray the expenses thereof, made public announcement of the plans, wrote anonymously scores of columns of matter forecasting the future of the automobile with astonishing accuracy in discouraging at-

tempts to work up public interest in the new vehicle, toured the country in search of inventors who thought they could produce something worth exhibiting, borrowed money for some who are now eminent in the automobile world to finance their first crude attempts at motor-car building, gave advice in his capacity as mechanical engineer, and even made drawings for the engines.

For sixteen months he devoted his energies exclusively to the task of coaxing the American automobile into being without once seeking to exploit himself. Such modesty in an age attuned to Mark Twain's postscript to the beatitudes, "Blessed is he that bloweth his own horn, lest it be not blown," is remarkable. Yet, dozens of living witnesses can attest the truth of it all. Under these circumstances it is a great pleasure to be able to present for the first time in print the name of the Father of the American Automobile, Frederick Upham Adams, engineer, inventor, author.

A Tip from Paris

When a few motor-driven freaks staggered over the road from Paris to Rouen and back, in June, 1894, a distance of 75 miles, at an average speed of nearly fifteen miles an hour, the inventors of Europe sat up and took notice. But apparently no one in America, except Frederick Upham Adams, grasped the significance of the event. Adams was a mechanical engineer, draughtsman, and inventor who had taken up newspaper work temporarily. He convinced H. H. Kohlsaas, publisher of the *Chicago Times-Herald*, that the automobile was the coming vehicle, destined to revolutionize transportation, and persuaded him to supply the funds for prizes and expenses of an automobile road race to be held July 4, 1895.

Adams thought that as no such thing as an American automobile then existed it might be just as well to allow a year for inventors to produce something of the kind. Kohlsaas agreed to be the angel on condition that Adams should never come to him for suggestions or advice, but should assume full authority for the management of the affair. Prizes

aggregating \$5,000 were offered in a competition open to the world.

Then Adams got busy. He ground out copy by the yard for the *Times-Herald*, telling what a good thing the automobile would be some day, how it would be the prime instigator of a good-roads movement that would make the farmer independent of the weather and the railroads in getting his crops to market, and many other benefits that have since become history. He toured the country hunting down the few scattering inventors who had been making half-hearted attempts to produce a power wagon.

Among others he visited a great bicycle manufacturer in Connecticut, to try to stir up some interest in the building of horseless carriages. But no, the manufacturer didn't believe the great army of bicycle riders would take kindly to the idea of sitting idly in machines that propelled themselves. Why, the chief element of the bicycle's popularity was the enjoyment the rider got from the wholesome exercise of his muscles, the manufacturer said. At that time there were a million bicycles in use in America. Nearly everybody under the age of ninety had, or affected to have, the bicycle hump and frozen face, and dangled on their breasts long bronze chains, each bar of which represented a "century run." Now, eighteen years later, there are more automobiles than there were bicycles in 1895, while the speeders brag about their police-court records instead of their bronze chains, and the Connecticut manufacturer who could see nothing in horseless carriages long since converted his bicycle factory into an automobile plant many times bigger than his place of eighteen years ago.

All Adams could do aroused scarcely more than a languid flicker of interest. The road race had to be postponed from July 4 to November 2, because nobody was ready. Then the Paris-Bordeaux race of June, 1895, participated in by sixty-six cars, established the wonderful record of 750 miles in 48 hours and 53 minutes, or an average of about fifteen and a half miles an hour, and thereby focused the eyes of the world on the new method of locomotion. Then American

inventors concluded that there might be something in horseless carriages, after all. By September, 1895, five hundred applications for patents on automobiles and accessories had been filed at Washington. Between July 1 and November 1 the construction of no fewer than three hundred different types of horseless carriages had been begun. Some proposed to use gasoline as motive power, others electricity, still others steam, yet others carbonic acid, acetylene gas, compressed air and liquid air, while at least six geniuses undertook to demonstrate that springs were the ideal motive power for the horseless carriage. Most of this army of inventors, however, soon found that designing automobiles was like writing poetry; it was easy enough to write the first line, but—

Still, enough of them persevered to give Adams an imposing list of eighty-eight entries* for the road race. It transpired later that the majority merely wished to direct attention to the claim that they could build an automobile if they wanted to; but when it came to a show-down barely a dozen could produce anything in the shape of a machine, and even some of these could not run their own length under their own power.

Naming the New Baby

Adams overlooked nothing. In his capacity of Father of the American Automobile he devoted much care to the selection of a name for the baby. He published in the *Times-Herald* an offer of a prize of \$500 for the most suitable name for the new style of vehicle. At that time it was not supposed that the American people would stand for the absurd French term, "automobile." The wise ones pointed out that it would be just as idiotic to call a horseless carriage an "automobile" as to call a railroad a "chemin de fer." So some of the inventors called their monstrosities "quadri-cycles," while other names included such things as "motor wagon," "horseless carriage," "autocycle," "motocycle," "automotor," "petrocar," and so on, *ad infinitum*. One genius hit upon "electrobat" as a suitable name for his vehicle. Think of it! Electrobat!

After mature consideration, the jury

appointed to pass upon the names sent in divided the prize among three persons, each of whom had suggested "motocycle." Not motorcycle, mind you, but motocycle. So the horseless carriage was formally christened Motocycle. As the name has never been changed pursuant to law in such cases made and provided, it follows that the motor vehicle which runs you down at crossings and spatters mud on you when you are on the pavement is not an automobile, but a motocycle masquerading under an imported alias.

Things began to look so promising in the automobile line that along in October Adams rented a vacant storeroom at Wabash Avenue and Fourteenth Street, where he installed the dozen "motocycles" he had been able to scrape up. He had gone down to Purdue University, where he interested the faculty in what he was doing to such an extent that he secured the loan of apparatus for testing his exhibits. The apparatus was brought to Chicago and installed in the showroom, where tests were conducted by L. L. Summers and John Lundie, two mechanical engineers of high standing. Their report, which was most elaborate and complete, was the first scientific data ever published in this country about automobiles and their motors. This report was of great value in the later development of the automobile. But this is getting ahead of the story.

Following the strict letter of his instructions, Adams had said nothing to Kohlsaas about what he was doing. When all was ready he inveigled Kohlsaas into a cab and drove down to the Wabash Avenue building. Without a word of preparation the publisher was ushered into the first automobile show ever held on American soil. His delight was boundless.

When November 2, the date for the postponed road race, arrived, only three or four machines dared venture out of doors. The outlook for a race was anything but bright; but, on the other hand, Adams dared not put it off any longer. So he hit upon the inspired compromise of holding a "consolation" race November 2 for a purse of \$500, while the real thing was put off till Thanksgiving Day,

November 28, to give the inventors further opportunity to come to the scratch. The affair of November 2 was not to be a real race, but only a warming-up canter to keep up the interest.

Five vehicles turned up at Midway Plaisance and Jackson Park, November 2. Two of these were from the same concern, the leading member of which soon afterward acquired such an unenviable reputation as a mechanical fakir that he found it convenient to take up his residence in England. These two vehicles in size and general appearance seemed modeled after the wheeled chairs so popular at the World's Fair, two years previously. The wheels had a dropical appearance, being of small diameter, with four-inch pneumatic tires. A blind man could have seen that they could get nowhere, except on a dray. Nobody was surprised, therefore, when the announcement was made that these wonders would not attempt to cover the course, but were merely on hand for exhibition purposes.

A third vehicle, also on hand for exhibition merely, was the "electrobat." This contraption, which looked like a surrey that had got out of bed wrong end to, weighed 1,650 pounds. Its fore wheels, which were the drivers, were 40 inches in diameter, while the rear, or steering wheels, were 28 inches in diameter. Like a crab, it progressed backward—when it progressed. Its two electric motors of one and a half horsepower each were capable of propelling it at a speed of twenty miles an hour—the makers said so themselves.

The other two machines meant business. One, entered by C. E. Duryea, of Springfield, Mass., was an ordinary top buggy in appearance, without shafts, but having instead a bustle in which the machinery was concealed. Practically all the earlier types of automobiles, by the way, wore their machinery in bustles for several years. The Duryea machine weighed 1,208 pounds, had wooden wheels of regular buggy size, with pneumatic tires, a four-horsepower, two-cylinder gasolene motor, and chain drive.

The other starter was an imported Benz machine, owned by H. Mueller & Son, of Decatur, Ills. It was a two-

seated affair. Having come from Europe, the seats, of course, were arranged so that the occupants had to face each other. The original carriage having been built in the year one on this plan, all vehicles, craft, and other devices used in the transportation of human beings have ever since been arranged so that the passengers could breathe in each other's faces, put their feet in each other's laps, and be otherwise sociable. The machine weighed 1,636 pounds, wore its motor—a single-cylinder gasolene engine—in the customary bustle, and had a belt drive. Yes, a belt!

The imported car was first off, with Oscar Mueller, son of the owner, driving, C. G. Reid, of Chicago, assistant, and S. F. Gilmore, of Princeton, Ind., umpire. Some minutes later the Yankee car, with the inventor and his brother, J. F. Duryea, up, followed. It was the old story of the hare and the tortoise. Thanks to the patient industry of the assistant, who alternately applied ice to the motor and sand to the belt, the imported car jogged steadily along, while the Yankee, making a spectacular spurt, was on the point of placing the stars and stripes in the van when the driving-chain broke. Forty-eight minutes were lost in repairing it, which gave the foreigner a fairly good lead.

The Old Story

The Yankee was rapidly closing up the gap when it overtook a farmer going the same way. Then for the first time on American soil the farmer performed his celebrated feat of turning the wrong way, an achievement which has since become a classic familiar to all automobilists. This forced the Duryea into the ditch, which was deep, smashing a front wheel beyond hope of temporary repair. There was nothing to do but resort to language and a dray. Duryea did both.

The way that foreigner ate up distance was a caution. Squandering ice and sand regardless of expense, the ninety-two miles to Waukegan and return were covered in nine and a half hours, or almost ten miles an hour. It can truthfully be said that this was the fastest time for the distance ever made on American soil up to that date. To be sure,

Ralph Mulford covered the 291 miles of the 1911 Vanderbilt race at an average speed of 74.7 miles an hour. But, then, Vanderbilt had not invented his justly celebrated cup in 1895. It is only fair to say that Oscar Mueller established his record over roads that were level and in perfect condition and in fine weather. The judges, who examined the machine immediately after the finish, reported that it had stood the trip in a "magnificent manner."

But, all the same, Adams announced next day that the course for the real official race on Thanksgiving Day would be cut almost in two, the course being from the Midway Plaisance and Jackson Park to Evanston and return, a distance of 54 miles.

The ensuing weeks were devoted by the pioneer automobile racers to tinkering and experimenting. Adams revised the rules to make them easier and wrote more prophetic articles for the *Times-Herald*, telling what "motocycles" would do some day. The jury chosen to judge the first automobile road race consisted of General Wesley Merritt, U. S. A.; Prof. John Barrett, city electrician of Chicago, and Henry Timken, a St. Louis carriage builder, president of the National Carriage Builders' Association, and an enthusiast on aviation who had spent \$25,000 in vain efforts to produce a flying machine that would fly. All are now dead.

Meanwhile, R. H. Macy & Co., of New York, had imported a single-cylinder motor-car, built by M. Roger, of Paris. At noon November 15, Frank A. Macpherson, manager of the bicycle department, with J. O'Connor as "engineer," started in this machine for Chicago, thus achieving the distinction of attempting the first long-distance automobile journey on American soil. They got as far as Yonkers by midnight. They reached Schenectady November 20. Then a snowstorm discouraged them and they shipped their car by rail to Chicago, where it arrived in time for the race.

The week before Thanksgiving the testing apparatus was taken down to Washington Park race-track for further tests, which only three of the entrants, including the Duryea and Mueller's

Benz, had the courage to undergo. Several others were taken down to the track for exhibition purposes, on the theory that it might be safe to venture on the smooth, level race-track. In this the fond inventors were only partly correct, for few of the machines could make the circuit of the track without stopping to tinker. When under way their speed was never too great for the camera to catch, nor were the spectators numerous enough to hamper the taking of pictures.

Three days before Thanksgiving a blizzard swooped down on Chicago, tying up the railroads, blocking the street cars, and covering the ground with snow eight inches deep on the level, to say nothing of the drifts. Kohlsaat was in the state described by the children as being "on pins and needles." He had faith in the motorcycle, but when he gazed out at the swirling snow the prospects of vindicating that faith seemed none too bright. His position was not exactly comfortable.

Lining Up for the Start

The *Times-Herald's* rival, the *Tribune*, prompted by a new city editor, devoted much valuable space to ridiculing the notion that wagons could be made to go without horses, and especially to jeering at the proposed race. Other papers throughout the country, for the most part, maintained a polite silence, as intimating that while Kohlsaat's folly in backing a horseless-carriage race was well understood, good breeding forbade any reference to the affair. Adams tried to console the angel by assuring him that there would be a race Thanksgiving Day if he had to get a wheel-barrow and run it himself. On Wednesday Adams made the rounds of the prospective contestants, trying to ginger them up. Eleven swore with uplifted hands that they would be at the starting point on the following morning.

But when dawn on Thanksgiving morn revealed the deplorable condition of the streets, five forgot their vows. Just six "motocycles" straggled down to the Midway. Some were two hours late, others arrived in drays. The *Tribune's* star funny man drove down in a cab, prepared to follow the race to the bitter

end; other reporters came in on horseback for the same purpose. Not even a Chicago reporter would follow an automobile road race in a cab now, which reflection emphasizes the point that times have changed and that Adams's prophecies were not so far off after all.

The owners of the electrobat announced that they had been unable to arrange for supplies along the route, and therefore would only make an exhibition run to Lincoln Park and back. This cut the field down to five starters, some of whom had no more expectation of finishing than the electrobat outfit, only they kept their opinions to themselves.

The Duryea led off at 8:55 a. m., with J. F. Duryea, brother of the inventor, at the steering lever—for the wheel did not make its appearance, even in France, for two years afterward—and Arthur W. White as umpire. A Benz machine, imported by the De la Vergne Refrigerating Company, attempted to follow, but the wheels slipped so that the owners withdrew it from the race after two miles of toilsome progress.

Macy's Roger started third, under the guidance of J. O'Connor, with Lieut. Samuel Rodman, Jr., U. S. A., as umpire. Two minutes later the Sturges electric machine, a ponderous affair weighing nearly two tons, followed, driven by Harold Sturges, with T. T. Bennett as umpire. At 10:06 the judges gave Oscar Mueller, who was accompanied by Charles B. King as umpire, in the imported Benz, the word to go. Mueller had been late in arriving. He claimed to have overslept, but it may have been the snow.

With the sole exception of the Duryea, every blessed machine stuck fast in the snow before it had floundered half the length of the thoroughfare that made the World's Fair famous. The spectators, who had been following on foot—now remember, this was an automobile road race and the spectators were following it on foot—yelled as they came to each stalled machine:

"It's a good thing. Push it along."

Then they would grab hold and boost the discouraged motorcycle through the drift, while the driver protested that it

was against the rules to receive outside help. In justice to their discretion it should be said that the drivers did not protest out loud, except when the judges were within earshot.

In three hours and a half the ponderous Sturges electric machine, making frequent stops to prevent the motors from burning out, staggered up to Lincoln Park, where it gave up the ghost. The electrobat worried along up to Lincoln Park and half-way back before sending for horses. Mueller, in his Benz that had won the consolation prize of \$500 November 2, stuck in most of the drifts, but with dogged German perseverance shoveled out and kept going.

Joy and Sorrow

C. E. Duryea had taken a train downtown, intending to get a team there to follow his machine over the rest of the course. He had figured that his machine would consume an hour and a quarter making the run from the Midway downtown. To his surprise it showed up in less than an hour. But his joy was short-lived, for in crossing the Rush Street bridge, over the Chicago River, the steering gear broke. Fifty-five minutes were lost in cobbling it up. This gave the Macy machine thirty-five minutes the start, which it improved by plowing up the Lake Shore Drive past Kohlsaats' house, where the publisher was standing at a window, first on one foot, then on the other, watching for the racers with an intentness that fairly bored holes in the glass. Adams declares that his one most vivid recollection of that historic event was Kohlsaats' almost childish delight when the sight of that pioneer automobile racer, floundering through the snow, demonstrated that the road race was not to be altogether a fiasco.

O'Connor made a determined effort to win first prize. He crowded his machine to the limit and stopped for nothing. When a street car got in his way he ran right over it—or tried to, breaking his steering gear and other little things like that in the attempt. Then he ran down a carriage soon after turning back from Evanston, and that settled his hash. Duryea's machine staggered and wobbled as if it had just recovered from

a long illness, but it kept going, as did Mueller in his Benz. That is to say, they kept going when they were not stuck in the snow or making repairs or something like that.

All along the route the populace turned out to howl witticisms and hurl snowballs at the racers, for the peepul regarded the new vehicle as a joke. It will be remembered that this was the popular attitude toward automobiles for some years afterward. At a viaduct over some railroad tracks a large crowd had assembled to see the machines stall on the incline. They were disappointed, so far as the Duryea was concerned, for the American-built car rolled steadily up the wet, icy surface without so much as hesitating. This triumph was offset by numerous breakdowns and derangements of the machinery—enough to consume three hours.

But the Duryea came to a stop in front of the shivering judges at the starting point at 7:18 p. m., ten and a half hours after leaving, winner of the first American automobile road race and the first prize of \$2,000. Figuring on elapsed time, this made an average of a small fraction more than five miles an hour; or, counting only the actual running time, seven and a half miles an hour

through eight inches to two feet of snow and slush, a large part of the way over roads entirely unbroken. And an American car, built by a Down-East Yankee, with engines of his own design, won in competition with cars from France and Germany, where the art of automobile building originated and where the building of gasoline motors was far advanced, or, at least, was supposed to be.

Mueller darted under the wire four minutes after midnight, covering the course in eleven hours and fifty-eight minutes, which was practically four and a half miles an hour, or less than half the speed made in the consolation race, winner of the second prize, \$1,500.

Adams and Kohlsaas were fully warranted in congratulating each other with no little exuberance that night over the outcome of the first American automobile road race. For, taking all the circumstances into consideration, especially the atrocious condition of the roads, the fact that even two cars could cover fifty-two miles in one day was sufficiently conclusive evidence to any thinking man that the horseless carriage had a great future. The fact is worth noting that thinking men did so accept the evidence, even though the Chicago *Tribune* differed with them.



There is some sound advice for campers and trampers in Ladd Plumley's article on SHANKS' MARE IN HARNESS—August OUTING.



THE WORLD OF SPORT

Why We Lost at Sandwich There have been numerous explanations for the defeat of the American golfers at Sandwich in May. One is that Travers and Ouimet were overgolfered. Another is that Evans had not had enough golf. Travers had an attack of nerves. Ouimet was afraid of his clubs and only twice in the round hit crisply and with power. Webber was good, but he lacked experience. And so they run. Now we beg to offer our little explanation. The American players were beaten because they didn't play well enough. That's the only reason that's worth thinking about. Some of the American newspapers have been patting our boys on the back because they were such good losers. What did those newspaper critics expect? Did they think it was a professional baseball game? Or did they expect to hear charges of laudanum in Ouimet's tea? Or a steel-cored ball with a magnet in the hole to account for MacFarlane's wonderful putting against Evans? Why shouldn't they be good sportsmen? They've had a bully time. Their English cousins have treated them like princes. The English writers have heralded them as boy wonders. And they have lost. It's all in the day's play.

A Hard Tournament to Win Now let's get down to cases and consider the real situation. The fact is that an Englishman or Scotchman will take a lot of beating at his favorite game. The English courses are hard, sound tests of a man's ability to play every kind of shot in the whole category. The English field

is a dangerous one. The entry list is large and the number of first-class players larger than in this country. It is probable that ten Englishmen relatively of the grade of the ten Americans who appeared at Sandwich would have a much easier time in the American championship than did our boys in the English. Add to this the fact that in the large English field there is an immensely greater chance of a moderately good golfer "playing his head off" in one round, and it is possible to have some idea of the difficulties of winning on the other side. It's a grand good game, and no one need feel ashamed of our showing. Furthermore, it was a bad season for favorites, as Harold Hilton and John Ball can testify.

Case of Too Much Talk While we are about it we might as well express our disapprobation of the way in which this "invasion" has been conducted. It was only a golf game, but from the tone of the newspaper talk on both sides of the water one might have concluded that it was a struggle to the death. The American players were assured that the hope of the nation was on them and the Englishmen were told by their journalistic friends that they were fighting in the last ditch for the honor of old England. In the name of the Prophet, figs! We should have been glad to see some good American win. We should have been almost as glad—not quite—to see Mr. Hilton or Mr. Ball reappear in their time-honored role of victor. Since that was not to be, we salute Mr. Jen-

kins, the unknown, the man with the courage and skill to come through a hard field and seize the coveted crown. As for the brass-band methods that attended the advance of the American contingent (and contingency) we have nothing but scorn. But this should be a lesson—as the colored gentleman remarked on the gallows when he was asked if he had any last words. Hereafter when we go to play golf let us play golf. Forget that the fate of the nation depends on our mashie shots or that the tail feathers of the eagle droop in shame when we miss a four-foot putt. Remember the case of Heinrich Schmidt. Only Walter Travis has lasted longer than did he in the British tournament. Yet when the news of his play came over the cable last year most of the golfers in this country asked, "Who the dickens is Schmidt?" He just slipped over to play—and played.

That
Polo
Mixup

Speaking of international sport, the polo matches will have been played by the time this issue of *OUTING* reaches the hands of its readers. Therefore any comment on the makeup of either team would be footless and prophesy probably contradicted by the fact before it saw the light of day. Nevertheless, one may venture on a few general statements of an innocuous character. In the first place, our English friends seem to be still suffering from the effects of the old wrangle between the County Polo Association and the army players. With the merits of that controversy we have no concern, nor is it a part of our duty to point the way of truth and light to our erring cousins. We can only hope that in future the matter can be handled entirely through Hurlingham as the governing body. We take off our hats to such fine sportsmen as Lord Wimborne and the Duke of Westminster, but experience teaches that undue prominence to any individual, however capable and well-meaning, is harmful in the long run.

No Longer
a One-Sport
Nation

The mention of polo reminds us that we are rapidly freeing ourselves from liability to the charge, so often laid against us in the past, of being a nation of one-sport

players. Of the men at present playing high-class polo in this country, practically all of them are enthusiasts in other forms of sport. Lawrence Waterbury is an excellent example. Joshua Crane is another, although his skill in polo is hardly equal to that which he shows in tennis and racquets. Several of our best lawn tennis players are by no means to be scorned on the links, and a fair-sized golf club could be made up from the ranks of major league baseball players. It is a fine ideal this of the all-round outdoor man—or woman.

Are
They
Amateurs?

In this issue we print several communications from readers about amateurs and amateur sport. The interest is gratifying. More gratifying still is the high standard evinced in the letters received. This leads us to hope that the discussion can be led into the field of concrete problems. For example, naming no names, do you consider that a golf player who works in a sporting goods store is a bona fide amateur? How about the golfer who receives a receipted hotel bill in consideration of gracing a midsummer or midwinter tournament with his presence? Should a tennis player permit all his tournament expenses to be paid by a benevolent friend who wants to see his protégé "clean 'em up"? Can a runner or jumper honestly accept a job secured for him by his clubmates on the strength of his skill as an athlete? Should a golfer use the fact that he wants to enter in a foreign tournament as a lever by which to make the business turnover that is necessary to enable him to leave? What do you think of a college football player who receives pay for writing reports of the games in which he takes part? Is a man justified in using his participation in sport as a means to boost the goods which he manufactures or sells? We do not say that these are more than hypothetical cases; but instances have been known in the past that would fit these descriptions. Furthermore, they are not trivial. They are vital. They go to the root of the matter. Probably they cannot be met squarely by rules or regulations. Nevertheless, they are the conditions that must be met in some way if we are to have

amateur sport on the high plane where it should be, here and elsewhere.

The Price of Carelessness Now is the time of the year for warnings. Every season sport takes its toll of death and injury and destruction of property. In most cases the fault can be laid at the door of ignorance or carelessness—or both. Study the newspaper reports of drownings, whether of swimmers or of amateur sailors. The roll will be a long one before the summer is over, and most of them could have been prevented by care or a little knowledge. The sailor who makes fast the main sheet; the canoeists who attempt to change seats in the middle of the lake; the swimmer who ventures out too far or dives into surf without knowing the power of a heavy wave; these cases are almost as inexcusable as that of the fool who rocks the boat to frighten the ladies of the party. To be sure, men of skill and experience sometimes err in these directions, but very seldom. The man who knows will often impress the novice as being almost timid, so great is his care and forethought. Try making the sheet fast with an old bayman in the boat and hear what he will say. Ask the lifesaver at the beach what he thinks of the "daring" swimmers who underestimate the power of a pounding surf and have to be dragged ashore by the bronzed Apollo who must protect them from the consequences of their own foolishness. The result will be like that of asking an old hunter his opinion of the greenhorn who points a gun at a companion just in fun.

Put Out Your Fire But there are other mistakes not necessarily so fatal. You are going camping this summer. Have you thought that an especial obligation is laid on you to protect the woods in which you find rest and pleasure? Every year scores of forest fires are started by campers who neglected to drown out the cooking fire when the meal was over. The cigarette butt, the pipe ashes, the lighted match, thrown down carelessly, may easily be the means of destroying thousands of dollars' worth of standing timber, and perhaps imperil-

ing human life. A pail of water doused on the fire will prevent this, and it is not a difficult thing to remember or to do. Nothing is so unsightly as a litter of tin cans and other rubbish on an old camp site. Bury it before you leave. Usually the woods will provide all the firewood you need in the shape of dead timber that is ideal for burning. Therefore spare the green trees, except for the necessary stakes and backlogs. A young farmer once proclaimed the startling doctrine that the land which he had bought was not his. He had merely bought the use of it, and his obligation as a good citizen required that he pass it on to the next man as good as, or better than, he found it. This has a wider application than he dreamed. There are few of the activities of life on which it has not a bearing.

The Fine Art of Fishing Some men fish for fish, and some fish for sport. Most of us want both, in proper proportions. Yet the ideal is a difficult one to state clearly or convincingly. Take the matter of fly-fishing. How many times have you heard it stated that fly-fishing is all very well if you are interested merely in the fine art of the game, but that if you really want fish you should use bait? All of us know men who have fished for years and have the deepest contempt for fly-fishermen. On the other hand, there are sections of the country in which a man would be ostracized who would take a fish on anything but a fly. The truth lies somewhere between. A bait fisherman is not necessarily a being to be scorned. Neither is the man with the fly always an artist. Furthermore, the honors of the creel go not always to the humble angleworm. We know fly-fishermen who can match creels with anyone if conditions are propitious. To be sure the worm will often be effective when the fly is not. Perhaps conditions are reversed at times, though not so frequently. It is really a question of spirit and pleasure. The worm will bring in the fish, but the art is necessarily a crude one as compared with that of the fly, and preëminently of the dry fly. The difference is in a way comparable to that between killing your duck on the water

with a ten-gauge and pulling him down at thirty yards with a twenty. You may get more ducks with the former, but you must shoot with the latter and shoot well. So with the fly. Watch an expert casting with the dry fly as he lays his lure gently on the water in every part of the pool, and you will have a new conception of the art of fishing. If you can imitate him you will know that every fish that comes to the creel is the fruit of your own skill. You have outguessed Mr. Fontinalis in his own element and you can remember without regret the ones that got away. They have earned their freedom.

Luxuries for the Camper This is an age of comfort shading into luxury. We seem to have heard statements similar to this before—perhaps even to have made them. Nevertheless, it is so eminently true and safe that we are encouraged to make it again. In nothing does this show more distinctly than in the arrangements that are made for him—or her—who would a-camping go. The old slogan of bacon, corn-meal and salt, with an ax and a gun to provide whatever else may be necessary, no longer moves us as it did in the old days; nor is it longer our guide of conduct and acid-test of efficiency. Modern methods of preservation of food products, modern improvements in packing or canning, and a not so very modern taste for the good things of the kitchen and the pantry, have broadened the camper's menu until now the man who stints himself has only himself to blame. To be sure, one must always consider the limits of his own strength or the size of his canoe or the patience of his guide over

the portages, but even within these fairly narrow boundaries there are a multitude of necessities, dainties, and luxuries that may be taken into the woods or on the cruise which were not possible or available a decade or two ago. The fact that special pains are taken to fit these to the needs of the camper and the cruiser shows the extent to which the outdoor idea has laid hold of our people.

Using the Automobile Not the least significant factor in modern outdoor life is the way in which the automobile has come, in casual, almost commonplace fashion, to fit into our manner of living and enjoying ourselves. In less than twenty years it has become an accepted and necessary vehicle in all parts of the country. Three or four years ago even it was regarded as a delicate piece of irony to remark that even the farmer must now have his own car. Such irony would be sheer waste to-day, for the reason that the farmer, thousands of him, does own his own car and use it. A recent trip up into the Catskills showed an amazing number of small, locally owned automobiles abroad on the roads on a Sunday morning. Thus do luxuries fit into their proper place in our scheme of living. The automobile tourist no longer feels it incumbent upon him to plan his route with reference to the most expensive hotels which can be reached between morning and night. He carries his own larder with him and camps where night finds him, or where he finds the delectable spot that tempts him to break his journey. A light tent provides him with shelter, or a little change converts the tonneau of his car into comfortable sleeping-quarters.



WHAT READERS THINK

Carrying Your Maps, Black Bass à la Voyageur, and Some Definitions of an Amateur

What Is an Amateur?

THERE has been an unexpected response to our invitation to our readers to submit definitions of an amateur. Many of them have the faults of vagueness or lack of general applicability that attach to the definitions now in use. All of them, however, show a gratifying interest and evidence of thought. The problem is a hard one and a satisfactory solution can probably be reached only by agitation and missionary work. In the final analysis the matter is one of individual spirit and attitude. Official definitions must necessarily be negative in form; that is, they must prescribe what a man may not do. On the other hand, most of us think of the subject in positive terms; that is, what a man IS, rather than what he IS NOT. We print some of the letters and definitions received down to date. Others will follow later, as well as our decision as to the one that we think deserves the highest rank.

Editor, OUTING:

I am glad to see you take up the question of "what is an amateur." In common with a tremendous army of sportsmen, I believe that the officially used and commonly understood interpretation of the term is unjust.

The term is too frequently used in a spirit of derision. As a matter of fact it would be difficult to find a sport in which unpaid athletes have not equaled the performances of the paid athletes, and in a great number of cases sportsmen who indulge in sports for the enjoyment only have invented and developed games, and have attained a degree of excellence in them, which has done vastly more for the world of sport

than the more selfish efforts of the professionals.

The term "amateur" should certainly be given a more dignified meaning and a more liberal interpretation.

Almost without exception, the hundred or more sportsmen whom I questioned before sending in this letter shared my opinion that the disqualification of the Indian Thorpe in track events, because of his professionalism in baseball, was most unjust.

I believe that the term "novice" should be used instead of "amateur" in denoting degree of excellence in any performance. Many amateurs far exceed many professionals in the quality of their work in any selected sport. The fact that there are more professionals holding high records in that sport is simply due to the fact that they are compelled to maintain a better and more sustained condition of physical fitness in order to be "in the money." The reward of pleasure amply satisfies most amateurs.

In my opinion, a man may be a recognized professional in one branch of sport and still be eligible for amateur competition in all others.

My definition of "amateur" would be as follows: "*An amateur is one who engages in any sport or recreation solely for the physical or mental enjoyment or benefit, without competing for, or accepting, directly or by subterfuge, any financial reward for the quality of his performance.*"

Another point which should engage your attention along this line is the practice of many amateur sportsmen of competing for small purses made up among their small circle of friends, under the guise of "competing for the price of ice cream, etc." Here each

contestant contributes a small sum to a common "pot," the winner in the ensuing competition taking the "pot" and buying sodas or not as he is inclined.

This should rank a performer as a professional in my opinion. It has a bad effect on clean amateurism. I have encountered it frequently in tennis, and I find that it has a decided tendency to encourage squabbling for points and deceptive statements as to skill.

I am glad to see the question come up, and sincerely hope that you will be able to swing a big opinion in the matter and effect a change in the accepted rulings of the A. A. U.

I have a friend who is a paid foot racer, and I cannot play him a tennis match without risking my standing as an amateur.

More power to you in this worthy debate.

Chicago, Ill. WM. C. STEVENS.

Mr. Stevens is in error in the concluding paragraph of his letter. There would be no objection to his playing with his friend since the definition of amateurism in tennis relates to the performances and record of the player himself and not to those of men who may have been his opponents. In golf this is carried even farther, and a man who is a recognized professional in other forms of sport, as in baseball, may be a perfectly good amateur on the links.

A very clear letter, discussing differences in English and American attitudes has been received from Mr. W. P. Bowen, head of the Department of Physical Education at the Michigan State Normal College. In addition to the clearness of its statements, Mr. Bowen's letter is of interest as expressing the opinion of a man who is himself a professional.

Editor. OUTING:

An amateur is one who does a thing simply because he likes to do it.

Love of the sport is the amateur motive in athletics. The natural desire to excel is an important element in it. Any motive that tends to make the athlete look upon a sport as a more serious

occupation and makes him attach more importance to winning than he naturally would, is a professional motive and leads to professionalism. Among various conflicting opinions as to how far professional motives in sport are advisable or permissible, two views are rather clearly defined, and may be called the English and the American.

From the English viewpoint, any and all professional motives are objectionable. One English association goes so far as to bar out all men who have ever earned money, either in athletics or in any other way. Specialization and a high grade of performance are condemned.

Many Americans think that some professional motives are advisable in the education of youth. They admire the college athlete who sacrifices his personal pleasure and something of his scholarship that he may win for his college in some specialized athletic event, and they approve of the system that gets him to do it. They believe that pure amateurism is too namby-pamby a method to educate the best citizens. The trouble is that they fog the issue and create misunderstanding by calling all the professional motives that they approve "amateur" and those that they disapprove "professional."

Ypsilanti, Mich.

W. P. BOWEN.

A number of briefer communications have been received, setting forth a definition or definitions in terms intended to cover all forms of sport. For example, there is one from Lars Jacobsen, of the Illinois Athletic Club:

"An amateur athlete is an athlete who, as long as he professes that his motive for practising athletics is unmercenary, refrains from deriving any benefit, directly or indirectly, from such practice."

The direct form of benefit is easily prohibited. It is the indirect that is hardest to locate and to prevent. Mr. Irving Olmstead, of Stamford, Conn., evades this issue by offering the following definition (one of several submitted by him):

"One who indulges in any art or sci-

ence as a pastime, but not as a profession."

This would be an admirable definition of the amateur ideal, but unfortunately it does not meet the test of practical application. The broad line between amateur and professional is easily drawn. It is the faint shadings along the border that are elusive.

Another Map Case

IT is always pleasing when readers are induced by articles in the magazine to turn to the book of their own experiences and quote a few paragraphs. For example, read the following:

Editor, OUTING:

I have just finished the May number of *OUTING*, much to my pleasure.

In Mr. Kephart's article on Woodcraft tips he mentions the liability of spoiling your maps by dirt and rain if you have them mounted. This leads me to mention the method I use to preserve my maps. The map is first cut up into convenient size to fit in my pocket. The pieces are mounted on cloth, leaving space between the sections so the whole will fold easily. Then—and here's the new part—I saturate the whole thing with paraffine by means of a warm iron and a stub end of candle. By warming the map the iron causes the paraffine to penetrate. Excess is removed by placing a cloth over the map and passing the iron over it.

As a container, I have a case or pocket made of stout cloth and this I paraffined in the same way—inserting a bit of board to keep the two sides from sticking together.

All this gives me a map and case, waterproof, and nearly soilproof, and the

lines and legends stand out better than before.

Madison, Wis.

L. C. BURKE.

Black Bass à la Voyageur

THEN there is the offering that is made purely for the pleasure of passing a good thing along. If you enjoy cooking your own fish read this:

Editor, OUTING:

Those of your readers who love to travel by paddle and portage may be interested in the following method of preparing a fish for the noonday meal. Its many advantages are so obvious that one wonders why it is not more generally used. As a matter of fact, the writer has never heard of it being followed by anyone but himself, although he enjoys an unusually large acquaintance among sportsmen, timber cruisers, and other savages.

Open fish by splitting backbone from head to tail—leaving belly intact—cut off head, and gut. Then drive a nail or peg through base of tail fin, and fasten to a stake, log, board, or box in such manner that the fish will hang nearly perpendicular, flesh side toward fire. When thoroughly cooked—and the fire burned low—place the fish, scale side down, flat upon the coals. In about two minutes the skin will be hard and dry, and your dinner ready; simply pull fish a little to one side and eat. The stiffened skin makes a perfect plate, and the ground a solid table. A strip of bacon impaled on the nail will drip deliciousness and—but we must leave something to the imagination!

No scaling; no skinning; no smelly dishes to wash—can you beat it?

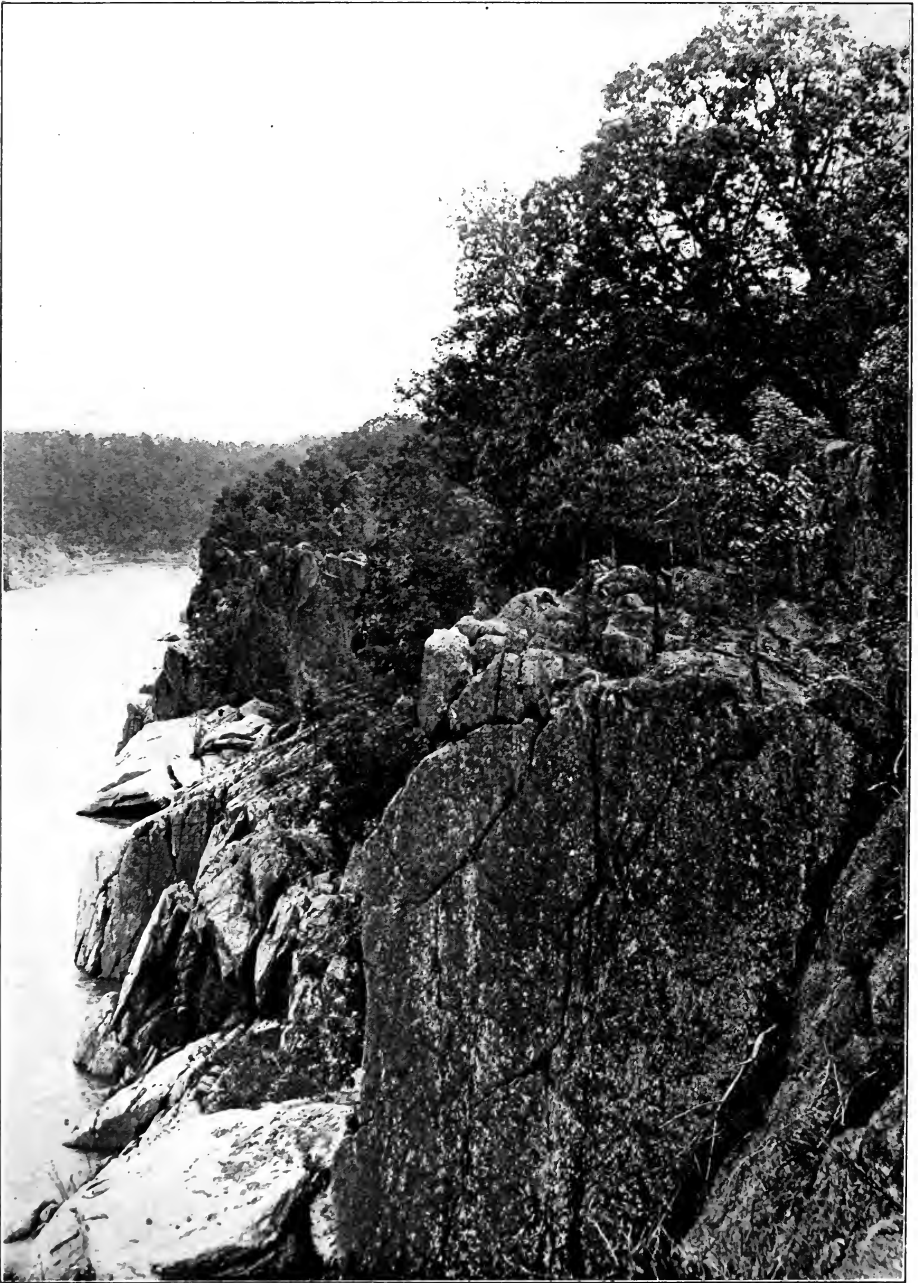
Duluth, Minn.

MURDO GIBSON.



THE DIVER AT DAWN

*A moment poised against the flushing sky,
Supple, erect, born of the wind and light;
Then like a lance thrust out and down he flies,
Driving in rout the sleepy hosts of night.*



GORGE OF ROCK, GREAT FALLS OF POTOMAC

Illustration for Canoe, Camp, and Canal, page 574

OUTING

AUGUST
1914



VOL. LXIV

No. 5

TEMPERAMENT IN TENNIS

By MACK WHELAN

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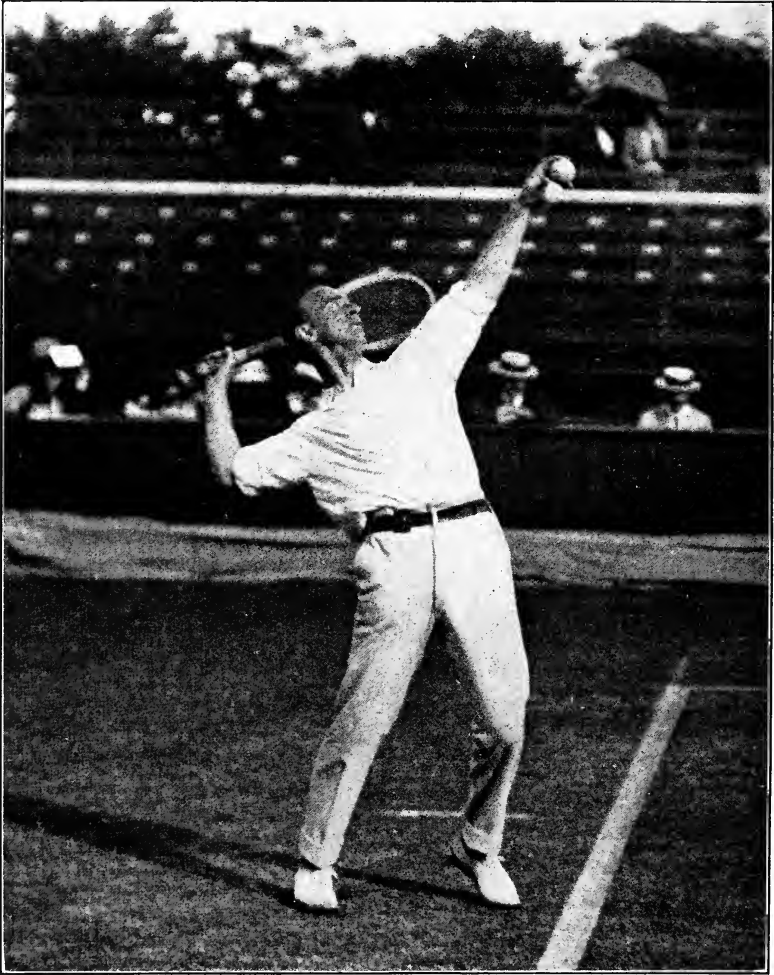
INDIVIDUALS and races differ among themselves in the spirit and method in which they play their games. Seldom is it possible to make accurate comparisons for the reason that there are few games so widely played that enough cases can be cited. Tennis, however, offers a common meeting ground. The court has become an arena in which Englishmen, Frenchmen, Germans, Australians may illustrate their personal and race differences. This fact will become increasingly evident as the game continues to grow in favor, but it is already of wide importance in view of the international struggle for the Davis Cup, finding its climax in America during the present month.

IN one of the largest clinics in the country there is an operating-room noted for the adequate accommodations provided for spectators. Rising up on all four sides of the square space allotted to the operation there are tiers of seats from which students and physicians may study and observe.

It is not with any intention of casting unpleasant aspersions on the game of lawn tennis that this picture has been called to mind. It merely illustrates a characteristic of an important international tennis meeting which is radically different from anything else in the realm of sport. The aroma of ether and of antiseptics does not make itself evident in the atmosphere of a Davis Cup competition; but there is a striking similarity

between the mental attitude of the audience in the operating-room and the thousands who gather to watch the battle of the nets.

Tennis is rapidly becoming the world game. It is eminently well suited to the conditions which have been ordained by modern civilization. Capable of being played in limited space, in limited time, and with a minimum of two players, it is enrolling active followers by the thousands in every quarter of the globe. The ten thousand persons who solidly enclose the 36 by 78-foot arena where the final operation in a Davis Cup campaign is to be decided are, in overwhelming majority, an educated audience. Like the students who watch the course of events in the hospital operating-room, they are



J. C. PARKE, HERO OF MANY FOOTBALL BATTLES AND IRELAND'S
BEST ACTIVE PLAYER

not mere spectators but picked observers.

To say that the international rivalry developed by Davis Cup competition has resulted in presenting science with a fine new international psychological laboratory would probably be interpreted as a doubtful compliment by the average tennis enthusiast. Yet there is no branch of contention wherein temperament plays a more important part than in the court game and, through the wide scope of its competition, no more satisfactory opportunity to observe varying personal characteristics. Psychologists will probably never be able to lay down the rules which will develop championship court

players, but the game of tennis provides much of the necessary machinery for inductive observation.

In contrast to the wide range of territory needed for the staging of football, polo, or baseball, tennis titles are won and lost on a small plot of ground. There is none of the wide movement which characterizes all the other leading outdoor games. From his seat the spectator, without having to shift the range of his vision, can see every detail of play. It is not necessary for him to eliminate a half-dozen unessential features in order to grasp the salient development as in football or polo. He is free from the

strain of having to follow the ball in its flight to the outfield, and at the same time of keeping track of what is happening in the infield as in baseball. Everything takes place conveniently under his nose. There is never any necessity for waiting to hear details of official rulings on disputed points. The boxlike arena of a hundred square yards is before him. He draws his own conclusions from direct and close observation.

There is probably at least one man in the world who would object to the statement that tennis contains the elements necessary to weigh individuals in the balance. An advocate of the old-line sports almost started another civil war in England about a month ago by classifying certain modern tendencies as a menace. His argument was mainly directed against golf, which he charged as not being a game at all, because it

lacked the elements of physical risk, the discipline, and spirit of team games. As to the forcefulness of the argument against further encroachments of the ancient Scotch pastime, it is as well not to enter in this article; but that the gentleman in question never saw a Davis Cup doubles competition is a safe wager. His argument against tennis was merely incidental to his criticism of golf; but in classifying the court game as lacking in the qualities of physical endurance and natural courage he stamped himself as unacquainted with the modern development of tennis.

Is there a more elemental fear than the instinct to dodge a swiftly moving object coming at your head? How many people will fail to jump backward if a friend feints a forward motion of his hand? The terrific speed at which tennis is now played and the general



H. H. HACKETT, A STEADY AMERICAN PLAYER WHOSE POWER OF SELF CONTROL HAS ENABLED HIM TO DEFEAT MANY PLAYERS WITH MORE NATURAL ABILITY

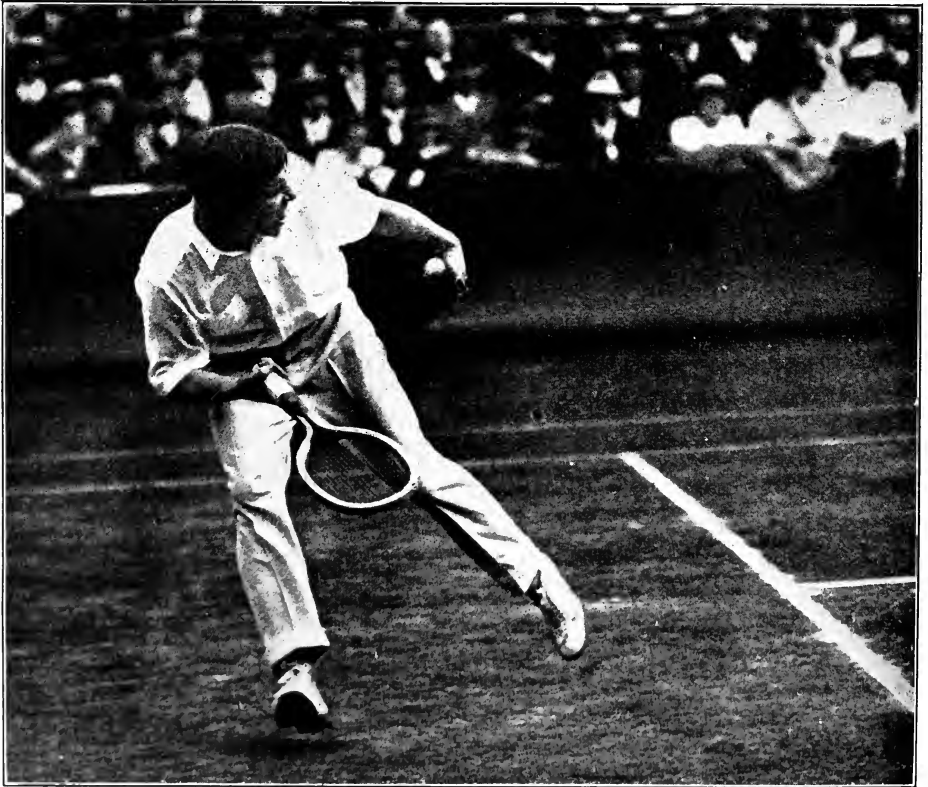
abandonment of the base-line game which has forced all players wishing to stay in the front rank to become adept at quick work at the net certainly would have sufficed to put the element of physical risk in tennis if it had been lacking before. A smash from a McLoughlin or a Brookes or a Decugis, misjudged, might easily spell the loss of sight in an eye.

Under modern tactical conditions, the net has become a real firing-line. Courage of no mean order is needed to stand the test. Not that this is the only requirement for that same sort of spirit which spells success in any branch of athletic endeavor is necessary here. Tennis of the modern variety is essentially a game of the most strenuous sort. It is a mistake to put it in the same category as golf. Although rival players do not actually charge into one another, the court game in general caliber comes under the broad grouping of those where

physical contact prevails and physical courage is necessary.

Meeting a ball speeding at your head a few yards from the source of its speed calls for the same quick thinking ability, co-operation between mind and muscle, and nerve as running in on a choppy in-field drive in baseball or intercepting a forward pass on the football field. Furthermore, the strategic development of tennis has placed as high a premium on team-work in doubles as is required in any branch of sport. Considered from any angle, the game offers a broad field of endeavor. Its requirements are such that no player can attain prominence without affording spectators an interesting index as to personality, both on the court and off.

Although there is no place allotted to it on the scoring-sheets, temperament plays a major part in tennis. Far and above the technique of the individual is his ability to master a mental attitude



M. E. MC LOUGHLIN SHOWING A BIT OF THE "GET-THERE" SPIRIT, WHICH HAS COME TO PLAY SO LARGE A PART IN THE MODERN GAME



BARON VON BISSING, GERMANY, AFTER A HARD ONE, BUT STILL MAINTAINING A CALM FACIAL EXPRESSION

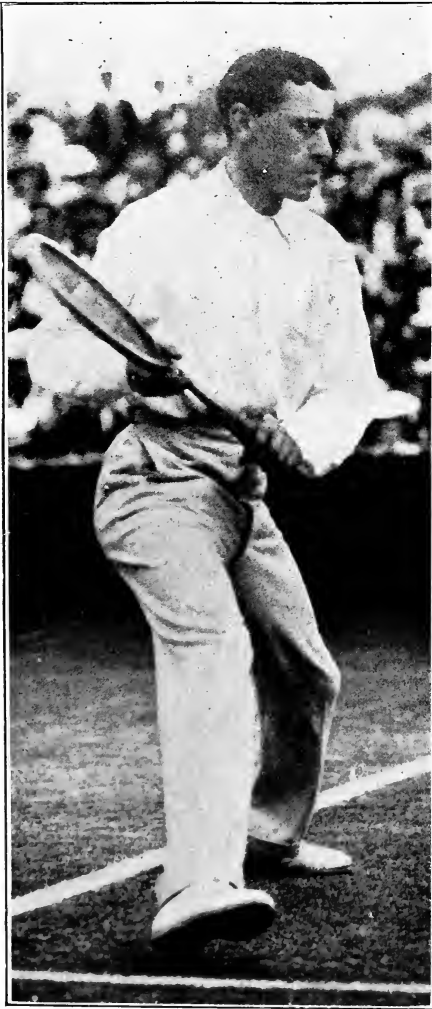
which puts the burden of worry upon his opponent. Norman E. Brookes, the great Australian crack, is an all-around adept in many branches. He is one of the best amateur automobile drivers in Australia. On numerous occasions he has given evidence of possessing abilities of guidance over a speeding car sufficient to command a handsome income if he cared to make racing his profession. He is one person who can successfully inject pace into cricket, in which sport he is rated high. Brookes plays a splendid game of golf. If he devoted time to the ancient game he would undoubtedly be a formidable contender in any championship. His abilities as a bridge player are respected everywhere. Yet, if there is one game of cards at which he should excel above all others it is in the American specialty—poker.

Great all-around tennis player that he is, it is the universal testimony of critics

that the greatest asset which Brookes possesses is his ability to outguess opponents and make them do the worrying. The Australian in action has the most inscrutable face imaginable. There are few players who can successfully conceal their stroke plan until the moment they hit the ball; but put Brookes in a tight place where a point means a game and he can generally be depended upon, not only to conceal the direction of his attack, but to deceive his opponent into believing the ball is coming into a zone of the court far removed from the place where it actually lands. His remarkably successful career on the courts is due almost as much to his ability to read human nature as to his remarkable technical proficiency.

In 1909, when under as trying heat conditions as could have been prescribed, Brookes encountered Maurice McLoughlin, whose star had just begun

to blaze upon the international tennis horizon, it was head-work and a temperament that left its possessor free from worry which won for the Australasian. Against speed such as had never been exhibited in Davis Cup play before and a brilliancy of tactics which seemed unapproachable, Brookes at first seemed outclassed. He won by placing his returns in such a way that McLoughlin, outguessed, began worrying at what seemed to be his own inexcusable stupidity. The Californian did not realize until Brookes had broken through and



NORMAN E. BROOKES, THE INSCRUTABLE AUSTRALIAN, WHOSE ABILITY TO MASK INTENTIONS IS A GREAT FACTOR IN HIS SUCCESS

taken the lead that it was Brookes's eyes, not his own, which were misleading him.

Anthony F. Wilding, team mate and close friend of Brookes, is a person of a radically different temperament. Winner of titles on clay, wood, and turf, Wilding, on his all-around playing record, would seem to have less reason for worrying about the outcome of a match than anyone else. Yet he is almost always under high nervous tension before a match and confesses to a tendency to exaggerate the chances of his being beaten by an opponent. Brookes never doubts his ability to win out. He is not conceited as to his own capacity, but his nature is such that he lets the other fellow do the worrying.

The first time that Brookes was competing for an important title in England his frank optimism as to the outcome created a small sensation. He had come through to the final and an acquaintance asking the usual superfluous question as to what Brookes thought of the outcome was surprised to receive a perfectly frank response. Instead of putting into circulation the usual—and generally hypocritical—remarks complimentary to his opponent, such as are recognized as satisfying the demands of modesty and good form in England and other places, he was frank and to the point.

"Win?" asked the big Australian. "Oh, I shall be much surprised if I don't."

His answer was not boastful—merely truthful. And he did win the match, the first of a long string of victories achieved in England.

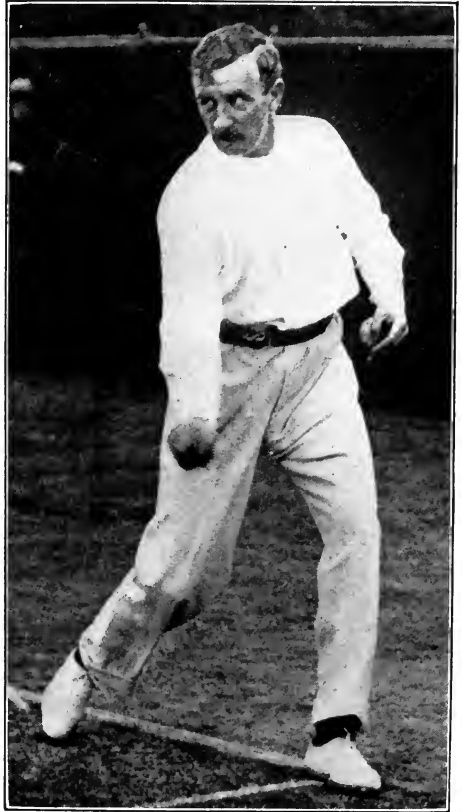
It is the French who were originally responsible for giving the word "temperament" a prominent place in the popular vocabulary. Quite appropriately the same nation has switched on the high lights of temperament in tennis. Although their serious interest in the court game dates back for less than a decade, nothing in the history of the pastime in other countries can be cited to parallel the way in which moods have swayed the tennis destinies of France.

One of the finest players developed under the tri-color is Max Decugis, who, in a long series of matches with

the picked representatives of other nations, has revealed abilities of the first order. Decugis is a smashing player with a love for strokes of the dramatic type. And when he is feeling right he can exhibit a combination of speed and a sustained brilliancy which on numerous occasions have threatened to completely overwhelm such cracks as Holcombe Ward, W. J. Clothier, F. B. Alexander, A. W. Gore, M. J. G. Ritchie, J. C. Parke, and others. Decugis, however, is at the mercy of his moods and once his game slips up he is so upset and disgusted with himself that he is helpless before a clever opponent.

In the last few years of his career, Decugis has managed to gain a greater degree of self-control, but it was not very many years ago that in one of the leading Continental championships Decugis, who had played magnificently through to the final, became so overwrought in his last match that he burst into tears and threw his racquet into the crowd along the side-lines. Stroke for stroke and on the basis of balanced tactical abilities, Decugis has every requisite for winning a world's title, but on every occasion when one of the major tennis honors has been within his grasp, the tension has keyed him so high that he has been unable to do himself justice.

It is the opinion of many unbiased critics that three years ago Davis Cup history was changed out from a course which seemed ordained because a British player was unable to accustom himself to the Yankee habit of cheering. In the preliminaries of 1911, Great Britain sent a team across to the United States. The meeting was staged in New York. The first match was at singles with W. A. Larned playing for America against C. P. Dixon. The Englishman started slowly, but as soon as he had had time to test out Larned's type of play took the aggressive. The American veteran won the first set, six games to three. In this set Dixon tried to meet Larned with speed against speed. Larned was far from the top of his form, but the Britisher soon found he could not class with his great American opponent on this basis. In the second set Dixon changed tactics and substituted a style of



C. P. DIXON, WHOSE UNFAMILIARITY WITH AMERICAN CHEERING TACTICS COST HIM A DAVIS CUP MATCH

return in which the ball seemed to travel so slowly spectators marveled how it remained in the air. Larned, however, seemed utterly unable to cope with the puzzling "floaters" which were marvelously placed. The Britisher won without difficulty, six games to two.

By taking the aggressive and driving faultlessly, Larned managed to win the third set and made a good start on the fourth. Then Dixon came again to the front and with a command of the passing game which made the American veteran seem almost ridiculous won out, six games to three.

As the fifth and last set began, Larned seemed to be outclassed. Taking the first two games and dividing the next four, Dixon steadily improved and quickly ran the score up to 5-3. It seemed all over for the veteran, when a

number of loyal enthusiasts began to cheer him. The impulse quickly communicated itself around the stands and in a few seconds thousands were calling on Larned for a recovery. Few of the enthusiasts so intended it, but the demonstration actually had the effect of disconcerting the British player. He had probably read of Indian war-whoops, but anything like the "rooting" of the American spectators he had never heard in his life.

The visitor tossed the eighth game away with a double fault. The ninth

many games Larned's ball striking the net, just barely tumbled into the Englishman's territory. The combination of this brand of luck with the pandemonium which broke loose at the reprieve which the net-cord stroke had granted the American was too much for Dixon. He went to pieces then and there. Larned, playing an improved brand of tennis, won the next two games and the match.

It used to be said that tennis was the last sport in the world to interest a spectator. When the first Davis Cup



DECUGIS, A LEADING FRENCH PLAYER, WHO RIVALS SARAH BERNHARDT IN ARTISTIC ABANDON

was a love win for Larned, with Dixon hitting an easy get into the net for the last point. In the tenth, the Englishman, by a master effort, managed to shut out the noise from the stands and actually had the match in his grasp at 40—15, when for the third time in as

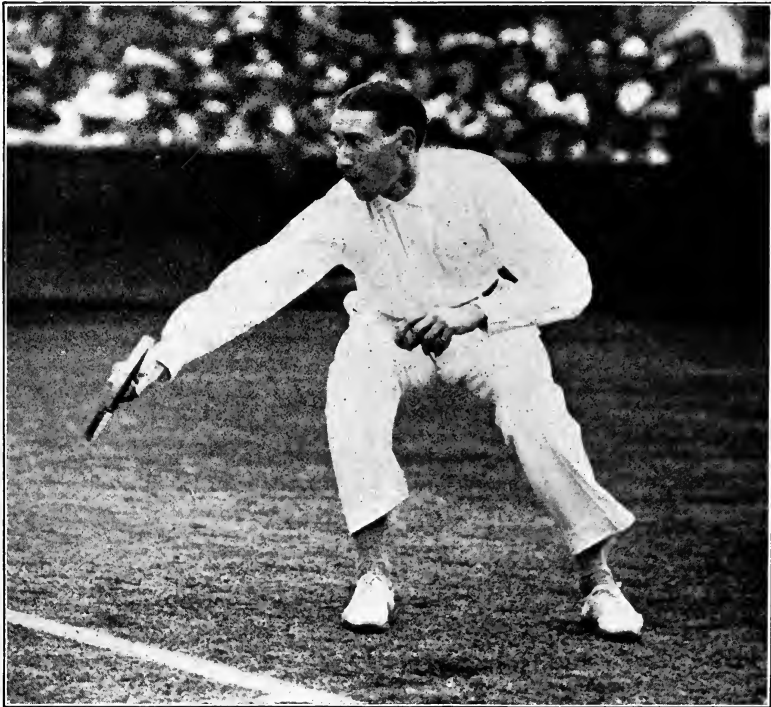
matches were staged in this country, it was considered remarkable evidence of tennis progress that thousands of people turned out to see the competition. Yet no admission was charged for witnessing this play of a comparatively few years ago. If it had been prophesied then

that many more thousands would be willing to pay a considerable price and that the committee in charge of Davis Cup arrangements would have to stay awake nights guarding against speculators, the seer would have been considered a fit candidate for the asylum.

It can still be successfully maintained

discussing the environment of a championship tennis meeting with the writer, said that never in his experience had he encountered such dynamic atmosphere as surrounded the engagement between the American and Australasian Davis Cup contenders at Melbourne in 1908.

"It was electrical," says Alexander,



A. H. GOBERT, KNOWN TO HIS FRIENDS AS "FIFI," ONE OF THE LEADERS OF THE NEW FRENCH SCHOOL

that the court game is not entitled to high rank as a spectacle. The fact that the international matches of the present season have attracted a record attendance is largely a reflex from the increase in the number of active players. Yet because a Davis Cup tennis crowd is, in such an overwhelming majority, a critical audience, it has a potential capacity for demonstrative enthusiasm which, once unloosed, can reach formidable proportions.

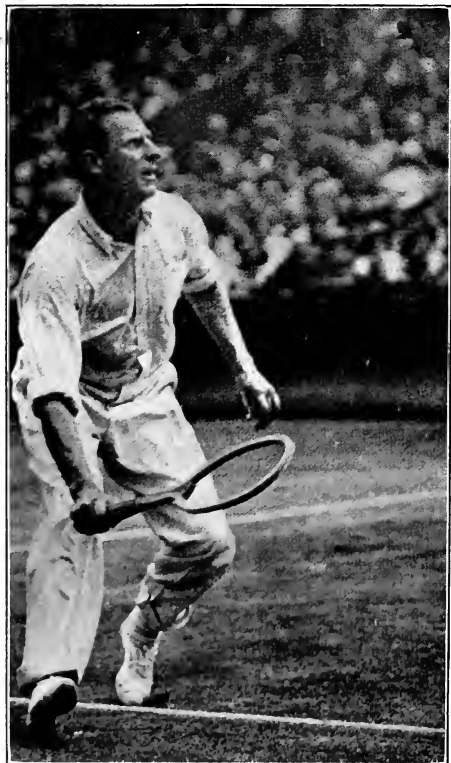
F. B. Alexander, proficient veteran in many fields of sport, and, as he demonstrated on at least one afternoon this season, still able to cope with the best of the younger generation on the courts, in

who, with other standards of comparison, has distinct recollections of doing the pitching in Princeton-Yale and Princeton-Harvard commencement baseball games to guide him. "I have never encountered such an emotional crowd. The cheering was continuous throughout most of the matches."

Unlike Dixon, the British player who found the American cheering so disconcerting, both Alexander and Beals C. Wright, who comprised America's delegation sent to the Antipodes in 1908, felt quite at home in the midst of the Australasian enthusiasts. They did not win the cup that year, but they agreed that they played better under the stimu-

lation of Melbourne tennis fanaticism than they could have ordinarily.

Americans and Australasians reflect the similar environment of newer countries in that most of their tennis representatives have the ability to become quickly accustomed to unexpected developments on the courts. The English, however, with their native instinct for conducting matters along conventional lines, do not take kindly to innovations. One of the assets possessed by Count Salm, a young Austrian crack, who is helping to put his country on the tennis map, is an ability for providing sensational innovations. The Viennese nobleman has the sort of artistic disposition which is disconcerting to his opponents on the court. He has had notable success against the best of the English and German players, not only because of his own playing abilities, which are high, but because these opponents are constitutionally unfitted for comprehending his style.



ANTHONY F. WILDING, HALF OF AUSTRALIA'S BIG TWO

In the French championships a few months back, Count Salm defeated F. G. Lowe, one of the leaders in British tennis. At a crucial point in the match, when after four close-fought sets, the result hinged on the outcome of the fifth, the Austrian provided a theatrical interruption which was destined to win the day for him. Salm is a brilliant performer, but Lowe's steady and conservative tactics were gradually opening up a winning lead, when, at the climax of the game, Count Salm, talking alternately to himself and the spectators, suddenly rushed off the court, took a siphon of soda from the tray of an attendant and then, in full view of the gallery, squirted it down his noble Austrian neck. Lowe, standing in shocked surprise in the other court, was petrified by the interruption. The "scene" annoyed him, and doubtless his British sense of the proprieties was outraged by a proceeding of which no mention was made in the rule book. And the Austrian, coming back much refreshed after his unconventional bath, won the fifth and the decisive set of the match by a 6—3 score.

Not merely personal but national characteristics are reflected in tennis. In citing instances to substantiate the statement one is, of course, apt to tamper with the evidence. It is always a temptation with a large mass of material available to cut the cloth to fit the subject. Yet, taking the average of the leading players among the seven nations enlisted in Davis Cup competition, broad lines of character division do unmistakably reveal themselves. Contrasts in mental attitude which history has erected between French, British, German, and American types are outlined in strong relief in the modern annals of tennis.

The roll of leading French exponents, almost without an exception, consists of players who possess in abundance those traits which are recognized the world over as typically Gallic. At the start it can be set down that tennis is a branch of sport ideally suited to the French standard of individual achievement. Not emphasizing so uncompromisingly the grinding, unappreciated service on which success in football and other Anglo-

Saxon pastimes is achieved, it grips the French imagination.

Fighting their problems out along their own lines, the French are steadily forging to the front as an increasingly important factor in international competition. The love of the dramatic inherent in the French nature gives their young players a different mental attitude from that possessed by other nationalities first taking up the game. Practically all the young players you see at the Stade Français are striving to achieve correct form first and the honors of the moment second. In other words, they are perfectly willing to lose a game if by dint of steady striving they achieve a given stroke once properly.

Such a result would not satisfy the average young British or American player out to win every game from the start. Yet tennis authorities all over the world are now agreed that from the standpoint of efficiency the French idea is the right idea. The most important thing for the beginner is not to win a few puny games at the start, but to avoid getting into bad habits of play. A. H. Gobert, W. H. Laurentz, and Max Decugis have not yet succeeded in winning the highest one or two honors in the court game; but they have come close to it and demonstrated that France is on the right track.

One source of satisfaction to the French is that they have very generally succeeded in besting their old rivals, the Germans, on the courts. Such representatives of the Empire as Baron von Bissing, Rahe and the Kleinschroths exemplify in their tactics the thoroughness which the Fatherland brings to bear in preparation; but so far they have failed to show the dash and daring in pinches which spells success when opponents of fairly equal technical resource have to be encountered. Decugis has won the German championship, and in



F. W. RAHE, ONE OF GERMANY'S LEADING EXPONENTS OF THE COURT GAME

his fight to the top the temperamental distinction between Gaul and Teuton has been sharply outlined. Unwavering determination and almost mathematical accuracy of stroke have proved unavailing against a stylist who, as a well-known British stylist has observed, "reflects in each movement of the racquet the verve and artistic sense of the French character."

If there is one feature which has distinguished the game of the average capable British player in contrast to the American, Colonial, or Continental player, it is the symmetry of his playing development. Taking the list of English who have made a name in tennis, it is seldom you can note one who combined, for instance, a remarkably strong forehand with an extremely deficient backhand. Judged by the American standard of service, or from some other acute angle, exceptions can be cited, but in general the English have developed their game along symmetrical lines where other nationalities have shown a tendency to specialize in a few departments. Such men as A. W. Gore, A. E. Beamish, F. G. Lowe, C. P. Dixon, and other

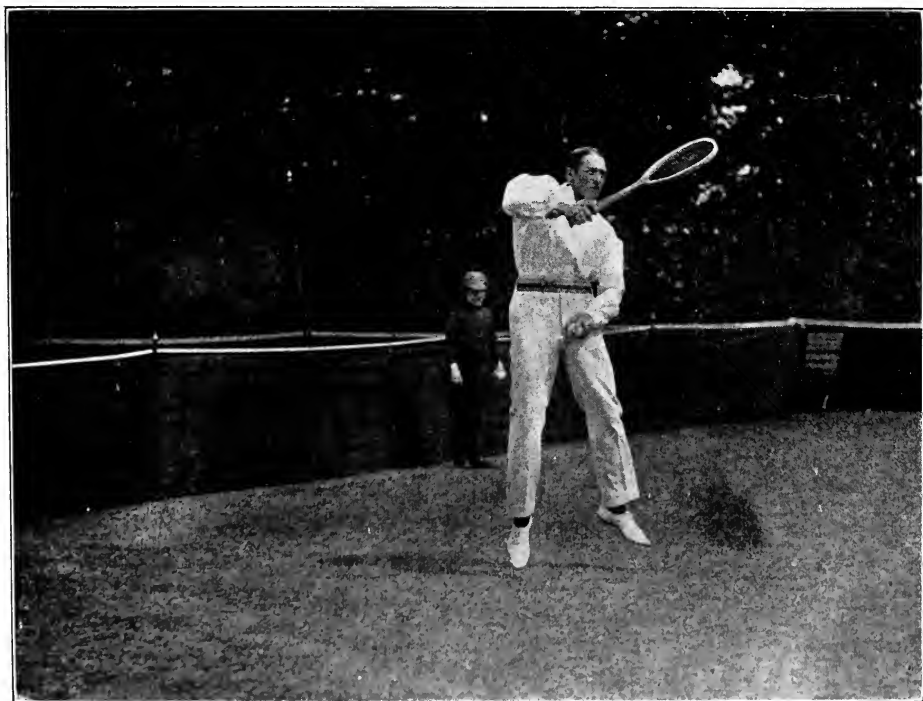
Britishers exhibit a beautifully rounded type of play. H. Roper-Barrett can be named as an exception, perhaps. His specialty is brains rather than strokes, and he generally gives a scintillating exhibition; but he does not represent the average in England any more than H. H. Hackett's tactics are typical of the average in America.

It will be noted that the Irish cracks have so far been excluded from classification. This is for the reason that in the opinion of the writer there has been, since the days of Dr. Joshua Pim, of County Dublin, who won the All-England championship in 1893 and 1894, a distinctive Irish school in tennis, the tendencies of which have been different from the prevailing English style. There has never been a time when this school has not been prominently represented in international competition. J. S. Mahoney, J. C. Parke, and A. G. Watson, an Irishman now playing for Belgium, are a few of the players who reveal a tennis temperament radically different from that evolved across the channel.

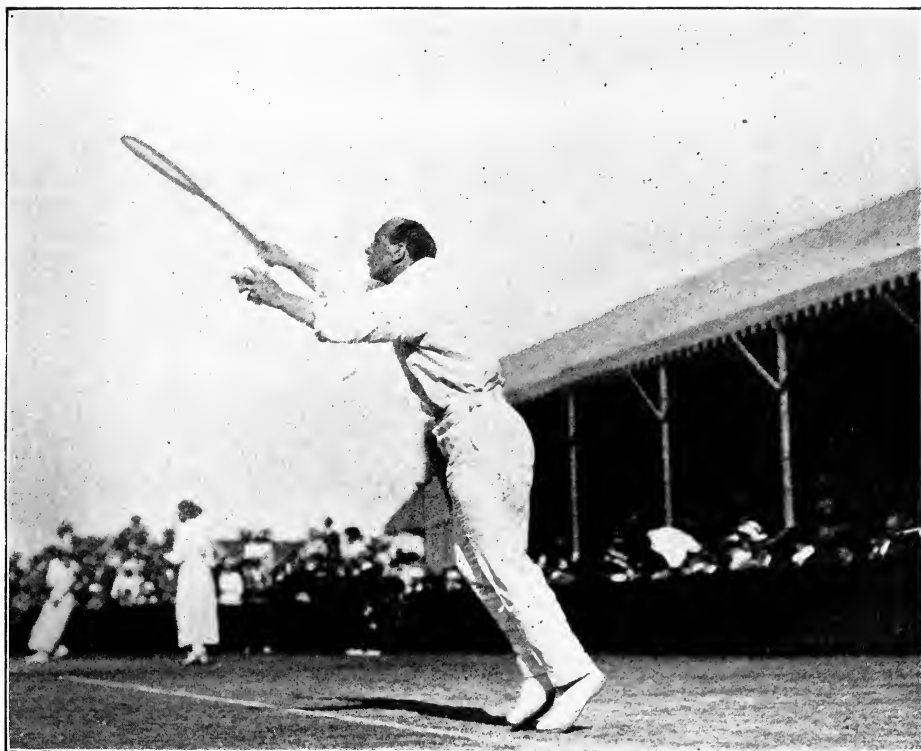
That the British school is dead as far

as prospective tennis leadership is concerned cannot be maintained with any degree of security. The appearance of young A. R. F. Kingscote on the horizon may well mark the beginning of a new chapter. Temperamentally the young army crack seems ideally fitted for the task of leading the way to new accomplishment. That he is a man of the type likely to rise to emergencies and subordinate style and tradition to results in pinches is indicated by the fact that early in the course of the present season, when Kingscote was not making a particularly good showing in the scoring, English veterans stepped aside and said they felt that his game nevertheless held greater promise for British success than any of the standard time-tried players could offer. In other words, England has at last recognized that the tennis standard which was good enough when only England was playing tennis is not sufficiently high in this day of world-wide competition.

A significant feature of Kingscote's appearance is that he, like R. Norris Williams, is the product of skilled pro-



RITCHIE, ONE OF THE BEST ROUNDED OF THE ENGLISH CRACKS



H. ROPER-BARRETT, THE HEADIEST ENGLISH PLAYER, WHOSE BRILLIANT GENERALSHIP HAS KEPT HIM TO THE FORE

fessional coaching. Both youngsters went to school in Switzerland and were properly started on their respective tennis careers by experts. If Kingscote should live up to the most optimistic hopes of his countrymen this summer, Great Britain may see the American argument in favor of what Britain has termed professional coaching in a more favorable light and develop the really remarkable athletic material at her command to highest capacity. The present season has proven that the British can profit by experience, revise their generalship and key up their playing temperament to a tension where it can

take the aggressive whenever necessary.

The trouble with English tennis during the past few years is that, like lands and other hereditaments, the shell has been inherited. Temperament expresses itself in generalship, but it has to have the grooves made ready by preparation. Competent professional coaching would serve to lift the English standard out of the ruck of commonplace play. And once having learned the lesson, the younger British players, like Kingscote and Hope Crisp, the young Cambridge crack, who is the latest youthful sensation, should prove capable of rising to opportunity.





MAPS

By C. L. GILMAN

PHOTOGRAPH BY THE AUTHOR

WE never met them, do not know their names,
And yet we take their word for things, those chaps
Who sweat and shivered in these self-same woods
In some forgotten time to make us maps.

Our hunt is done, our grub is running out—
What's really bad, tobacco's getting low—
There's been no sugar in our tea to-day,
And anyone could smell the coming snow.

The swamp's too soft for walking and the bay
Too hard for boats. We haven't time to roam
Or ramble. What we want to know is just
The shortest, quickest, safest line to home.

And, being in an old, familiar fix,
We're doing what you've often done perhaps,
We're sitting down for counsel and advice
From those omniscient sports who made the maps.

We're awfully obliged to them for what
They've done. It's honestly romantic, quite.
But, with their works for models, we, like them,
Will simply state the facts in black and white.



IN CAMP AT N'DIZADIGU

IN BACK OF BEYOND

By STEWART EDWARD WHITE

ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

V

AMONG THE WASONZI

MR. WHITE has reached his first objective point at Lake Natron and has described the life and the happenings there and along the N'gouramani River. The mountain work is practically done, but some of the hardest problems lie before them. It is an unmapped country that they are entering now and they must find their way. An unpleasant surprise is awaiting them in the shape of the tsetse fly—much to the hurt of their donkeys. But the unknown that calls loudly to the explorer lies just before them.

AS it was now nearing the date on which we had agreed to meet the German customs official near the head of Lake Natron, we next day started back along the base of the escarpment, intending to camp about half way to the water-hole and look over the country. For some distance we had

really fine marching, which was quite a novelty and relief, over low rolling swells, with wide grass openings, and long park-like swales in which fed considerable game. We saw a great many cow eland (no bulls), Robertsii, zebra, kongoni, one wildebeeste, a serval cat, and many dikdik.

After a time we came to a long, dry soda arm, which we crossed, plunged

into scrub, climbed over a hill and dropped down into one of the loveliest spots I have seen in Africa.

A crystal stream running over pebbles; a flat terrace; then a single row of enormous wide-spreading trees, as though planted, and from beneath their low-flung branches sight of a verdant hill and distant tiny blue glimpses of a miniature landscape far away.

"This is going to be the pleasantest camp we have ever had," said we, and sat down to eat lunch before the safari should arrive.

But with the safari came two lovely naked savages with a letter in a split stick. Said letter proved to be from the German governor. It absolved us from meeting the customs officer August 8th, and requested us to send a list of dutiable articles. This was very good of him—also it saved his officer a hard march into an unknown country.

However, this altered the situation. There was no longer any object in spending more time here. We could now begin our westward journey, so we resolved to hike back as soon as we could to the Wasonzi village, pick up our donkeys and proceed westward into our Unknown Land.

It was now noon, but by continuing on to the water-hole, instead of camping here, the long march would save us a day. Accordingly, after a rest, we abandoned our beautiful camp and went on.

A half hour out we ran across giraffe. I had promised to collect one of these beasts for a Pacific Coast institution, but had heretofore neglected it. Now it was desirable to do so in order to send the heavy skin back with Vanderweyer's donkeys. Therefore I opened fire with the Springfield at one running at two hundred yards. A single shoulder hit was sufficient. It went thirty yards and fell dead, which proves either the tenderness of the giraffe or the effectiveness of the Springfield. As a matter of fact, these beasts are the least tenacious of life of any of the larger animals. We took the trophy and left a dozen or so delighted Wasonzi, to whom the meat and sinews were a godsend. At the water-hole we found our boys had been

living high on guinea-fowl they had snared.

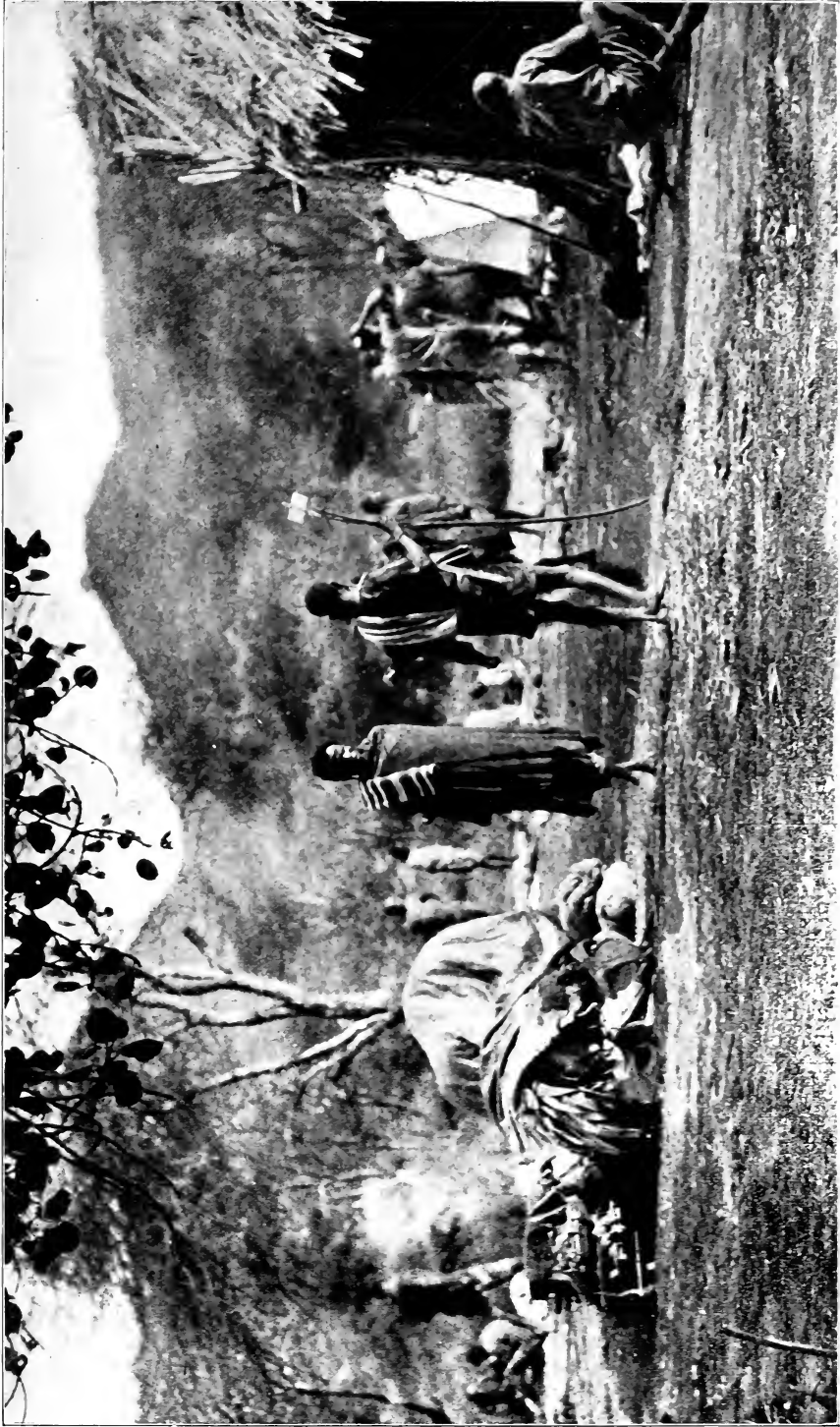
Next morning we were up and off before daylight to get the 2,300 feet of straight-up escarpment behind us before it should get too hot. Even so, it was a hard climb, and we sure perspired some! Every Wasonzi was draped with spoils. I don't suppose they ever before—or ever will again—struck such luck; meat, hides, sinew, fat in abundance. They could hardly navigate.

Made our rhino camp in four and one-half hours. The afternoon Cuninghame and I spent in preparing our papers and in constructing a surveyor's protractor. We made an excellent one, which we have used successfully ever since. In its construction we employed: one mica from candle lantern, a pair of scissors, a darning needle, an envelope, the thermometer slide, steel tape and a pocket compass.

On the mica we drew a straight line with the darning needle and the straight edge of the thermometer slide. On this we erected a perpendicular by means of the scissors used as compasses. The exact arc of a semi-circle we made by tracing the full circle of a cup on a spare envelope and then folding the envelope double, after which it was easy to transfer the semi-circle to the mica. We laid off the degrees by means of the steel tape, and with the pocket compass we placed the NWS divisions outside the semi-circle and the SEN divisions inside. I don't suppose it was anywhere exact within a degree or so, but that did not in the least matter for field sketching. We felt quite a glow of triumph when the thing was done.

But now our good luck was to get its first modification. We started on a cool day for a fine march. After the intense and stifling heat of the lower country, this mountain air was delightful. We had lots of fun. At one place we heard a movement in a small patch of brush next the spring. Suspecting a buffalo, I ran around the other side just in time to meet a sleek black rhino that came out about twenty yards away.

Then at the end of two hours we met Sulimani in full regalia, musket,



WE SENT OUT A LETTER (IN THE FORKED STICK) FROM THE WASONZI VILLAGE. THE RUNNERS ARE CARRYING THE BLANKETS PAID THEM FOR THE SERVICE

bandolier and all, accompanied by a Wasonzi guide. He greeted us cheerfully and fell in with us. Not until we had pressed him for a reason for this excursion did he report that two of the donkeys had died, "and all the rest are sick."

This was a facer. Everything was all right when we had heard two days before. If it was really true that "all

then it ran perfectly straight and open for three-quarters of a mile. No enemy could have progressed an inch except on this road, which was visible and open for its whole length. Next we came to a little round stockade of heavy timbers built square across the road, perhaps ten feet in diameter. It had doors leading both ways, but timbers lay at hand by which these openings could be



FORTIFIED GATE OF THE WASONZI VILLAGE

the donkeys were sick," then our very existence as a mobile expedition was threatened.

Arrived at camp, however, we found it not as bad as that. One donkey was dead, two on the point of expiring, and five more of ours and six of Vanderweyer's out of sorts. Both mules had symptoms of fly.

It was serious enough, however, and it behooved us to get them out of the infected district. We called in all survivors, packed them and hastily despatched them off across the hills to N'dizadigu, the next Wasonzi village. Then I put bullets through the brains of the two on the point of expiring.

In the afternoon Cuninghame and I paid a visit to the village on the hill.

There was a long, well-made trail up the hill between flowering aloes, euphorbia and dense briars and thorn. First it climbed a steep, rocky escarpment,

closed. Then, after another interval, we began to come to the houses, perched all over the side hill.

Even near at hand their resemblance to the big gray boulders was most deceiving, and at one hundred and eighty yards Cuninghame and I had to guess which was which. They proved to be circular, thatched with gray grass in rounded roofs. Each entrance was fortified in miniature just like the gate.

We bent double and entered the first one. It was very dark and warm, but after our eyes had become accustomed to the dimness we found we were calling on a young lady, stark naked, except for ornaments, squatted before a tiny glow of coals, over which she was drying tobacco. Beds of skins were suspended at right and left. New skin garments hung in the apex, together with bundles of provisions, skins of beasts, gourds and such treasures. She seemed not at all

disturbed, and we nodded cheerfully and said *â-â-â* in friendly fashion. Then we crawled out and continued our tour.

Some of the wealthier houses had little *bomas* about them. All had pear-shaped, jet-black masses drying; these we ascertained to be manufactured tobacco. On our way we met and grinned at many gaudily painted warriors and old men. Coveys of naked children scrambled up the mountain like goats ahead of us, and perched on crags to gaze down on us. Everybody was most friendly.

Finally we inquired for the chief, and were led down to a naked old fellow sitting on a piece of skin. He was the most ancient piece of humanity I ever beheld; a mere skeleton; his joints twice the size of his limbs; his skin a wrinkled parchment; his eyes bleared. We stood and stared at him, but he never looked up.

"Nothing to do here," said Cuninghame at length.

However, we had Sanguiki address him in Masai.

The skeleton rattled and a slow, de-



THE WASONZI PRIME MINISTER

liberate, powerful voice issued from it.

"I am chief, and not only of this village," Sanguiki translated, "but of another village far away there, and another great village nearer, there. I am a great chief," with which pronouncement of glory he fell silent.

By this time three younger old men, evidently the prime ministers, came up, accompanied by half a dozen warriors. One had a delightfully quizzical, humorous face, and all had a look of great intelligence. With them we chatted for some time. We motioned to Sanguiki to give the old chief a paper of snuff we had brought as a present. The old fellow mistook us, and helped himself to an enormous pinch.

"It is yours, all yours," we told him.

As soon as he had understood this, he hastily returned to the packet nine-tenths of the large pinch, and consumed only a little.

"He must be Scotch," laughed Cuninghame.

We left him, carrying away the impression of a very old man sitting in the sun.

On our way down the trail we met the water safari, a long string of women and children carrying innumerable gourds, by means of which the whole village is



THE WASONZI SULTAN



THE BIG TREE UNDER WHICH THE PARTY CAMPED AT N'DIZADIGU

supplied from the stream, a toilsome mile away.

Also we met one of our guides returning laden with spoils. He had with him an old man with a spear, a young warrior, and a *toto* (baby). We passed the time of day, and asked him if the *toto* was his. He laid his hand on the warrior's shoulder.

"This is my *toto*," said he, "the little one is his."

We were about to move on when the old man seized my hand and placed it on the guide's arm, at the same time pointing to his own breast. Thus four generations were returning laden with the white man's bounty. The Wasonzi are a friendly, pleasant, *human* people.

A four hours' march across a high and rugged range took us to N'dizadigu, one of the other villages of the Wasonzi, whither we had despatched our remaining animals. N'dizadigu proved to be a very large settlement, also high on the hill. We did not climb up there, but camped in the valley below, beneath a fine, wide tree. It was one of the finest trees I ever beheld, nearly circular in shape. We had plenty of room beneath it for everybody, with some to spare, for its branches extended one hundred and twenty yards.

We sent back men to the last camp

to lie there that night and next day and bring on some potio loads we had to leave. About 8:30, to our surprise, they returned with the loads—thirty-one miles in all, over mountains, and twenty miles of it loaded, a wonderful feat, but it shows what a porter will do if he expects entertainment at the end of his march.

We had swarms of visitors, with the most important of whom we exchanged courtesies. Two native soldiers, or *askaris*, were camped near. They came to see us, very trim in their uniforms, and reported formally. Found another donkey dead.

This night the village held a grand *n'goma**—fortunately, at a distance—in honor of the advent of the first white men since the Germans established the post in '96. The *askaris* are changed every two months, and apparently are never inspected.

This is the time of the new moon, when for a month all good Mohammedans fast until sundown. I asked Ali about Ramadan—whether men like porters, working hard, had to keep it. "Ramadan can be postponed by killing a camel," he said.

"Are all the men keeping it?" we asked.

*Dance and sing-song.

"Only me."

We haven't noted any defunct camels, so don't know how they work it; we have about twenty supposed Mohammedans.

Porters are queer creatures. They will work hard all day and talk all night—if they are permitted. I hold them down pretty rigorously, and punish any noise after my light is out. Last night a lot of talking burst out about two o'clock. This morning I started an inquiry.

"I am sorry," said M'ganga apologetically. "A sick donkey fell through my tent upon my head."

We forgave him!

The sick donkey died. Packed off Dowdi on the back trail with Vanderweyer's donkeys, keeping with us six that looked sick. The men spent the day trading. Each brought out a little store of beads and entered into bargains for milk, vegetables, fruit, etc. They have also started the fashion of unraveling the sleeves of their jerseys, and with the yarn weaving lanyards. Gave Ali some beads and snuff, and with them he bought us enough yams, green beans and a sort of squash to last us a fortnight. I amused myself wandering around and listening to the bargaining. Overheard this, delivered in a voice of scorn:

"You might sell that to the white men, but not to me!"

Then the speaker turned and discovered me at his shoulder!

Men drying fish on sticks. Memba Sasa started a new lacework cap. I explained how the Memsahib had made the others he had given her in 1910 into sewing-bags, and he was much interested. Poked around and took pictures. Slept. Wrote in journals. A high, cold wind came up in the afternoon.

That is about all there is to be said of this day.

The morning of August 8th we began our movement westward into the new country. We had first to climb the last steep step of the escarpment. Made the move in three sections, each guarded by a Wasonzi. First, myself, gunbearers, guide, then porters, guide, then Cunningham, donkeys, donkey-men and guide. We made no attempt to keep together.

For two miles we followed down the valley close to the hills. Little naked children perched on dizzy crags far above us to watch us go. At every



SNAKE-LIKE VINE TWISTED ABOUT A TREE

crossroad squatted a group of women, who arose at our approach and waved and screamed us into the proper path. We met many people going to their fields, each carrying a gourd, a leaf-packet of provisions and a smouldering brand with which to start their fires. They all shouted and screamed at us in their own language.

Then we turned out of the wide bottom-land into a rocky cañon with a stream, at the head of which we accomplished a terrific straight-up climb of

Camped near a spring under a lone tree. The porters came in an hour later, but Cuninghame and the donkeys did not show up.

After a short rest I went out after some of the game herds feeding in plain sight. We had been shy of enough meat for some time, and many of the savages had come along with us for a share. The wind was blowing very hard, which, as always, made the game wild. This is invariable. As will later appear, we had opportunity to test the



EUPHORBIA NEAR N'DIZADIGU

1,100 feet. Very hot; bad footing; steep. This brought us to rolling downs and low hills a few miles away, to which we rose slowly, and a wooded, shady pass with a beautiful, high, still forest and monkeys and trailing vines and still, cool shadows and breathless, leafy glimpses and bright birds; and so out to grassy openings and tree clumps, and over an edge to find the wide, yellow plains undulating away before us as far as we could see, with single dim blue hills sailing hull down.

Just here we began to see game, and I dropped two kongoni for food. Also saw a Bohur reed buck running hard through tall grass. As my only specimen had been burned up in Colburn's fire, I tried him, but missed.

theory perfectly, having been within fifty yards of *the same game*, on a still day, that would not let us get within four hundred yards in a wind. After considerable stalking I managed to get another kongoni, which was enough for the present need.

Cuninghame did not get in until 5:30. He reported a fearful time getting to the top with the donkeys, and left them encamped at the head of the rise, all in. He was pretty much all in himself. Distant grass fires were wonderfully beautiful after dark, throwing a glare into the heavens and running forward in a long, wavering line of flame. Some of it had crept to the top of one of the very distant hills, where first it showed like a star, and then burst forth



STREAM ABOVE LAKE NATRON

into a beacon. The high wind continued all night.

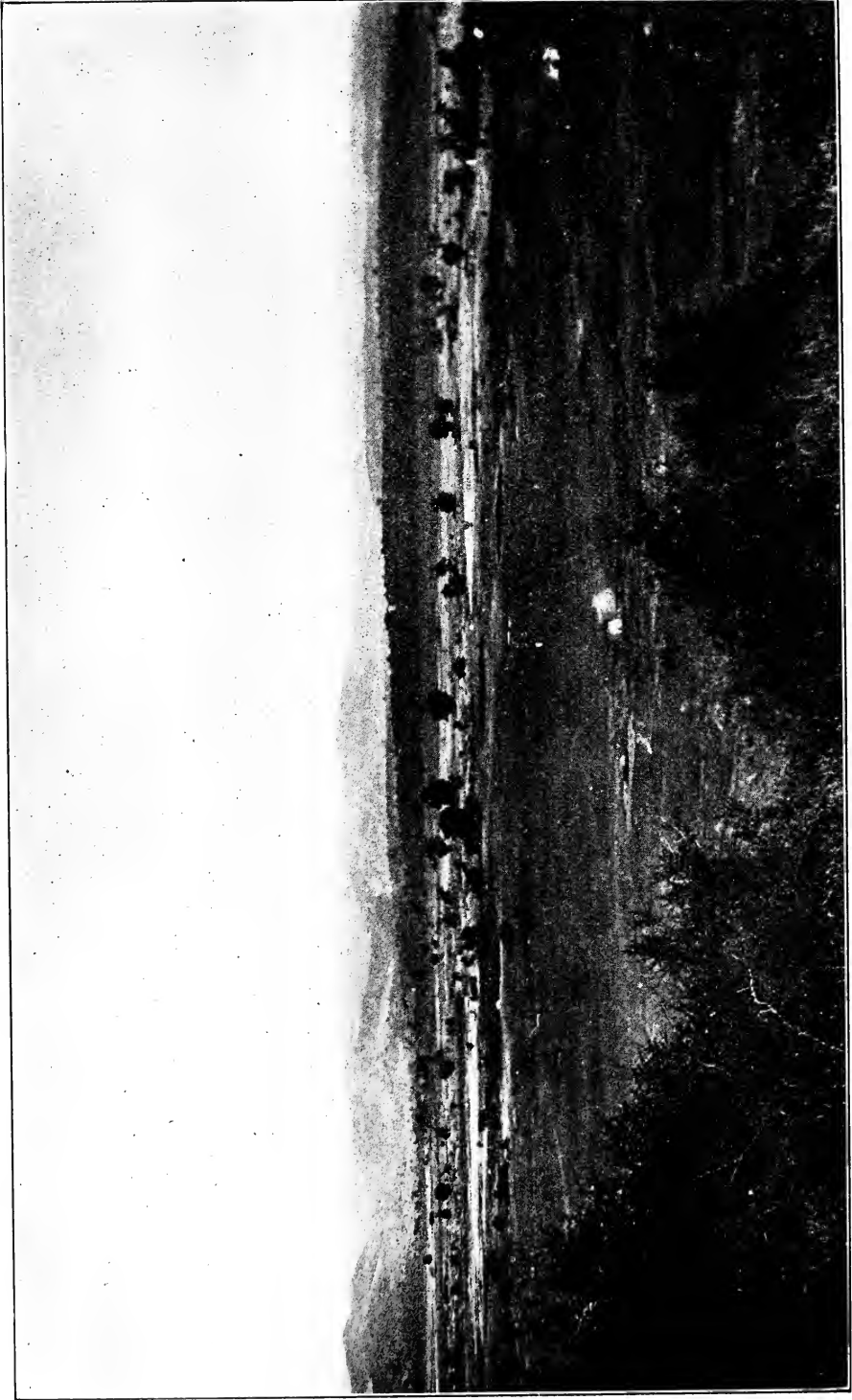
Forgot in my notes of two days back to state that with Dowdi's men we sent out the syce and our saddles, and are packing the mules. We have enjoyed only about twenty-five miles' riding; all the rest we have done afoot. Decided to stay over here some days, so sent back men to help Dolo and carry

some of the donkey loads if necessary. Then Cuninghame and I started off together to explore. For an hour and a half we skirted the hill, then crossed a small stream called the Dorodedi, where in some rocks we saw hyrax. Here Cuninghame kept on to scout for water for the next camp, and I swung down to the left to look over the game.

Stacks of it—Tommy, Robertsii, kon-



WASONZI HUTS AMONG BIG GRAY BOULDERS FROM WHICH THEY CAN HARDLY BE DISTINGUISHED



IN THE OPEN COUNTRY TO THE WEST OF LAKE NATRON

goni, zebra, ostrich, small antelope and several black compact herds of wildebeeste like ink-spots in the distance. A strong, fresh wind blew, and everything was very wild and suspicious. Very hard to shoot, as the wind was strong enough to swing the gun, and most of it had to be off hand. Managed to get the required meat, however, and then dipped back toward the river, where I saw many guinea-fowl and a big herd of mixed game going along single file, among which I distinguished two topi. In the smoke of a near-by grass fire I made out dimly the darting forms of savages, with firebrands, running along and setting fire to the grass. They disappeared when we came near them. The air was full of smoke and the crackling of flames. Got out of there and returned to camp.

All afternoon the Wasonzi drifted in until twenty had arrived. Each was escorted to my tent by the one who talked Swahili with the statement:

"I have arrived."

"Make it so," I replied, like the captain of a warship.

Then he joined his friends in a big leafy bower. After tea I went over and had quite a chat with them. The Wasonzi tell me it is they who set fire to the grass.

"Thus the rhino are driven away, and if there are no rhino, the Wanderobo stay away," they explained their motive. The Wanderobo hunt rhinoceros for the horns.

The *askari*, armed with a musket built in 1876, tells me he is allowed seven cartridges a month to get himself game!

The men came back with donkey and donkey loads. Four donkeys and one mule died on the road. Cuninghame in, after a thirty-mile tramp. Under a little kopje he found a puddle of water "as big as his hat," and by digging proved it to be a spring. This will assure us a first day's safe march into the unknown.

This evening the fire has crept up the other side of a lone mountain peak, ten miles away, and has appeared at the top, so it is like a volcano.

We rested over here another day;

shot some more meat for ourselves and our friends, and early on the evening of August 11th said good-bye to the Wasonzi and started out. The Wasonzi refused to go a step farther; but as they knew nothing of the country, we did not miss them.

Another donkey had died. We left behind us two sick men, with such of the loads as we could not carry, together with two more sick donkeys. They were to sit tight until we sent back for them.

We marched for nine hours across a rolling open grass plain to the end of a hill that Cuninghame had noted for a landmark. Not much game in the middle of the plain, but we ran into it again near the spring and thereabouts. Still blowing hard, and game almost impossible to approach. Near the hill I branched off to the left after our daily meat. Had some difficulty, as the wind was high and the game wild. Afterward I continued on to the top of the swell and took compass bearings of the hills, so as to know how to cut a river called the Boleledi, reported to us by the savages. At this hill we cut loose from all native tracks and native knowledge and enter absolutely virgin country. On the way to camp I picked up a fresh ostrich egg. It made a huge omelette.

The next day we struck directly across country by the compass bearings obtained yesterday, and after some hours' march came to the edge of low mountains, or high hills, with easy slopes, sparsely grown with small trees, and valleys between. The grass had been recently burned; and, indeed, for the next ten days or so we were never out of fine charcoal footing, which arose in clouds and which grimed up everything. We were always very dirty, but it was a good, clean, healthful, antiseptic sort of dirt.

But here, in spite of the apparent lack of feed, we ran into multitudes of game; game beyond the farthest reach of even the Wasonzi savages behind us; game that had never heard the sound of a rifle shot; that had probably never seen a human being, save possibly some stray Wanderobo traveling through. It

stood about in groups and singly, and stared at us in stupefied astonishment while we went by, not taking the trouble even to move, unless it happened to be to leeward of us. In that case it kicked up its heels and cavorted off a few steps, to be sure, but immediately it had passed beyond the strongest of the scent, it stopped and stared again. We passed herds of wildebeeste within a hundred yards! Hundreds of topi, hartebeeste, zebra, Tommy, Robertsii, steinbuck, or dikdik, merely trotted a few steps and stared, and trotted a few steps more and stared again!

Passing beyond this valley, we crossed a bold outcrop of rock—whereon were klip-springers and reedbuck bounding about—and marched for a long distance down a gentle slope that must lead to the river.

We arrived at hot noon—to find it a dry wash! Sand, rocks, and alkali, and that was all! An hour's march, however, found us a pool. We made camp on a little patch of clean grass that had escaped burning. A donkey died on the road.

In the afternoon Cuninghame and I took a little stroll up the wash to see if there was more water above. A short distance out I downed a bohur reedbuck. My only specimen from the previous expedition had been burned, so I was glad to get him.

A little farther on we heard a chorus of zebra barkings, a regular *kalele*,* persistent, shrill, and numerous. We thought at first a herd must be attacked by wild dogs, so, of course, we went on to investigate. We found the row to be not fright but sheer exuberance! From a big water-hole, up through the scrub, came a mighty procession of all sorts of animals, seemingly endless, headed back for feed after their four o'clock watering. They were biting and racing and plodding soberly along and kicking playfully, and all lifting up their voices in sheer joy. We watched them through our glasses with the keenest pleasure until they had all passed on, then forward to look at the water-hole.

This little piece of country is like

*Uproar.

the Garden of the Gods—we wind our way on firm, level earth between domes and monoliths. The water lay deep and cool in a hollow with reeds. And in the reeds we saw a really fine bull eland, a pretty picture as he stood amid the greenery.

On our way back we saw a steinbuck that thought itself hidden, flat to the ground, with ears *folded* neatly forward, like those of a spaniel dog! It was exactly in the position it would adopt in the long grass, only now all the grass was burned off! But it went through the motions just as faithfully.

At camp one of the porters reported he had seen roan near by. With our usual skepticism, we did not believe easily, but his cross-examination held, so we decided to stay over. Before leaving home many of my friends had presented me with "lucky cartridges." As this beast ranks, after the greater kudu, and with the sable, as the finest trophy of African antelope, and the most difficult to get, I thought this an appropriate occasion to try one. Therefore, I loaded with that given me by Harry Ross.

Then I sent M'ganga and Soli to scout forward for water. About a half hour out saw a wild dog, and a little later three roan bounded across our front and disappeared. While watching them I heard M'emba Sasa snap his fingers and looked back to see a fourth, behind us, stopped and staring. I could just see a piece of his forequarters between two trees, and the rising sun was square behind him. However, Harry's bullet was indeed lucky, and I landed in his foreshoulder. This was probably enough, but I took no chances, and put in another quartering from behind as he staggered forward.

I spent the rest of the morning quartering the thin woods below the hill looking for more. Saw quantities of the very tame game, and several steinbuck that thought themselves hidden, which we passed within a few yards. At camp found another donkey dead. Two more died in the course of the afternoon. This makes thirteen up to date, and one mule. Big thunderstorm far to the north, in the mountains.

(To be continued)

THE SNOWSHOES THAT SWUNG WIDE

By ROBERT E. AND KATHRENE GEDNEY PINKERTON

*How Twilight Jack Picked Up the Trail
of the Survey Party's Mysterious Enemy*

HAD the man on the ridge known the Morse code he would have thought of it as he looked down upon the great white plain of the lake beneath him. Like a series of dots and dashes, it stretched out for two hundred yards and in the distance it appeared stationary—four dots and then four dashes, each dash followed by a dot, and with two additional dots at the end.

"Four dog teams and ten men, Mike," he commented, and a big brown-and-gray dog, with the characteristics of the wolf predominating, tugged at the traces of a small toboggan and stepped on his master's snowshoes.

Together they watched the long, irregular line as it crawled down the lake. Soon they could make out the figures of the men, four ahead breaking trail, one behind each dog team, and two at the rear. Every hundred yards the leading man dropped out and became the fourth, while the second took his place in the lead and broke down the loose, deep snow.

In the clear, cold air the sounds of the drivers came up to the ridge—"Mush on, there!" "S-s-s'boy!" "Get into that, Wallace!"—and the cracking of the long dog-whips.

It was a bright, beautiful day, cold enough for traveling; a light fall of snow in the night covering lake and forest with infinite crystals, which returned dazzlingly the rays of the rising sun. It was the sort of a day a man in the bush felt glad to be out, thrust quickly with his webbed feet, spurned the miles behind him.

But there was no enthusiasm in the long cavalcade crossing the lake. The men ahead plodded silently, heads down. There was no zest in the work of the dogs. Each team of four labored mutely, without the occasional yelp of the early morning. At the rear the two men dragged behind, stopped occasionally to speak, and then turned to plod dispiritedly on.

"Don't appear to be a very happy outfit, those geodetic lads, do they, Mike?" said the man as he started down the ridge. "Wonder what's happened to them."

Together they reached the lake and started across on a trail, well beaten except for the two inches of snow that had fallen the night before. Their course lay at right angles to that of the long line of men, dogs, and toboggans, and they reached the crossing of the trails just as did the two men who brought up the rear.

"Hello, Twilight!" exclaimed the last of the two. "I've just been talking about you and was going to turn back to your cabin."

There was relief in his face and tone as he spoke and pulled off a mitten to shake hands with the man who had come down from the ridge.

"Lucky I met you, then, Mr. Scovil, for I won't get back to my headquarters cabin until to-morrow night," said the woodsman. "Still pulling west, I see."

"Herb, you go on with the outfit," exclaimed Scovil, turning to the young man who had brought up the end of the procession with him. "Get into a good camp to-night and start work again in the morning as if nothing had hap-

pened. I'm going back with Twilight Jack and may not catch up with you for a day or two. Get as far as you can by night."

The young man turned to catch up with the last dog team. Scovil did not speak, but stood thrusting the tip of a snowshoe against the snow wall of the new trail. The woodsman waited patiently for the other to begin, as a woodsman always waits when a man from the outside is about to ask for something. But Scovil did not speak, and Twilight, who had been attracted by the young survey leader in their few meetings of the winter, knew he was in trouble.

"What's bothering you, lad?" he asked gently.

"If I only knew I wouldn't be troubling you," exclaimed the other irritably. "If I knew, someone would land in jail and we'd go on with our work. But I don't know, Twilight, and we're losing an entire winter's effort; being set back a whole year.

"At first I thought it was luck. Freeze-up came so late we didn't get started from Sabawi until the day after Christmas. Then traveling was so bad it was January third before we got down into this country and were ready to start work—three weeks later than we should have been.

"But the real trouble began the middle of January, when two of our teams met some Indians and there was a free-for-all fight. We lost one dog. Got its leg caught in the traces and broken. The Indian curs didn't do so well, and four of them were killed, or had to be, before the men could stop the thing. The men had some words with the Indians, but we didn't think anything of it until the last day of January, when two of our dogs were poisoned. Someone scattered poisoned meat along the trail over which we were hauling in supplies. As soon as the two dogs became sick, the men kept watch and picked up some of the meat.

"Of course, we knew it was the Indians, getting even for that fight, but the next morning they more than got even, for they had crept into camp and poisoned seven more of the sixteen dogs.

That left us crippled badly enough; but two days later they broke open our cache of February provisions and destroyed everything in it.

"It took ten days to get men out to Port Arthur and back with new dogs, and then we had to haul more provisions all the way from Sabawi. All that delayed, for we couldn't move on so fast. We were a month behind with the work, but I began to think we would catch up. Yesterday was March second, and, with nothing more happening, I figured last night that we could win through."

"Well, nothing more's happened to your dogs or grub, has it?" asked Twilight when Scovil paused.

"No, but something worse happened. The plat-cases, with the results of all our work so far, were stolen last night."

"You mean those black leather cases?" exclaimed Twilight.

"Yes, the ones we carried our instruments and notes and maps in. But only the reports and maps were taken, probably because they were the only ones in sight."

"That's sure hard luck, lad, and I'm sorry. I'd be glad to give you a hand, but I haven't been able to make head or tail of what you're doing around here. I can understand what those geologists are aiming at, but you geodetics are beyond me."

"You can help, Twilight, if you will, and that's why I wanted to see you. I heard about you in Sabawi before I came down here and got acquainted with you at your cabin. I heard about your getting that man who killed four men and robbed them, by cutting a blind portage trail. You've got a big reputation as a detective since then. The papers were full of it. And I want you to help stop this thing, Jack. It's got to be stopped, or we lose a year's work, and it's the end of me in the survey. This is my first year in charge, and I've got to make good."

"Now, lad, get it out of your head that I'm a detective. If you want me to help you, forget about that. I don't know any more about being a detective than a rabbit. The time I got old Marvin, and when Billy McKecknie and I got the Indian on Wild Potato Lake, I

just kept my eyes open and used my head. Detective! Huh! Why, I never even saw a real detective."

"All right, my trapper friend," smiled Scovil. "Will you keep your eyes open and use your head on this case and help me get back those cases, if the Indians haven't destroyed them?"

"Indians!" exclaimed Twilight. "You know it's them? Then why don't you have a provincial policeman down here and arrest them? That would end it."

"I know it's the Indians, but I would have a hard time proving it, I guess. They're too smooth to leave many traces. At first they were quite open about it, but I didn't think it was going to this length. I just let it drop, thinking they would call it square when they poisoned the dogs."

"How far back's your last camp?" asked Twilight.

"At the end of the lake. We had just started this morning."

"Let's go back and get a fire going. It's too cold to stand out on this lake, with a wind coming up. We'll talk it over."

Fifteen minutes later they arrived at the last camping spot of the geodetic survey. Twilight quickly started a fire and heaped on the stove-wood which had been left. He laid several tent-poles before the blaze, and the two men sat upon them.

"Now, lad, you're sure it's Indians?"

"Of course. Who else could it be?"

"You haven't had any trouble with anyone else, down here or up at Sabawi?"

"Not a bit. Everyone has been very kind to us."

"And you haven't got any enemies outside, in Toronto or Ottawa?"

"There may be a few people who don't like me, but no one who would come down here to do this."

"What are you doing down here?"

"We're mapping the country, but our principal work is to get levels, height above sea-level, you know, location of watersheds and flow of water. The main part of the work is done in summer, of course, but in winter we have to establish the points from which to carry on the summer's work."

"Why are you so sure it's Indians?"

"We tracked them the morning after they poisoned the seven dogs."

"Down to their tepees?"

"No, but within a mile. There was no use going farther. There was one man, and he wore those short, narrow snowshoes the Indians make. He walked back on our hauling trail, which was hard and smooth, for a mile, and then walked off across country quite openly. We followed him to an Indian trapping trail within a mile of the tepees."

"Where were you camped that night?"

"On Poobah Lake, the east end."

"Then he walked back on your trail to Moose Lake and crossed that to the trail?"

"No, he turned off and went through that draw in the ridge where Moose River flows into Poobah Lake."

"Did you track him through there?"

"Yes, all the way through."

"Under that high cliff on the north side?"

"Right along the foot of it."

"Did you see the poisoned meat?"

"The men brought in a piece. It had strychnine in capsules, and there was a small quantity of mercury in each."

"Mercury, eh? Then they waited a while and broke open your cache and spoiled all your grub?"

"Ruined everything. Scattered beans and rice and flour about in the snow, cut a hole in every tin-can and built a fire and burned up all the bacon and pork and tallow for the dogs. They didn't leave a thing we could use."

"Did you track them from there?"

"No, we couldn't. They did it Saturday night. Sunday we didn't work, and it snowed nearly six inches that day. The cache was ten miles from camp. When the men started to haul Monday morning they found the wreck."

"But you're sure that was the Indians?"

"No, I can't be sure of that. You see, I let a man go on the Friday before. He was shirking and always kicking. One of the dog drivers. He was a surly sort of a fellow, and I have suspected he might have done it."

"Nothing to prove it?"

"No, except that the men went out

to Sabawi immediately for more supplies, and they found he did not get there until a day after he should have."

"Then nothing happened until last night?"

"Not a thing. I began to think they were satisfied, and I believed we could finish the winter's work with no more hard luck."

"Couldn't you trace anyone this morning?"

"No. They left before the snow fell in the night. No use trying."

"Didn't the dogs bark in the night?"

"Oh, they bark every night. We have become accustomed to it. The last few nights they barked quite a bit, but always stopped suddenly and were quiet."

"How was the stuff stolen?"

"It was in my tent, near the foot of my bed. Whoever did it cut a hole in the tent, reached in and took the cases. The instrument cases were at the head of the bed, near the stove. They got every note, map, and figure made so far on the work. I've got to get that back, Twilight. I'm ruined if I don't. We've got to go over to the Indians and make them give up the cases. You know them all. We'll threaten them or do anything to get the notes and maps."

Twilight emptied his pipe and rose. He walked through the deserted camping-ground until he found the cover of a packing-case and then went up the back trail. Using the wide board as a fan, he blew the light snow from the hard-packed, smooth surface made by many snowshoes and heavily loaded toboggans. He walked on and fanned away the snow again, repeating the operation several times until he was out of sight in the swamp.

"Where did you get this board?" he demanded when he returned to Scovil at the fire.

"It's one I've been using as a desk for drawing maps. Why?"

"Where did you get it?"

"I don't remember. It's from a box on some of the goods we have hauled in."

"What sort of axes do you use?"

"Those little hand-axes. You've seen them."

"All the same?"

"Yes, all alike."

"You haven't got a Hudson Bay axe in the outfit?"

"No."

"Didn't you get this board from one of the cases smashed up at the cache?"

"I believe I did. I told the men what I wanted, and one of them brought that back from the wreck."

Twilight again left the fire; circling about the camp. At last he disappeared in the swamp on a trail made by the dogs and men when they hauled firewood. Fifteen minutes later he returned, still carrying the board.

"Come on, lad," he said. "Mike, get your legs inside those traces and come along."

Twilight went down the wood-trail until it ended in the confused tracks made by men cutting and hauling wood. He turned off into the thick spruce, following the trail of a man who had walked in the two feet of snow without snowshoes. Scovil and the dog followed.

"That's where he put on his snowshoes," said Twilight, pointing to the larger impressions.

"How did you find it back here?" exclaimed Scovil.

"Just thought of what I would have done if I had been in his place. First I made a circle of the camp and found where your men had gone out into the bush. They would make lots of tracks getting wood, and this fellow knew it. He followed in them. When he came to the end, he walked right on, without his snowshoes. It was snowing hard, and he knew his tracks wouldn't look fresher than the others, and that anyone would think it was one of your men after wood. He came in on your main back trail, but I saw he didn't leave that way.

"He must have been here when the snow was about half over. There ain't more than an inch on his trail."

"I told you it was an Indian," said Scovil. "See! He used those narrow, short shoes all the Indians use."

Twilight snorted and kept on in the tracks made by the thief, nor did he speak in the next five miles. Through swamps, over ridges, across small lakes and along muskeg creeks they went until

at last they stepped into the deep groove of a well-packed snowshoe trail.

"I told you," repeated Scovil. "This is one of the Indians' trapping trails. See, he turned toward their camp."

Twilight remained silent, as he had through the long tramp, and turned down the trail. The snowfall on top of the tracks he was following was growing lighter; the impressions deeper. He watched the trail closely as he went along.

For three miles he did not stop, Scovil and the dog following. On a small lake they met an Indian, making the rounds of his traps. Twilight greeted him with a good-natured "B'jou'," and went on. Across the little lake they found more tracks leading off to the west, where another Indian had taken up his own trail.

"They're too smooth for us, Twilight," exclaimed Scovil in dismay. "Those tracks cover up the ones we've been following, though they undoubtedly go straight to the village. It's not more than a mile from here."

"We can still see them," was the woodsman's only answer as he hurried on.

Soon, in a thick cedar swamp, they came to many snowshoe and moccasin tracks, new tracks in the fresh snow that completely covered everything on the trail.

"That ends it, Twilight," mourned Scovil. "We can't prove anything now. We've got to bull it through."

Twilight, still silent, was walking more slowly. Finally he stopped and slipped out of his snowshoes.

"This is where the squaws have got their rabbit snares," he explained. "They've been out this morning to get the night's haul. That's what makes so many tracks."

He stepped off the trail into the brush, where the surface of the snow was padded down by rabbits and the feet of the women. He went straight through and for fifteen minutes Scovil waited. Then the woodsman appeared on the side of the trail opposite to that from which he had left.

"There's only one thing to do," cried Scovil impatiently. "We're just wast-

ing time out here. We've got to go on to the village and make them give up those cases."

Twilight smiled as he looked at the survey leader.

"You think they've got them, all right?" he asked.

"Why, man, there can't be any doubt of it now. That fellow went right through here to the village. The other tracks have just covered his up is all."

The woodsman pondered a moment and then slipped into his snowshoes.

"Well, lad, I'm willing enough to help you out," he said, "even if it gets me into trouble with the Indians. I've been trapping here several years and we've always got along well together because each keeps to his own business. I might say that the three men who live in these tepees are friends of mine. They've always been square with me.

"But we can't do it alone. A squaw with a butcher-knife is bad medicine, and one of them can generally lick four men. We ought to have help."

"Help nothing! My men are too far away now. It's up to me to get those cases, and I'll get them if I have to go alone."

"But a little help wouldn't do any harm. Now, there's a fellow came in here last fall. Been trapping around here this winter. His shack's only two miles over east. Maybe you know him."

"Joe Minty. Sure. He'd be glad to, I know. I loaned him some grub when he ran out last month. He's been in camp several times and was always willing to give us a hand pointing out the easiest routes and finding portages.

"But that's a waste of time, Twilight. They might burn up everything before we could get back. I'm going on alone."

"Now wait a minute, lad. I've got a scheme that I'm sure will work, but I need another man. You fellows from the outside always have queer ideas about Indians. No one can do anything with them unless he knows them well. Now we'll run over and ask Minty to help us, eh?"

Scovil grudgingly assented and they returned to the lake where they had met the Indian and then struck east across a ridge and through a swamp. After a

half hour they came to a trail and followed it through a draw to a little lake beside which Minty had built his shack.

"He's home," said Twilight, pointing to smoke rising from the stovepipe.

The woodsman knocked at the door, but there was no answer. He heard a quick movement inside. Then the door opened and a tall, bearded man looked out.

"Hello, Joe," cried Scovil. "You're just the fellow we wanted to see. Need your help?"

Minty smiled good-naturedly and invited his guests to enter.

"Little crowded," he apologized, but you two can find a seat on the bunk there. Just started to get lunch. You lads probably like a bite."

"It would help, Joe," said Scovil. "We'll need a little nourishment before the afternoon's work. Feel like having a fight?"

"Fight! Why should I fight anyone?"

"To help me out. Those pesky Indians broke into our camp last night and stole all my maps, notes, and data. Twilight and I tracked them to the village, and we've come to get you to help us go down and get the stuff. I've got to have it, Joe. My work for the winter is all lost if I don't."

"Sure, I'll give you a hand," was the hearty response. "I've got a thing or two to settle with those red devils myself. They got into my traps several times a'ready. I'll hurry up a bite to eat and then we'll start."

He turned to his little sheet-iron stove and began to prepare the meal. Twilight looked about the small log building while Scovil talked. When the survey leader paused, the woodsman made his first remark.

"Getting any wolves?" he asked.

"Six so far. I've got a way of getting everyone that touches the bait."

"Trapping in the east before this?"

"Yes, how'd you know?"

"Those wide snowshoes. Don't often see the shanty kind around here."

"I've used them ever since I was a kid. Then, I'm heavy, and I generally have a good pack, and I need the wide ones."

"Don't happen to have an extra axe,

do you. I lost mine somewhere in the snow. I'd like to borrow one until I get out to Sabawi next week."

"Sorry, Twilight, but I've got only the one, the little hand axe in the corner beside you there."

Twilight picked up the axe and tapped the piece of packing case, which he still carried, with it.

"It would be a handy thing to have along this afternoon," he said. "Better take your rifle, too, Joe. What kind you got?"

"Thirty-thirty. It's in the corner there."

Twilight picked up the weapon, worked the lever, examined it, and then laid it across his knees.

"They're a good gun," he offered. "Joe, you ain't seen any other white man in the country lately, have you?"

"Not a one except these survey lads and you. Don't believe there's been anyone south of Sabawi this winter."

"I haven't seen any either, but there must be one around here."

"Why?" demanded Minty, turning from the stove.

"Why?" supplemented Scovil.

"Because it wasn't any Indian that stole those cases, or spoiled that cache or poisoned those dogs."

"Rot!" exclaimed Scovil. "You tracked the Indian who did it right to the village this morning."

"I tracked the man who did it, but not quite to the village. Then you told me yourself the fellow you fired was huffy about it, and the cache was destroyed the day after he left."

"But he went on through to Sabawi, and he didn't poison the dogs."

"He could have come back from Sabawi, and you've got nothing to connect the man who destroyed the cache with the one who killed the dogs. Now listen.

"At the camp this morning, when I went out and looked at your back trail, I fanned the snow off and saw where someone had walked in while it was snowing, soon after it began. He stomped what snow had fallen hard onto the trail. When I fanned it off, that part stuck. And that man was a white man. No Indian has feet as big as he had.

"Then, when I found where he had left and put on his snowshoes, I saw that, while they was Indian snowshoes, an Indian wasn't wearing them. If you ever watched an Indian walk with the webs, you'd notice he don't waste any time swinging one shoe past his other ankle. He makes a narrow trail. This fellow stepped mighty wide.

"When he hit the Indian trapping trail, which was pretty narrow, he kept digging into the side of the trail every step. When we got to where the squaws had been looking at the rabbit snares, those cuts on the sides of the trail stopped. Whoever it was just walked off into the swamp without his snowshoes on, taking the old squaw tracks and knowing they would come out in the morning and hide his own.

"I know those Indians mighty well, and I know there ain't a small-headed axe in their camp. I've seen 'em all too many times. Scovil, just take this rifle and point it at Joe here."

Twilight had picked up the trapper's weapon, cocked it, and aimed it at his host. He handed it carefully to the survey leader.

"Don't let him make a move. Joe, sit down against the wall there and don't act funny.

"Now, no Indian poisoned those dogs. Not an Indian in this country will walk on the ice in winter or paddle in summer beneath that cliff on Moose river between Poobah and Moose lakes. They think an evil spirit will roll rocks on them. That explains that portage on the west side of the river where there ain't any rapids.

"No Indian around here uses capsules, and none of them ever heard of putting mercury in with the strychnine. Few Indians use poison, and when they do they just put in the crystals with a knife blade. Joe's got a bottle of mercury standing beside his strychnine bottle in the window there, and he just said he's got a way of killing wolves as soon as they touch the bait.

"This axe of Joe's just fits the dent in this board that was made when the cache was smashed. Joe wears wide snowshoes, has all his life, and when he put on those small ones to go to camp

to poison the dogs and to steal those cases he still walked wide from habit.

"In the rabbit swamp I found where Joe had walked through without snowshoes and then put them on again and struck straight for here."

Twilight suddenly reached under the low bunk on which he was sitting and pulled forth a pair of Indian snowshoes. He reached in again and pulled forth the missing cases.

"Now, Joe," Twilight began, "who's back of you? You never did this on your own hook."

Minty remained silent, looking keenly at Twilight.

"Oh, well," he finally said, "I don't see why I should stick by them. They wouldn't stick by me. It was a fellow in Midland."

"In Midland!" cried Scovil, whose astonishment had at last given way to curiosity. "Who in Midland?"

"I don't understand it all," went on Minty. "He didn't tell me much. But it seems they didn't want this work to go through. Hired me to come out here and bust it up so there wouldn't be any report made next fall. Said if I stopped this winter's work there couldn't be any summer work, and that a year's delay was all they needed."

"They?" demanded Twilight.

"Yes, there was others wanted the same thing, a gang of them in Midland. That's all I know. I was to get \$1,000 if I did the work. And I would if it hadn't been for you."

"I see it!" Scovil burst in. "Our report next fall will settle the question of a water supply for Midland. The gang in control there wants to get water from the north. It will cost twice as much as it would if they get it from the east. But, as the gang will get its percentage from the contractors, they want the costlier job, even if it does mean fifteen or twenty millions more for the taxpayers. The city has got to have water at once, and they wouldn't wait for a report later than next fall."

"That gets me," mused Twilight. "They must be a mean lot, killing dogs and spoiling men's grub way out here in the bush. I wish they'd come to try it themselves."

THE MOSQUITO NET IN CAMP

By A. E. SWOYER

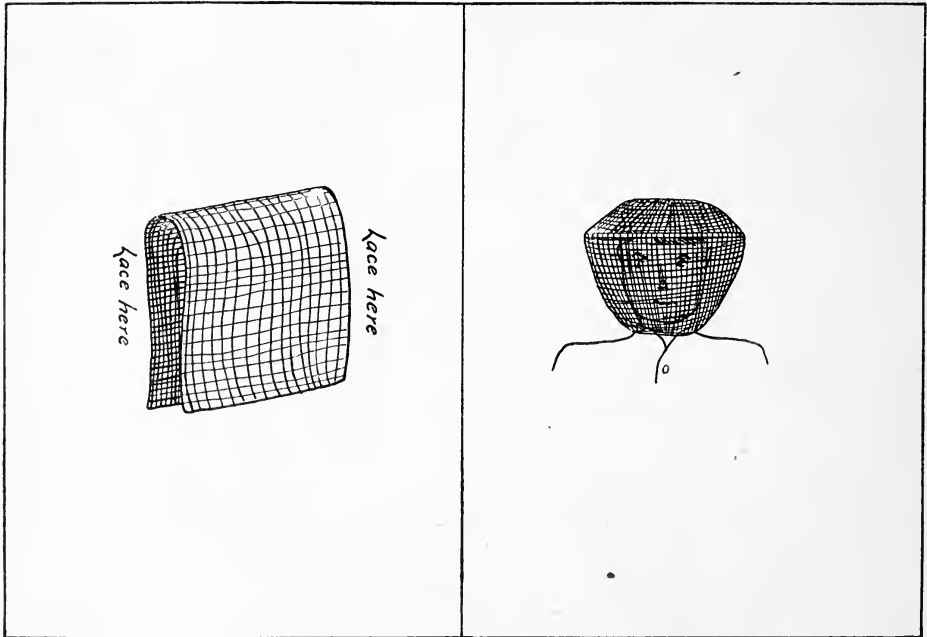
DIAGRAMS BY THE AUTHOR

How You Can Make a Head Net, a Meat Safe, or a Minnow Seine

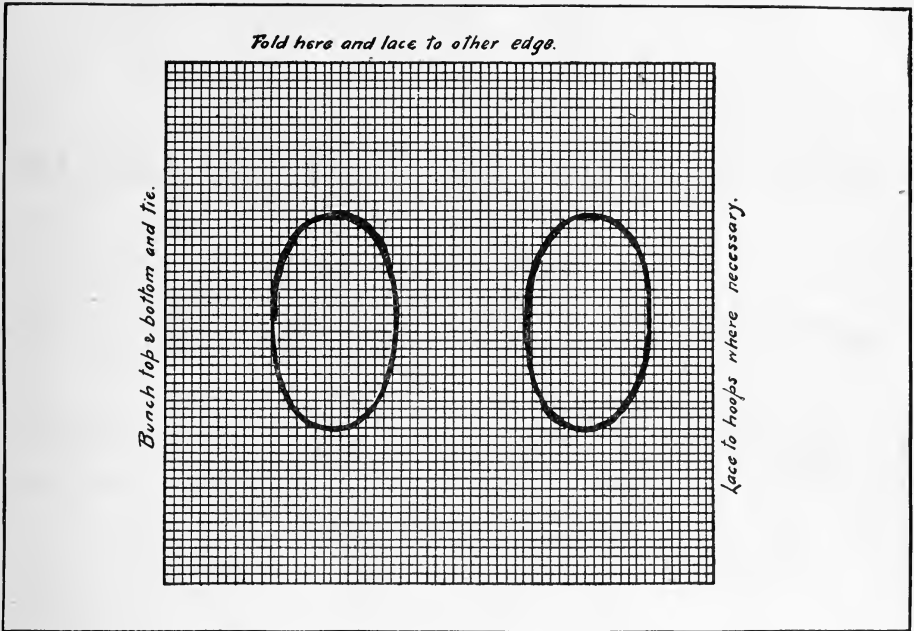
IT is an axiom of those who go upon camping expeditions that nothing unnecessary is to be taken and nothing necessary left at home, but, like New Year's resolutions, this rule is almost invariably broken. Nevertheless, the more experienced the camper the greater is the probability that he has not left undone those things which he ought to have done; therefore, if you are a novice, leave the outfitting to the experienced members of the party. Then, if you want to appear "camp-wise," carefully insert about five yards of mosquito netting in the exact center of the stuff that you do take—and by so

doing you may justify your existence after camp is made.

If the mosquitoes are troublesome, you can drape part of your netting over the opening of the tent, fastening it with large safety pins or with cord, and as a result the whole party may sleep free from the pests but without obstructing ventilation—which is something. On the other hand, if the experienced campers have been guying you unmercifully about your general ignorance, just put up two short poles at the head of your bunk and drape the netting over it; then, when you get in, tuck it under your blanket on all sides and the foot,



THE HEAD NET

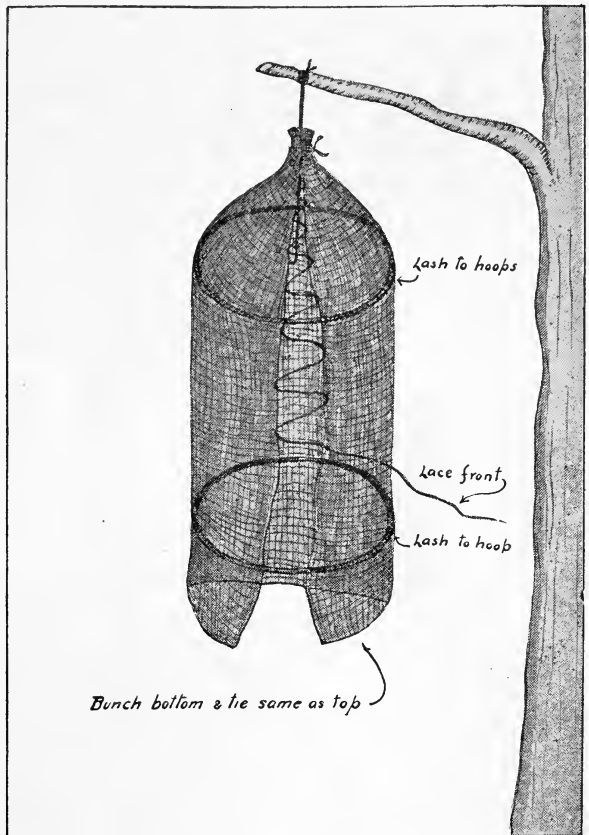


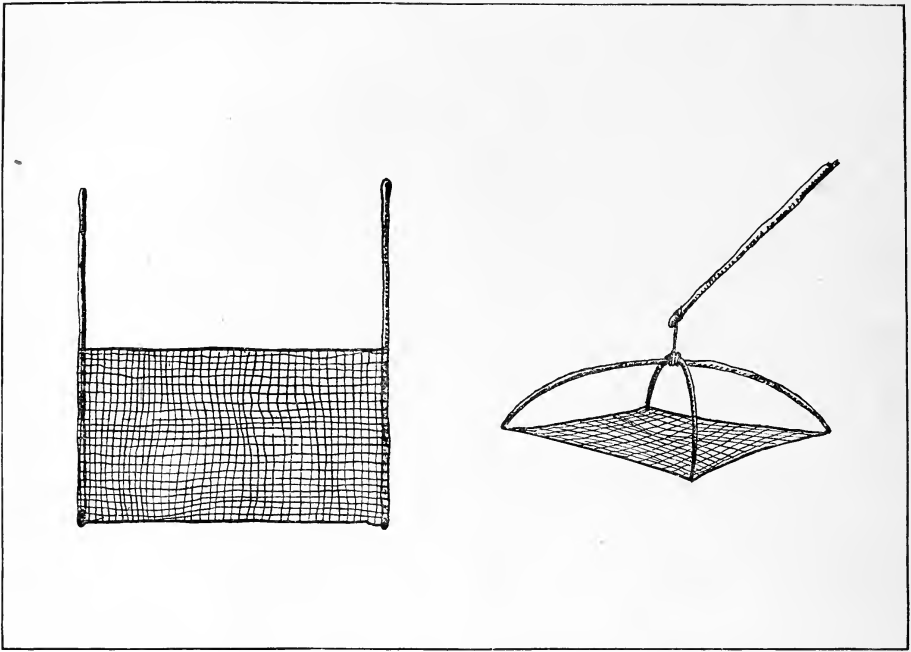
UPPER CUT SHOWS PLAN OF MEAT SAFE—LOWER CUT COMPLETED SAFE

and there you are—if there is any pleasanter lullaby than the “Slap! Whack!” of your companions swatting mosquitoes while you doze peacefully under your netting I have never heard it.

Observe two things if you adopt the couch method, however—don't shut any mosquitoes in with you, and **DON'T** rub it in too hard on your friends, for there is a case on record in which an exasperated party arose at dawn, lassoed a hornet's nest with the aid of an old coat, and dumped the whole business under the netting where the triumphant tenderfoot was peacefully snoozing.

Even if the mosquitoes cease from troubling, you'll find enough other uses for the netting. For example, it's not always an easy matter to keep meat fresh in camp, because if it is hung in the open air blow-flies and other vermin promptly spoil it. To be safe and sure, cut





SEINE FOR MINNOWS

two long and slender twigs, trim the bark off, bend them into circles and lash the ends together—they are the ribs of the meat safe shown in previous page. Simply wind the netting about them, lace its edges together with cord, tie up each loose end and your safe is ready to be suspended from the branch of some tree adjacent to camp.

Meat so hung where air can circulate about it will keep for some time, and your impromptu safe may be the means of keeping your party well fed and contented. When your use for the safe is over, untie the netting and throw away the hoops—it will then fold into a space but little bigger than a handkerchief.

Or perhaps the midges and black flies trouble you when on the water; if so, cut out a piece of the netting a yard long and a foot wide, fold it over in the middle as shown, and lace it down the sides with cord. Then, when you are on the stream slip your head—hat and all—into this bag, and tie the loose ends around your neck with your necktie. It may not look so well as the head nets that you can buy, but in the woods you'll be a good ways from the nearest tackle

store, and your impromptu rigging will do the work as well as the more fancy contrivance.

Also and furthermore, if bait fish are hard to get by means of hook and line, you can probably do the trick by means of one of the two nets shown—the principal part of each being the mosquito netting. For the first, cut out a piece of netting about one yard square and cut two saplings each as long as the diagonal of the piece; these should be of the same diameter, and are to be lashed together firmly at the middle with their tips fastened to the four corners of the net. By means of a pole and cord you can lower this net into the water of the pond, scatter a few bread-crumbs over it—and catch all the minnows that you need.

The other net is of the scoop pattern, and is intended to be used in a brook; its construction should be plain from the drawing. To use it, select a narrow place in the brook and with a pole in each hand hold the net so that its lower edge is on the bottom; your partner is supposed to go upstream fifty feet or so, and by sundry splashings and stampings drive the minnows into your net, whereupon your job is to scoop them out.

GOLF PROBLEMS FOR WOMEN

By ISABEL HARVEY HOSKINS

Some Things They Should Know in Order to Get the Most Out of the Game

IN America women have not been playing golf for many years, but with each season there are new recruits to the ranks of women golfers and it is apparent that not only is the number of players growing steadily, but also that the standard of play is becoming higher. It will not be long before English women will have to guard carefully their hitherto undisputed laurels if American women keep at the game with the enthusiasm and intelligence that they are now showing.

There is no doubt but that the game of golf presents certain problems to a woman that are different from those presented to a man. In this situation, as the game cannot be changed to suit a woman's peculiarities, the only possible course is for a woman to adapt herself to the exigencies of the game. This readjustment may be readily accomplished by a little careful thought, and it is by women that the thinking must be done. Even the best of writers and teachers among men cannot get away from their own masculinity, and so fail to grasp the necessity of regarding the subject from a woman's point of view; consequently their helpfulness to women is decidedly limited.

The first problem that a woman has to settle in beginning to play is that of her stance. We have always been taught to throw the weight forward on the balls of the feet in order to obtain an easy, graceful standing position and a light, springy walk. This rule does not obtain for the golf stance, however, because here the object is not to be daintily poised, but rather to be solidly settled on the ground. To accomplish this the weight must be absolutely on the flat of the foot. Having a firm base is

of the utmost importance, and in making tee shots it is wise first to find a place on the tee where the feet may find a smooth resting place, free from loose pebbles or little unevennesses of ground, and then to place the ball in the proper position relative to the player. It is a temptation to pick out a smooth place for the ball and to disregard the ground on which the feet must rest, but this is a great mistake.

Of course, through the fair-way, where it is not possible to move the ball, the player must make the best of the ground as she finds it. It is possible, however, and perfectly permissible to wriggle the feet from side to side until they are comfortably and firmly settled. This may seem rather an unimportant suggestion, but it is next to impossible to keep the body from swaying either sideways or forward unless a firm base is established, and if the body sways the accuracy of the stroke is gone.

Women are rather inclined to walk up to the ball and hit it without taking the time to arrange themselves properly. After all only a fraction of a minute is required to find the best possible position, and the habit once acquired, it becomes practically automatic.

The stance having been taken, the next question that arises is the grip on the club. The object is, of course, to have the hands so close together that they act as nearly as possible as one. To accomplish this, the great majority of men players use the overlapping grip. This grip is not really advisable for women because the fact that the little finger of the right hand overlaps the forefinger of the left causes the hold of the right hand on the club to be loosened and therefore weakened. A man with

powerful hands may be able to afford the loss of a little of his strength, but a woman cannot.

Taking everything into consideration, the best grip for a woman is either the modified overlapping grip, by which I mean the grip by which the fingers of both hands are on the shaft of the club, but the thumb of the left hand is covered by the base of the palm of the right hand, or the grip by which both thumbs are around the shaft of the club and the hands pressed as closely together as possible. In either case the V's formed by the thumb and forefinger of each hand should be nearly, but not quite, in a line down the top of the shaft. A certain amount of latitude is allowed in arranging the hands on the club on account of the individual characteristics of the hands, but the fundamental principle of having the hands pressed tightly together and the V's well up on the shaft of the club must be observed by everyone.

There is in this connection just one remark about the swing that I feel I must make and that is a warning against overswinging. Women players, especially beginners, are inclined to swing the club so far around that they are thrown off their balance and the club swings the woman instead of the woman the club. This fault can be corrected by keeping a tight grip on the club at all times during the swing as it is the loosened hold that allows the head of the club to drop too near the ground. In the drive, which requires the fullest swing of any of the strokes except perhaps the brassy shot, the shaft of the club at the top of the swing should not go beyond the horizontal.

Whenever there is any discussion of a woman's fitness to play really good golf, the question that arises first is whether or not she has sufficient strength. Lack of muscle is the most obvious difficulty that a woman player has to overcome, or to circumvent, but it is not by any means the most important. If golf were a game of brawn, the physical giants among men would rank as the finest players, but that is not by any means the case.

James Sherlock, by his own confession in "The New Book of Golf," is a man

of rather under than over average muscular development, and his wrists, he states, seemed to have stopped growing when he was about ten years old. Francis Ouimet, winner of the Open Championship last year, is a mere stripling compared with Vardon and Ray, whom he defeated in the final rounds. Such facts as these prove that even among men brute force alone does not enable a player to reach the top and should encourage women to feel that lack of this masculine attribute is not necessarily detrimental to their game.

Of course, for very long drives or for chopping a ball out of heavy sand, or for a bad lie, power of wrist and arm is a very useful asset, but a very creditable score may be made without exceptional tee-shots, and the ball will seldom be buried in a sand pit or fall into the rough if the player has been able to attain accuracy of direction and efficiency in planning and executing her strokes. Brute force alone never made either man or woman successful at any game, and if there is one game in which calm and deliberate head-work is necessary, it is golf. Good generalship has frequently enabled a weaker army to put to rout a stronger one; so also may a woman, by marshalling her forces according to a carefully devised plan of action, defeat an opponent whose physical advantages far outnumber her own.

Why Women Are Poor Putters

It is a curious fact that women fail to realize the importance of cultivating to the highest point of excellence the powers of which she is possessed. A certain perversity makes her strive desperately to accomplish the difficult and, at the same time, to scorn to perfect herself in that which appears simple and easy. In this connection I have in mind the indisputable fact that women are not such good putters as men. This statement may seem to imply that men are good putters, whereas as a matter of truth they are not nearly so proficient as they should be. They are far too inclined to consider that the ability to putt is a gift of the gods to be joyfully accepted by the favored ones and hopelessly

envied by those on whom it is not bestowed. This is a silly attitude of mind but one very common among men as well as women.

A woman's mental process in regard to putting is different but equally unproductive of satisfactory results. Every woman believes thoroughly that she is quite able to putt, but for some inexplicable reason does not give the time and effort necessary to make herself expert.

Putting requires careful observation of the condition of the turf, the slope of the green if there is any, and a careful calculation of the distance of the ball from the hole. The mistake that women are apt to make is to putt too quickly and too carelessly. I cannot here go into an exhaustive discourse on the subject of putting, but there are a few of the essential considerations that I would like to mention.

Before the ball is addressed a careful note should be made of whether the grass is short or long, dry or damp, as the run of the ball is greatly affected by quality and condition of the turf over which it has to roll. For a very long putt the club should be gripped in the ordinary way, but for a medium length or short putt the hands should be placed somewhat down the shaft of the club. The stance should be the slightly open one and the distance of the player from the ball should be such that, as she bends over, the eyes will be directly above the ball. In making a straight putt the eyes, the ball, and the hole should be in the same imaginary plane in order to insure accurate aim.

The length of the up-swing should be regulated by the amount of force required for the stroke and the swing itself should be made almost entirely from the wrists.

The necessity for careful aim and firmness and decision in executing this stroke cannot be too strongly emphasized. It is the tendency of women to putt loosely, to fall short of the hole, and, on a sloping green, not to borrow enough. These tendencies can easily be overcome by careful thought and the always necessary practice.

Anything written for women in the

field of sport would not be complete without some reference to her clothes. A woman's clothes are both her joy and her despair and, at all times, a source of much troublesome anxiety. How to make the adjustment between comfort and a good appearance is the question, but, after all, it is not so difficult that any sensible woman cannot solve it. There is no doubt but that a woman should be so dressed that she can absolutely forget her clothes, and in order to do that she should first of all have a hat that fits tightly on the head with a brim wide enough to shade the eyes, but not so wide that it flaps.

The Right Clothes

Her shoes should be broad-soled and square-heeled to insure comfort and a firm stance. On the whole, I believe high shoes are the better as they support the feet and ankles well and are not so apt to rub at the heel as low-cut ones, but that is a question to be decided by personal preference, with due regard to the idiosyncrasies of one's own extremities.

The skirt should be of a material of substantial weight and cut well above the instep and wide enough to allow freedom in walking, but no wider. The blouse may be long or short sleeved, but must be sufficiently loose to allow absolute freedom of the arms and shoulders. With the present styles there is no need to issue a warning about the necessity of having clothes loose at the waist to give the muscles of the back and abdomen free play. For the present, fashion and common sense are walking hand in hand in this respect. May they continue to do so.

There is only one point where a woman really needs to sacrifice appearance to practicality, and that is the question of the color of her clothes. There is nothing fresher and prettier in midsummer than an all white costume, but that is just the time it should be avoided. The reflection of bright sunlight on a white skirt undoubtedly dazzles the eyes while one is addressing the ball and is apt to make the eyes waver. The pale tan of natural linen or pongee is less

obtrusive in a brilliant light and should be substituted for white.

In order to consider the more subtle reasons why golf presents special problems to women, as undoubtedly it does, it is necessary to go into the psychological differences between men and women. Why these differences exist is a subject open to much speculation. Perhaps the many thousand years of development along dissimilar lines have made a woman's mental make-up unlike a man's, but the reasons, whatever they are, do not interest us at the moment. It is sufficient if we realize the resultant fact that these differences do exist.

Women as a whole lack mechanical sense and golf is a game based absolutely on mechanical principles. Furthermore, a woman is generally distinctly and obviously bored when anyone tries to explain to her why a sliced ball turns off to the right or a pulled ball to the left. The fact that it does is sufficient for her and she is not in the least interested in the whys and wherefores.

Study and Practice

This lack of intelligent comprehension is practically fatal to mastery of the game. Some of the finest professional men players, it is true, are in an equal state of ignorance. These men started as caddies and learned to play by imitation and years of practice. They can execute the strokes perfectly, but when they try to explain how they do it they fall into lamentable and often ludicrous errors.

If there is any short cut to learning golf it is through careful study of the reasons for everything. Once the principles of the strokes are mastered, a few months of regular and intelligent practice will make any able-bodied woman a fair player, but years of practice without scientific knowledge of the game will bring very uncertain results. A woman who seriously desires to become a really good player must curb her desire to go out and whack the ball along. Before she ever makes a complete round of the links, she should study the peculiarities of each club, how to stand when using it, how to address the ball with it, how to

swing it and what to expect of the ball once the stroke is made. After she has mastered these essentials and practised with each club separately at suitable locations on the links, she may piece together all she has learned and play a whole game, but not before.

Women are at once too daring and lacking in self-confidence. This is a contradictory statement, but it is nevertheless the truth, and it is only by recognizing the truth about herself that a woman can conquer her faults and develop her good qualities. A woman will walk bravely to the tee and believe she is going to make a beautiful drive and, at the moment of making the upswing, her heart will suddenly fail and she will do some unexpected thing that will entirely spoil the stroke. It is for this reason that it is absolutely necessary for her to master every stroke separately, so that as they come into use one after another she will be so proficient that her self-confidence will be unshakable.

In order to make a stroke correctly, a player must have her mind immovably fixed on what she is doing. It is a sad admission to make, but women are inclined to be self-conscious. One of the peculiarities of the game of golf is that generally each player has to make her shots, both from the tee and through the fair-way, with several persons waiting for her and watching her. There is not the stimulus of rapid action that there is in tennis. This consciousness has a very disconcerting effect on a woman's mind and, at the moment of raising her club, her thoughts are apt to wander to some consideration of the bystanders, and the results of attention thus distracted are deplorable. Having made one bad stroke in this way, the player's mind is upset and several bad strokes are apt to follow.

The only way to play well is to forget everything and everybody and to rivet the attention on what is to be done. If a bad stroke is made, by the time the player has reached her ball the memory of it should have passed from her mind completely and her attention should be entirely occupied with the new problem that confronts her.

Probably it is because women are what

is generally called "temperamental" that they are unduly elated by success and equally depressed by failure. In match play the woman who has a good lead is apt to "let down" and, when she finds her opponent creeping up to her and perhaps becoming "even up," she suddenly loses her feeling of security and goes to pieces. If, perchance, she is behind, she is inclined to give up the situation as hopeless and consider herself beaten before the match is ended, and consequently to play carelessly. Either of these extremes is very bad. In fact, to be in any particular state of mind while playing is detrimental to the player's game. A placid, unruffled spirit must be maintained throughout and if a player has sufficient self-control to do this half the battle is won.

Keeping an accurate score is one of the absolute essentials of the game, and yet women players are inclined to be very careless in this respect. With the best intentions in the world, they often forget to count their strokes carefully as they are playing, and after they have holed out their memories are apt to be rather uncertain when they try to go back and count up the strokes they have taken for the hole. This inaccuracy often leads to entirely unnecessary unpleasantness and many a thoroughly honest woman has been humiliated by having her score questioned, when, if she had been more careful, no question could possibly have arisen.

There is another point that women players, even experienced ones, are apt to neglect, and that is the rules of the game. There have been many matches in which players have been disqualified through the unconscious disregard or breaking of some rule. A book of general rules can be purchased at any place where golf clubs are sold, and the local or ground rules of each club are printed on the score cards of that club so there

is no excuse for anyone being in a state of ignorance.

We are living to-day in an epoch-making era. We are so close to the separate incidents that take place day by day that it is hard for us to realize their great importance. It will not be until the present takes its place in the realm of history that we will get a true sense of perspective concerning the world-wide feminist movement in its larger scope.

Not by any means the least important phase of this great development is the way in which it is bringing women into all the sports. Twenty-five years ago women rode horseback and played croquet and that was about all. Now they are coming to the front in every sport, even the newest and most dangerous, aviation. In fact, in England as many as five women aviators made "the loop" before it was accomplished by a man. That there has been a tremendous awakening among women, no one can doubt, and it is equally certain that it all tends toward her mental and physical betterment.

There is practically nothing that a woman cannot do that she would be likely to wish to do, and she is likely to wish to do very nearly everything.

So it is that the field of sport is open to all, and women in ever-increasing numbers are availing themselves of their opportunities. The advance guard are helping their weaker sisters and the world of women is on the upward and outward move.

As yet English women take the lead in militancy and golf. It is to be hoped that American women will never have to follow them along the paths of destruction, but in golf the players of this country are at present a close second to their English sisters, and all signs point toward their equalling and perhaps surpassing the golfers over the sea before many years have passed.

"Men and Ducks and Things" is a woman's view of duck shooting. It will appear in September OUTING

THE FINDING OF MOSE BATES

By CULLEN A. CAIN

*He Was Only a Pitcher on a Cornfield Nine
But He Was the First Wonder of the Ozarks*

THE story of how Moses Bates, pitcher for the Cornhill team, came to join the Warsaw Blues is the real comedy-drama of baseball, as played twenty years ago on the stage ringed about by the foothills of the Ozark Mountains in a certain state of the Middle West. Mose played second base for the Blues, and he covered more ground than all the cedars of Lebanon, was a sure fielder, had a good arm, and was a reliable batsman. He joined the team in the first days of its glory, and he kept his place there when most of the old players faded and died before the frost of the curve ball.

It is impossible to convey any real idea of the members of the old Blues without telling about the town they represented on the baseball diamond. They were the natural products of a peculiar soil. The Blues made Warsaw famous over all their section of the state, but Warsaw made the Blues. Anyway, the village loafer's wife made their blue suits, and she was a part and parcel of Warsaw.

The peculiarity of the Blues lay in the fact that no member of the old team had played ball in his younger days. Baseball came late to Warsaw. The town demanded a ball team at once; the boys were too young to play any real game, and the result was that the town blacksmith left his hammer on the anvil, the merchant turned the store over to his clerk, and the barber let his customers' whiskers grow, and these men bade their mirth and their employments good-by while they went to the baseball lot to learn the national pastime. Yes, and they drafted a farmer, and

that individual left his plow in the furrow and came to town to pitch ball, while his first-born son pitched the hay at home.

Warsaw is a county-seat town, on the north bank of the Osage River. It had 900 population. It still has 900 inhabitants, and it always will have about 900 souls within its borders. Foreordination is a word invented to describe the fixity of the Warsaw census report. The river flows through the center of the county. South of the river lies a land of hills, black oak timber, flint rocks, hound dogs, and farmers, who use the dogs both to chase the fox and drive the wolf from the door. North of the river the land gradually issues forth from the hills, and rocks into a rolling prairie. The farmers to the northward were rich. They brought wheat and corn and fat stock to town and took back groceries and money. The south side farmers brought coonskins and ties and cordwood and razorback hogs to town and took tobacco and snuff and calico and a little real money away with them.

Twenty years ago the town was almost isolated from the rest of mankind. A rusty little old narrow-gauge railroad was the only tie that bound it to the outside world. The town was like an old page of history. A placid, unbroken calm rested upon it like a benediction. No one ever went anywhere and no one came to town from outside the county, except a few traveling men. Occasionally a citizen took his courage in his hand and his money in his shoe and went to the little city forty miles away, and there were a few, a very few people in that town who had gone to the big city two hundred miles away. These were traveled gentry and looked up to according-

ly. They had an unfailing supply of anecdote and story about these trips.

But make no mistake about the people of this town. They were the finest people in the world. Settled in the beginning by pioneers from Kentucky and Tennessee and later occupied by the best blood from the Northern and Eastern states, the folks there were the salt of the earth. But, living apart from the bustle of trade and travel, they ate and drank and worked and gossiped and married and died and were lulled to sleep within sound of the river as it lapped the bank and then stole away to join the immensity of the ocean. They lived with one foot in the past and the other suspended in hesitation before it should be set down upon the edge of the present.

For recreation its youth skated in the winter and went swimming and played "town" ball and two-cornered "cat" in the summer. Then baseball came, with the slow and faltering march of progress, from the main to the branch-line towns. The triumphs of the old St. Louis Browns and Anson's Chicago team fired the sporting citizens of the community with enthusiasm. And the aforesaid blacksmith and merchant and the barber and the farmer started in to learn the game. The sawmill man was tolled away from his turning wheels. The lumberman and the druggist listened to the call, and Warsaw started in to play the national game.

The pastime soon flourished. The town became baseball mad. The games the Blues won were festivals of triumph, talked about by every soul in town for days and weeks. The games the team lost were followed by periods of mourning, and the obituary notices of the deceased were gone over many times by the mourners. The town was like a heartbeat. The sins and virtues, the triumph and dismay of any citizen or set of citizens had the sympathy or censure of all.

The first season of baseball in Warsaw was a parody on the game. It was a cartoon; a nightmare. But the next summer witnessed the glory of the coming of the Blues into the temple of Ozark fame. The material was there.

Active, husky men in the prime of life, living clean lives, muscles hardened by work but not stiffened by the toil of the cities, clear eyes and skilful hands, they soon began to win ball games from larger towns.

Pitchers in that country at that time depended upon either the underhand ball or speed. The pitcher with smoke and control was a man of mark in that country in the early nineties. We had heard of curves and we talked about curves when some pitcher got a little inshoot from his speed or a slow, faint out-curve from his labored efforts and his blistered fingers and weary wrist. But practice and persistence make all things well, and the real outcurve, bending like Robin Hood's bow, came with the turning of the leaf. Our farmer pitcher was a man of class. Small and wiry and red headed and capable, he went deeply and craftily into this baseball matter as he went into the buying and selling of stock. Farmers in his section walked behind the plow, but he rode a sulky plow.

That farmer used to ride a brindle pony to town early every summer evening and lead me away from my printing office (I was the catcher for the Blues) and for an hour I would catch him while he worked out the depth and the angle and the longitude and the profundity of the principle that makes a ball deviate from a straight line while traveling through space.

He finally solved the problem and I broke the news to an expectant town. This farmer stood by with lips closed modestly while I lied about the width and virility of his curves.

Up at the corner grocery store that night I held forth like Patrick Henry before the Virginia Assembly and the lawyer and the doctor and the merchant listened. The man who has not felt the pulse beat and looked into the limpid eye of a small town has not lived in the pastures green of this life; he has merely traveled in the dust with the toiling throng of pilgrims down the big valley of the years.

Yes, I told them about how Matt Alexander had mastered the curve ball and had it tied to his doorpost. I dilated

upon his control and the sharp, swift, wonderful break to the ball. If I had been another Aaron present when Moses stood before the miracle of the burning bush I had not been more eloquent. It was true that Matt had no control of this ball, and that I jumped from side to side like a boy after a chicken, and dug the ball out of the dust and jumped in the air for it, but I forgot these things in the wonder of the actual curve on that ball.

We challenged the city forty miles to the north of us on the strength of that curve ball,—a city fifteen times as big as Warsaw, a city with a ball team that we had read about and worshiped from afar. But, then, remember that the downtrodden, rustic Puritan countrymen of England finally rose up and swatted the cavaliers from the cities and the palaces.

The game was played in Warsaw on the Fourth of July and the town and assembled countryside left all business stockstill in its tracks and went to the ball game. And we won that game in nine desperate innings of stress and battle by a score of ten to eight. The city men went home disgusted and we staid to celebrate and set up a landmark on the track of time.

The town talked about that baseball game to the exclusion of all other topics for the next two weeks. Every play was played again in tongue and fancy. Why, even the checker game between the post-master and the groceryman, that had raged nearly every afternoon that summer, languished while the fruits of that victory over the city of Salada were placed again in the basket by every male and most of the female inhabitants of the river town.

A ball team from a country town came the next Saturday and we wiped up the greensward with that nine by a score of fifteen to six.

We were swollen with pride and puffed up with victory. Of that there can be no doubt. We felt that we were just a little bit the best ball team in the West outside of the professional leagues, and even those clubs might be overestimated—we had never seen them play.

Our left fielder, who was a fisherman when he was not playing ball, was, we firmly believed, ripe for professional baseball in a big city, and we had another man or two who was worth a trial on any magnate's team.

So, when, a few days later, we got a challenge from Cornhill, we laughed long and loud. It was the joke of the year and every wit in the village coined new jests and won fresh laurels to wear with DeWolf Hopper. Cornhill was not even a village. It was hardly a hamlet. It was merely a flock of farm-houses unusually close together, and a little store and a blacksmith shop and a post-office rested in the center and occasionally arose to the activity of business.

The challenge was a scrawl and with difficulty we deciphered it to read as follows:

"To the Warsaw Baseball team:

"We hereby challenge you all to play us a game of baseball next Saturday afternoon for a ball and bat. The game be played on your grounds. Ancer.

"A. B. Dowling,

"Capt. Cornhill B. B. Teem."

After we had enjoyed the joke for a day we were inclined to get sore at the presumption of these farmers. We were in Class A above them and would not dignify them by giving them a game with such a great team. They would have to go get a "rep." But some one happened along to say that he had heard that they had a pretty good team up there and had won some games with teams farther west. Some one else said that he had heard they had a crackajack pitcher on that team. Well, the upshot of it was that we accepted the challenge, just for the fun of it. The game would be a parody on the noble art of baseball as played by the Warsaw Blues, but we would pile up a half a hundred runs on this Cornhill bunch for a little practice game and to afford sport to the multitude.

The Cornhill players came to town on horseback about ten o'clock that Saturday morning. They rode down Main Street and around behind a store and tied their horses to a fence that framed

a hog lot on the river bank. They were tall, sunburned, active, husky fellows, but we never took the least sign of warning from that. We had our little fun and poked each other in the ribs and passed our little jests to and fro. We forgot entirely how we felt when the Salada players acted that same way with our team as the butt a few days before.

Those Cornhill men paid but little attention to us. They loafed around town and smoked two-for-a-nickel cigars as a form of wild dissipation of city life. I noticed that one of these men was well over six feet tall and of a lathy build. He had a freckled face, tanned by the sun until it was as brown as a nut. His hair was of the same light color as the strands of a rope. His eyes were electric blue and he had high cheekbones and a pleasant-looking face. For all his rough, ill-fitting clothes and cornfield post-office address, he carried himself like a town man and an athlete and not like a follower of the plow across the torn surface of a cornfield. He was a competent-looking duck, and he was as wiry and seemed to be fit as a prizefighter.

I inquired his name and was told that it was Moses Bates. He was pitcher for the visiting team.

Those Cornhill players went to their horses at noon and fed the beasts and then took little sacks from their saddlebags and munched their own dry and frugal repast down there by the feedlot. We were ashamed for long afterward for the lack of hospitality we showed that day to our farmer visitors.

At two o'clock the major portion of the village repaired to the ball field to be amused for an afternoon with the details of a slaughter. I will never forget the spectacle those Cornhill players presented when they stripped off their outer clothing and stood revealed in their baseball uniforms. Never did mortal men stand in such motley, before or since, for the world to see, as stood the pride of Cornhill that day. They were arrayed in undershirts of many kinds, weights, and patterns; their pants were made of bed-ticking, and some were red and some were white and some were blue and some were in plaid that all

these colors were called upon to make into a perfect whole. Some of these men had socks and some had not, and others wore stockings of as many different colors as Joseph's coat.

There was only one cap among the nine men, and the tall pitcher wore that. The others were crowned with gray slouch hats, all except the center fielder, a stocky man, and he wore a black derby. Imagine a short, thick-set man in a pair of red and white bed-ticking pants, brown socks, white undershirt, and derby hat rambling across a baseball diamond in the glory of a fall day. Why, it was enough to make an Egyptian mummy get down off the shelf of time and laugh until the dust of ages crackled down his back.

But he laughs best who laughs last. That Cornhill ball team had never drunk from the glass of fashion, but its members had speed and strength and some skill at playing the game. The Blues came to the field to scoff, but they stayed to pray for victory.

And that man Bates—that pitcher! He was a human watchspring, and he had four thousand kilowatts of speed. His arm was so long that he could almost hand the ball to his catcher. He had a little dinky curve and a great big control lever. But it wasn't his pitching—it was his fielding that dazzled us. He was an icepick and a net and a dipper and a centipede and a stone wall all in one, was this ubiquitous pitcher. He covered that infield as the feathers of a bird cover her nest.

The men from the fields of growing corn went to bat first and their lead hitter drew a base on balls. He trotted down to first, and then up rose out of the bunch of visiting players sitting on the grass a large man who wore a hat with a snakeskin around it for a band. They called him "Rattlesnake Bill," and I should think they would. He went down by first base and called out to that runner to take a lead. He had a voice like a storm at sea, this coacher. He "jiggered" me so I let the first ball pitched get away and the runner beat it for second. Then this man Bates came to bat, his long arms hanging loose as flails at his sides. He slashed a hit out

to right field and the runner came home.

We quit laughing then and got down to work and retired the side.

Our first batter hit a grounder to short, and that bespangled plowboy mused it up and we started in to laugh again. This pitcher did not smile, neither did he frown. He went to work in the earnest fashion of a man who has a task to perform that must not fail though all else should fail. The next Blue batter hit a sharp grounder through the infield—or it would have gone through if that pitcher had not reached down like a gorilla after a cocoanut and scooped it up and thrown the man out at first. The next hitter knocked up a high fly back of second base. The pitcher evidently did not place implicit reliance upon his fielders because he went back there himself like a cat and caught that fly ball.

We set the Cornhill visitors down in rather easy fashion in the next half and then went in to bat to furnish the amusement we had agreed to furnish for the multitude. But there was nothing doing to speak of. Our left fielder, it is true, got a long hit to right field. But the pitcher fanned the next batter and threw the next man out at first on a ball that would have gone to the third baseman if the pitcher had not intercepted it. I came to bat next and I hit what I thought was a certain two-bagger to centerfield. That lily of the valley out there in the black derby hat ran backwards like a periwinkle and fastened his big red hands on that ball like fate's hold on a Congo slave. He lost his hat but he held the ball.

Some way or other that center fielder did not look so funny to me after that as he had before.

The men with the bed-ticking pants came up in the third and scored two runs. It was a fright. First man to bat hit a dinky grounder to second and the saw-mill man who guarded that bag for the Blues got his legs mixed with his hands and never did get hold of the ball until after the runner had reached first. This runner had a pretty good opinion of his own speed, for he started to steal on the first ball the pitcher threw to the next batter. I prided myself on throwing to

second. I snapped the ball down there to the right place and in plenty of time, but the second-baseman muffed it with his clapboard hands while I called on the blue skies above to witness that I had been badly treated.

Next batter hit the ball a mile or two. Our field sloped down hill back of second base and the center fielder went after that ball until he looked like a Swiss tourist at the foot of a mountain. He made a good throw in to the field and the batter was held at third. One run was scored on the hit. The man with the derby hat then came up to the plate. He walked like a duck and he handled his bat as a cow would handle a carbine. He hit the ball, though, and fate carried the sphere to that unfortunate second-baseman. He stopped it in good shape, and then threw home to catch the runner from third. The ball went twelve feet over my head and the man from third scored and the batter went on to second. Our farmer pitcher fanned his next farmer opponent and the next two hitters were out on easy fly balls to the outfield.

We tried hard in the third but we could not score. That Cornhill pitcher, that man Bates, he did not have any more speed than our batters had murdered before. He did not have as good curves as that Salada pitcher we had beaten. He had no more support in the field than a spirit, but he did have the most peculiar, jerky, widgitty-fidgitty delivery I had ever seen. The weaker hitters on the team could land on him, but the heavy sluggers were helpless. That long arm went away back behind him and then it flashed forward as though it was going to uncouple in front of the plate and hit the batter on the shins. He always let go of the ball at some station along the line of that delivery that we did not expect it would leave from. It came from some place at the side that did not seem to fit into the arrangement of things.

And worse than all was the way he fielded his position. It was uncanny the way that long-legged, long-armed man cavorted over that diamond after ground balls. We made a lot of dinky infield hits and he must have had ten assists that day. His infield could not have stopped

a barrel with any certainty and their throwing was as eccentric as any opposing club could desire.

We blanked Cornhill in the fourth and we made two runs on one hit and three errors.

In the fifth Bates, the pitcher, came to bat first for the visitors, and he made his third hit and stole second when that sawmill misfit dropped the ball. He went to third when the batter hit to second and the fielder threw to first. He came home on a fly to the outfield.

We went to bat amid the jeers and sarcastic advice from the crowd. It is hard lines to have the home crowd guy you, but we couldn't blame the home folks very much at that. Every time a spectator looked at one of those bed-ticking pieces of landscape prancing around the field he would laugh and roll over. And the things our friends said about us were good and plenty. The score was four to two against us and the crowd could not understand why it was not twenty to two in our favor. They could see the grotesqueness of our opponents in the matter of pants and play, but they could not know about that pitcher, his baffling delivery, his nerve, his calm, his determination. They were a silent force against us, and they got our goats. We were not playing anywhere near to form.

But in this inning we took all our goods down from the shelves and displayed them to the people who had come to see. Our Dutch third-baseman beat out a hit with the aid of a bad throw. He stole second and he stole third. The Cornhill catcher could throw hard and straight, but it took him too long to set himself and get ready to get the ball away. And the third-baseman muffed his throw anyway. A single over first scored our runner and two errors in a row gave us another run and two men on. The taunts of the crowd changed to cheers. The bed-ticking goods were going to pieces under the strain.

But Bates, the pitcher, was as calm and unruffled as a village preacher in his study working on a Sunday sermon. He ran out across the first base line and caught a dinky foul. He fielded a hot grounder and threw to first like a rifle bullet and his face never changed and

his voice of profane anger never arose when the ball leaked through that first-baseman like a piece of cheese through wet tissue paper. We scored five runs that inning before Bates fanned a batter for the third out.

We took the field in the sixth and got right up on our toes. The first man up went out to first on a grounder to short. Jerry Engle, our left-fielder, caught a fly from the bat of the second Cornhill batter. Then came that center-fielder to bat. He pulled that little billycock derby hat down over his eyes to keep the sunbeams away and he swung his big club in savage fashion. I started to kid him and mixed a little personal abuse and unkind reflections in for good measure. He got sore easily, just as I judged he would, and in his anger he hit at our pitcher's outcurve for two strikes.

Then I turned a trick I had seen smart country catchers turn on green batters before, but it was one that I had never tried as I deemed it unsportsmanlike. But anything was better than being beaten by those men of the bed-ticking garments. I flipped the back of my mit against his bat as he swung back to strike at the ball. He struck out. He would likely have struck out anyway for he was hitting at a wild one, but that man got sore as a boil. He had a face like a tin bucket full of cement. He turned it on me in savage, silent fury.

"I'll get you after the game," he snarled. "I'll beat you to death then. I kin do it, kid, and don't you forget it. I ain't going to be put out of this game or I'd do it now. But just you wait."

"You'll come about as near hitting me as you did that ball," I came back at him jauntily. But it was jauntiness that my heart did not feel. There was too much savage resolution in his face to hope that he would forget that fight. And as for me beating that man; it was impossible. He was as hard as a petrified hippopotamus. I could not have hurt him much with a ball bat. I would have to fight after the game and get beaten up. I could see that fact written on the wall.

Well, we blanked them in that half. And they held us in the last half.

In the seventh they made a run. Bates made a hit in that inning. We also

scored in the seventh. And the game turned in on the eighth inning with the score, Warsaw, 8; Cornhill, 5.

We mowed them down in the eighth for a goose egg, and although we got two men on in our half we could not get them across. That human slat of a pitcher turned a double play on us. We made three hits off him and were beginning to get onto that jerky delivery when he turned the trick for two outs on a hard-hit ball. Then he caught a careless runner napping off third and we went to the field with wrath and self-condemnation in our hearts. Bates had retired the side and still not fanned a man. It was wonderful fielding and the crowd cheered him generously.

Still, we had a three-run margin, and while it was not the twenty runs we had boasted about before the game, it was a whole lot more than we had looked for or hoped for about the middle of the game.

Cornhill's first batter was an easy out from the pitcher to first base. Then my friend with the derby hat came to the plate. Be sure I did not talk to him or attempt to "jiggle" his bat. He stood there squat and sullen as a Hindoo idol. He struck at an outcurve and missed it. Then he stood patiently and let three balls go by. The call was three and one and I signalled for an incurve. The pitcher wound himself up into a writhing knot and let go with all the steam he had. The ball was high and close in. It broke a little and—bing! it hit that batter in the head just over his left eye. The poor old derby hat broke with a smash and flew off to the side in a battered mass. The owner of the hat fell in his tracks as though he had been touched by the wrath of the heavens above. The ball bounced back almost to second base.

I thought for sure the man was dead, and I bent down and raised his head to my knee. I was horrified for a moment. The crowd pushed in, as crowds always do, in country, town, and on Broadway. Someone poured a dipper of water on the stricken man's head and he opened his eyes. The man was made of iron, and he had a head like a Crusader's helmet. He got up on his un-

steady feet and rubbed his eyes. I do not know how many stars he saw, but I will bet that there were more than old Galileo ever saw in all his long and busy life of peering at the heavens. He was game, this man who wore a derby hat in which to play baseball. He wobbled down to first. He took a little lead off the bag, and occasionally he raised his hand to his bewildered head and tenderly rubbed a lump there as big as a navel orange.

The man with the snakeskin around his hat came to bat next and he hit the first ball pitched right through our third baseman. The fielder half stopped the ball, but it was too red-hot to handle. The man with the lump on his head made it to second, and Snakeskin easily went to first. It was clouding up with two men on and only one out. But the next batter fanned the air. Two out, two on, three to tie, and four to win. It looked to be easy, after all. But the next man hit to first base and the fielder messed it up and a run came in.

Two to tie and still two men on. It was not looking so well. Then our pitcher faltered under the strain and the errors and walked the next man. Three on and two to tie and this batting fiend of a Bates was the next up. It looked bad. He was sure to hit. He was cool as a frappé. The pitcher served him a dinky outcurve and he let it go by. He had an eye like an icicle.

It was at this time that fate came and took away from Moses Bates the game he had earned with his batting, his fielding, his skill, and his cool courage. The little old narrow-gauge train that usually came to town about noon had met with a washout up the road somewhere and was chugging in a straggler by four hours. As the engine turned the curve at the foot of the track it gave two or three loud and cheerful toots to let the people of the town know that it was here at last.

The man of the snakeskin hat-band was standing about two feet off third base. When he heard that toot he turned around and gaped at the little jerkwater train as though it was the Purple Emperor on a transcontinental trunk line.

He even took a step toward it and looked earnestly and with open mouth at the unusual sight. I had the ball in my hand and I threw it to third. The little Dutchman caught it, and he actually had to step out to the runner and touch him with the sphere. Every man on the Cornhill team, except Bates, was watching that train as it puffed along in full view of the playing field. Bates yelled a warning, but the snake-skin man never heard him.

The game was over. We had won, but it was that narrow-gauge train that saved us.

We signed Moses Bates then and there to play second base for us. The agreement was that every time we had

a game we were to hire a man to do his farm work while he came in the day before and practised with us and played the game.

He played with the Blues for three years and they never had a better man except Boles, the star pitcher, with the dewdrop and the fast inshoot.

And the man with the derby hat? You ask of him? Did he whip me? No. That belt on the head knocked it all out of him. He went to the grass after he came in with that run and they had to help him to town. He had forgotten I was alive.

The train saved us the game, but that pitcher and his inshoot saved my bacon that day.

JENKINS'S MULE

By K. W. BAKER

WE were camping—half a dozen of us—on a little river in East Texas. We had been short of game for a day or two; and late one afternoon Jenkins went up the river alone to get some squirrels for supper. At dark he had not returned. We were just beginning to get uneasy about him when he walked into camp. He had three or four fine squirrels, but we thought he looked unusually sober, and he answered our questions testily. So we decided to let him alone.

After supper, however, when the pipes were brought out, Jenkins spoke. "I got lost this evening," he said, "and, by George, I had the doggonedest funny experience! I was beating around in the Big Thicket, when I heard something just over yonder from me—some good-sized animal, for I could hear the sticks breaking under it as it moved. It sort of whickered, or whimpered, now and then, and I decided it must be a mule.

"So I said to myself, 'Well, it will graze toward the hills as night comes on, and I'll just follow it and get out of the thicket, and then I'll see where I'm at. So I kept on following it, but I never could catch sight of it. And, as far as I could tell, we weren't getting on any higher ground. At last, just at dark, I found that the critter had led me right to the river! That gave me my bearings, of course, and I struck out for camp."

Jenkins knocked the ash out of his pipe with elaborate unconcern; he had seen the gleam of excited conjecture in our eyes, and he did not propose to be bantered—yet.

Next morning, however, we struck out early up the river. We wanted to see the tracks of Jenkins's mule. And there they were, plain as print—the tracks of a good-sized bear, with Jenkins's footprints alongside.

"I thought so," said Jenkins, with a frank grin. "Now see who can laugh loudest—I'll admit that I felt him hugging me all night!"

FIRST AID IN CAMP

By WILLIAM H. BEST, M. D.

What to Do in the Various Emergencies When the Doctor and the Drug Store Are Far Away

THE summertime is once more upon us. With the warm breezes comes that lackadaisical feeling we are so prone to call "spring fever." At the first symptom our thoughts turn countryward and mountainward; we begin to see visions and dream dreams. Perhaps it is a vision of the old tent under the pine trees, ourselves clad in flannel shirt and khaki trousers stretched on the ground beside it; a vision of the trout stream, and ourselves in long rubber boots stealthily treading our way upstream, tempting the wily trout with a fly that never saw life; or a dream of the millpond, and ourselves under a tree on the shore, line in hand, patiently waiting for the catfish to consume the juicy worm we have so dextrously and callously slipped over the hook.

Perhaps it is a vision of a canoe, and ourselves guiding it down the rapid stream or paddling slowly along the lakeside where the shadows fall long and cool over the rippling water; or it may be a dream of ourselves in a sleeping-bag, or wrapped in a blanket, dropping off to sleep, while the croak of the frog, the buzz of the locust, and the chirp of the cricket passes from reality into our dreams, and we waken in the morning with cold noses and, if we've pitched our tents aright, Old Sol peeping at us over the hill.

At any rate, whatever be the nature of these spring dreams and visions, we heave a deep sigh at this point, and the following Saturday afternoon finds us at the sporting goods store, replacing the broken fish-hooks and having the reel repaired. New stakes are needed for the tent, the

sleeping-bag leaks, a thousand and one things must be attended to at once. And although the realization of our vision is still a month or more away, we finally leave the store with the satisfactory thought, "Within a few days all will be in readiness; and then, by Jove! Hurrah for vacation!"

Into the midst of our dreams and visions crawls a wretched creature with an appalling series of "supposes." Suppose while you are stretched out on the ground a snake bites you? Suppose when you are treading up-stream after that trout you step on a rock in the water and sprain your ankle? Suppose the coffee-pot boils over and scalds your hand? Suppose you fall from a tree and break your arm? Suppose an insect blows into your eye, or you cut your hand, or you have stomach-ache, or any of the other ills that flesh is heir to? What in the world will you do then? Any one of these possible, nay, probable, misfortunes may spoil your vacation for you.

If we listened to the miserable fellow we probably would be frightened out of our camping trip entirely. And yet it is well to give some heed to his doleful lament, if only to avoid the misfortunes he enumerates. A simple camp medicine-chest, inexpensively equipped, is as necessary as pots and food; and a speaking acquaintance with some of the more common accidents and ills, with a knowledge of their prevention, intervention, and cure, will prove a valuable addition to the camp paraphernalia. Just before leaving, tuck away in a safe corner of the outfit a box containing:

Aromatic spirits of ammonia..... 2 ounces
Tincture of iodine..... 2 "

Saturated solution of boric acid... 2 ounces
 Castor oil 3 "
 Pure alcohol 4 "
 Hydrogen peroxide 4 "
 Bicarbonate of soda..... $\frac{1}{4}$ pound
 A small bottle of carbolated vaseline.
 A box of sterile cotton ($\frac{1}{4}$ pound).
 One dozen A. B. & S. pills.
 One roll of zinc oxide adhesive tape (2
 inches wide, 5 yards long).
 One-half dozen muslin bandages, 3 inches
 wide.
 Three sterile gauze bandages, 2 inches wide.

The first evil we have to guard against is *constipation*. Change in the water and the character of our food may, during the first few days, cause a constipation which, unless promptly relieved, may have disastrous consequences. It is not a bad rule, therefore, to take a mild laxative pill before retiring, for the first night or two (A. B. & S. pills are as efficacious as any). In most camping trips our selection of fresh fruits and vegetables is not very great. If, however, fresh, ripe fruits and such vegetables as lettuce, water-cress, celery, field salad, tomatoes, cabbage, and spinach are obtainable, they will take the place of a laxative with most individuals.

We may have got into some one's orchard and eaten more green apples than our systems require, or because of a poor catch of fish we have found it necessary to open some of the canned goods brought along for such an emergency; with a resulting siege of cramps and *diarrhea*. Our first impulse, probably, will be a dose of sun cholera mixture or some equally noxious mixture to check it. But remember that a diarrhea is nature's effort to rid the intestines of some irritating substance; therefore help the good work along with two generous tablespoonfuls of castor oil for adults and, as the patent medicine labels say, "children in proportion." Repeat the dose in twenty-four hours if necessary. In addition to this a restricted diet of boiled milk and a little cereal for twenty-four hours, or—if this is not obtainable—nothing at all except a cup of hot water containing one-half teaspoonful of bicarbonate of soda every three or four hours, will put us on our feet again, better than ever.

If, true to Mr. Pessimist's prophecy,

the coffee-pot slips from its moorings just as you stretch out your hand to lift it off the camp-fire, its contents may inflict a painful *burn*. To relieve the immediate pain and discomfort, plunge the injured part in water containing a tablespoonful of salt and a tablespoonful of bicarbonate of soda to the quart, and keep it there for a couple of hours, if necessary, until the burning sensation ceases. Then wipe dry, smear the part thickly with carbolated vaseline to keep out the air, and wrap in a clean handkerchief or bandage. Any water blisters that form may be punctured with a sterile needle (sterilize the needle by burning the point of it in the flame of a match). Then express the liquid, and continue using the carbolated vaseline as before.

Maybe the coffee-pot is not the offender. Perhaps Old Sol himself has penetrated our tender skin with his rays and while the pain may not be acute, yet even a mild *sunburn* can cause us unnecessary discomfort. Here an ounce of prevention is certainly worth a pound and a half of cure. If we smear carbolated vaseline (or a good cold cream) on our skin before exposing ourselves to the sun's rays the skin will get sufficient protection to eliminate the possibility of any severe sunburn.

For Snake Bites

Of all the calamities liable to befall us on a camping trip that will test our nerve, perhaps the worst is to be *bitten by a snake*. If this unfortunate thing should occur, prompt action is imperative. Bind a handkerchief, or rope, or piece of bandage above the bite, that is, on the side nearer the heart. By inserting a stick under this bandage and twisting it, sufficient tightness can be produced to prevent the return flow of blood from the bite-wound. This is to keep the snake poison from circulating through the body. (If the snake is inconsiderate enough to bite you in the neck, such a bandage might prove more disastrous than the poison itself. But fortunately nearly all snake bites are received upon the arms or legs.)

After soaking the wound in hot water (if you can get some quickly), suck

it to extract the poison. This is not a dangerous procedure, unless you have a cut or scratch around your mouth. After this has been thoroughly done, paint the area with tincture of iodine, cover with sterile pieces of cotton and bandage. The tourniquet can then be removed and the patient watched carefully for signs of poisoning, which is first manifested by a feeling of faintness. If this occurs, the tourniquet should be immediately reapplied, and the wound once more vigorously sucked. A teaspoonful of aromatic spirits of ammonia every half hour for three or four doses if necessary will act as a satisfactory stimulant to the heart.

In the case of *insect bites*, particularly mosquitoes, bees, and wasps, applications of wet salt or wet earth are usually efficacious. Rarely is the discomfort of more than a few hours' duration. If, however, swelling or pain increases, seek medical advice without delay.

Curing Ivy Poisoning

A burnt child dreads the fire, and a person who has once suffered from *ivy poisoning* will give that plant a wide berth. But those of us who have never been "poisoned" are not necessarily immune, and through carelessness or botanical ignorance may be initiated this very summer. You will recognize the affection first by the appearance of a diffuse redness of the skin, soon followed by many very small water-blisters, accompanied by intense itching. Wash well with soap and water and a rough cloth, then cleanse with pure alcohol. Follow this with the application of a paste made of bicarbonate of soda or smear well with carbolated vaseline.

There is probably no one thing that can cause as much discomfort, for its size, as a particle of dust or sand in the *eye*; and unless it is promptly removed it may lead to inflammation of the eyeball. The first attempt at removal will be to pull the upper lid over the lower, and hold it so for a few seconds. Then rub gently toward the nose. If this fails to dislodge the irritating substance, examine the under surface of both lids, as well as the eyeball, to discover the offender. When found, wipe it gently away with a

bit of sterile cotton wrapped around a match stick. Flush the eye with boric acid solution.

Perhaps the most common of all accidents that may befall us are *wounds* of various kinds. The danger is twofold, (1) severe bleeding in deep wounds, and (2) the entrance of germs, causing blood-poisoning and even death. Bleeding can usually be checked by pressing on the wound with a piece of sterile cotton. In some cases pressure may be necessary for half an hour or even more. As soon as the bleeding stops, pour tincture of iodine into the wound to prevent germ infection.

Never wash a wound with water, and never attempt to clean out a wound by swabbing down into it. You may break up the blood clots, thus causing a return of the bleeding, or push the dirt and germs deeper into the wound. Always cover it with a piece of sterile cotton, and then bandage. Next day the dressing should be removed, the area cleaned with pure alcohol (always remembering to wipe *away* from the wound), more iodine poured over it, and a fresh dressing applied. Peroxide of hydrogen is most useful in removing dressings that have become stuck to the raw surface of the wound.

In a punctured wound (from a nail, fish-hook, pin, etc.), it is difficult to get at the bottom. A slight cut with a penknife (the blade, of course, must first be sterilized) across the wound will produce a slight bleeding, thereby automatically washing the wound and permitting the iodine to drain to the bottom. If the wound is a cut from a sharp instrument, a small strip of zinc oxide adhesive tape will hold the cut edges together and promote the rapidity of healing.

Suppose you are so intent on casting for that trout that you do not notice an abrupt drop in the bottom of the brook—and you turn your ankle. Although the immediate pain is not intense, it becomes gradually worse, and finally you regretfully decide to get back to camp and see what the trouble is. After your boot is removed, the swelling immediately increases so that you cannot get it on again—and then an attempt to stand on it causes intense suffering. Well, you have

sprained your ankle, and the sooner and the colder the wet cloths you apply, the less will be the resulting inflammation and swelling. Cold applications should be continued for at least twelve hours, and then forty-eight hours of absolute rest must follow. After that, if the foot is strapped with zinc oxide adhesive tape, you will be able to walk with a fair amount of ease.

Strapping is far superior to a leather ankle-support. Zinc oxide adhesive straps, sixteen inches long and one inch wide, can be made from the adhesive roll. The first strap should be applied under the rearmost part of the heel, and extend upward behind the ankle bone on each side. The next strap is applied behind the lowermost part of the heel and extends forward along each side of the foot to the base of the toes. Each succeeding strip should be applied in this fashion, alternating one upward and one forward, and each one overlapping its predecessor in the same plane by about one-third its width. Continue this until the entire foot is covered.

The general plan of treatment of sprains of other joints is the same, and a little ingenuity will devise a method of applying the adhesive strips to support the particular joint affected.

When in doubt as to whether a bone is *broken*, treat it as such. In removing clothing from a part of the body suspected of injury, always rip or cut the clothes (preferably along a seam, for the garment's sake), so that the part may not be moved. With gentle pulling place the injured limb in its normal position, using the uninjured limb as a guide. While it is held in this position, apply splints made from boxes, oars, umbrellas,

or even the limb of a tree, on each side of the injured member, and bind them firmly to it, not tightly enough to cause severe pain. Always remember to have the splints long enough to extend beyond the next joint above and the next joint below, so as to prevent all movement at the point of fracture.

Each summer adds its victims to the appalling lists of the *drowned*, and of all accidents this is undoubtedly the saddest ending of a vacation party. Indefatigable persistence, however, has brought more than one supposedly drowned person back to life.

The whole plan of treatment is to get the water out of the lungs as quickly as possible, and to restore breathing. To this end, place the drowned person on the ground, resting on his abdomen, his face turned slightly to one side, and his arms extended above his head. Stand astride the body, grasp under the abdomen, and lift from the ground. This makes the water flow from the lungs. Then grasp him firmly on both sides of the chest, just above the lower margin of the ribs. Throw the whole weight of your body on your hands and squeeze the chest with all your strength. Then relax the pressure.

This should be done eighteen times to the minute, and continued until the victim resumes breathing. At times, in a presumably hopeless case, an hour or more of continuous effort has been rewarded by a gasp from the apparently drowned person.

As soon as breathing is re-established, the patient should be wrapped in blankets, put to bed with a hot lemonade, and given a teaspoonful of aromatic spirits of ammonia in a little water.



A feature of OUTING this fall will be an authoritative discussion of football by Herbert Reed and Herman Olcott; they describe the standard game which should be the basis of all play.

CANOE, CAMP AND CANAL

By C. H. CLAUDY

ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

THE combination of canoe and camp is usually associated with the Big Woods, with Canada or Maine, the remote places of the Continent. Mr. Claudy shows that one need not wander so far to find the pleasure that comes from the coupling of these two fascinating aids to a successful vacation. In his own case the fun lay along the old Chesapeake and Ohio canal and the Potomac River. Other parts of the country offer similar advantages. So if you hunger for the woods and streams, look about you. Perhaps they are nearer and more accessible than you think.

“D O you *believe* it?” Pardner turned in the bow to ask the question. We had paddled for half an hour of ecstatic silence.

There was dull red beginning to show on the back of my neck—I felt it. A badly packed fry pan beneath me made an uncomfortable seat. Pardner had been fighting a river fly for fifteen minutes and I could feel the grateful cuss words he swallowed. It was so good to be out again, to feel the paddle between hands made tender by disuse, to catch the reek of water-washed air, to bend with the sliding glide of the frail canoe, yes, even to catch the ache across shoulders and sense the torture to come where unaccustomed muscles protested once again at the most primitive, most delightful form of water craft propulsion.

“Do you believe it, really?” Pardner asked again.

“I do!” I answered solemnly, catching his thought. “It didn’t seem possible, but I begin to believe.”

He bent to his work again, satisfied. It is one of the beauties of a comradeship born of the trail and the open, canoe and camp, friendship fire and stinging morning dip—you don’t have to explain everything! I knew what he meant—well enough did I know, who had moaned

and groaned with him through the winter months that lack of time on the one hand, and business obligations which took most of the available cash on the other, should prevent us from a summer plunge into the North Woods.

Then, in the midst of our wailing at our ill fortune, and our solemnly sworn oaths that no seaside resort nor mountain summer hotel should tempt us from our woods gods ideal, had come the amazing proposition. At first we laughed. Then we mused. Finally, we asked. “Why not?” At last we agreed to try it.

And here we were, loaded canoe beneath us, paddling up the nearest available river in a civilized country, from a boat-house we had reached in an automobile, with the prospect of two weeks in the open before us.

To be sure, it was not the open we knew. The white water we would fight would be, perhaps, but a quiet riffle or two, the adventures we looked forward to experiencing were of canal lock-tenders and purchase of food rather than fights with the elusive piscatorial dweller in the water or struggles with the wilderness. We had not that spice which comes from knowledge that if we failed with rod or gun, we would go hungry, that if unskilful with paddle or canoe, only our own ingenuity would stand

between us and the prospect of a very long walk!

On the other hand, we, in our canoe, paddling up a civilized river, and looking forward to rounding its falls and impassable reaches in a canal and *via* the locks, had determined to make the most of what out-o'-doors we could manage to secure. We would live, even if within the sound of a locomotive, with the same care for details and carelessness of comfort that the Big Woods demand.

It was easier than it sounds. Already, with the well-known discomforts which prophesied rest and ease when once the friendly fire should stare into the tent at night, had come the spell of all outdoors. When we swung into the river bank, below the first obstruction we must skirt, and portaged a good quarter of a mile to the canal, there was no whit of difference between our hearty anathemas on the weight of packs and the multiplicity of equipment and those we might have uttered had the earth beneath our feet been wildest Canada or most desolate Maine.

The Equipment

Not that we had such a great equipment, either. It weighed, without the canoe, about one hundred and thirty-five pounds. It was bulkier than we would have carried in the Great Woods, because we had less and shorter portages to make from river to canal. Our tent was larger and roomier than the one we had used in Canada and our provisions were less. Equipment included a light axe, a camera, a rod and lines, but firearms were conspicuous by their absence, save for a pocket pistol carried against the possible tramp. Two nesting buckets for water, fry-pan, coffee-pot, mixing-pan, a pair of light cups, the usual eating tools and a spare equipment of condiments, flour, salt, sugar, bacon, beans, rice and coffee, chocolate, etc., weighed little, and packed handily into a tin box, metamorphosed from a bread-box, with a wooden inner cover which could be erected as eating-table or cooking-rest as fancy dictated.

Hardly had we transferred the canoe from river to an overgrown and ancient

canal, so hoary with years it looked a natural waterway, before we met with the first adventure. Laugh not, ye who have negotiated white water in Far Places, knowing that slip of paddle meant a lost outfit. White water is white water, and the fact that ours was within the confines of a dank and smelly canal lock and caused by the too frequent potations of a lock-keeper more bibulous than benign did not make the prospective upset any more pleasant!

You enter a lock through a grudgingly opened single gate. When it closes, you are imprisoned in a coffin of stone, with the sound of leaking water in your ears and the dank odor of moss-grown wet masonry about you. The lock-keeper—keeper of you and your outfit for the time being—is supposed to open the valves in the upper gates slowly, carefully, quietly, that the inrush of all the water there is may not catch you *a la* Bay of Fundy and distribute a scum of outfit across the lock. Not so this happy gentleman. With a free gesture of utter unconcern he opened all the valves at once, a few hundred tons of canal started forward with a rush, and the fight was on!

What is the essential in white water running? A keen eye in the bow, a responsive trigger of nerves in the stern, steerage way always and two sets of arms that rise and fall as if moved by the same brain, however out of stroke rock and rushing water may demand the paddles work. Here was need of all that and more, for here was no steerage way, no current the slant of which might be used. If there were no rocks beneath, high Heaven knows there were rocky walls fifteen feet apart between which we tossed as a cockle shell upon a heaving ocean. But Pardner was not caught napping and I have paddled stern behind him enough to read the signs of his humping shoulders and, anyway, when the whole canal jumps at you, about all you can do is paddle and trust to luck!

So we rode it out, the wavering figure above leaning interestedly over a railing and watching us as we shot from side to side, swayed from end to end and shipped not more than twenty gallons. Then, as suddenly as it began, the rising sur-

face smothered the influx, and we floated on a choppy sea, paddles across our knees, and looked the things we dared not say until the lock was as full as its keeper and the gate ahead opened.

But we never said them. That lock-keeper was inspired!

"Guess I let it—hic—in—hic—er—wee bit too fast—hic—for ye!" he stammered. "Thought ye—hic—might like to run—hic—er rapid!"

Passing up the "way bill" for which canal companies exact as much payment as if we captained a canal boat instead of a canoe, we averted murderous eyes and passed on. Pardner grinned at me, and I as cheerfully at him.

"Who said 'no adventures?'" he asked, as we sidled out of the lock on a long stretch of quiet water.

"I didn't!" I exclaimed. "But I think there is another coming—at least, *you* will find it so!"

It was coming, too. We had flipped a coin to see who started camp routine on fire and cooking and who on tent and bed. And Pardner had drawn the first fire—above us loomed a thunder head which spoke in no uncertain tones of wet woods later in the day. But if I thought to disconcert him, I thought too quickly. In less than half a mile he swung into the bank, stepped out and with his knife started and broke off a couple of "fat wood" knots, those life savers for fire makers in United States latitudes even more effective than touch wood and dry birch bark of the north!

"Let her rain!" he said. "With this I could build a fire in the lock!"

Obediently I let it rain, and rain it did—buckets full. There are those who camp up and down the canal who not only drape their load with rubber blankets—as we did immediately, for there is small use of letting the bedding roll slosh about in water when you can keep it dry—but who slit rubber blankets and stick their heads through, fondly imagining that such a "poncho" effect protects them from a wetting. We didn't. Flannel underwear, flannel shirts, flannel trousers—for here was no brush to go through demanding mackinaw or canvas—could get wet, for all of us. It did get wet, but no wetter than the dis-

consolate pair we passed, sweating under their "ponchos" which but directed the rain down the wearers' necks and upon their thighs as they dipped and swung. The sun, which reappeared before it set, dried us out in no time, and Pardner wondered audibly whether he would need his fat wood.

It was still early, perhaps four o'clock, but we began to look for our camping place. For we had decided that this was to be no miles-per-day trip. We were going nowhere, except up the river and the canal, and we were in no hurry to get there. My shoulders had been complaining in no uncertain tones for an hour, but I wouldn't say so. I could see his were tired and there was no hiding the sun burn on his neck. Also the inner man was calling clamorously for filling.

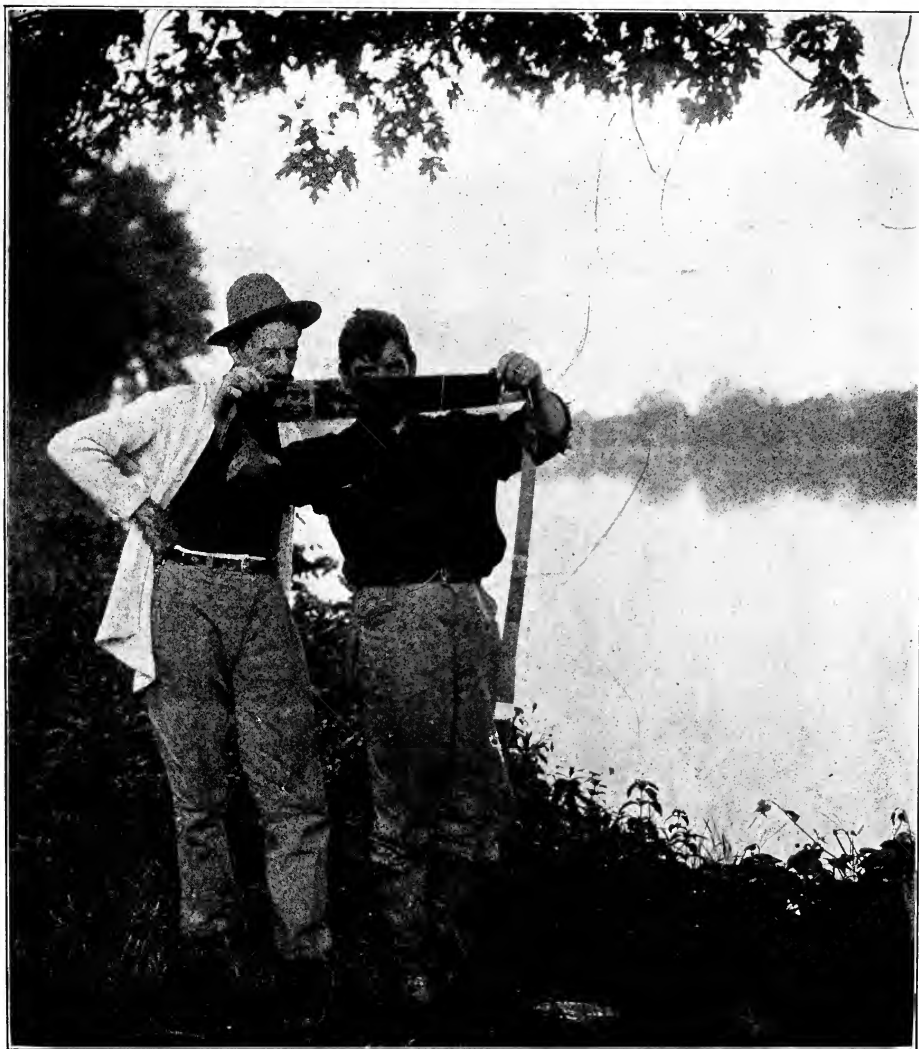
Pardner picked out a nice quiet spot on the tow-path side of the canal. I vetoed it immediately.

"Why can't you remember this isn't Canada?" I wanted to know. "These canal boats travel all night. They'd just as soon come into the tent and take what they want as not."

A Place to Camp

In the middle of the argument as to where we would camp, we were hailed from the bank, and one we know as Mike called us to his "shack." We had not known he had a "shack"—evidently there were others with Amazing Propositions of their own. Landing, we found a rough but comfortable cabin, built between canal and river. A fire burned in front, and there was a litter of cooking utensils around which gave forth various and sundry odors of burning beans, sizzling bacon and smoky coffee. We needed no second invitation to stop and have our evening meal in company.

But we declined the hospitality of the shack, tempting as it appeared. Our tent was good enough and though the ridgepole I cut was somewhat curved and our portable home of canvas perhaps not as taut and shipshape as it ought to have been—for we really were hungry!—it gave us both a pleasant thrill once again to see that single isolated white



THE FINAL RESULTS. "BULLY! LOOK AT ME THERE!"

patch of home amid a tangle of trees, grass, and bush which in the gathering twilight looked so nearly like the real wild miles away that we both fell heavily under its spell.

But we did not approve of Mike's fire, and with that freedom of the woods which makes for frankness, we told him so! Mike was trying to cook over a bon-fire and the burning smells were explained. Pardner gave me a quizzical glance.

"It's up to you!" I retorted. "It's your fire make."

Nor did it take him long. Two green

logs, six inches around, formed a V on the ground—a handful of twigs, some shavings of "fat wood," some dead hickory, and in fifteen minutes he had a bed of smokeless coals between his logs on which we balanced fry-pan and coffee-pot and cooked a meal as appetizing as it was simple. Later, we built up this simple and small fire to a great blaze, and backed it with a little wall of green logs confined between uprights, driven into the ground. The log wall faced the tent and reflected a grateful warmth straight into it. I had spread out the rubber blankets and those of wool, first carefully



KEEPING HER STRAIGHT IN A LOCK

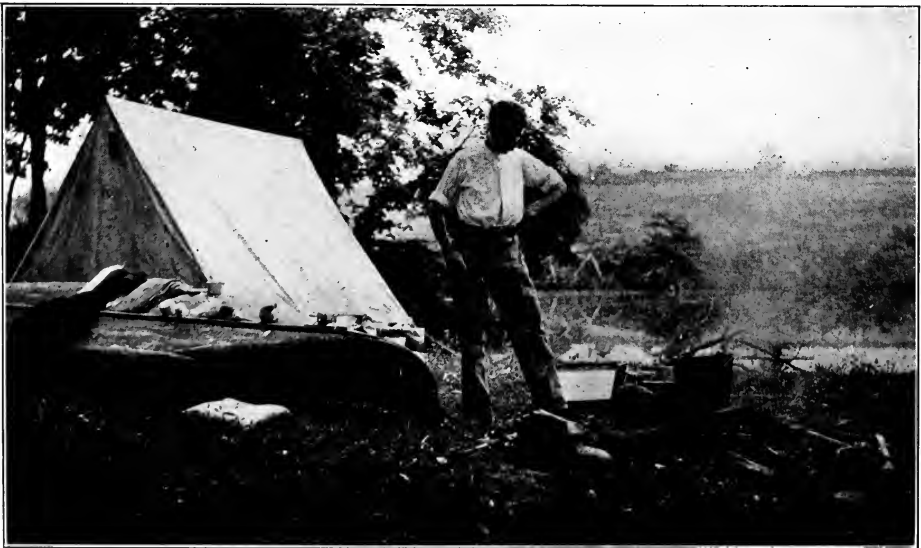
pounding down all hummocks, stones, and ridges on the ground.

Abler pens and more vivid memories than mine have attacked the problem of description of the first night "out." Here, in the hum of insect, burble of river, singing of the green logs, and crackle of dry ones, punctuated though they were with the occasional call of a canal boatman, or the musical jingle of the bell upon some "jenny mule," was nothing different from their magic in the Big Woods, the Far Places, the Real Wilderness. I was too sleepy to moralize, but I glimpsed the lesson this civilized camping trip had yet to teach and fell asleep comforted that the Amazing Proposition was working out.

About fifteen minutes later the sun streamed in and woke us up. We dragged each other—if you can believe our stories—to the river side and pushed each other in. Pardner *says* he came willingly and that I was laggard—I *know* I had to throw him in or he wouldn't have had his bath! But whatever the truth of the matter, the chill of the river wiped away the last clinging finger of sleep, and we faced the prob-

lem of breakfast, of packing up and getting off. It was half past four, and by five-thirty we were ready. I found it strangely easy to fall back into habits learned on many previous trips—I struck tent and rolled up blankets as if it was my usual way of beginning the day. Pardner had a breakfast ready before I was through, and sleepy Mike, protesting at our early hours, bade us *bon voyage* (though he did not say "Bo-jo, bo-jo") and asked us to stop on our way back.

We passed a dozen or more shacks that morning—a regular colony of roughly-built little woods residences. Later we bought one of our own and found to our wonderment that dozens

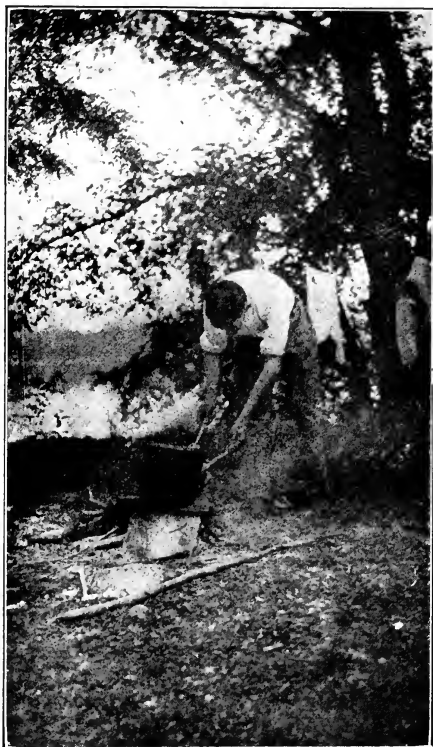


CAMP BY THE CANAL

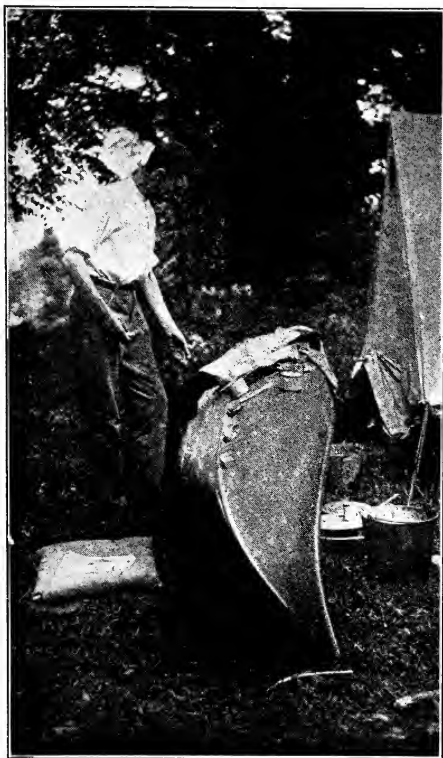
of fellows we knew owned them, and found them, if far from the permanent camps of Maine, a capital substitute and a pleasant way of getting some "near camping" between Saturday noon and Monday morning.

We passed through a dozen locks this day on our way "up," for the Big Falls of the river lay to our left, falls too big for the cleverest Ojibway poler who ever lived, let alone our unpractised hands. But we rounded them at last, made a short portage to the river above the falls, and knew that not for another thirty miles need we desert the bigger stream for its artificial neighbor.

I make no apologies for saying that in the afternoon we were weary. Go you, from desk or office, into the wilderness with not one day of restful travel, sleep on the ground and wake with the sun, paddle twenty miles upstream, and if you are not tired by three in the afternoon don't speak to me—I won't know you! So when we came to a little is-



PARDNER IS A COOK

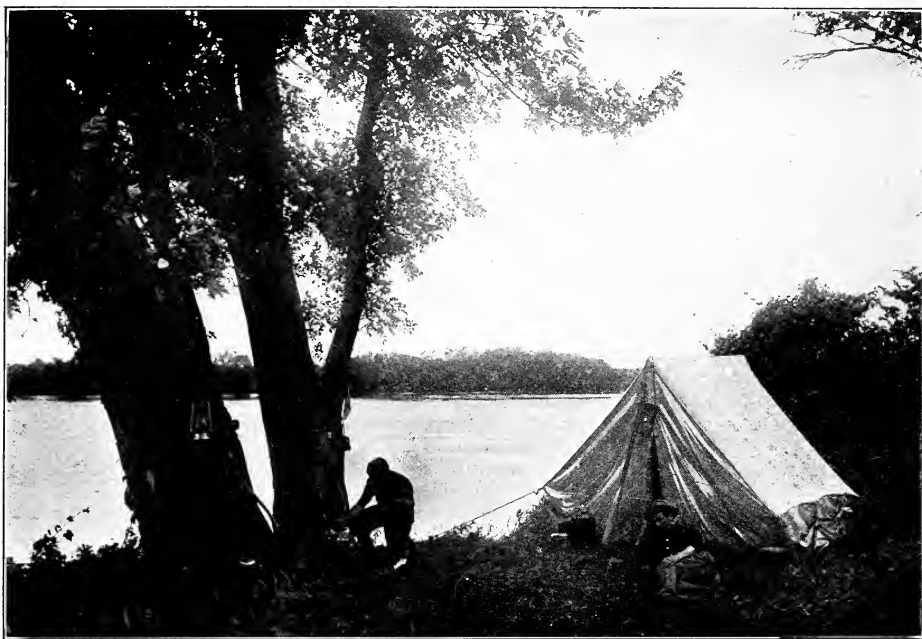


THE CANOE MAKES A HANDY DRESSING TABLE

land in the middle of the river, we decided to camp. At the same moment the weather gods decided to send us fresh water. In a drenching downpour we unpacked and erected the tent, pitched the rubber blanketed bedding roll inside to keep dry, and built a fire.

It is the ultimate test of woodcraft to build a fire of sopping wet wood in a driving rain on wet ground. I have seen campers on this same river use a kerosene can and succeed finally in conquering the water. But no sane person carries kerosene on a real camping trip, and we were too old hands to allow ourselves that deceptive comfort. It was with "fat" wood and split branches that we went to work, Pardner holding his rubber blanket over the space in which I labored. I would not boast, but I suspect that when I finished and saw the leaping flames defying the rain I had a complacent smirk upon somewhat smudgy features!

Alas! Sharpshin Island—not named for its similarity to any one's anatomy



CAMP AT SHARP SHIN ISLAND IN THE UPPER POTOMAC

but—so say the natives—from an ancient Indian name meaning Mosquito Home—did not welcome us. To be sure, the thunderstorm passed, and the grass dried, and we lay in comfort and smoked and grinned amiably at the success of our amazing proposition. Here, in the middle of the river, was no sight or sound to mar our imaginative pretext that we were deep in the wilderness. But there were other sounds, buzzing, suzzing sounds. Pardner slapped and made curious, swallowing noises, which I took to be strangled curses. I said my say aloud, shamelessly, and slapped as vigorously. Finally, realizing that we were camped on the original mother lode of all mosquitoes, we silently struck tent, packed up, and paddled on, homeless, in the pale moonlight, to find some less infested spot.

“What? Old woodsmen and move for mosquitoes?” I hear you say it.

But when one goes to the mosquito country, the no-see-um country, the country of the black fly and all his kith and kin, one goes with netting and with lotion, wearing gloves and taking care. One of the points about the Amazing Proposition had been this very thing.

“And there won’t be any of those infernal no-see-ums to set you wild anyway,” I had observed. “They don’t follow these civilized waters.”

Now Pardner wished in his heart to slay me. For we had no protection, and I submit it is better to move and let the mosquitoes have the last word, or buzz, than to be eaten alive! The next time we go, if there is a next time, and I shrewdly suspect there will be, there will be also mosquito netting for a drop inside the tent, and we will camp on Sharpshin and figuratively hold our fingers to our noses and invite the mosquitoes to do their pointedest! Never again will we trust in civilization as a mosquito exterminator.

They were golden days. We passed from river to canal, from canal to river. Instead of the long portages about rapids which may not be poled, we but climbed from river to canal, where there is always a lock to lift you to the higher levels. We lived on the fat of the land; it is surprising, coming from the city and its expensive markets, how inexpensively one can buy in the country. Not infrequently we could get fresh milk, and Pardner the buttermilk he

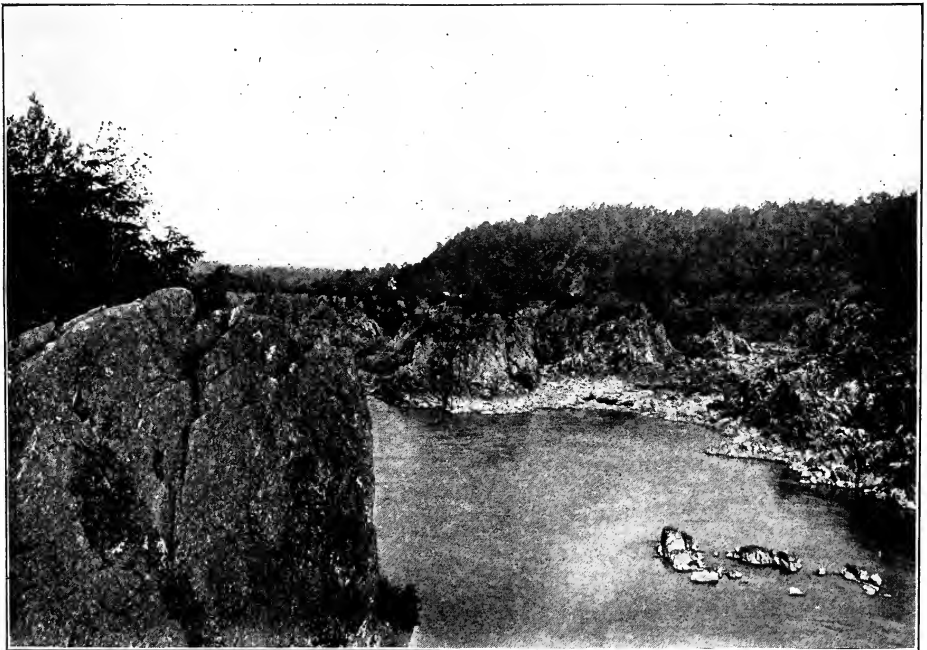


THE END OF THE PORTAGE

loves. Water to drink was the most vital problem we had, for the rivers which flow near large cities—you remember the schoolboy who couldn't understand why?—are not the best sort of drinking water. But every lock with

its little lock house and tender has a well, each keeper swears giving "the best water on the ditch!" and we managed without much trouble to carry a full bucket with us for drinking purposes.

It is a hundred and fifty miles to the



THE PALISADES OF THE POTOMAC



LUNCH BESIDE THE CANAL

end of the canal and the latter third of the journey must all be made upon its quiet surface, for the river is too full of rocks and riffles here to negotiate against a current running swifter and more swiftly every day. Innocently we thought this swiftness due entirely to its narrowing banks and shallower depths, but we found later that it was the work of a summer flood. The almost daily rains had their effect, and when we turned to go the other way, to take the glorious trip down, where a paddle doesn't pull across the shoulders with quite such a distressing effect, we found that all we needed was steerage way—the current did the rest.

Here we had small adventures of various kinds. I broke a paddle by trying to pull the canoe around in one sweep, landing us squarely against a rock. It was a sharp rock. Consequently we had to get out and walk the canoe to shore, unpack, and mend a jagged slit.

Here came into play a mysterious tin box which Pardner had packed religiously in his duffle bag, without saying what it was for. Opened, it disclosed some strips of canvas, a small tube of white lead and a bottle of varnish. With these materials we effected a serviceable repair in short order. No, I don't think white lead comes in tubes. But white paste

does. Pardner had washed out the paste and rammed home the white lead and I blessed his ingenuity, as you may in like circumstances!

But Pardner surpassed himself when he produced a small tank development device from his capacious bag and proceeded, one lazy day in camp, to develop several rolls of film. It is extraordinary to think of the compactness of a complete photographic outfit in these tabloid days. Developing and fixing powders came forth in packages, the water bucket became a fixing tank, the whole river was a washing pan, and I will not deny that in spite of many ribald comments I was as interested as he in seeing the results of our photographic labors.

Mending a canoe, taking a picture, developing a roll of film—they do not sound exciting as adventures, do they? It is a part of the amazing proposition, this interest we took in the trivial. For the quiet days on the water, the rustling stillness of the nights in camp, worked their spell. We no longer played at real camping—our expedition became as real, as full of the joy of the open, as interesting, as potent in its spell as any we have enjoyed together. Here adventures are not to the adventurous but to the imaginative—it is as much a matter of



PARDNER PREPARES TO GO AND BUY SUPPLIES

interest where we camp and who gets the meal as if the country depended upon our decision. But we did have one real adventure, one genuine thrill, sufficient for the most exacting. It is more pleasant in retrospect than it was in its happening.

We camped one night near the shore for convenience. The river was still rising. But we did not realize how fast. In the middle of the night the river came into the tent and got in bed with us, and there were a few lively minutes before we retreated, tent and all, farther up the bank. The next morning the water was three feet deep over our last night's cooking fire.

This would have mattered little, except that we were two miles above Great Falls, and the canal, by which we had to go around them, was across the river.

However, we felt no fear. We had too much pride of paddle for that. And it was not until we were half way across the river that we ran into a fifteen-mile current sweeping irresistibly toward the falls. Then, I assure you, we woke up and paddled in earnest! There would be nothing left but splinters if we ever went over, and neither of us fancied a watery grave. Pardner commanded, and his command was hard to obey—for he insisted on running straight down to destruction.

But the reason was obvious. Where there should have been shore was nothing but trees, deep in the water—the shore was now river bottom. To shoot in among those trees at the speed we were traveling—well, it might have saved our lives, but it would have been the end of our canoe and outfit—and it was a long walk home! So Pardner held on down, skirting the flying tree trunks and every moment the roar of those tumbling waters came louder and more disagreeably to our ears. Finally it became so loud that we could not make ourselves understood. I had savage thoughts of desertion and I yelled my throat hoarse with imprecations and futile announcements that I was going to swing in under the trees, let the canoe go, and save my skin.

Pardner swears he didn't hear a word—that the noise of the falls drowned everything I said. That I didn't take matters into my own hands and sweep the frail craft in toward the shore that was not there is probably because of some remnant of pride! However, Pardner was as calm as I was excited, and just when it seemed as if the very next minute would see us over the falls—they were actually within seventy-five yards—he paddled hard. I followed his lead, we swung in close, he reached up and grabbed some wild grape vines

hanging from the trees, we swung around in a sweeping curve, stern downstream, brought up amid the tree trunks safely, with barely a bump, and Pardner spoke.

"Got a match?" he asked casually. "My pipe's out."

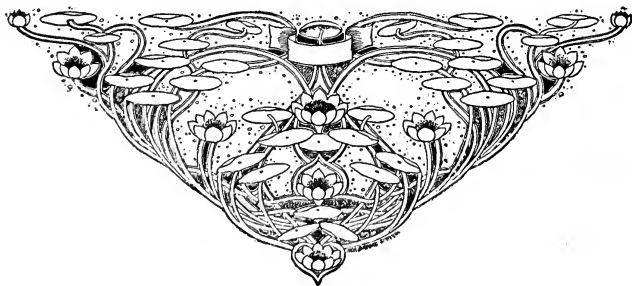
They didn't believe us on the canal when we said we had crossed the river above the falls in that flood. Nor did it do us any special good, for the river and the canal were one, so high was the water, and we had to camp and wait for it to fall, so the locks could be found before we could use them. It was that or portage several miles, and we were too lazy to do it. Besides, what were a day or so more or less to us?

So I might go on for pages. The exciting incidents were few—the every-day adventures, of purchase of food, of search for water, of selection of camp, of picking a bathing rock, of taking a picture, of hauling in a finny dinner all floppy and wriggling, of cooking, of the treasure trove of berries and red apples, of the bottle of cider from a dear old gran'ma who thought "sech triffin' young men" as would "spen' good mus-

cle and daylight jess paddlin'" needed comfort—these were too numerous to mention.

When at last the trip was over, when we had pulled the canoe on the boat house float, changed into civilized clothes, combed our hair, tied unaccustomed neckties about dark brown necks and telephoned for the car, it suddenly became very precious. It had not been Canada, no, nor Maine, and the isolation was not complete, nor the water as beautiful, nor the climate as invigorating, nor the days so full of change and incident. But it had been good—good to us and good for us. Suddenly we realized that our lesson was learned. It is not the exterior surroundings, the locality, the genuineness of the atmosphere which count. It is one's power of enjoyment and one's willingness to believe. It is the inner vision, not the outward seeming, which makes any outing a thing of joy, whether that inner vision be stimulated for the first time by the real wild places, or, as in our case, in retrospect, with only a civilized waterway on which to hang the rags of last year's camping joys.

"Out with the Wavies" is a Wild Goose Story by Hamilton M. Laing in September Outing—the Fall Shooting Number.





FILIPINO CATCHER WAITING FOR A THROW TO THE PLATE IN THE FILIPINO-JAPANESE SERIES

ATHLETICS HELPING THE FILIPINO

By O. GARFIELD JONES

ILLUSTRATED WITH PHOTOGRAPHS

*Baseball, Basketball, Track and Field Doing Their Share in
Developing the Art of Self-Government*

WHIZ! A rock shot past the catcher's head and bounded across the diamond. The crowd on the sidelines stopped their shrieking and prancing long enough to look disapprovingly in the direction from which the rock came, and then resumed their frenzied rooting. Cries of "Wasaiud sa pitcher! Carabao! Salvaje! Tulisane sa umpire! Yi! Yi!" filled the air on all sides. Caceres had

won the championship three years in succession, and now the umpire was giving it to them again, right on Albay's home grounds.

To allay the excitement the Americans scattered through the crowd and, with the aid of the native police, stopped the rock-throwing, so that the game could be continued without endangering the life of the Caceres catcher, who had to turn his back on the excited rooters. But when Caceres finally won the game on a close play at the plate, neither the Amer-

icans nor the native police could stop all of the rock-throwing in the mob of enraged rooters, who jeered the visiting players all the way to their dressing-rooms. That night several policemen were stationed around the house in which the visiting team tried to sleep, but in spite of their vigilance rocks came shooting out of the darkness in a steady stream, rattling on the roof like hail.

At Pagsanjan, near Manila, a game between Pagsanjan and Santa Cruz ended in a free-for-all fight, and the two Americans in charge of the Santa Cruz team were knocked about quite a bit before they succeeded in getting their boys safely out of town. When the boys got back to Santa Cruz and told of their troubles, the two Americans had another fight on their hands to keep the men of Santa Cruz from going back to Pagsanjan in a body to clean out that town.

Last year a bad decision by an umpire precipitated a fight between the towns of Bacon and Sorsogon, in southern Luzon, and for several days the constabulary had to be stationed between the two towns, to keep the men apart until the excitement quieted down.

A Good Kind of War

This state of affairs is looked on by some as cause for discouragement. But to the student of sociology this is simply the transition that must take place if the Filipinos are to pass with seven-league boots through the various stages of political development. President Wilson, in his essay on "The Character of Democracy in the United States," says: "It is a strenuous thing, this of living the life of a free people, and our success in it depends upon training, not upon clever invention." That is to say, applying this idea to the Philippines, the future of democracy in the Philippine Islands does not depend upon the cleverness of the aristocratic class of Filipinos so much as upon the kind of every-day training in individual self-control that the mass of the people receive.

It was only the heads of the leading families who had any political or social responsibilities thrust upon them in Spanish times. The ordinary Filipino,

commonly called a "tao," could hardly have been called an individual at all; he was only one section of a group of relatives, "parientes," who worked, ate, slept, and amused himself much as a child of twelve or fourteen years would do, depending on a rich uncle or cousin to look after his political affairs and loan him rice in time of need.

The modern state is an organization whose bond of union is common political and economic interests. Aristotle said, "The state is prior to the individual." That is, society is originally made up of clans, or families, and the self-conscious, self-willing individual does not emerge until political and economic interests arise that split up these compact groups and cause new alignments in the form of political parties, craft guilds, and religious sects that cut across the original blood relationships and emancipate the individual. In this process of emancipating the individual, old forms of control are necessarily broken down; consequently, unless new forms are developed immediately to take the place of the old ones, anarchy develops and may become habitual. It is in the development of these new forms of social control that competitive athletic games have their greatest usefulness.

Since it was only the heads of families who had to bear the brunt of competition and responsibility in the past, it is not surprising that the common Filipino should become too excited over inter-municipal baseball games. But it is only by such contests that association based on blood relationship can be made to give way to association based on community of interests. It is only thus that familism can be made to yield quickly to individualism. And it is only thus that leaders can be quickly taught to choose men because of their efficiency rather than because of their kinship.

An important element of Western civilization is practical efficiency. This is based on the principle of choosing men for important positions on the basis of their ability to fill such positions, but it took us Anglo-Saxons centuries to learn that our friends and relatives were not necessarily able men. The merit system has not yet been adopted in many gov-



CLEARING TEN FEET IN GOOD FORM AT BICOL MEET. NOTICE FILIPINO AT LEFT HELPING HIM OVER THE BAR

ernment circles, and it is still disregarded in business affairs to a large extent.

This habit of choosing men on the basis of their efficiency is a hard one to acquire. The natural feelings are all against it. But in the realm of baseball it does not take many games to show most conclusively to the appointer, the captain or manager, and also to the public, the rooters, that poor, ignorant, low-

born Antonio, with his batting eye, is more valuable than handsome, educated Federico, the captain's own brother, who has no batting eye. It is death to familism when Captain Marcos, assailed by his domineering relatives in Federico's behalf, replies: "Yes, but Federico can't hit a flock of balloons nor catch anything, either. You know I do not like that big, sloppy Antonio, but he wins games,



VOLLEY BALL ON THE LUNETTA AT MANILA. THE BEST GAME FOR A LARGE NUMBER OF PLAYERS

while Federico has lost every game he has been in!"

There may still be favoritism in the appointment of certain high government officials, and we know that great captains of industry often give their sons positions that they do not deserve, but who can imagine a major-league manager playing his brother in left field simply because he is his brother! Who can estimate the importance of having such a splendid example of impartiality constantly before the citizens of this Republic, even though it is in the realm of sport!

The individual basis of self-government is self-control, and self-control cannot be learned from books. It is a habit, not a theory. It can be learned only by practising self-control under strain, and athletic contests furnish the maximum of strain with the minimum of danger. We say the Anglo-Saxons are good losers, but by that we mean the Anglo-Saxon men. A Central American revolutionist can take defeat with no less grace than do some of the great-great-granddaughters of Good King Alfred

himself. In short, good losers are those who have learned the bitter lesson in their boyhood games, and without such training anyone is apt to be a spoiled child. The older generation of Filipinos will probably never learn to lose a ball game or a political contest with good grace; the younger generation not only will, but in many cases have learned it.

Contrary to American precedent, the girls in the Philippines are as enthusiastic in athletics as the boys. One Philippine town has twenty-five girls' basket-ball teams, and indoor baseball is played by schoolgirls all over the Islands. The girls' interscholastic championship contests in basket-ball and indoor baseball are among the big events of the Manila carnival every year.

These girls' contests not only develop healthful, vigorous, self-reliant mothers for the future, but they also develop within these mothers of the future a sense of fair play that is lacking among all non-athletic peoples. This sense of fair play will not only make better citizens out of these girls, should they be given the right to take part in the gov-



FILIPINO CONTINGENT THAT WON THE FIRST FAR EASTERN OLYMPICS

ernment, but also it will enable them to hand down this sense of fair play to their children more successfully than the less athletic mothers of Europe and America can do it.

Just how important the sense of fair play is to good government is hard to say, but certain it is that fair play and favoritism are contradictory terms, and favoritism is the fountain head of both graft and inefficiency. Despots in Mexico could not employ the "Ley de fuga" to kill off their political enemies if the citizens of that country had a vigorous sense of fair play as a heritage from their boyhood games. The present political heritage of the Filipinos came from the corrupt system of Spanish colonial politics; but the Philippine political traditions of the future are going to be shaped by the habits and ideals of the present generation of Filipino boys and girls who are being molded in a system of public-school athletics that is superior to any state-wide system of public-school athletics in America.

Speaking of the attempt of the Puritans to establish republican government during the Commonwealth of 1653, Pro-

fessor Macy says that the splendid "New Model Army" "could vindicate the honor of England against foreign foes, but it could not rule the United Kingdom as a democracy. It could not do this because there was no educated and trained self-conscious body politic which was in a position to give commands to the army itself and to make it a subordinate agent of the nation." All that could be done at that time was "revert to monarchy." It is not till "the Victorian age that there appears a trained constituency to whom all officers look for guidance."

Thus the great English people of the seventeenth century tried to become a democracy in a decade and failed. Some people think the Filipinos can accomplish this feat in twenty years, but they have absolutely nothing but their enthusiasm to support their argument. On the other hand, it is not necessary that the Filipinos should require as much time for the development of an "educated and trained self-conscious body politic" as England has required, because England was blazing the way. To-day we can teach the Filipino children all that the present-day English children are taught

in their schools. In fact, we are teaching the Filipinos more, because there has been no English conservatism in the Philippines to prevent the utilization of the very best methods that modern pedagogy has devised. As regards the development of a spirit of fair play and democracy, the Filipino children have the advantage of the English or American children, because in democratic athletics the Philippine schools lead the world.

Respect for authority is another prerequisite of good government. Dictatorship in a country is an open confession that the people of that country respect nothing but military force. The insurance companies would cancel their policies on Umpire Sheridan if he were to go into Mexico to umpire ball games between Mexican teams. Even here in the United States the essential qualifications of an umpire a decade ago were bravery and fighting ability, rather than experience in the game and judicial ability. To-day, any capable umpire is complete master of the situation. In organized baseball he sends the popular idol to the bench for a single word of impudence, and even in the sand-lot games he is a successful dictator so long

as he is apparently fair in his decisions.

The umpire and the athletic coach give the over-individualistic American boy a bit of the discipline that he so much needs in this page of "laissez faire" and declining parental authority. In an Oriental country, where the influx of Western ideas and newer social thought are undermining all of the old methods of control, the umpire and the athletic coach are indispensable to keep the unshackled youths from becoming anti-social, and to develop in them that respect for duly constituted authority which all government worthy of the name requires.

President Wilson has aptly said, in an essay on American democracy: "Long and slowly widening experience in local self-direction must have prepared them for national self-direction." That is to say, strong municipal self-consciousness is the foundation of political progress along democratic lines, and just in proportion as these Philippine communities are being torn apart by athletic rivalry, just in that proportion are the races and factions of each community—Spaniards and Chinese, Malays and Negritos, aristocrats and "taos"—being united as one



AN EXCITING MOMENT IN ONE OF THE BASKETBALL GAMES HELD IN CONNECTION WITH THE PHILIPPINE INTERSCHOLASTIC MEET



ATHLETES OF BICOL MEET BEFORE GRANDSTAND AWAITING OPENING BY W. W. GILBERT, VICE-GOVERNOR OF THE PHILIPPINES, APRIL, 1913

people in support of the baseball, basketball, or track team in its competition with the rival teams from the neighboring towns.

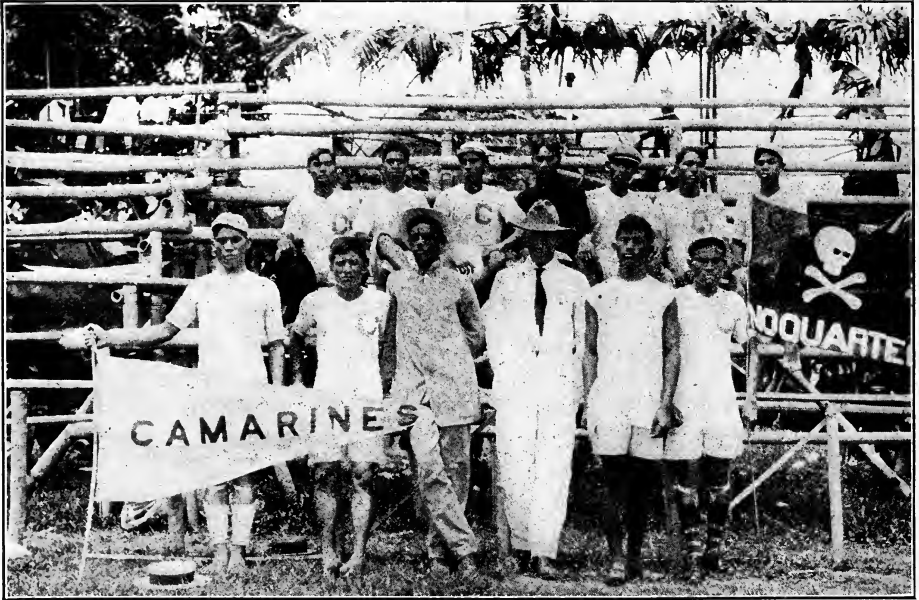
What is the one great common interest of Swedes, Poles, Jews, Italians, Slavs, and native-born Americans in Chicago or New York? Baseball has been a big factor in developing municipal self-consciousness in the United States, but how much more must this be the case in the Philippine Islands, where there are no traditions of local self-government! In the past the rich old uncle (cacique and political boss) has been the center of social crystallization in the Philippines. Political factions were usually spoken of as the Altavas faction or the Godoy faction; that is, the Smiths or the Browns. A few aristocratic families dominated the affairs of the entire province, and the big social events of the year were the bailes (balls) given by the rich old uncle for his relatives and dependents.

To-day these provincial clans are being split into scores of fragments by these inter-village contests. The school and the athletic field have displaced the rich old uncle as the center of social life. Blood relationship is giving way to con-

tiguity and common interest as the social bond in the community. The recrystallization of Philippine society on a municipal basis is rapidly taking place.

Athletics have also been a factor in developing national self-consciousness among the Filipinos. Their baseball teams have competed with the Japanese teams for several years, and in February of last year a picked team of Filipinos won the first Oriental Olympics, defeating strong teams of baseball and track athletes from both Japan and China. The Pentathlon was won by a Filipino high-school boy who is also one of the star pitchers of the Islands.

The American teacher is now slowly withdrawing from the outlying districts in the Philippine Islands, but the school system, and especially the athletic system, have been so vitalized and adapted to Philippine conditions that they are continuing to creep farther and farther into the mountain communities and seashore villages. Self-governing ability in athletics has now been established, because the reactionary influence of priest and old-line politician has been nil on the baseball field. Naturally, such progress has not been achieved in those fields where the elder generation has retained



CACERES TRACK TEAM AT BICOL MEET, ALBAY, 1913. NOTICE BANNER, "NO QUARTER," AT RIGHT. THIS IS A PART OF THE TEAM THAT WAS STONED DURING FORMER VISIT TO ALBAY

control, but with the development of individual self-control, a vigorous sense of fair play, and respect for duly-constituted authority among the rising generation of Filipinos, and with the recrystallization of Philippine society upon a municipal as opposed to the relationship basis, the groundwork for real political progress is being laid in the Philippine Islands as nowhere else in the world.*

*The writer realizes that athletics are not

the most important influence for the development of self-governing ability. General education as furnished by the Philippine public schools is the fundamental thing. Individual economic efficiency is also necessary, and this is being provided for by one of the very best systems of industrial education in the world. The athletic activities of the Philippines have interested the writer because of their wonderful progress and because they are contributing elements that are absolutely essential for a self-governing people, elements that neither book education nor industrial training provide.



"The Elusive Musk-Ox and the Delusive Dog-Rib"
is a tale of hunting in the Barren Grounds above
Great Slave Lake—September OUTING.

ON FISHING THE SALMON POOL

By A. B. BAYLIS

What the Angler Should Do to Make Sure He Is Not Missing Any of the Big Ones



TYPICAL pool on a Newfoundland River differs greatly from any preconceived picturings. I had always thought that a pool was a deep, quiet stretch of water in which great, lazy fish floated, and on whose mirrored surface the slightest splash of a bungled cast spelled disaster. There are such pools, but they rarely contain fish, and when the fish are there they are usually waiting for a rise of water, and unless taken in the quick water at the head or tail of the pool seldom pay any attention to the fly.

The quick water is the real pool. This real pool is, as a rule, from fifty to one hundred and fifty yards in length, and is of an average depth of three feet, with a current of from three to five miles an hour. It is usually full of large rocks, either submerged or just showing above the surface, and is formed by the sudden narrowing of the river, or the ending of a much deeper hole. The novice could imagine no more unlikely place to find fish than this sort of pool, as it seems impossible that any fish could rest in such water, but, as all fishermen know, the fish rest in the eddies behind the rocks. Balanced in these eddies, the salmon lie, awaiting more water to continue their upstream journey, or, if the water is deep enough, until some unexplained instinct impels them onward toward the spawning grounds.

Night seems to be the favorite time for these journeys, and the pool that you have seen full of fish when you turned in at night may be empty of fish in the morning. Many a time have I gone to sleep, lulled by the splash of some finny monster, only to wet my line in vain the

following morning. The fish, however, do not confine themselves to traveling at night, and I have seen many a big one in broad daylight splashing over the shallows on his way to the next pool. Such a fish is almost surely yours if you follow him up, as the newest fish in a pool is almost always the one most ready to take the fly.

There is another type of pool in which there is scarcely a rock bigger than your fist. Here the water flows swiftly and smoothly over a pebbly bottom, with nothing but the speed of the current to ripple its surface. How the fish get any rest in these pools is beyond me, but they do hold fish, and good ones at that. And such a piece of water at times pays big dividends on an investment of a little extra care in casting.

Let us now imagine our pool lying before us ready to be fished, which is after all the main object of this article. Some writers advise fishing the lower end of the pool first, but I could never see it that way. How much of the pool should be considered to be the lower end? These writers claim that the fish taken this way will not disturb those lying higher up as much as if the fight started at the upper end of the pool, but they say nothing about the fish disturbed by the fisherman while he is wading the middle waters. A fighting fish as it tires will undoubtedly work downstream, but as a fish tires its rushes lose much of their violence, the fish can be held much nearer the rod, only a small part of the pool is disturbed, and even if the fish are stirred up they soon forget the cause.

A fish tearing around the pool, trying to clear its mouth of a fly and part of a broken leader, can spoil a pool for a

whole day, as it will keep up its efforts until every other fish in the pool is greatly excited, but the landed fish, by the time it has been weighed, admired and put in a safe place, is soon forgotten by its former companions, and quite frequently by the time you have looked over your fly and tackle and refilled your pipe, you will find that another fish has already taken over the choice location formerly occupied by your late antagonist.

On one memorable occasion I took four salmon out of the same eddy, landing each one and then casting again from the same position with almost exactly the same line. I am sure of the position and the line, because I was in water up to my waist, where another step would have taken me in over my head, and I had to use every inch of line I could get out to get my fly where I wanted it.

Begin at the Head

To get back to my subject: My advice is to fish the head of the pool first, and to be sure that you are at the head of the pool. Start way above what looks to be good water, as fish often lie in the most unpromising places, and it never pays to pass over a fish without showing it your fly. The one overlooked might be the only one in the pool in rising humor, and your haste to get to the best (looking) water might result in a blank morning. Start well upstream of the slightest possibility of fish, and with a short line fish over all waters you will have to wade into to be in position to cover the full width of the pool.

When you have reached a point from which you can cast almost to the opposite shore, gradually lengthen your line, stripping off a couple of feet from your reel at each new cast, cast across the current, and let the water bring your fly around until it floats directly downstream from you. By now the fisherman should have out enough line to fish properly, while if he started far enough above the good water he is about to strike the most promising part of the pool. The preliminaries are over and the real game is about to begin.

We will assume that the fisherman has out about fifty feet of line, and that under ordinary conditions he can cast a distance of seventy-five or eighty feet. These figures are by no means arbitrary, but are taken as an average, the first to be well within the limit cast and one that can be handled cleanly and placed where the fisherman wants it. Let your first real cast now be downstream to the near side of the quick water. The object of this is to present the fly in its most attractive form to as many fish as possible, which cannot be attained if a loop of line and leader passes ahead of the fly.

By fishing the water nearest you before fishing that farthest away, the chances are that any fish within range will get a fair view of the fly. Your second cast, therefore, should be out into the quick water, and your third, if the stream be wide enough to require more than two casts, still more directly across the pool. Each cast should be allowed to float the fly across the current until it has come to rest directly downstream.

Here begins what I consider, by all odds, the most important part of the cast. An immediate recovery of the line at this moment will often lose a fish. Many times the fly passes in front of a fish which follows it to the end of the cast, and then makes up its mind to strike, only to see the fly whisked bodily from the water. Then the disgusted and startled fish sulks and cannot be moved again. Let your fly stay in the water and move it gently back and forth several times before starting another cast.

When one piece of water has been fished, that is, when you are ready to let out more line after covering all the water to the farther bank, draw off about a yard of line from your reel, and repeat the previous performance, fishing first the near water and then that farther away. By releasing the extra line, held by the hand above the reel, just before the line is fully extended, a much better cast can be made than if the additional line is let out on the back cast. Keep on fishing from the first position until your cast is approaching your limit.

There are now two ways of fishing the balance of the pool. Both are good

and both have many adherents. The one way is to shorten up your line, move forward a few yards, and fish as before until again you are using your longest line. The other way, and this is the way I prefer, is as follows: while you are making your back cast, or, rather, at the moment you are starting your forward cast, move downstream a short step, and on each succeeding cast take another step. You will find that your best results are to make your steps of from a foot to eighteen inches in length, so that your fly may cover every possible lurking place.

I like this way of fishing for two reasons: First, there is no guesswork on your part as to where your last cast went, and, therefore, no danger of overlooking a fish; and, second, I like to fish as far away from any disturbance I may create as is possible.

No cast should be at an angle of greater than 45 degrees from an imaginary line passing through the angler and continuing straight downstream if it is possible to avoid this. It is almost impossible to keep the line from bulging downstream ahead of the fly if a greater angle is used. It is far easier to say, "Let your fly be the first intimation of your approach," than it is to do. I have tried many ways of casting in order to overcome this bulging of the line. To use a golfing term, I have tried to hook and to slice, but I cannot truthfully say that I have invented any new way to cast. By checking my rod just before finishing the forward cast, and then by snapping it to the right or left I can sometimes drop my fly as I want to, but I am not at all sure of doing this. Probably two good casts out of five tries would be a high average when I was casting my best.

In casting against a head wind, the line can be made to bore in to the wind and a far better cast made by reversing the hands, *i.e.*, have the right hand in front of the reel when casting over the left shoulder and vice versa.

A hard wind downstream is to me a positive curse, and when fishing before one I will back myself to snap off more flies and tie more knots in my leader than any other fisherman. There is only

one way to combat this wind, and that is to use a short line and draw your fly in as close to you as you can while holding your rod straight up in the air. Then drop your rod quickly behind you until the tip is close to the water. If there is water enough it does not hurt to splash it with the tip. Then shoot your line skywards by snapping forward your rod to just past the perpendicular. Then pray.

What About Flies?

By this time I am sure that our fisherman has fished down the entire pool, and for a time longer I am going to keep him fishless. For some reason, although he has not had a rise, he is morally certain that there are fish in the pool so a careful study of conditions will repay him. Yesterday he took a fish out of the pool on a No. 4 Silver Doctor, but this morning the same fly is not attracting any attention. It is here that I think that a smaller fly should be used, and for that reason I recommend having both 4s and 6s tied short. The change from a No. 4 to a No. 4 tied short is not as abrupt as to a No. 6, besides which it leaves two smaller sizes in the book.

It is always well to use a larger fly in the early morning than you would use through the day. While the morning chill is on fish will rise to larger flies than when the sun is hot. If the weather has been dry, the water has undoubtedly fallen a bit, and on this account also a smaller fly should be tried. If the smaller pattern does not take a fish, another pattern can be tried. If this takes a fish, that fly becomes one of the fisherman's favorites, whereas the original if tried again might have done quite as well. As I have said in a previous article, I hold much more by the size as against the pattern, but a change of fly often means renewed confidence on the part of the angler, and for that reason should be encouraged.

When a fish rises and misses, the natural impulse is to jerk the fly off the water and immediately cast at the spot where the rise was. This impulse must be carefully guarded against. Fish out the cast as if nothing had happened.

I have known fish to rise, miss, follow the fly to the end, and then take hold for fair. If the fish does not come again this way, and not many of them will, mark the spot carefully, reel in your line without moving, and go ashore. Show your guide where the fish rose, if he did not see the rise himself, and let him stay opposite the place to mark it for you, and go upstream yourself. Go far enough up so as to fish about twenty yards of water above the place where you think the fish is.

Put on a smaller fly; the fish is wide awake now, and will see everything that comes downstream. Take all the time you can, five minutes seems to be the recognized time advised by the authorities, and then wade in again, and fish down to your fish. Cover every inch of water, and if you do not get another rise by the time you have reached the scene of the former rise work on down a few yards. Salmon often move when they miss a strike, and it is best to be sure that the fish has been covered.

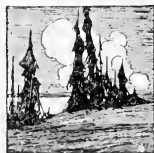
If on the second trial the fish is not interested, it is well to leave it alone for some time. If you are at the head of the pool, fish on through the pool to the end, changing back to your original fly. Then you can go back and have another try at your first friend. There may be other fish in the pool in rising humor. If the fish rose at the tail of the pool, go over the whole pool again.

Sometimes this will get the fish, sometimes not.

There is no fixed rule of conduct that can be laid down for all conditions. If there were, fishing would lose much of its charm. On one occasion, I violated this rule with very happy results, and an added knowledge of idiosyncrasies of my favorite fish. See my previous article. ["Outfitting for Newfoundland Salmon," June OUTING.]

So far I have spoken only of the easy pools, but the fisherman will find that many times he will have to fish pools where rocks or eddies spoil the best of casts. Some of these can be fished from both sides, but others have to be covered as best you can. No two pools are alike, but I always thought more of the fish taken under difficulties than of the one that came up as though to eat out of my hand.

One more word, and I am through. From the time you first step into the water until you put up your rod at night, fish every cast as if at that moment you knew that a fish was going to take hold. Many a fish has been missed through a careless cast or hasty recovery, and, although a blank day or two is always discouraging, I got my big one after three blank days under circumstances where the least carelessness might have lost me the chance forever. Some day I will tell that story; I think it is worth the telling.




"Journeying to Babylon" is OUTING'S kind of a travel article. It is by a new contributor, Mr. William Warfield, and will appear in the September OUTING

OVER THE PORTAGE

By JOHN MÄTTER

How a Lifetime of Agony May Be Packed into a Scant Two-Mile Carry



OUR tent was pitched last night on a smooth, extensive rock that shelved equably up from deep water to a height of twenty feet. On the flat summit spread with a thin mattress of soil and a comforter of pine needles we did our housekeeping, stripped for our plunges, and laid ourselves down to rest. Across the narrow channel, the shore, swathed in thick timber, arose abrupt, menacing to tumble forward upon us. All night the wind blew past our home, taking the willing waves along for company.

Before the sun was out of the pines in the morning, we had broken camp and worked a course up through the basin. Boulders, large as a cottage, lay in disorder as though dropped from the pockets of a giant. The water broke off at the foot of a solid ledge and here began the first portage of the day.

Now a portage when the trail runs new is always an adventure to me. You cannot tell whether the traveling will be rough with stones or smooth with needles, whether the line will run across hot, high rocks or descend through still hollows where the air oppresses and only the treetops find the breeze. I like the mild excitement of unloading the canoes, the tug of the tump line on the forehead, the wrench and pull on the muscles of placing one foot in advance of the other, the breaking out of honest sweat, well earned, and the sweet, occasional luxury of a breathing spell.

Some portages are a delight, a relief from the paddle swing. Some you traverse with a laugh and a dash, the load rests easily, the footing is secure and dry. Other portages are trails of

the evil one, difficult as the path of virtue. Your hobnails slip viciously or sudden holes come in the soles of your moccasins; you go astray and flounder in the bush like a fish in a shallow pool; a mosquito bites with tormenting persistency on an inaccessible joint; perspiration rolls into your eyes and mouth; your hat is swept off; the pack shifts and thoughts of easier times intrude.

The quarter-mile portage stretches to a half mile, then to a mile, then to eternity. You have never done aught but shamble over this trail, you will never do anything else.

We welcomed a pause for breath and a smoke before we floated the canoes and paddled across one corner of a Lilliputian lake, quiet and unmoved as a reservoir. Rounding a spit of grassy bank, we approached a fat porcupine balanced on a log and occupied with affairs of his own. He paid us scant attention until I slapped the water with my paddle. He looked us over then with no great favor, turned with heavy dignity and went offensively ashore. "There are five of you to one of me," his manner gave forth, "so I shall not argue the right of way. Gentlemen, however, never intrude."

A few strokes carried us through the navigable limits of a creek and to the beginning of Steep Portage. We unloaded the canoes and distributed the tump lines.

"A mile and three-quarters, some says," quoth Henri.

We swung up our loads and went forth. The track mounted easily for a hundred yards; the going was smooth as a path through an Indiana woods. I strode jauntily, whistling, and letting my thoughts stray where they willed.

Then the rocks began, the grade stiffened, and the brush drew close. Logs lay across the way, branches hung low and meshed, the trail evaded the four points of the compass. A quarter of a mile of steady climbing and I was gulping my breath. I paused for a moment to ease my lungs.

Before me the path ran up over a huge outcrop of rock; it mounted like a stairs. I sighed and started the ascent as one starts for bed. The face of the rock lay bare in sunlight; I climbed a pool of heat. Still the up-grade continued when I had won the summit, and now the way writhed through larger trees and heavier brush. At times I stepped from stone to stone over the ancient bed of some perished water. The load was slipping, sharp corners were developing, sweat was breaking through all my clothes. The mosquitoes and black flies worked assiduously. My mind ceased to wander and settled on the task at hand. Live or die, I determined to make the grade.

The trail dipped down; I rejoiced that the up-pull was over. My joy was brief, for in a hundred steps the ascent began again. A squirrel ran out on a log and paused in wonder at what manner of creature this might be that displayed two legs and a great hump on his back and moved so slowly through the woods. Master Squirrel shrieked his derision abroad. I wished him and his family damnation.

Ahead on the slope was Walton, bowed low under two duffle-bags. I hailed him, though the shout tore my lungs. He stopped in his steps and did not look around. In time I drew abreast.

"I am afraid," said he, chewing his words, "I am going to sleep on this trail. It is so long."

"You mustn't," I said. "You mustn't sleep here." There seemed something improper about sleeping on the portage.

"I have been thinking about that," he replied.

"You mustn't sleep here," I advised again.

"I am afraid—" he began, "but I've told you that once, haven't I?"

"Yes, you've told me that."

He groaned and went forward. Ten paces ahead he fell and lay out-sprawled and unmoving. My numbed brain took it as ridiculous that one should lie like a fallen tree. I laughed aloud, and the sound brought me to silence. It occurred he might desire a covering from mosquitoes, and I toiled on to put the question. He was struggling to his knees by the time I reached him.

"I stumbled," he said simply.

"Yes, you stumbled," I returned.

Suddenly we both burst out laughing.

"On a root," he continued.

"On a root," I replied, and we roared again.

Henri strode past under the heavier canoe. He smiled, but did not speak; breath was precious to him as gold. Then came Hercules, puffing and blowing under the light canoe, but moving forward. Like Henri, he had no breath to waste. Then the Grave One, slow and precise of footing under the grub-bags.

"How much farther?" he demanded.

"A half mile," we ventured.

He stopped to argue the matter between gasps.

"But it cannot be, you know. . . . A mile and three-quarters altogether. . . . I judge I have come a mile and a half. . . . That leaves a quarter of a mile. . . ."

A shout from the front interrupted. We filled our lungs and followed on. The track dipped down; it was mucky and wet for a space, then the grade straightened out through a narrow ravine and I had sight of blue ahead.

In a minute we were beside still waters and had thrown off our loads.

The next issue will contain "A Night Paddle"—a tale of voyaging down a wilderness stream in the starlight.

TROLLING FOR LAKE TROUT

By STILLMAN TAYLOR

The Equipment and Method Necessary To Get the Big Fellows That Lie Deep

"The generous rushings of the springs,
When the angler goes a-trolling,
The stir of song and summer wings,
The line which shines, and life which sings,
Make earth replete with happy things,
When the angler goes a-trolling."

—STODDART.

A SHARP pull at the long line, a lightning dash—the metal line zip-zips through the clear water to the accompaniment of the shrieking reel,

and as the split bamboo curves its graceful length to form a resisting arc, the angler feels pretty certain that somewhere below the wake of the boat a sizeable lake trout has been well hooked. Now begins the rodster's sport, and you land him or you lose the game, according to your skill and the excellence of your tackle. For the lake trout is a hard fighter and runs to a good weight in our cold nor'eastern waters.

The great lake trout, *namaycush* or *togue*—*Christivomer namaycush*—is known by many and various names in different fishing districts—in Maine "togue" is the more common name, while "lakers" is the familiar appellation in Adirondack and Canadian waters. The confusion of names is due, no doubt, to the fact that lake trout differ considerably in coloring, for in no two waters are they quite the same in coloring and markings. These variations are so marked in Maine and Canadian waters that one often hears fellow anglers talking about "lakers" and "togue" as if they were two different fish, which, of course, they are not. This peculiarity has frequently been noted by the writer, the variation in color being remarkably wide—some are black, some are brown with crimson spots, some are gray with

delicate chain-like markings seen in the pickerel, while others are of a bluish green, covered with large and irregular spots of a pale yellow.

The lake trout is really a charr, and not a true salmon trout; the characteristic difference between the two may be readily noted, since the true salmon trout has teeth upon the vomer (a flat bone in the front part of the roof of the mouth) and behind these teeth will be found an irregular single or double series of teeth. In the true charr, the vomer bone is convex or boat shaped with the teeth on the head of the bone and none back on its shaft. The speckled or square-tail trout is likewise a charr, and the distinguishing mark between the square-tail and the *togue* is the tail—in the former it is nearly square, while the latter is of a decided "V" shape.

Unlike the muskellunge (*Esox masquinongy*) of our Western lakes, the *togue* is a deep-water fish, and since the larger fish will always be found in the deepest and coldest part of the waters which they inhabit, they must be angled for with a long line, and trolling is the most successful mode to follow. In point of fact, lake trout fishing is quite different from any other phase of sweet-water angling, and one may fish persistently on the surface for bass and pickerel in the same water which frequently shelters these varieties, without securing a strike from the *togue*. To catch our fish we should know something about their habits, and go properly outfitted, and, though the outfit is simple and inexpensive enough, it differs from the usual outfit sufficiently to warrant a brief description of the essentials required.

Being a deep-water fish, the *togue*

must be angled for with a rather longer line than will suffice for the ouananiche, lunge, or other surface feeding fishes. To sink the line well down a sinker may be employed, but if the angler prefers to troll with a rod, a metal line of braided copper may be regarded essential for good sport—the weight of the metal line sinking it sufficiently deep without using a heavy sinker. In the deeper waters, as in Maine and Canada, two hundred and fifty feet of line is not excessive, and a copper line of one hundred yards length should be selected. In purchasing a metal line, procure Size F, and be sure to get the special braided copper kind which is made by braiding fine copper wire over a silk core. The common solid copper wire line is inferior in every way to the braided copper line—it does not reel well, kinks upon the least provocation and snips whenever the kink is straightened out.

For a reel any one of the common kinds may be used, providing it is large enough to hold the required length of line. The regulation all-metal reel commonly used in the cheaper salt-water fishing kits will answer the purpose admirably, and as these reels are multiplying in mechanism and provided with adjustable click and drag and fitted with large well-balanced handles, a reel of this sort is more satisfactory to fish with than a single-action reel so frequently recommended for this kind of fishing.

The rod for trolling should be somewhat stiffer than the usual bait rod, and from seven to eight feet long. The five-foot casting rod is much too short and light to stand up under the heavy strain of this variety of angling, though a short and stiff tip fitting the first joint of the regulation nine-foot bait rod will convert it into a good trolling implement. However, it is a good plan to purchase a cheap and stiff steel rod rather than strain a fine split bamboo, or if you happen to possess a light salt-water rod, weighing nine or ten ounces, you may dismiss the rod question entirely.

There is an advantage, however, in having a double grip on the trolling rod—one above and a somewhat shorter one below the reel seat, and a large corrugated button at the extreme end. The

utility of this trolling butt will be apparent after an hour or two of trolling, for deep-water trolling is hard work and the narrow end cap of the usual rod makes it inconvenient to rest it against the body. With the broad surface of the button pressed against the hip, the rod may be held firmly against the body and cramping of the arms is done away with. Again, the button enables the angler to keep a steady butt strain on the fish, and a much lighter tip may be safely used when the rod is handled in this manner. The flexible rubber butt pad, which is merely slipped over the butt cap, will do the trick of converting any rod for trolling, or one may procure a pneumatic cushion pad which is designed for the same purpose.

Trolling Deep

Trolling is unquestionably the one best way to catch big fish, and for deep-water trolling live minnows are the deadliest togue bait. The regulation lake trout trolling gang—consisting of 6-ply gut leader with five treble and one 4/0 lip hook and swivel is often used. There can, of course, be no advantage in using a number of treble hooks, and when this form of gang is desired it is a good plan to alter the arrangement somewhat and use but one treble and the lip hook. Among the good artificial baits the writer has found Sam's spoon and Wilson's spoon the most successful, better, in fact, than the ordinary spoon, since they spin in zigzag fashion from side to side, and the boat does not have to be propelled at so fast a gait in order to make them spin. A swivel should be tied in between the line and leader, and the bait should be of large size—six-inch minnows are none too large for togue—and spoon baits should be five or six inches long and preferably of polished German silver or finished in silver plate.

When trolling with spoons or other artificial baits the angler should return a strike immediately, but when live minnows are used a little slack line should be given before striking; give him time, on a slack line, to turn and swallow the bait, since fish will invariably seize the minnow across the body, and striking too

quickly merely pulls the hook from the minnow. The old hand at lake trout fishing often gauges the strike by throwing the point of the rod over the stern of the boat, then when you feel the fish again, strike and strike hard.

A gaff must be reckoned a necessity for togue fishing, though a heavy net, fashioned like a fish scoop, with an iron bow driven into a long wooden handle, is a good substitute and is more easily handled by the inexperienced. The gaff is certain to land the fish when once the knack of handling it has been acquired, though the first attempt is often disastrous for the fisherman.

"The place to take 'em is where they are, and where they are no feller can tell," which is only another way of saying that the most successful way to fish different waters is to work over suitable depths and bottom for the season of the year. In the early spring togue will be found in comparatively shoal water, around the flats and at the mouth of streams, and if fishing is done in deep water it is nearer the surface than later in the season. Actual surface fishing after the customary manner of catching bass and 'lunge is rarely if ever prac-

tised, surface fishing for togue really means that during the spring months trolling should be done with the bait some six to ten feet below the surface. As the season advances the fish will be found in deep water, and they must be trolled for in the deeper portions of the lake, over rocky reefs and over the "spring holes" which feed our best fishable waters.

The togue must be well played ere he can be safely landed, and even when the fish is pretty well exhausted he is certain to fight gamely after you have worked him up close to the boat on a short line. At this close range he is prone to make quick, short rushes, and as he turns the angler reverses his rod—keeping the tip opposite to the fish that a steady strain may be kept on the line. When you are ready to use the net or gaff, do not make the mistake of lifting his head out of water by lifting the tip of the rod in order to shorten the line; a quick, unexpected lunge and your tip goes smash. Big fish require not a little coaxing, and even a twelve-pound togue is very likely to put a rod out of commission if the angler is caught napping at the tail end o' the fight.

GOING ALONE

By HORACE KEPHART

A Plea for the Man Who Wants To Go His Own Way and Do His Own Thinking

TO the multitude, whether city or country bred, the bare idea of faring alone in the wilds for days or weeks at a time is eerie and fantastic, or something worse. It makes their flesh creep. He who does so is certainly an eccentric, probably a misanthrope, possibly a fugitive from justice, or, likely enough, some moonstruck fellow whom the authorities would do well to follow up and watch.

But many a seasoned woodsman can avow that some of the most satisfying,

if not the happiest, periods of his life have been spent far out of sight and suggestion of his fellow men.

From a practical standpoint, there are compensations in cruising the woods and streams alone, and even in camping without human fellowship. It simplifies the whole business of outfitting and camp routine. You get the most out of the least kit. It would be piggish, for example, if two men should eat out of the same dish; there must be three at least, one to cook in and two for serving the food; but for one man to sup from his own frying pan is not only cleanly but

a sensible thing to do. It keeps the food hotter than if transferred to a cold plate, and saves washing an extra dish, an economy of effort that is the most admirable of all efficiencies!

The problem of cuisine is reduced to its lowest terms. You cook what *you* like, and nothing else; you prepare what you need, and not one dumpling more. It is done precisely to your own taste—there is a world of gustatory satisfaction in that. You bake a corn pone, let us say, leaving the frying pan clean of grease. You cut your venison (the flesh of all game is venison) into cubes and broil these on a sharpened stick, one at a time, just as you eat them, which is the best and daintiest cooking process in the world. Your coffee, settled by a dash of cold water, is drunk from the same cup you brewed it in.

Then comes the cleaning up. No more bugaboo of dishwashing, which all men so cordially despise. You give pan and pannikin a rinse and a wipe, jab your knife into the ground and draw it through some fresh leaves, chuck the broiling-stick into the fire, and—*voilà*, the thing is done, thoroughly and neatly done, without rising from your seat!

So with other camp chores, from pitching the miniature tent to packing up for the march: everything is simplified, and time and effort are saved.

From a selfish standpoint, the solitary camper revels in absolute freedom. Any time, anywhere, he can do as he pleases. There is no anxiety as to whether his mates are having a good time, no obligation of deference to their wishes. Selfish? Yes; but, *per contra*, when one is alone he is boring nobody, elbowing nobody, treading on nobody's toes. He is neither chiding nor giving unasked advice. Undeniably he is minding his own business—a virtue to cover multitudes of sins.

If I have spoken rudely it is because a woodsman naturally goes straight to the point and calls a spade a spade. Sentimentalism is his bugbear. He respects healthy sentiment, and has some

tender spots of his own; but the messages breathed to him in forest aisles are heard only when he is alone. A companion, however light-footed he may be, adds fourfold to the risk of disturbing the shy natives of the wild. By yourself you can sit motionless and mutely watchful, but where two are side by side it is neither polite nor endurable to pass an hour without saying a word. Should a dash of poetic temperament be wedded to one's habit of observing, then it is more than ever urgent that he should be undisturbed; for in another's presence

"Imagination flutters feeble wings."

Solitude has its finer side. The saints of old, when seeking to cleanse themselves from taint of worldliness and get closer to the source of prophecy, went singly into the desert and bided there alone. So now our lone adventurer, unsaintly as he may have been among men, experiences an exaltation, finds healing and encouragement in wilderness life.

When twilight falls, and shadows merge in darkness, the single-handed camper muses before the fire that comforts his bivouac and listens to the low, sweet voices of the night, which never are heard in full harmony save by those who sit silent and alone.

Then comes the time of padded feet. Stealthy now, and mute, are the creatures that move in the forest. Our woodsman, knowing the ways of the beasts, regards them not, but dreams before the leaping flames like any Parsee worshipping his fire.

Weird shapes appear in the glowing coals. Elves dance in the halo where night and radiance mingle.

Hark to Titania!

"Out of this wood do not desire to go;
Thou shalt remain here, whether thou wilt
or no.

I am a spirit of no common rate;
The summer still doth tend upon my state;
And I do love thee."

Ah, precious even the ass's nowl, if by that masque one shall enter the fairy realm!

SHANK'S MARE IN HARNESS

By LADD PLUMLEY

The Things To Select When Your Camping Outfit Must Be Carried on Your Own Back

THE foundation of comfortable shank's mare camping is a good sharp ax. Of course, the weight is burdensome on the shoulder, but nothing takes the place of an ax, and the ordinary hatchet is almost useless. If you care to sacrifice utility to convenience, you can provide the ax with a short helve; but it is more than a doubtful sacrifice. The full length helve is very little more weighty than a dwarf helve and is far more satisfactory. Hence it is recommended that the shank's mare camper carry a full-grown ax. And the blade should be keen. If you do not know how to grind an ax, get some expert to grind it for you.

Remember that a sharp ax is a dangerous tool to carry along trails and through brush, so you should have a stout leather shield to cover the blade. The shield can be made from the upper of an old shoe. There should be holes punched or cut in the shield to tie it securely over the ax head; and before you tie the shield in place, you should wrap a strip of muslin around the blade to protect the edge.

The ax will cut wood for fuel to cook your food and fell night wood to keep you warm; but of a stormy night you cannot be comfortable in the woods unless you have a shelter. If you so prefer, you can buy a light shelter tent; but if you wish you can make one out of strong unbleached sheeting that will keep you dry and that will cost very little. For two persons, the home-made tent should be two yards wide and three yards deep. The "fly" is simply another length of sheeting of the same size as the tent, and both should be waterproofed

with the following solution: To ten quarts of water add ten ounces of lime and four ounces of alum. Let the mixture stand until it clears off. Fold the lengths of sheeting and soak over night. Rinse in rain-water and dry in the sun.

For setting up the tent you should carry a small tack hammer and two boxes of medium-sized tacks. When you have decided on the camping place, which should always be near wood and water, the sides of the tent are to be tacked on two stout saplings. The saplings are leaned against a crosspiece, which, in turn, has been placed in the crotches of two small trees.

If there are no suitable trees at hand, two forked stakes about seven feet long can be driven into the ground and the crosspiece placed in these supports. The crosspiece, as well as the saplings that stretch the tent, should be tied securely in place; and, if necessary, the stakes should be braced with stout cords from nearby trees. The fly should have long cords knotted into the corners and should be strung from the stakes or trees and at the rear from pegs driven into the ground. Allow eight or ten inches between the tent and the fly.

When you have made a deep bed of hemlock or balsam tips and have filled in the sides of your shelter with hemlock, balsam, or spruce boughs, you can defy almost any downpour short of a cloud-burst.

The shelter tent that has been described will keep off rain, but it will not keep the camper warm of a cold night—and nights in the woods are generally cold. You should have a fireplace. And the fireplace should be directly in front of the tent and not more than eight feet away.

For the fireplace, drive into the ground two stout sharpened stakes and slope them at a slant away from the tent. Against these stakes pile green logs to the height of about three and one-half feet. The night fire is to be built against the fireplace, and as the logs burn down they will tumble into the fire and continue to throw out heat for many hours. Even of a cold, rainy night the tent will be delightfully warm. You will lie on your fragrant couch, snugly wrapped in your blanket, and with all out-doors just beyond the blazing camp-fire porch.

Never do any cooking on your camp-fire. That is the way of the shiftless. For your cooking, you will have your camp range; and it is well to place the cooking fire at a little distance from the tent. For one thing, porcupines will be frequent visitors to your cooking arrangements, and porcupines are somewhat inconvenient as guests in a tent.

The camp range is nothing but two eight-inch green logs placed side by side and flattened at the top—your ax will come in handy here. Frying-pan, coffee-pot, and tin pail for boiling and stewing rest on the logs; a slight fire of dry wood between them will give an abundance of heat. Many campers use much too large a fire for cooking purposes; a little heat in the right place is the great advantage of the log range. Another advantage is that you do not have to suspend your cooking utensils on wires or chains or hold the handle of a frying-pan in your hands. This does away with cinders in the eyes and a blistered face.

If you know a little about cookery, you should be able to enjoy a delightful outing with the simple appliances that have been suggested, provided that you are ready to make the best of the little discomforts that are always found in all camps. You will have to carry quite a respectable quantity of provisions, if you intend to spend more than a week in the woods. Remember that potatoes are as heavy per pound as bacon and pork and not anything like as nutritious. And that beans are a valuable food and easy to carry. What with fried fish, beans, rice, bacon or pork, and hard

biscuit, a fellow can get along very comfortably. If to this is added a few luxuries, like raisins, chocolate, and dried peaches or apricots, you can live in the woods like a gourmand.

The provisions should be wrapped in stout paper, or, in the case of ground coffee, rice, beans, etc., should be protected in muslin bags of proper size. Get your mother, sister, or wife to sew up a lot of these bags on a sewing machine; they are quickly and easily made. But the bags should be deep enough so that the tops can be securely tied with stout twine. Do not attempt to carry canned goods other than canned milk. A quart can of tomatoes weighs two pounds and is mostly water. You will probably find an abundance of water without lugging it with you.

The Blanket Roll

As to all the things that you must carry on your shoulders and back, there is really only one simple method for the adventurer of shank's mare. That method is one that has nearly always been used by the armies of the world since tramping and fighting began.

On the eve of your proposed trip you should lay out in formidable array all the many things with which you intend to burden yourself. You will have a little extra underclothing; but remember that you are your own washwoman, and, if you prefer, you can cut this to the minimum—the clothing on your body. You should have a hair brush, tooth brush, and comb, with a towel and a large cake of good soap. And, then, there are always little things that each fellow thinks that he must carry to make himself comfortable.

You will have fishing tackle and, probably, tobacco and, surely, plenty of matches. The latter can be stored in a tight tin box or in a wide-mouthed bottle. All these, together with the provisions, will look pretty discouraging. And they would be if you had no means at hand for making them into a secure pack. But you have. You have your blanket and the tent and fly.

To make the pack, a blanket is spread

on the floor or ground, and the tent or fly folded and spread on the blanket. All the many articles to be carried are then arranged in a neat row at the border of one side of the blanket. Two persons are now to take the humble posture of kneeling, side by side. They are to roll the blanket tightly, with its contents, in such a manner as to make a sort of great bologna sausage. The ends of the blanket should be secured with windings of heavy cord, and other tight windings should be made around the roll at intervals of a foot or so. The ends of the roll are to be brought together and securely tied, and in such a manner as will make the pack fit the back and shoulders of the carrier.

In carrying, the roll is to be thrown over the head and should rest diagonally across the body and back, its weight being supported on either the right or the left shoulder. Tin cups, coffee-pot, and frying-pan are tied to the outside of the pack and add much to the picturesque appearance of the trampler.

If the initial portion of the journey begins on a railroad and from a big city, the pack or packs can be placed in a trunk and the trunk left in storage where the real shank's mare trip begins. But frequently another railroad station is the objective point of the expedition. In that case the packs can be tied into the temporary form of a stout bundle and carried in the hand.

Remember that every article that you

carry should be an absolute necessity. Do not burden yourself with a single thing that you can do without. If you limit all things as you can and should, your pack will not weigh much over thirty pounds. For the novice that is about the uttermost that he should attempt.

For those who desire adventure in the open at so modest an expense that any one can indulge, the camping outfit here described will be found all that is necessary. The cost is slight for an outing as novel as it is delightful. There is nothing that has quite the witchery as to know that the open road or trail lies before you, a glorious summer's day is all around, and a cheerful companion is at your side to share the many little adventures before you drop into sleep in some secluded glen, a brook somewhere near chanting its little slumber song.

No spring bed nor hair mattress is nearly so conducive to slumber as a deep couch of the fragrant tips of the balsam. There are no mornings quite as magical as the woodsy ones when a frisky squirrel awakens you with his rattle and you slip from your blanket and step down to the brookside for your early wash-up. And there are no fishing days altogether as enchanting as those when you know that your catch will be cooked by yourself and eaten at dusk with a thrush far up the mountainside ringing his soft evening bell.



"Going Light in England" is what Horace Kephart calls his article in September *OUTING* on some facts he has discovered recently about light weight camping equipment across the water.

THE ROAD TO BETATAKIN

By JOHN OSKISON

ILLUSTRATED WITH PHOTOGRAPHS BY CHAS. A. MACLEAN

II

A DEAD AND FORGOTTEN WORLD

NEXT morning I had a real surprise. I could see, while young Warren, the trader, pointed out our road beyond Red Lake, that Joe didn't like to go on. He was already in country strange to him, notwithstanding the optimistic assurance of "Pop," back in Flagstaff, that Joe had ridden over every square mile of it. Besides, what the boys at the store had said about the recent dancing of the Navahos (we saw the brush shelters of the Indians, just deserted after ten days of celebrating under the shadow of the store) had made an impression on Joe. We strangers to the country had no feeling of fear or any hesitation about going on; but we might have been but-tressing our courage with ignorance. I realized this; yet I felt sure the traders would have warned us if we were likely to run into real danger.

Joe was glum as we pulled away from the store. We had gone only half a mile when one of the single-trees of the buck-board snapped. Cursing the maker of that single-tree, Joe borrowed my horse and loped back to the store for something to mend it with. He returned with a half-rusted length of iron pipe and many bale wires, and we three fitted and lashed the thing for an hour, while the young eagles screamed in the cliffs beside us. It was a good job. Though the iron pipe bent into a graceful arc on some of the hills we struck next day, it did not break.

Once out of sight of the store at Red Lake, Joe admitted frankly that he knew as little about this part of Arizona as we did. The road soon became a faint, casual thing, no plainer than the occa-

sional wagon tracks that led away in directions we knew we must not take. In the middle of the morning, Joe made what proved a wrong turn. At first both Martin and I thought he was right, because of the plainness of the tracks; but after a bit, as the tracks swung farther and farther toward the west, while our general course must be toward the north-east, we began to doubt. Finally I rode straight east, prospecting, and a mile away came to the top of a ridge below which ran the right road, now showing clearly. So back across the sage-covered sand-hills I piloted the buckboard. Again I got out Dr. Fewkes's book.

"Just after leaving Red Lake," I read, "there may be noticed to the left two great pinnacles of rock called Elephant Legs . . . and far to the north the cliffs are fantastically eroded. . . . The road continues from Red Lake to Bekishibito (Cow Spring), where the water issues from under a low cliff, spreading in the wet season over the adjacent plain and forming a shallow lake several miles long."

"Sure, we passed them Elephant Legs all right!" said Joe. For the first time he seemed to lean with confidence upon that book. But what about the statement that from Red Lake to Bekishibito it is twenty miles? We came upon the lake spreading out toward the plain from the mouth of a wide cañon about eleven o'clock, and I felt sure that we had not traveled more than twelve miles.

But here was Bekishibito, undoubtedly—a shallow, green-bordered lake, narrow as a river, clear as crystal, strung for three miles or more along the bottom of the cañon. On its surface rested great

flocks of ducks, and in the rank rushes and canes at the water's edge shore-birds swayed and hopped.

Beyond the springs which are the source of the lake the cañon bottom spreads to a broad, close-cropped carpet of brilliant green grass. Into the midst of this we turned our horses while we made a leisurely nooning. We ate and lolled and smoked, all unaware that already we had chosen a wrong road and had put ourselves in the way of infinite trouble on the morrow.

You see, we were leaning on the printed word—a word become all too vague. I can't find it in my heart now to repeat the things we said about Dr. Fewkes next day; but if he had only told us that just beyond the lake you turn to the right and climb out of the cañon, we should probably have gone clear through believing in him as a safe guide. But what could one make out of this for direction:

"After leaving Bekishibito, the road to Marsh Pass, although on the whole not bad, becomes more and more obscure." Here is a cool assumption that you know the road, and are interested only in hearing whether or not it is in good shape. Then the doctor suggests camping at night at the butte called by the Navahos Saunee "thirty to forty miles distant from Cow Spring," and he adds: "The distance from Red Lake to this camp is a good day's journey with a heavily laden buckboard, noon camp being made at Bekishibito."

I wonder if the doctor ever stopped to check the distances he put down? Remember he said it is twenty miles from Red Lake to Bekishibito, and thirty to forty miles from Bekishibito to Saunee. Doesn't that make a total of from fifty to sixty miles? And he called it one day's journey with a heavily loaded buckboard! Every horseman knows that over any kind of road forty miles is a long and hard day's travel for beasts not already fagged.

This to try to shift the blame for continuing up that cañon all afternoon, dodging around curious Navaho fences which ran from one wall of the cañon almost to the other, studying its towering yellow sides with the close interest

of explorers (as I'm convinced we were!) and surprising the children who tended the flocks of sheep and goats that came over the cañon rim at intervals.

We had vague feelings of uneasiness about that road up the yellow cañon, but it is to Martin's credit that he discovered we were persistently bearing west along the cañon's course. That discovery was borne in upon us late in the afternoon, when we had covered more than twenty miles and got between walls which crept closer together and towered above us like huge yellow battlements. Then it seemed better to go on, looking for a pass to the mesa above. Presently it was time to make camp.

That night camp is something to remember with pleasure. We found good grazing for the horses where two side cañons came into the main cañon, and we stopped there. Half a mile beyond, where the main cañon was lost among the rocks of a shelving slide which led up at last to the cedars, Martin and I came upon a pool of water cupped in the solid rock. Close by lay a spotted cow; and I have not ceased to wonder where that cow got her next drink. For our four horses emptied that pool, and when we drove past it next morning it was still unreplenished.

Watering the horses and hobbling them carefully (for we remembered what "Pop" had said about the habit of some of the enterprising Navahos) occupied us until dark; we ate supper by fire light which was reflected from a frowning cliff at our back, and then explored the cañon for a time on foot. It was a fairy-like place in the transforming moonlight; as its wonderful color was lost in the obscuring night, it took on still more wonderful shapes and shadows. It loomed above us massive and portentous; it lured and frightened us. We were ants scurrying up this crevice which has seen the scurrying of countless generations of wild human ants.

The cliff-dwellers, living far back in a past which has been lost in the mists, knew this cañon; down through the centuries the trail beaters who passed from its green floor to the cedar and sage covered uplands, back and forth as the seasons and the flocks called, had passed

this way. Here and there, on the rocks of the cañon wall, they had left pictograph records; sheltered from the assaults of weather, the records have remained. The oldest are drawn at the height of a man's shoulder as he stands on the ground; but the later ones were evidently scratched into the rock by mounted artists.

We went to sleep in a broad apron of shadow flung out from the cliff at our back; about midnight I was awakened by singing up toward the water hole; presently there came the sound of drumming hoofs on the trail, and as Martin and I sat up a small party of Navahos (two or three men, and about as many women and children) rode up to the all but cold camp-fire. We crawled out of our beds to welcome them sleepily, Joe bringing his meager stock of Navaho words to attempt a conversation. A box of crackers and a can of peaches we found to be an excellent addition to this extremely limited talk. Our questions as to locality, unluckily, were beyond them. They rode away at last with friendly good-byes and expressive waves of their hands. Our sleeping place was now in full moonlight.

"This country has no habits!" complained Martin as he went yawningly back to his blankets; and I remembered what a friend of Jim Bridger, the famous pioneer hunter and scout, once said of old Jim's irregular way of living. Often, said this man, old Jim would go to bed in the middle of the afternoon, sleep till nine or ten o'clock, then get up and go about any business he had in hand. If he had nothing else to do, Jim would eat and then turn a tin dishpan upside down to drum on it after the Indian fashion for hours on end. He learned this way of living from the Indians, who had no regular times for eating and sleeping.

We should have slept at Marsh Pass next night—the bulletin was clear on that point. When we broke camp and plodded out of that cañon, past the spotted cow who lay with one foreleg extended and a sort of resigned look on her face as she confronted the dry water hole in the rock, we were still happily unconscious of the fact that we had

swung more than a dozen miles out of our course toward the west. We thought three or four miles ride would surely put us right. The Navaho wagon tracks still showed plain, and as we came upon the high, cedar-dotted mesa, we began to explore the nearby hill-tops, for the bulletin said:

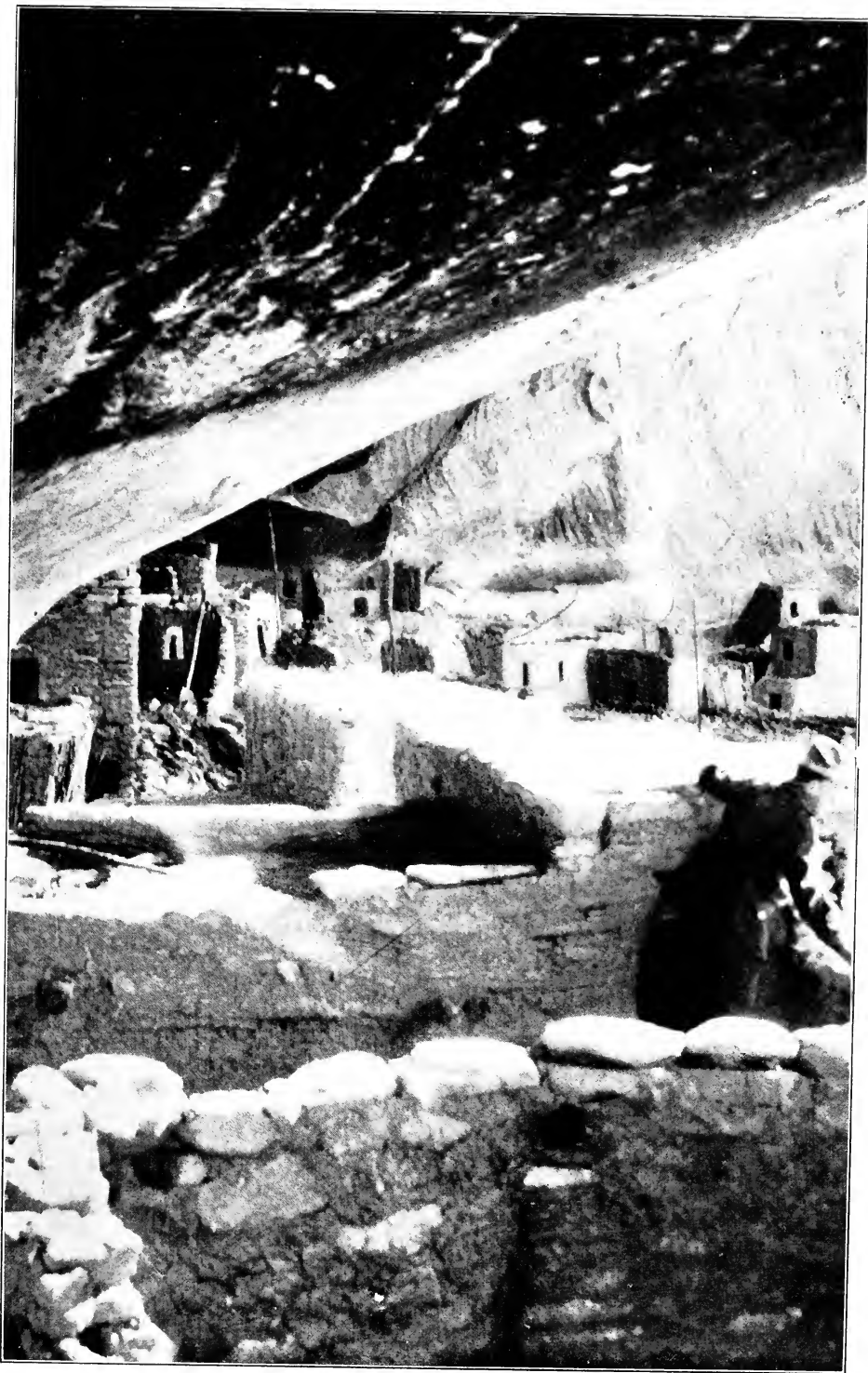
"The traveler now enters the region of ruins, and passes several mounds indicating former habitations, some of which still have standing walls." Looking about the wide plain, we tried to guess which of the picturesquely bold buttes rising out of the mesa was Saunee.

But all this while the tracks still trended westward—until finally we faced the fact that we were lost! It isn't a pleasant thing to realize, let me tell you! When a grown man sets out to follow what he supposes is a well-marked, ancient road to a definite point, and suddenly finds himself miles off his course, following vague wagon tracks across an absolutely uninhabited sage-covered mesa, he is apt to grow very humble and a bit panicky.

"We can always follow our own tracks back anyway," I ventured, but Martin only looked pityingly at me. So we rode on, Joe relying implicitly upon the directions I might be able to dig out of the book.

Probably we ought to have been scared stiff. But on that glorious day, with high-flying clouds and a breeze across the sand hills that was like a caress, we couldn't keep on being gloomy just because we were lost! On we rode, and in the middle of the morning two mounted Indians came racing toward us from the cedars at the right; but they could not understand anything of our questioning. They comprehended not our desperate attempts to diagram our plight, shook their heads sympathetically as we named Marsh Pass Ka-en-ta, and "Pelican John" (Joe having assured us that "Pelican" is the Navaho word for white man, and knowing from a footnote in Dr. Fewkes's book that John Wetherill is a trader at the place called Ka-en-ta, which is on the Marsh Pass road).

Then, on foot, came the most splendid Navaho that ever lived! He had evi-



TAKEN FROM THE BACK WALL OF THE GREAT OVERHANGING CLIFF AGAINST WHICH THE ANCIENT PEOPLE BUILT THEIR DWELLINGS

dently gone out on the mesa to turn his horse into good pasturage, for he carried a bridle, a rope, and a blanket. The blanket he had wrapped about himself in a fine effect of drapery, but as we began to bombard him with questions and gestures, he spread the blanket over a thick clump of sage-brush and sank back upon it, as into his private easy chair. It made a springy, thoroughly comfortable seat. He shoved back the wide sombrero from his forehead to look at us out of splendid liquid eyes.

About fifty, he was six feet or more, with wide shoulders, the legs of an athlete, the grace of a cat. His hands were long and tapering; wide silver bracelets adorned his slender wrists, beaten silver rings were on his fingers, and about his neck was a heavy silver chain of hollowed balls, at the end of which hung one of those beautiful triple crescents, set with turquoise, like the one we had seen suspended from the neck of the Navaho freighter on the way from Flagstaff.

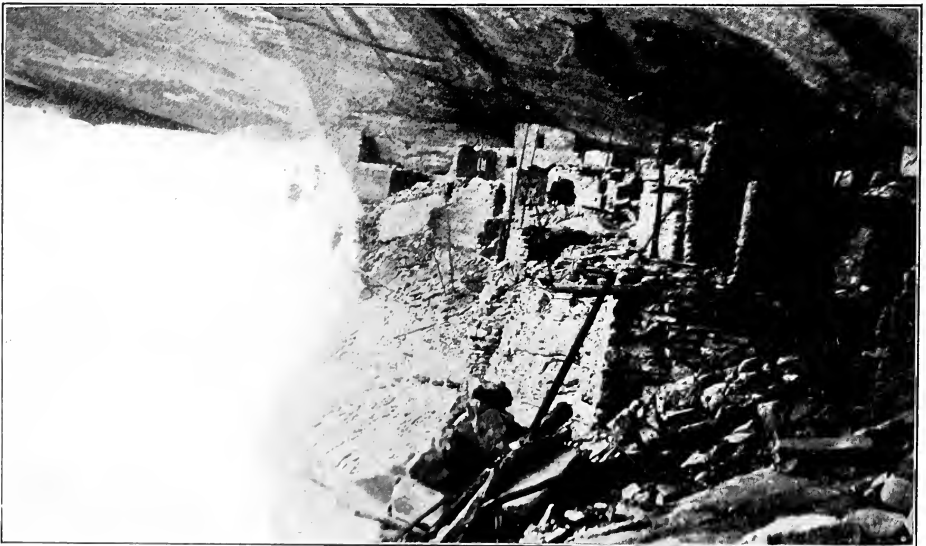
Abandoning any hope of getting from this king of the mesa the help we needed, Joe began to bargain with him for the bracelets, the rings, and the necklace. An offer of five dollars for the necklace (the offer being made by fingering the necklace and then throwing five outspread fingers near the Indian's

eyes, at the same time hissing "pesos") brought only a vague, pitying smile to the owner's face. Joe turned to us and said:

"If either of you fellows want that necklace, I think I can get it for fifteen dollars."

"Go to it!" said Martin. "I'll stay in the bidding up to twenty-five dollars." So Joe squatted in front of the resting king of the mesa to bargain in earnest. In half an hour, negotiations stopped—at twenty dollars. Joe was offering seventeen and a half (flinging up his two hands with fingers outspread, then one hand, then two fingers, then crossing one forefinger with the other to show that the last dollar was to be cut in half). Persistently the Navaho flung back both hands twice opened—twenty dollars.

"Oh, give him the twenty!" cried Martin at last; then all of us had to take a hand in explaining that two ten-dollar bills are actually worth as much as twenty silver dollars. I think it showed a wonderful faith on the part of the Navaho that he consented to believe at last that he had really got the amount named, for he was evidently ignorant of paper money. Most of the Navahos are. After that, Joe bought on his own account the widest bracelet (which was not really a bracelet, but a



A SUNSHINE-AND-SHADOW EFFECT ON THE CLIFF-RUINS OF BETATAKIN

curved, beaten, and sweepingly engraved plaque fastened to a broad leather band laced about the wrist). At the end of an hour, we shook hands with the Navaho and plodded on in the wagon track we had been following.

Farther and farther west that wagon track was taking us; at eleven o'clock we came to another track crossing it at right angles, and decided to follow this toward the north-east. It was noon when we came at last to the end of the road. Under a brush shelter, close beside the hogan of a Navaho family, stood the broad-tired wagon whose track we had followed since turning to the right! Beyond stretched a limitless expanse of trackless sage-grown desert.

"I never really understood before," said Martin gloomily, "that roads must end somewhere!"

It was a cheerful-looking Indian home we had come upon, set on a slope among cedars and piñon trees, with a sheep corral built of logs, a summer hogan (if you don't know what a hogan is, I may say here that it is the Navaho's house, a tepee-shaped structure which may be of poles piled round with leafy boughs in summer, or a solid, earth-covered or stone-built winter habitation) before which a blanket weaving frame had been set up. Some demonstrative dogs, three women, and two small girls came out to stare at us. They would make no reply to our questions until we asked, by means of an extempore sign language, where we could find water. Then they pointed to the top of a nearby sand hill.

"Maybe so," said Martin. "I'm willing to believe anything now!" He rode away in the direction the woman had pointed. In five minutes he was back.

"That's right," he said. "The water



THE POLES RISE FROM THE RUIN OF A "KIVA," THE CEREMONIAL CHAMBER OF THE ANCIENT PEOPLE

grows on the hilltops out here." We pulled up a long slope and camped close to a deep pool of muddy water cupped in what looked like a tiny crater in the very top of a big sand hill.

To us, as we ate, came the Navaho poet. So we learned to call him later. He was a thin-flanked, long-haired man of sixty, riding a satin-smooth black pony; and he looked at the sky as he rode. He squatted beside us, eating what we urged upon him, all the time answering our queries in his own tongue with the slow, careful pronunciation of

a school teacher. He seemed to feel sure that we must understand him in time; in fact, we did.

He talked with eyes, fingers, arms, body. Certain words he repeated over and over, until we thought we knew what they meant. Then he traced in the sand a rude map. He showed us the way we had come, and pointed out to us the way we should have to go to reach the Marsh Pass road. Every turn he described in the sand, and when it came to the ups and downs his extended hand made swoops and dips, like the flight of the cars on a roller coaster.

We made him understand that we wanted him to guide us across to the road. He was willing—for a consideration. We proposed one dollar, and he stuck us for two—paid in advance!

"Didn't I say these people were Orientals!" queried Martin, as I dug up the two silver dollars and gave them to the poet.

But we really didn't begrudge the two dollars—the job might turn out to be worth even more, though the old man told us that if we started right away we might get across country in time to sleep beside the Marsh Pass road. So we hitched the team and started.

Martin and I rode beside the old man—until we looked back to discover that Joe was making very slow progress across the sand and sage-brush plain. Had our buckboard been fitted with wings, Joe might have kept up, but certainly no horses bred among the whites could drag that load faster than a walk—and the old Navaho was riding his black pony at a fox-trot. We had to curb his enthusiasm for swift movement, though we could see he feared delay meant camping somewhere short of the Marsh Pass road.

That afternoon sticks in my memory as a dizzy nightmare. Blithely, with gaze straight ahead, singing sometimes, the old man led us up to the rims of cañons which fell away to dizzying depths, pointing out corkscrew trails down which we were expected to pilot Joe and the buckboard. And the hills we were forced to climb! I had the wit, at the second, to hitch a lariat to the end of the buckboard tongue, and, wind-

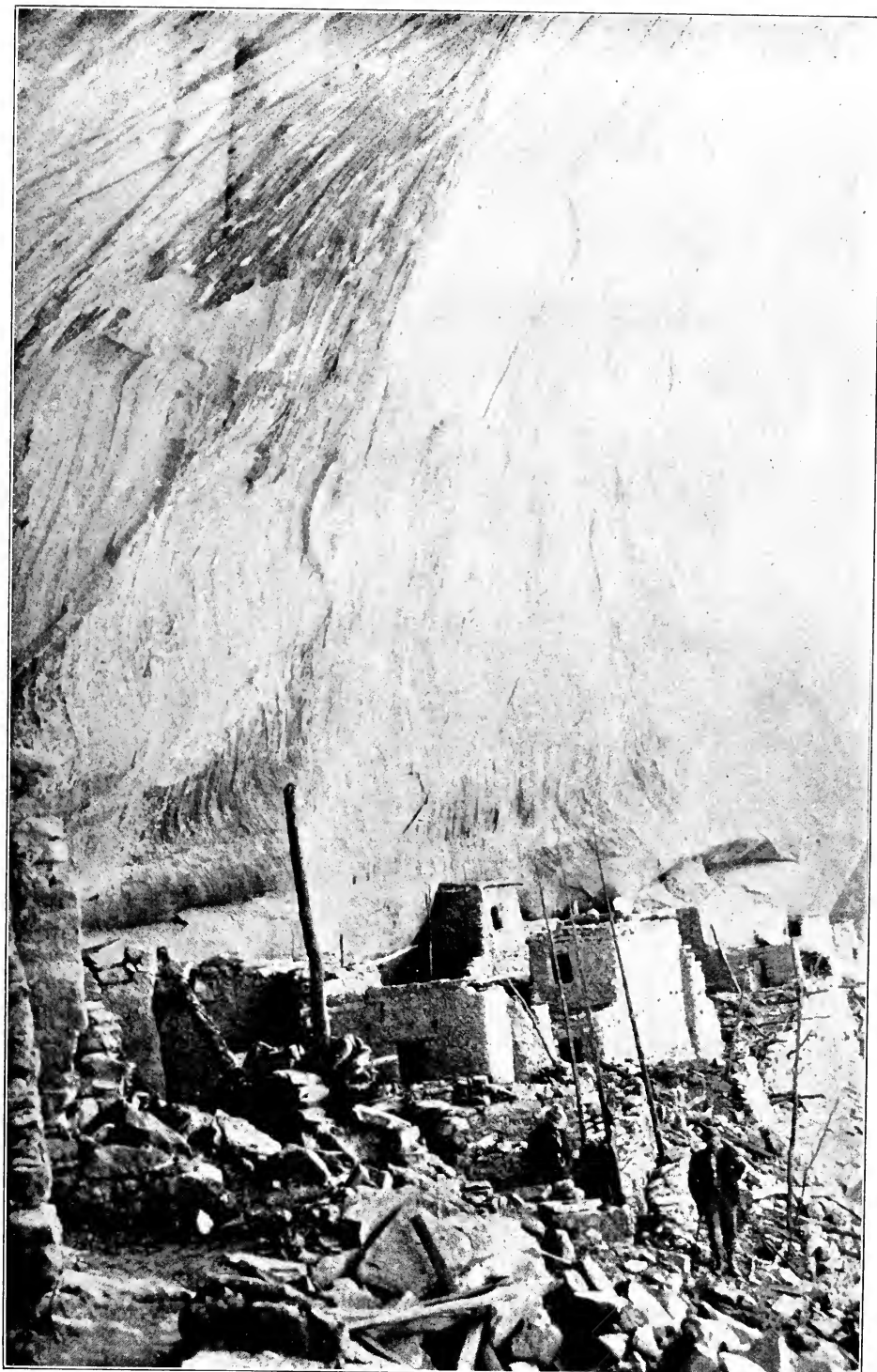
ing the other end about my saddle horn, help Joe's willing but weary team. After that, I kept the rope attached to the tongue, helping out on all upgrades. Martin stayed with the Navaho, trying to bring that old poet's mind out of the clouds to a realization that patience was a needed virtue.

At one hill we balked. We didn't doubt that the Navaho teamsters could get across that slope of tilted bare rock, at the lower edge of which yawned the depths of a cañon, but we would have retraced our whole journey rather than risk it. Very well, shrugged the old Navaho, and he led us the roundabout way down over a tongue of drifted sand into a yellow-walled cañon much grander than the one we had followed for twenty miles the afternoon before.

Truly this cañon deserves a place among the scenic delights of the West. When we came down into it, its broad, level floor offered an unbroken carpet of grass, like the delicious verdure of a well-kept putting green. A clear stream of sweet water wandered irresponsibly over the grass. To the west rose sheer a 500-foot wall of soft yellow rock; the eastern wall rose to as great a height, but its surface was more broken and tree-studded.

It was up a boulder-strewn goat trail hacked out of the face of the eastern wall that the old Navaho wanted us to climb. He showed us that wagons had passed up and down, but how they ever did it is more than I can understand. Still, I recall stories told by the California emigrants of tying ropes to their wagons and letting them down certain trails of the Sierras by shifting the ropes from tree to tree. But we were expected to climb *up* that darn trail! I rode part way up with the Indian, came to a twelve-foot slide of bare rock, pitched at an angle of about 50 degrees, and when I realized that Joe's team was expected to climb that I shook my head. We wanted to get to Marsh Pass and see the cliff ruins Dr. Fewkes describes in his book. We didn't want to end our lives taking such risks as Lloyds would charge 85 per cent premium for taking.

"That trail would be a total loss!" I reported to Martin. Again the old



WHERE THE CLIFF-FACE CURVES GIGANTIC ABOVE THE RUINS



THE HOPI VILLAGE OF MOENKAPI, NEAR TUBA CITY

Navaho shrugged and led us along the bottom of the cañon toward a road which he made us comprehend would be easier.

But the afternoon had gone. When we came to a slight mound out of which a clear spring of water was issuing, the old man halted us and, laying his head in his hand and closing his eyes, indicated that we were to camp there. Dismounting, he then began to trace in the sand our course from that point on to the Marsh Pass road. We watched his graphic pantomime; suddenly it dawned upon us that he meant to quit us. Long we protested, steadfastly he repeated in Navaho incomprehensible reasons and explanations.

In the midst of his talk occurred, over and over, a vigorous pantomime—hands going like the hands of a busy snaredrum player, himself calling out “boom! boom! boom!” It wasn’t until next day, when we met various parties of Navahos riding to a dance somewhere in the hills we had come across that we got it through our heads that the old man had wanted to go back home and prepare for that dance himself.

Before he rode away, through a narrow crack in the sheer cañon wall, I made him take me some way forward on the road and show me where we must climb out of the cañon over another long

tongue of drifted sand. We slept beside the spring, and next morning found a thin coating of ice on the shallow pool where we had stood shivering in the moonlight after bathing our tired bodies; not all the worry and strain promised for the morrow had abated our appetites nor troubled our sleep. By now, we were fit for any amount of riding—up to the limit of our horses’ strength.

From sunrise to noon next day we needed every bit of courage and resourcefulness we had in stock. After we came out of the cañon and passed through a fence built of huge logs, there was no more trail! Eastward rolled a long slope covered with cedars and piñons, gashed horribly with cañons, not so great as the one we had come out of, but formidable enough. All we could remember of the poet’s directions were certain flutterings of his hand as he traced the turns or charted the ups and downs. By this time, Joe had subsided into a grim mute. I felt as though I ought to apologize to him for leading him into this wilderness. I felt as though it was up to me to justify my faith in Dr. Fewkes’s book.

When you get into the mountains of the Western Navaho country, it is well to raise your mental sights. Think of the horse pasture and the wood-lot of the home farm multiplied about a hun-



THE FILE OF TALL POPLARS WHICH MARK THE SITE OF TUBA CITY

dred times, but still retaining the familiar trails and contours. Once you get used to the change of scale, you can get across the mountains and cañons—only remember that for every one-minute detour you have to make in driving through the wood-lot and around the head of the little ravine which is dammed into a pond down in the horse pasture, you will have to spend half a day heading around a cañon out there. The ditch across the horse pasture seemed big to your childish fancy when it dropped suddenly at one spot to a depth of five feet; well, our yellow cañon was that ditch enlarged a hundred times.

In the middle of the morning, as I rode back to the buckboard from a four-mile scramble of exploration, I sighted eight Navahos—five men and three women—climbing up the slope. I went to talk with them; very graciously, when they understood me (and by now I felt that I could in some degree make a carved Buddha get my meaning!) two of the men rode back to the buckboard with me, pointing out as they rode the exact course our team must follow to get through.

I was tempted to bribe them to conduct us clear out to the road, but I'm glad that I didn't! For there came to me a bit later a feeling of exhilaration—

I was doing for that day some of the same sort of pioneering my father had done when he fronted the West, along the California emigrant trail, in '51! To me was permitted the thrill which came with the feeling that I could rely upon myself. As a guide, Joe had turned out a hopeless failure; he had even counseled turning back the day before. At half past twelve, when I saw the Marsh Pass road ahead of us with no more cañons and gaping arroyos to cross before getting to it, I felt that I had passed a test with credit. Each of us, to celebrate, munched the biggest and reddest apple we could dig out of the bag, and at a quarter after one we camped for lunch beside the road at a spot where there was coarse grass for our horses.

We reached Marsh Pass before sunset—one day behind our schedule.

"But, by George, I wouldn't have missed that scramble across the cañons for anything!" said Martin, rather unexpectedly.

"I was afraid," I said, "that I was getting in bad with both you and Joe; I was only glad that you didn't stand me up somewhere and tell me what you thought of me."

"I'll confess," Martin went on, "that at times Chicago seemed mighty remote to me—and mighty desirable! But not



THIS IS CALLED BY DR. FEWKES "RUIN A"; IT IS THE FIRST THE VISITOR TO THE CLIFF-DWELLINGS SEES. IT IS NOT A CLIFF-DWELLING

for long. A fellow needs this sort of thing once in a while."

That evening, as we sat beside our great blaze made from huge chunks of dead cedar trees, Joe expanded. A load had been lifted from his shoulders, too, when we struck the road, for, of course, his responsibility for the horses and the buckboard was real, however saggingly he leaned on me and the bulletin of Dr. Fewkes. Until nearly ten o'clock, Joe told us stories about his home country down on the Gila River; about his brief and unsatisfying experience in Kansas

City learning the butcher's trade; about the long round-ups when a hundred cowboys covered a range as big as half New England branding calves, cutting beef stock out and driving them for a week on end to a shipping point; about the cactus forests, the palo verdes, the hot sands of Southern Arizona in summer, the Gila monster that is not feared at all on the Gila; and, best of all, about the men he had worked with. Two of these, I now recall, were ancients of a type that has all but passed out of American life—"Windy Bob" and "Rickety Bob," one past seventy and still a good cow hand, and the other "eighty if he's a day" and still following the round-ups as a sort of assistant camp hustler.

"I remember," said Joe, baring his white teeth in a reminiscent grin which seemed to threaten the wind-and-sun burned skin of his face with a permanent break-up, "a joke that ol' 'Windy' got off once when we was out on a round-up an' we'd camped near Florence. Some friends of the boss come out in two wagons to see what a round-up outfit looked like an' hear how the boys talked.

"Well, ol' 'Windy,' he had the time of his life stringin' them folks along. He told 'em we had a stampede about every other night, but they mustn't get scared, 'cause the boys knowed how to handle wild cattle all right. That was about the last thing 'Windy' told 'em before they went to bed.

"I reckon 'Windy' was so old he didn't need much sleep—that's what he used to say anyway when he'd want to go on talkin' all night to the boys on the round-up. We'd generally have to threaten to lick the stuffin' out o' 'Windy' before he'd keep quiet.

"So that night 'Windy' stayed awake until 'long about midnight, an' then he got up and went to the wagon where some chain harness was hung over the wheels. He got a couple of sets of that harness on his back an' come a-runnin' down the slope an' through the camp; an' as he run, he kept yellin' at the top of his lungs.

"Lord, you ought to seen them strangers flockin' out o' their beds! They climbed into them wagons in all sorts of nightshirts, and the women screeched till you'd a thought a hundred mice was let loose at each one! As fer o' 'Windy,' he sneaked the harness back to the wagon wheels, and them visitors never did know what struck camp."

All this, and many more primitive and satisfying tales, Joe told in a gentle drawl. At each memory, he laughed as heartily as we; and when we piled into our blankets Martin and I shouted a good-night across the fire to Joe—something we had not cared to risk before.

In our camps, Martin and I used to study the map of the region in which the cliff ruins lie—the map which is pasted into Dr. Fewkes's bulletin. We had read Dr. Fewkes's descriptions of "The Swallow's Nest," of "Betatakin," of "Kitsiel," of "Cradle House," of "Ladder House," of "Pine-tree House," and of "Trickling Spring House"—all places where the cliff-dwellers had once made their homes in the main cañon and the side cañons through which Laguna creek and its feeders flow. Our camp at Marsh Pass was the proper place to start on our explorations of these wonderful ruins; the same rock profile faced us as that in the picture in the book, and, though Dr. Fewkes evidently never thought of visitors trying to

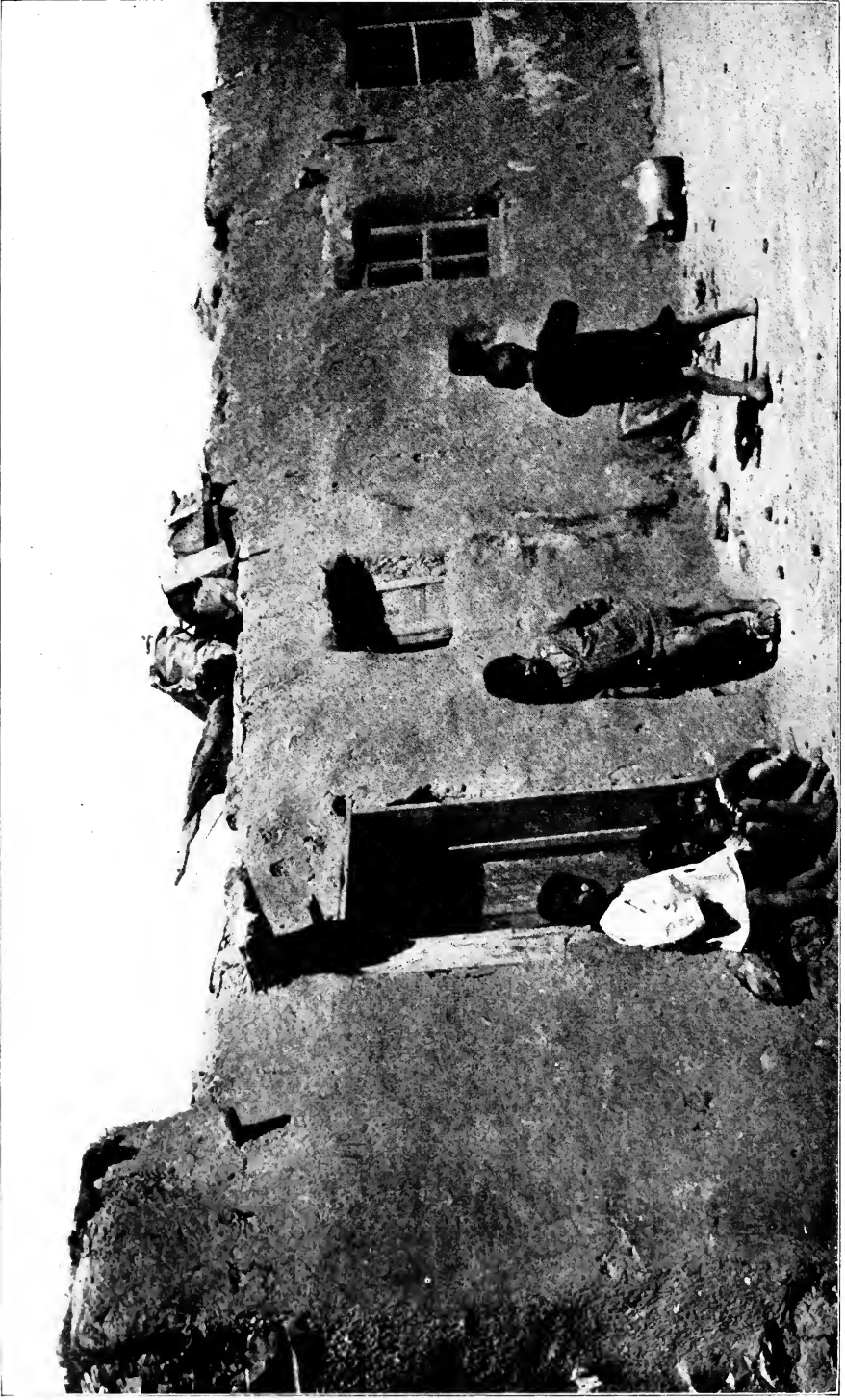
find them without a guide, we saw no reason why we should wait until one of us could get on to the store of John Wetherill at Ka-en-ta and bring back a man to lead us in.

We thought Dr. Fewkes's map and his record of distances from the camping place at Marsh Pass ought to be sufficient to guide us at least to Betatakin—the nearest of the big ruins, and the most interesting. We conned the doctor's words once more at breakfast:

"The doctor camped right here," I explained to Martin as I opened the book at page 12, "and he says: 'Descending



ONE OF THE SIDE CAÑONS OF THE LAGUNA CREEK CAÑON



YOUNG CITIZENS OF THE HOPI VILLAGE OF MOENKAPI

to Laguna creek and following the bottom of the cañon, crossing and recrossing the stream several times, the first cliff-dwelling is seen built in a niche in the cliffs high up on the right. . . . Following the cañon about five miles from Marsh Pass, the writer's party came to a fork in the cañon, where a guide was found who led the way across the stream into a small side cañon, in the end of which lies Betatakin.'

"Then, here's a footnote," I explained carefully, "which says: 'Laguna creek is entered at this point on the right by a stream bifurcating into the Cataract and East tributaries, which flow through cañons of the same names.' Now, that point where this bifurcating stream enters Laguna creek ought to be opposite where the small side cañon leading down from Betatakin comes in. Do you follow the doctor?"

"No," Martin confessed, "but if you think you've got it all figured out, lead on."

Since it was but five miles (according to Dr. Fewkes) to the point on Laguna creek where the small side cañon branched out, and only an unnamed short distance from that point up to the ruin, Martin and I decided to give our saddle horses a day of rest, making the exploration on foot. Surely, the horses needed the rest, for we should have only one day there instead of the expected two. We waded Laguna creek at a point just below our camp at half past nine next morning.

At the most, we thought, the walk would not be more than fourteen miles, along a beaten trail, so we took nothing to eat with us. Our only luggage was Dr. Fewkes's bulletin, with that simple map at the end and that passage of directions for getting to Betatakin.

Oh, trustful man! And oh, deceiving scientist!

Joe wasn't interested in cliff-dweller ruins—he'd "growed up on the Gila; an' down there a feller can go out anywhere in the hills an' kick pieces of ancient pottery out o' the sand." He said he'd spend the day driving on to John Wetherill's store; as we plunged down the steep hill to Laguna creek, we saw him going up among the cedars toward the

sound of the bell which Maude, the gray driving horse, wore.

"If we stick close to the creek, we shan't get lost," I suggested. For a short time, we tried walking along the bottom of the arroyo through which the shallow, discolored stream hurried; but the second stretch of quicksand we struck sent us scrambling to the top, and we were soon lost in a net of cattle trails through the greasewood that led in and out among arroyos in a dizzying dance. We emerged in time from the wide flat and the greasewood forest; during that walk we had passed a number of short cañons which led into the main cañon on the left. None of them is marked on the map; and I began to feel just the slightest uneasiness.

Two hours had passed when I led Martin over to the base of the right-hand wall of Laguna creek cañon, where we at last struck a good trail. We searched the towering heights with our eyes to make out "Swallow's Nest," the first ruin on the way up. Granting that Dr. Fewkes was right in his estimate of the distance to the mouth of the cañon at the end of which lies Betatakin, "Swallow's Nest" could be not more than three miles from camp, so when we came opposite it after nearly three hours of tramping we decided that our detour among the twistings of the creek bed and across the greasewood flat had taken us farther out of our way than we had supposed.

We stopped for five minutes where the view of "Swallow's Nest" was good from below. About us stretched a field of yellow flowers like great, long-stemmed daisies, while a faint breath of fragrant air swept over us. At the top of the cliffs, the soft rock was eroded to form the most wonderfully fantastic shapes—prehistoric beasts and beasts of the menagerie were set up there. We traced out twin elephants crowded close together, a plunging alligator, the giant profile of a hippopotamus, its head turned as if to avoid a blow from a hideous brobdignagian monkey.

"Get the right slant of moonlight on that bunch," said Martin, "and you'd have a nightmare made to order!"

Almost under those grotesques, half



BATHING HOUR FOR SOME YOUNG HOPI CHILDREN

way down the cliff, is the "Swallow's Nest." We could make out the half-ruined walls springing straight from a slope of talus a little way toward the arch of stone framing the shallow cave which some ancient people had chosen as a desirable home. Pick the crumbling ruins of a stone farmhouse out of the briars of a New England pasture and set them five hundred feet up the side of an almost sheer cliff, in which some fabled monster swallow (say one fifty times bigger than the roc) had pecked out a shelter, and you will get an illuminating idea of this "minor ruin."

We gazed up at the ruin in a new silence. Certainly it was impressive; and neither Martin nor I had command of words which seemed worth uttering. They who chose to live up in the face of the cliffs long ago passed into an oblivion from which history cannot rescue them, but here, in the wonderful silence and sweep of the great cañons, they have their monuments. You stand gazing, sweat on your whiskered face and yellow pollen from the daisy-like flowers

powdered over your gray woolen shirt, dried mud on your tramping boots, a slender lizard draped across the edge of a rock close by, wondering what your next move will be—and your soul lifts in a sudden, tormenting desire to understand the meaning of the procession of life. I'd always believed that nature obliterates the traces of man's intrusions soon after he has ceased to struggle to set his mark on her. It is a favorite saying of those philosophical fictionists who design to stop a moment in their tale-weaving and tell us how puny a thing we are. But they mustn't come to Laguna creek cañon if they want to hold to that view!

Here nature seems to have cried hands off! to all the elements for an indefinite space. Storms pass by and do not sweep into those cunningly chosen rock-shelters;

no rain falls upon the crude masonry of the 'dobe-and-willow walls; only now and then, I suppose, some prowling wild animal topples over a fragment of slowly disintegrating wall. Nothing grows up there to conceal and rot what the cliff-dwellers left.

As we tramped on, the sun came down upon us with a fiercer heat. Between the precipitous, Quaker-gray earth sides of the arroyo and the splendidly towering cliff at our right was only a difficult, narrow trail, except that now and then the trail fell away into a narrow valley marking the entrance to the main cañon of another side cañon. In these valleys, and in the broad expanse of the Laguna creek valley across the way, sprang the patches of yellow flowers and rarer patches of sturdy purple-topped weeds and the spiky prickly pear. Tiny clumps of live oaks dotted the valleys, too, and back in the dark recesses of the short, plunging side cañons we saw the straight stems of tall pines.

It seems to me, as I turn my mind back upon the scene, that side cañons

come into the Laguna creek cañon from either side every quarter mile—they are like the radiating cracks you see in a pane of glass which has been struck, but not quite broken through, by a stone; and not one of them is indicated on the map in the book except the bifurcating cañon on the right and the cañon which leads to Betatakin on the left!

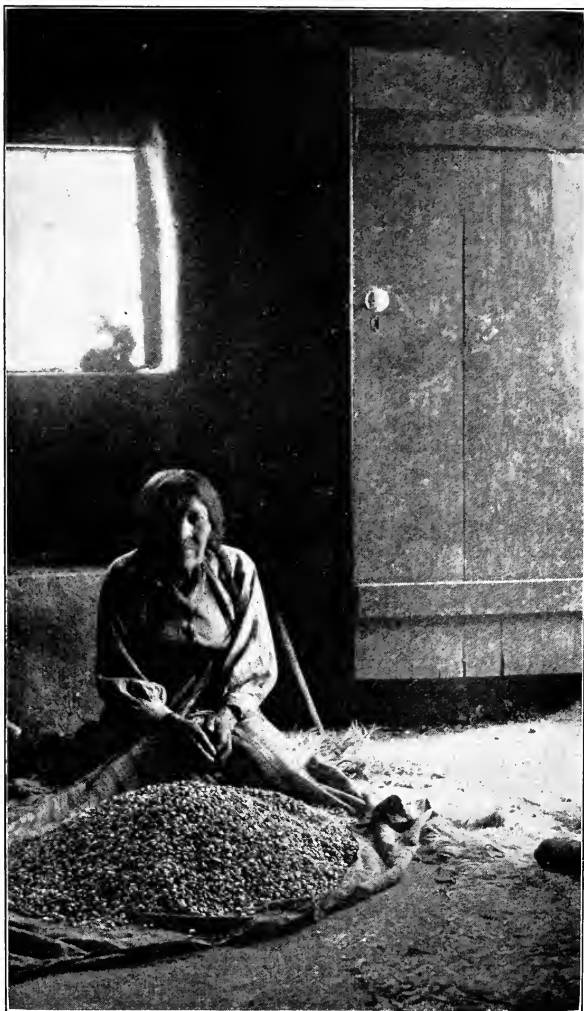
So we walked on and on, wondering which of the many little cañons at the left held the object of our search. Dr. Fewkes says in his book that a stream of clear water issues from directly under the ruined walls of Betatakin. Therefore, we searched the south bank of Laguna creek for signs of clear water coming down from a side cañon.

We missed it, and went on steadily climbing upward. It was after two o'clock before we made up our minds to turn back. By this time we were hot, intolerably thirsty, and hungry. Laguna creek water was too heavily laden with silt to drink, though we scrambled desperately down to the stream two or three times determined to swallow some of it. That was the second time in our journey when we framed words uncomplimentary to Dr. Fewkes (I am putting it mildly).

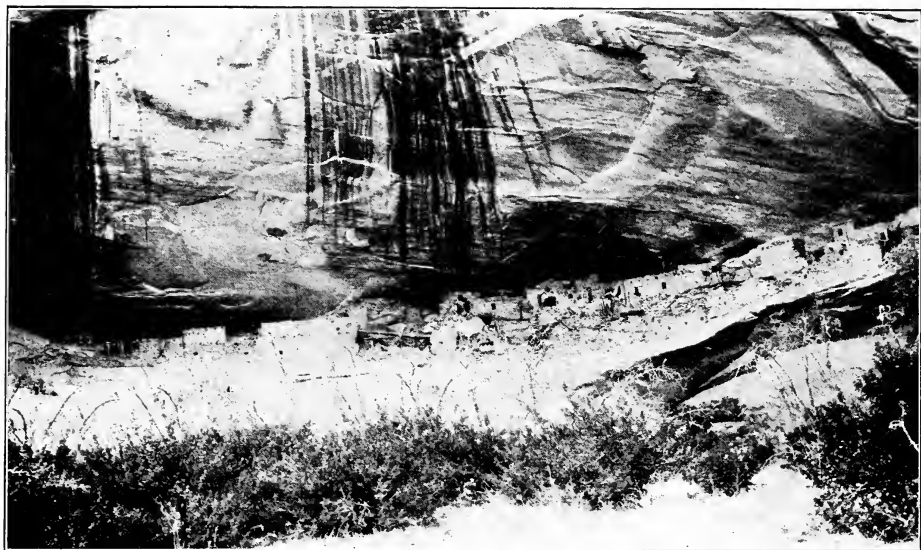
In three-quarters of an hour of fast downhill walking, we came to a point on Laguna creek just below where the bifurcating stream entered, and we studied the windrows of cañons opposite with minute care. Finally we picked out one which appeared to join Laguna creek at the spot marked on the map, then crossed the stream gingerly, fearing more quicksands, to examine the sand of the branch cañon bottom for traces of the clear water which should flow from under the walls of Betatakin.

Sure enough, we found it—the faintest possible trickle of clear, warm water. Warm or not, we drank deeply, then went plunging along the sunny side of the arroyo through which it flowed across the Laguna creek valley until we were literally forced to walk in the bed of the tiny stream.

Down there, after the narrow cañon began to mount out of the Laguna creek valley, it was cool and fragrant with vegetation. Pools which grew larger in size and cooler to the taste as we went on tempted us to drink again and again. We felt we could never more pass by



SHE IS CALLED "QUEEN MAWA" BY THE PEOPLE OF THE HOPI VILLAGE OF MOENKAPI



A VIEW OF "KITSIEL," ONE OF THE GREATEST RUINS AT MARSH PASS

fresh water untasted. Sudden waterfalls, over which now only the tiniest pencilpoint cataracts fell, offered themselves at intervals, and we had to scramble around them through tangles of bushes and grasses and vines almost tropical in luxuriance. As we mounted higher, the trees grew to respectable heights.

At one point, this short cañon itself bifurcated—and here the map was actually helpful, for it plainly told us to keep to the right. I triumphantly pointed this fact out to Martin, and he said:

"Let's forgive the doctor everything—isn't this enchanting!" He waved his hand about to indicate the hidden mountain garden we had come into, walled by stupendous cliffs, higher than any we had passed as we traversed Laguna creek cañon.

For fifteen minutes, I suppose, we were keyed to the highest point of expectancy. Up and up, the tiny stream was leading us, over rougher and rougher heaps of huge boulders, between greener and greener tangles of cottonwoods, willows, birches, tall rushes, and waving vines; and still the towering cliff-face was unbroken.

Then Martin, walking two steps ahead, stopped suddenly and put his hand out toward me. I came up to feel his

fingers grip my shoulder. There, wholly revealed, lay Betatakin, a long line of ruins arched over by a span of rock which leaps to such a height that it literally takes your breath away. Clear above the treetops it all rose, a dead city set in a perpendicular cliff-face and now untouched by any ray of sunlight.

"I have waited here forever," it said to us. "Untroubled through the years, above that tangle of reaching green, I have sat here serene, watching the suns come and go, welcoming my people in the days when they came dragging tired feet up the cañon, echoing the laughter and the wailings and the weak crying of the men and women and babies who came to me, indifferent to their departure, bearing with the few explorers who have come to dig among my ruins, waiting for the slow disintegration of time—and now you have come!"

Dead silence, and a sort of terror—what is called awe, I suppose—for the first minute! Then, quietly, we scrambled up the last few hundred feet of vague trail to the lovely dripping spring which issues from under the foot of the ruins.

We climbed up the narrow trail, stepping across piled shards, testing the strength of dirt-covered roofs that had lasted no one knows how many cen-

turies, peeping through to cubicle interiors where the cliff-dwellers had conducted the business of living. Our eyes searched eagerly the face of the rock-shelter against which these rooms had been built; and we climbed ever higher as the ruins led up the pitched plane of the shelf on which they rested.

Then, at about the middle of the long, flat arc of ruined dwellings, as we stood with our backs to the wall of rock, we turned our eyes outwards and upwards. What a sensation we had! Leaning far over us and framing the opposite red wall of the cañon a quarter of a mile away as well as a section of pale sky about it, the arch of rock, like some giant's cathedral arch, curved 800 feet above us.

"Say!" gasped Martin, "I never suspected anything so stupefying! Why these people—think of *living* here, in a frame like this!"

Martin's voice woke a splendid echo; and we shouted. Up the curving vault to the top of the great arch rolled the reverberations and dropped again, until it seemed to me that the sound must carry half across Arizona. Think of having this wonderfully perfect sounding board (600 feet from edge to edge and 800 feet from base to top) behind a chorus of strong-lunged singers! I tried to imagine what the toilers up the cañon or the climbers on the opposite cliff in ancient times must have heard in seasons of ceremonial—chants which rose slow and slow, then a little more rapidly, louder and higher, faster and more shrill as the fever waked in primitive blood, and culminating in such a maddening roll and sweep of ecstasy that the mountains were filled with sound. Or the minor, sweet songs of the women who crushed the corn and baked the meat while they sat close to their skin-swathed babes. Or the hail of some deep-chested sentinel from the topmost roof.

Then we looked at our watches—five o'clock. Time to go, if we expected to get back to supper and bed before dark.

We had recovered from the sharp hunger that had beset us; it was cool; we had slaked fully the thirst which had

tormented us; the hour spent at Betatakin had given us the rest we craved; and when we were able at last to step around the rock which shut the wonderful cliff ruins from our sight we started pell-mell down the side cañon. Though we made the fastest time possible, it was three-quarters of an hour before we came to Laguna creek; and a fresh wild-cat's track had been impressed on the damp sand since we had come up! Then, at a quarter to six, we set out to cover what Dr. Fewkes calls five miles from the mouth of that side cañon back to where we had camped.

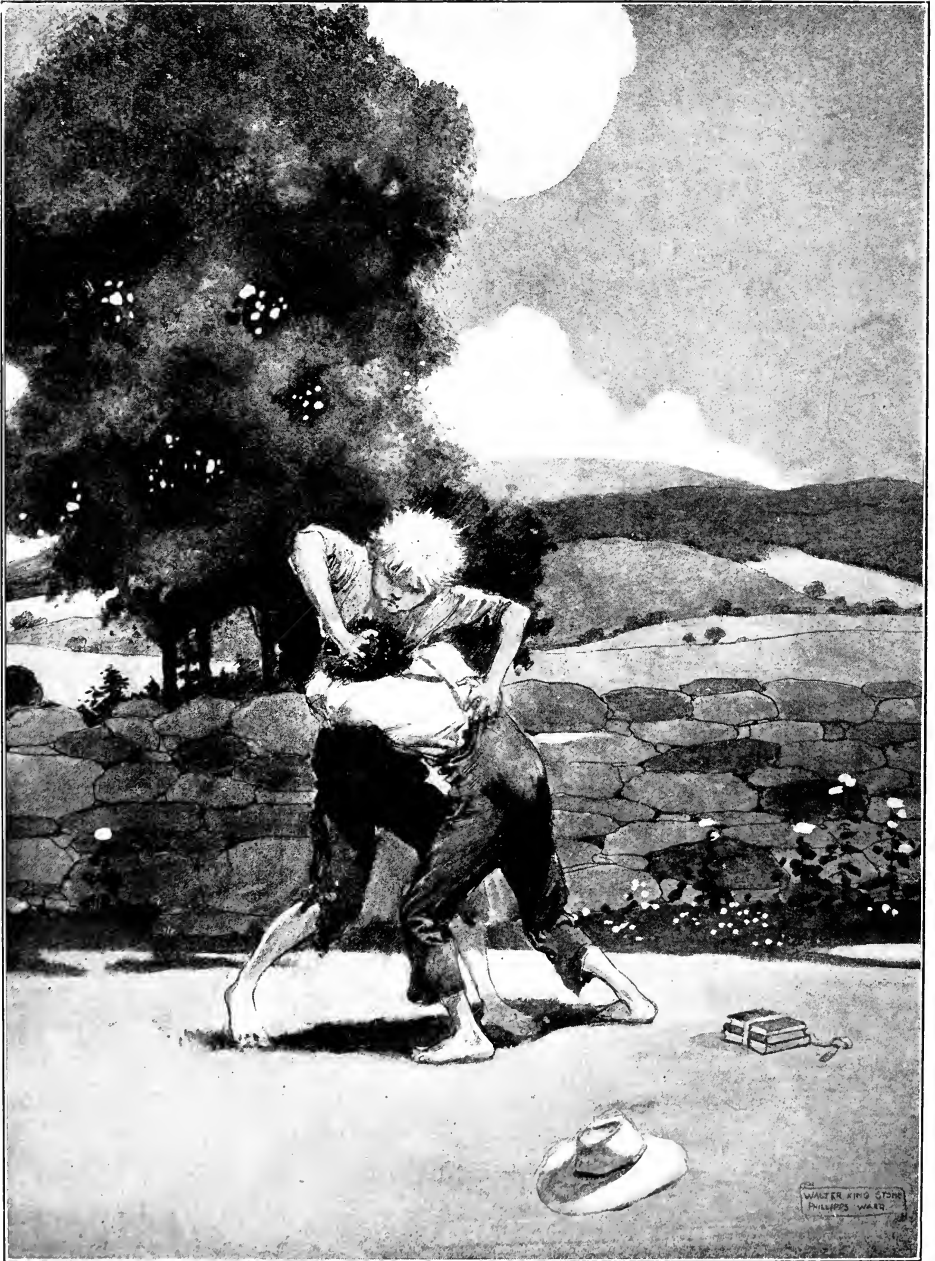
At half past seven the last daylight faded from the high cliffs. We were then about half way back to camp! We had come at least six miles. Then on through the increasing darkness, hoping that we could stick to the trail, we plunged. Multitudes of stars came out, and all about us rose the black walls of the myriad cañons. Our trail dipped and rose, crossed arroyos which yawned terrible in the blackness; then it crossed the river, and began to branch out this way and that till we found ourselves repeatedly following some track which pinched out, leaving us in an unmarked wilderness of greasewood.

Slowly we went on. About half past eight the moon came above the rim of the mountains; we dropped into the bottom of an arroyo and followed it toward Laguna creek until we crossed the right trail. After that, we had no more trouble in finding our way; and at a quarter to ten we climbed the steep slope to camp. We had been more than twelve hours without food, and no one knows how many miles we had covered.

Joe was sound asleep. We waked him to ask if he had become worried on our account. No, he hadn't worried, though just after dark he had fired his revolver twice in the hope that we might hear the sound of the shots and answer.

"Joe, you ought to have come with us—we've seen a wonderful thing!" said Martin.

"Uh-huh," grunted Joe, and he added sleepily: "I cooked a batch o' bread fer you fellers—it's in the skillet."



FOOTBALL, LIKE EVERY OTHER SPORT, IS AN EVOLUTION FROM PHYSICAL INSTINCTS

A decorative border with a repeating floral and leaf pattern surrounds the text. The border is composed of a top and bottom horizontal band, and two vertical bands on the left and right sides. The floral motifs include various leaves, berries, and small flowers, rendered in a detailed, woodcut-like style.

YOUTH'S ENCOUNTER

By WALTER PRICHARD EATON

DRAWING BY WALTER KING STONE AND PHILLIPPS WARD

FOOTBALL in America is a modern sport. Men are still alive and hearty who played on the first college teams; and it was not till many years after the colleges adopted it that the rank and file of Boyville knew anything about the game, especially in rural regions. I can myself recall the first leather-covered football which came to our town, brought home at Thanksgiving time by a never-too-much-to-be-admired youth who had gone to Phillips Academy. The shape especially excited our wonder. Spheres of black rubber were all we had hitherto seen. But football, like every other sport, is an evolution from physical instincts, shaped from other minor games preceding it; and one of these games, perhaps, is Pom-pom-pullaway. At any rate, that game, like most games of childhood probably dating back into remote history, has an obvious kinship with American football.

It was played in the school yard, of course, that part of the yard behind the building. There was a high board fence around this section. Can you fancy an oldtime district school without that fence? One boy was "It," while the others lined up along the fence on one side of the yard; and when he cried "Pom-pom-pullaway!" they had to run across to the fence on the other side. The one who was "It" had to catch anybody he could in transit—to catch him, and slap him three times on the back. If he succeeded in doing this, the one slapped was "It" with him, till all the school was caught, or the recess bell rang. The most successful way of avoiding those three slaps, if you couldn't get out of your captor's clutches, was to fall to the ground, on your back, and resist all efforts to turn you over. This was a variant on wrestling, without doubt, but its purpose was different. The object of the tackle was to prevent the other fellow from reaching a desired goal. Its real connection was with football.

I even seem vaguely to remember efforts to eliminate the brutality from Pom-pom-pullaway, because the girls used to play it, too. The girls were supposed as a rule to tackle girls, and the boys to tackle boys; but in that feminist period before acute self-consciousness comes to the sex, the girls often mixed hopelessly into the masculine fray, and many a torn or grass-stained frock resulted, causing pedagogical rebuke and parental anger. In the carefully supervised school playgrounds of to-day such unmaidenly conduct no doubt never occurs. It has vanished with the high board fence behind the District school. I wonder if Pom-pom-pullaway has vanished, too? The children in the town where I live now have never heard of it. Poor things!

MUSKRATS AND MUSKRAT FARMING

By EDWARD T. MARTIN

Profits That Accrue from Acquaintance with the Habits of Kipling's "Broken-Hearted Little Beast"

KIPLING says "Chucundra the muskrat is a broken-hearted little beast. He whimpers and cheeps all night." Kipling should know, but Chucundra is other things besides a little animal who "never comes into the middle of the room but always creeps round by the wall." According to a report made by the chief of the Government Biological Survey, "Its fur, while not of the highest quality, is adapted to a great variety of uses and its flesh, unlike that of most fur bearers, has considerable food value."

From a commercial standpoint the muskrat is one of the best fur bearers, ranking ahead of seal, sea otter, and beaver, which, from the insignificance of the animal, one would hardly suspect. Its skin was first used more than a hundred years ago to make "beaver" hats. Now it is manufactured into seal-skin garments for the ladies and also into imitations of all high grade fur, so there is no fur dark of color and short of hair that, when properly dyed and doctored, it is not sold for.

As the sale of all game becomes less through prohibitive laws, the flesh of the "broken-hearted little beast" grows more in demand the country over. It is red in color, fine grained, and tender, as good for table use as rabbit, perhaps better than squirrel because not so tough. Some say it tastes like terrapin, others see a resemblance to duck. Whichever is true, it is very palatable. In many markets it is disguised and sells as swamp or marsh rabbit. In one place as water squirrel, but growing in favor all the time it is offered more and

more under its rightful name—dressed muskrat.

Years ago, when to the writer the world was young, he put up over night at the shack of an old trapper and at supper ate with much relish of the *pièce de résistance*, a dish of strange looking and queerly tasting game. He could not figure it out. Not rabbit, nor duck, although there was rather a ducky flavor to it, nor squirrel—there were no squirrels in the neighborhood. Finally curiosity got the better of good manners and the trapper was asked, "What is it?"

"Them?" he replied. "Putty good, ain't they?"

Receiving an affirmative nod, he continued, "Them's young muskrats."

"No!" the writer answered. "You can't fool me. There's no musky taste to them."

"That's all in knowing how to cook them," the old fellow chuckled. "You see in skinning them you don't want to let the fur touch the meat an' be sure ter pull the musk bags off with the hide, then if you soak the meat in salt water fer an hour or so, they's jest as good as chickens or bull frogs."

They were, not a bit of doubt about it. Afterwards, in telling of this new dish and how good it was, not one of a party of listening sportsmen believed the story.

"Rats!" one said. "Eat rats! Bah! I'm no Chinaman, thank the Lord."

"These were muskrats," he was told. To which he replied, "What's the difference? Rats are rats."

"Yes," another chipped in, "this story of a muskrat supper is fishy like the one you tell about eating fried rattlesnakes

and stewed alligator. You may have done it, but——”

And there was no convincing them. The word rat queered the whole affair.

Why should not muskrats be fit for food? They are cleaner in habits than ducks or domestic fowl. They eat lily root, celery bulbs, flag, all the good things aquatic birds feed on and few of the bad. Occasionally they may eat fish. A duck always will. Some authorities claim they are semi-carnivorous. This the writer does not believe. He has found many ducks dead and untouched on rat houses, cripples which crawled out of the water and died. Some had been there for days. Once a friend with whom he often argued on the subject proved it on him. This friend paddled more than a mile to clinch his argument.

“Come,” he said. “Come. I’ll soon show you if muskrats eat dead ducks or not. There, see!” he said, as we neared a rat heap on which lay the half-eaten remains of a bluebill duck. “Rats won’t eat ducks, eh? what do you think now?”

It was an old rat house with an unusual opening in the top. By way of reply, two or three vigorous jabs were made at it with a push paddle, when out jumped a mink closely followed by his mate. They had killed or driven away the builders of the house and were having their own misdeeds charged against the original owners. Which teaches, “Beware of circumstantial evidence,” and also shows how sometimes erroneous statements are made concerning game by superficial observers.

As the public learns that muskrats are as good as any of the common ducks, better than many, the demand in most of the Eastern cities and a few of the Western, continually grows. For instance, in Baltimore, a year ago last winter, over ten thousand dozen were sold, frequently bringing more than a dollar a dozen. In Philadelphia the demand was much heavier, the sales of a single dealer as far back as 1907 amounting to two hundred and fifty dozen a week during the entire season.

Over twelve years ago a Sportsman’s Club in Michigan asked for a law protecting muskrats. Their request was

treated as a joke until in a body they went to the State Capitol, and after some lobbying invited the members of the legislature to a banquet prepared by the club’s own chef. No hint was given that the principal dishes were of muskrats, cooked in many ways, until after the dinner was over, then the toastmaster announced the fact and asked for a law protecting “such excellent game.” The club got what they wanted and for many years thereafter gave annual “muskrat feeds” invitations to which were at a premium.

There was formerly a hotel keeper in Chicago who could make “canvasback duck” out of a fishy old shelldrake and “broiled young prairie chickens on toast” from a plebeian mud-hen. No one but himself and the cook knew how it was done. The writer can bear testimony that the imitations were almost as good as the originals. With muskrats no such jugglery of the kitchen is necessary. They stand on their own merits and this demand for their flesh, coupled with constant discoveries of the new kinds of fur manufacturers can make from their pelts, is what in the long run will make muskrat farming very profitable.

A Long Market History

For a hundred and fifty years muskrat pelts have been sold in ever-increasing quantities on the London fur exchange. Careful records have been kept of all transactions. From 1763, the earliest available date, to 1800 sales averaged 75,000 skins yearly and prices were low. For the next fifty years there were larger offerings and increased demand. The skins began to be freely used for imitations, some of which the London Chamber of Commerce classed as “permissible substitutes.” This brought the average for each year up to 411,000.

The following forty years showed much heavier sales. Skins which previously had come largely from Canada through the Hudson’s Bay Company began to arrive in quantities from the United States. The average was a trifle under 2,500,000, “permissible substitu-

tion" evidently being a winning game. The sales for each of the next ten years were over 4,000,000, and since then the sky has been the limit.

The totals for the present season, winter of 1913-14, London sales only, covering shipments from all America, Canada as well as the United States, will exceed 10,000,000 skins. From 1763 until 1900 recorded sales show that 165,000,000 rat skins were sold. Include in this the total business of the next thirteen years up to the present time and the figures reach nearly 240,000,000. To these English sales add pelts used in America and the rest of the world, then consider.

Is it any wonder muskrats are getting scarce? Isn't the volume of business sufficient to class them as game and to extend Nation-wide protection of the law during the breeding season and early fall when their fur is almost worthless? Either way, protection or extermination, the fur farmer gets the benefit, this term to include every man and boy who has, or can make, a pond, or buy or hire a marsh.

Muskrat farming is in its infancy. Records show that little or no attempts have been made to improve the breed, to raise only black or very dark stock. Nor have many farmers fed their rats, preferring to let each animal hustle for himself.

The writer, talking not long ago with the owner of a rat ranch, was told:

"Sure, we raise them and make money, too. Good money."

"How?"

"Well, you see," he replied, "we just let them grow. We own a lake of about 650 acres. For a year we kept trappers away; then let four men take it on shares. Each staked off his part, same as a mining claim and trapped, giving us half he made. When prices were highest we realized about \$4,000 a season for our share."

"Did you feed the rats?"

"Feed them? Why, no! There was plenty of natural food, besides it is not good to have a fur-bearer very fat. Makes too much trouble in cleaning his hide."

"Did you protect the rats from their

natural enemies? Coyotes, foxes, mink, hawks, and owls?"

"No. What an idea!"

Really it was no farm. The four men paid half their catch for "trappers' rights," making good money by doing so. Had the farm been "cultivated," that is, efforts made at bettering the stock, feeding and protecting it, beyond question the profits could have been increased more than thirty per cent.

There are many similar farms along the Eastern shore of Maryland, although it seems flattery to call a simple herding of the wild by so pretentious a name. These are all on lands subject to tidal overflow which, before the muskrat industry began to boom, were unsalable at half a dollar an acre and now net the owners more than the cultivated lands adjacent.

Profit With No Care

As an example: A man bought a tract of useless marsh land, paying what was then considered the large price of \$2,700. He made no attempt at farming or feeding, but leased it for one-half the fur. In 1909 his share of the profits was \$890. Another instance was a young fellow who bought a little overflowed tract for \$150 and in a single year cleared \$100 for his half of the rats caught. In both instances, care and intelligent treatment would have largely increased the money made.

When, two or three years ago, muskrat skins soared to over eighty cents apiece, some of these trappers made more money than they ever knew there was in the world before, and even now, with prices cut in two, earn tidy sums for their few months' work. Remember what I write. The time is not distant when a dollar will be considered cheap for the skin of one of the "broken-hearted little beasts." How times change! Back in the 60's when the writer sold his spring catch at a shilling (12½c) each he thought he was traveling rapidly along the highway that leads to riches.

This kind of fur farming appeals to farmers and farmers' sons, in that it is winter work which can be attended to

when other business is slack. The one great trouble is suitable location. Not every would-be farmer has marsh or lake handy to his home. Sometimes a creek can be dammed and a pond formed; but the work must be done thoroughly and the dam made of stone or concrete, else the rats will burrow through, let the water escape, and destroy their home. They are great on the dig—these small fur bearers—and in soft, moist earth have been known to burrow fifty feet straight in from the water.

The farm should be enclosed by a varmint-proof fence of strong wire netting, not only to keep the rats in but to keep their enemies out, one as necessary as the other. The rats like to roam around of a moonlight night, often finding their way a mile or more from water to some garden or fruit farm where they destroy more than they eat, not only vegetables but young trees. This, if permitted, would make a muskrat farm disliked in a well-ordered community.

Rats Need Protection

Their enemies are legion, all the carnivora, birds and beasts. Many of the four-footed ones can be kept out by the fence. Birds of prey must be met with trap or gun. Nothing is easier to trap than a hawk unless it be an owl. Set a steel trap on top of a stout pole or high post placed near the chicken yard or fur farm against which the birds may have designs and it is almost certain, particularly if no dead tree is near, that the first winged raider coming in search of a meal will light on the pole and put his foot in the trap.

Second only in importance to choice of a fit location is selection of the right kind of breeding stock. Black or very dark brown muskrats are in much greater demand than the lighter colored variety and at least twenty per cent higher in price. There is little doubt of their breeding true to color as do other fur bearers, which would make a pond stocked with them as good as a small gold mine; better than some the writer has known of. They increase very rapidly; have three, occasionally four, litters a year with six to fifteen in a litter. Be-

sides this, the young of the early spring themselves breed late in the fall.

Let me see. A family of five females and one male would produce:

Litter in April of, say.....	50	young
“ “ June “ “	50	“
“ “ August “ “	30	“
Deduct 20 per cent for mortality		
Young of April litter, say 20 females, 6 each.....	120	
	<hr/>	
Total	250	
Deduct 20% for mortality.....	50	
	<hr/>	
Net increase in a season.....	200	

There might be a fourth litter and the average might be larger, but all in all, give and take, there should be an increase of 200.

Wild, or semi-wild and unprotected, of these various litters, the mink would get a few, as would wild cats, wolves, and other animals, the hawks and owls their share, but in large lakes or rivers the toll taken by pickerel would be largest of all. A ten- or twelve-pound pickerel would snap up a half-grown rat, then, hardly knowing he had eaten it, go looking for more, so it would be safe to say, instead of 200 reaching maturity, it would be barely fifty, with these still fighting for their lives against their many enemies now reinforced by man.

Quoted authorities differ as to the number of young in a litter, some putting it as low as from three to six. Roderick McFarlane, who for many years was a chief factor for the Hudson's Bay Company, says eight to twenty. According to the writer's experience, limited to Illinois and Northern Indiana, McFarlane is right. There may be exceptional instances of only three, but then again as many as twenty would be equally rare.

One thing in favor of the muskrat farmer is that the rats are good doers, not nervous and excitable like the fox; not subject to disease as are some of the small fur bearers. The writer in more than forty years of marsh experience never remembers having seen a dead muskrat unless one that had met a violent end. Professional trappers say the same.

A much disputed question is "How many to an acre?" Maryland authori-

ties put it at fifty. One should remember that there they make no attempt at feeding. The writer has seen ponds of only an acre or two containing twelve or fifteen houses with a probable average of eighteen rats to each house. On this line of figuring, an acre would support a hundred in the wild and fifty more with liberal feeding.

Will it pay to buy food? Why not? It pays with poultry, although the returns are less and higher grade land is required for coops and runways. Wheat, corn, oats, and bran for chickens cost more than twenty dollars a ton. Cabbages, parsnips, onions, potatoes—all second-grade goods—for muskrats not over six dollars, and one day with another chickens will eat more food.

Now for the money part. After the muskrat farm gets going, from each family of six at least two hundred pelts can be sold yearly, bringing in, say, thirty-five cents each; add five cents more for dressed rats and the total receipts are eighty dollars. Six thousand pounds of food in addition to what they pick up should be sufficient. Three tons, eighteen dollars. Call hauling, attendance, and repairs twenty dollars; the total expense would be thirty-eight dollars, leaving forty-two dollars as the net. This a boy's experiment on an acre and a half. The possibilities of a man-size farm of a hundred acres or more can readily be seen. On paper, raising muskrats looks more profitable than growing wheat or corn.

SPORTSMANSHIP IN THE "AMERICA'S" CUP RACES

By HERBERT L. STONE

Editor of *Yachting*

How Standards Have Changed from the Days of the Famous Old Schooner to this Year of 1914

THOUGH the international races for the *America's Cup* have lately become to the public mind more a matter of yacht designing and building than one of sport in the accepted sense of the term, it was not always so, and some of the races for the famous bit of silver in the past have been as true tests of sportsmanship as any international athletic contest of the present day. While it may be that, primarily, yacht racing is a test of the developments of yacht design, yet it is one of boat handling as well, and it certainly requires as high a degree of skill, nerve and resourcefulness to sail a large racing yacht as to compete successfully in any other form of sport.

It was surely the very highest type of sportsmanship that prompted men to sail their own yachts across three thou-

sand-odd miles of turbulent ocean in order to invade a foreign country and race against the pick of that country's fleet for a piece of silver that, at first, did not have much tradition behind it, especially when they knew that the conditions under which they would be forced to race would all be to their disadvantage. Yet this is what most of the earlier seekers after the cup did, not forgetting, of course, that it is also what the original winners of the cup did; and the history of the thirteen races that have already been sailed for the cup put up by the Royal Yacht Squadron sixty-three years ago, worth a paltry one hundred guineas, is chiefly interesting as it reflects the sporting ethics of the intervening period and shows the great changes that have been made in our standards of fair play and a "square deal." The old days of wanting to win at any price are happily past and conditions governing most

international contests at present are framed more to bring about a fair race for the game's sake than with the sole idea of winning.

In 1851 when Commodore Stevens and his five associates built the schooner *America* to go across to Cowes it was considerable of an undertaking, for not only was she the first American yacht to cross the ocean to race abroad, but yachting was a comparatively new sport in this country, whereas in England yacht designing and racing had reached a high state of development and English yachts had a prestige calculated to throw fear into the heart of novices at the game. After a speedy trip across the Western ocean the *America*, before reaching Cowes, was forced to anchor some seven miles from the English yachting center on account of fog, and when the morning dawned and the fog was blown out to sea by a land breeze, the English cutter *Laverock*, one of their crack craft, was discovered under sail and on the lookout for the stranger, evidently with the idea of taking her measure then and there.

Commodore Stevens, who was on board, was not particularly desirous of a trial of speed just then, yet, as he could not gracefully decline, he gave orders to let her go, and in the heat back to Cowes he did not hold anything up his sleeve, but put the American boat through her paces so smartly that she dropped the English cutter in the seven-mile beat surprisingly fast. Not many hours afterwards it was known throughout the yachting community that no English yacht was the *America's* equal in going to windward.

This little brush proved detrimental to the *America's* future chances, for, though the American party had been assured of plenty of match racing, no English yachtsman would come forward to race his boat against Commodore Stevens' schooner, even though the Commodore, with his usual promptness and regardless of the pockets of his associates, posted a challenge to sail the *America* a match against any British vessel whatever for any sum, from one to ten thousand guineas.

This lack of sportsmanship on the part

of the English yachtsmen was severely commented upon by the London *Times*, which likened their action to the agitation which the appearance of a sparrowhawk creates among a flock of skylarks. It looked for a while as if the hardy commodore would have to bring his schooner back without a match, but the Royal Yacht Squadron finally notified the *America's* owner that he could race his schooner in an open regatta of the club on August 22d; sailing without time allowance and against a large fleet from the Yacht Squadron. There was nothing in the race but the cup which was put up, yet the commodore entered it and raced against a fleet of fourteen yachts of all sizes and rigs. The course was some sixty miles in length and the wind was fluky, so, while the *America* was undoubtedly the best boat, the race was as a whole unsatisfactory.

Nineteen years elapsed before there was to be another race for the cup which the *America* had won, and which was presented to the New York Yacht Club by Commodore Stevens in 1857. In this race the attitude of American yachtsmen seemed to be to make the conditions as nearly as possible like those which prevailed when the *America* had won the cup, though Commodore Stevens had protested at the time against the unfairness of the conditions of the race around the Isle of Wight. So when Mr. Ashbury came over in 1870 with his schooner *Cambria*, full of confidence because he had beaten the American schooner *Sappho* two years before, the club interpreted the deed of trust under which it held the cup in such a way as to make the *Cambria* race against the entire New York Yacht Club fleet. Twenty-three schooners were lined up against the challenger, each striving to keep the cup in this country by preventing the challenger from winning. It is only fair to say, however, that, though there was some crowding in the earlier stages of the race, it is not on record that the owners of the other boats attempted to interfere unfairly with the *Cambria* to prevent her winning.

It may be said in passing, also, that, not content with racing for the *America's* Cup, Mr. Ashbury raced his schooner

across the Atlantic from Ireland to Sandy Hook against the American schooner *Dauntless*, winning a race of twenty-two days, by 1 hour and 17 minutes—a sporting event of the first magnitude.

Not satisfied that he had had a square deal, Mr. Ashbury, on his return to England, opened negotiations the following year, and after a long pen and ink contest finally got the New York Yacht Club to recede from its former position and agree to race one boat only in each race for the cup. The series that year (1871) was to consist of four races out of seven, and the New York Yacht Club reserved the right not to name its defender until the day of each race. Hence it picked four boats, two noted for light weather qualities and two for their heavy weather ability, and waited until the morning of each race to say which of the four would race that day.

In 1876 and 1881 matches were sailed with Canadian yachts, and there was some controversy before the New York Yacht Club finally decided to name only one boat to sail against the challenger. This controversy led to a good deal of hard talk in the newspapers, in which the Canadians referred to the American yachtsmen as "police court pettifoggers," while American writers, when they heard that the Yacht Club had agreed to name only one boat to meet the challenger, took the ground that "It is an axiom of sport that a good match *is won when made.*"

Another point on which the American yachtsmen stood out for a long time in these cup contests that would not hold in the light of present-day standards was that of insisting on racing over the inside course, starting in the Upper Bay, going down through the Narrows out by Sandy Hook to the Lightship and return—a course in which a knowledge of tides and local conditions played a most important part, and which was manifestly unfair to a stranger. Every challenger protested against this course, yet it was not until the *Vigilant-Valkyrie* match of 1893 that the old course was abandoned and the New York Yacht Club agreed to meet the contending boat outside of headlands, as free as possible from local influences.

A fine example of sportsmanship in connection with these races that came from our opponents was in the *Puritan-Genesta* race of 1885. Young Sir Richard Sutton, of the *Genesta*, after his boat had been fouled by the *Puritan* and her bowsprit carried away, was told by the Committee that the *Puritan* had been disqualified, and that he could claim the race if he sailed over the course alone. He promptly replied that he was much obliged but he didn't want it that way, adding that he came over for a race and not a sail over. It was a fine spirit, but the *Puritan* was clearly at fault and the English boat was entitled to the race.

Of the Dunraven incident it is not necessary to stir up old memories. Dunraven, who was given a fair race, except for the crowding of excursion steamers on the course, over which the New York Yacht Club had no control, made charges which he could not prove, which apparently had not the slightest foundation of fact, and which he probably would not have made had he not been piqued at the deciding of a protest against him. The justice of this decision has been upheld by yachtsmen the world over, and Dunraven's charge as to tampering with the ballast of the *Defender* was absolutely without foundation.

In making the third deed of gift after the *Volunteer-Thistle* race the New York Yacht Club was charged with unfairness and poor sportsmanship by English yachtsmen, principally because the deed imposed too much upon the challenger, and required certain dimensions as to the challenging yacht ten months in advance that would be of inestimable value in building a defender to beat her. As it stands, the deed is a complicated affair, and, if lived up to in all its terms, would place an undue hardship on any vessel challenging for the cup, but under a "mutual consent" clause contained in the deed the New York Yacht Club has been able to waive certain of the objectional clauses and has in every case in the last three contests (and, in fact, for the present contest also) given conditions which are absolutely fair to the challenging boat, barring the fact that the challenger has to cross three thousand miles of Atlantic Ocean.

GOOD GRUB FOR SHORT CRUISES

By GEORGE FORTISS

How One Man Has Solved the Problem of Comfortable Living on a Small Boat

THE trail to a successful camping trip or the compass course to a pleasant cruise lies via the gastronomic route. Most of us have found this out through experience and do not need to be told, but we generally ignore the knowledge next time the red gods call us into the open. You know how it is. With a long trail and a short sleep behind you, you arise for breakfast to find your partner, whose turn it is to cook, confronting you with dish-water coffee, lumpy flapjacks, and a chunk (not a slice) of under-done bacon. And then your good nature joins your stomach in rebellion, and all bets are off.

There is no alibi for the man who goes into the woods. If he has the grub he should be able to cook it well. There are plenty of guides who can accomplish epicurean wonders over a camp fire. But the fellow who goes cruising in a small boat with only a two-burner oil or alcohol stove on which to perform his culinary accomplishments, cannot be expected to conjure into being a ten-course dinner.

As a matter of fact, some of us were inclined to think that cooking (that is, real cooking) could not be performed on a two-burner denatured-alcohol outfit. But that was before we met Powell.

You see Powell lived down on Long Island and spent a good deal of time knocking around Great South Bay. One day he invited three of us to come down for a few days of cruising in his boat. Of course we knew he had a boat, and when he invited us for a "few days' cruising" we naturally figured she was, say, a forty-foot raised-deck cruiser, with a man aboard her, a stateroom or two,

saloon, galley, and other luxurious conveniences. When we got down there to the Bay we found that in reality she was a twenty-two-foot, flat-bottomed, low-sided little craft, six feet wide, and with a high, varnished cabin enclosing her entire cockpit. There was no deck room to speak of—a few feet forward, half as much aft. And this box of a cabin on a twenty-two-foot converted catboat was where four of us were to spend a "few days cruising."

Some of us had had experience with catering on cruising and camping trips, and as we stared at the little alcohol stove standing on supports screwed to the walls of the cabin, we saw visions of four men in a boat that was made for but one. It was too late then to back out, even had we been impolite enough to have suggested such a thing, and we started across the Bay into the tuck of an onshore sea picked up by a strong southwester.

The objective point was a spot in a little cove bordered by salt marshes under the shadow of Fire Island Beach. We were going snipe shooting, Powell told us, and we would make Gilgo Heading, as he called it, in time for the afternoon flight of shore birds, if there were any.

When we had swung off to our anchor cable, in the Heading, we all went ashore in a sharpie we towed astern, and two of the boys were deposited in blinds with settings of decoys and the warning from our Host to kill their supper. Personally, the writer cares little for shore-bird shooting, and accompanied Powell on what seemed to be an aimless ramble down a long sand bar jutting into the bay and left half dry by the falling tide.

Out near where a clump of green salt

grass rose from the edge of the ebb, the Host paused.

"Now," said he, gravely, "let us dig." Without delay he produced from a bag he carried over his shoulder a hoe with the handle sawed off a foot above the iron. With this he attacked the yellow sand of the bar. Presently the blue-gray hinge of a clam showed beneath the hoe. "Number one," said the Host, and dug again. Little by little he worked along the edge of the bar until the bag was half full of clams. Then, while I shouldered the burden, he turned toward a long line of green sedge that bordered the eastern shore of the little bay or lagoon in which the power boat lay at anchor.

It was not long before it was apparent that he had an object in view. And indeed it was an object—a great round, scow-nosed, super-dreadnought looking thing, shaped something like a horse's hoof, with many legs underneath its turret-like top, and protruding out behind a long, needle-pointed bony spike of a tail ten inches in length. But our Host showed only a grin at my misgivings.

"Horse shoe crab," he announced with satisfaction and, seizing the nightmare as it started to scuttle into deeper water, he jammed the ten-inch tail firmly into the sand.

"There," he said, "he'll be anchored now till we need him in the morning."

"Need him—what for?"

"To eat, of course." And there came the knowledge, unknown to many a bayman, that horse shoe crabs are a real delicacy.

Back at the boat our Host unlimbered that fragile looking two-burner stove, opened the clams, cut them into small bits in a chopping bowl that hung on the wall, produced a bunch of carrots, a couple of onions, some potatoes, and a bit of parsley from a locker under a berth, chopped them into the clams, salted, and set aside. Then a can of tomatoes suddenly appeared.

"For chowder, I like the canned goods better than the fresh," he exclaimed. "And they're easier to carry and last longer." The tomatoes joined the other ingredients; the burners of the little stove leaped into life, a jug poured fresh

water, and the chowder went on to boil.

"Now," said the Host, "if you'll just watch that it doesn't boil over, I'll be back in a moment. You might fill that saucepan with water and put it on the other burner."

Ten minutes later he reappeared in the after hatch. In a basket were a dozen or more hard shell crabs. Into the pot I had set on the extra burner they went. A few minutes later while the chowder was still stewing away, the crabs came out red as a November sunrise. Off came the back shells, and Powell set me to work shredding out the white meat, while he juggled with a little flour and water, a few drops of olive oil, and some chopped green peppers. The result was a paste which was swiftly mixed with the crabmeat, a dash of cayenne added, and the whole stuffed back into the shells. Then the Host produced from another corner of the mystery storehouse of that little boat a box of prepared cracker crumbs which he sprinkled over the paste in the shells.

"Deviled crabs—like 'em?" he remarked, and added: "And now if you'll look in that locker forward under the wheel, you'll find the oven."

The what? Oven? I groped in the locker and pulled out a square sheet iron box with a hinge door, and a grating held by battens on the inside. Powell lifted the chowder kettle from the stove and put the oven on instead, opened the door, and pushed in the crabs. Meantime I fished in still another locker at his bidding and got out a can of prepared coffee of the teaspoonful to the cup variety.

Off on the long sand finger where the snipe blinds were we had been hearing an occasional popping of smokeless that as evening drew on was rapidly increasing. Then, almost before we had time to think of them again, what with getting the crabs out of the oven and the peas warmed, the snipe shooters hailed us, and we went over in the sharpie for them. They had a nice bag of yellowlegs and a few plover. Powell prepared the birds on the way back to the boat. He merely pressed a thumb on each side of their breasts, and with a swift push broke the skin back, carrying feathers and entrails with it and leaving

only the breasts of the birds. While we laid the four places on a table that appeared to be a panel in the wall of the cabin unless you knew where the button was which released it, our host hustled the snipe into a big iron spider, each with a bit of salt pork pinned to the breast with a toothpick. The fire was turned high to sear the meat and keep in the juice, and then lowered for a few moments, but not for long, as dried snipe are not fit to eat, though fried snipe are a delicacy.

The chowder kettle went on again to heat, the teakettle boiled a few moments for the prepared coffee, and then, while we were engaged in an attack on the chowder, the oven was again switched over to the burners to keep the crabs, the peas and the snipe warm until we were ready for them.

That was a revelation in what can be done with little effort with a simple two burner stove. Chowder, deviled crabs, grilled snipe, French peas, and a grapefruit salad, which I almost forgot, make a fair meal for anyone! The successful preparation of a good meal with such a stove requires first an oven and next the knowledge of what to cook first, and how to keep your plan of service working so that one course does not get cold while you are cooking or eating the other. The oven pretty nearly solves this, as it will keep anything piping hot until you are ready for it.

Then, too, it has other advantages, as we found out in the morning when Powell conjured a pan of biscuits for us almost before we knew what he was about. And at lunch time, just to show us that he could do it, he roasted a chicken as nicely as mother could have done in the oven at home. But it was in the evening that we had a treat. The host went around and unanchored those two big horseshoe crabs he had staked out night before. Then he took off the shells, cleaned them out much as you would a common crab, and put the meaty parts to boil in a kettle. That night we had horseshoe boil, with white sauce, and—well it is something like lobster Newburg and pretty nearly as good.

"What should a couple of men take for a cruise of a week or two?" echoed

the genius of the two-burner alcohol in answer to our question. "Well, it depends on whether he intends going ashore. If he does not expect to leave his boat during his trip, he should take some of the concentrated foods. They can be stowed in smaller space, are as good and as nourishing as fresh products, and he can carry more of them with less trouble. I am a strong believer in soups. Canned soups should be one of the staples of the cruiser—chicken, ox tail and beef broth, I prefer, while mutton broth is also excellent. Potatoes should have a place, but they are about the only fresh vegetable that one should consider. Others should be confined to canned goods—peas, lentils, tomatoes and corn are all good, as are those big kidney beans. I always keep these as well as regular baked beans on board.

"Bread does not keep a great while. If you take it and it gets stale, you can moisten it and place it in the oven, which will rejuvenate it for the occasion. Better than bread is pilot biscuit in cans, or else flour of the prepared sort from which biscuits can readily be made.

"Coffee is a nuisance. It takes too long to boil, and monopolizes one-half the cooking capacity of your two-burner stove which could be devoted to better advantage in making something else. Always use prepared coffee. Tea is all right in its usual form, though tabloid tea is not a bad stunt.

"Most men who go out for a cruise on a small boat think of the staples to the practical exclusion of the luxuries, which, in their way, are quite as important. It is all well enough when going on long expeditions ashore to take the corn meal, bacon and tea grub kit, but this sometimes useful larder can be supplemented to great advantage when the base of supplies is near and accessible and economy in bulk is less vital, with a bottle of olive oil for dressings, a few varieties of pickles, a prepared sauce such as chili or chutney or ketchup, vinegar, marmalade, jam or apple butter, and I always keep a supply of canned peaches and pears under there forward so that I have always ready at hand, requiring no cooking or preparation, a practical dessert."



THE WORLD OF SPORT

Here's to England It's a long worm that has no turning—and the polo worm has turned at last. The English team won by splendid play. There isn't much use in discussing ifs and ands. America's prospects looked bright two minutes before the close of the second match, but England had still another punch in her good right arm, and that punch, delivered by Major Barrett, sent the ball across the American goal for the winning score. There are those who think that if America could have held the quarter goal lead to the end we would have won the second game. It is a pleasing thought, but an idle one. The team that took the cup back to England had a lot of polo left in them when they quit, and the combination that would beat them in the third game would have known that there were four other men on the field. Patriotic considerations aside, we are glad the English won. There could have been no better outcome for the good of the game. Had America kept the cup it would likely have been a long time before another English team could have been brought over with a fair chance of success, and interest would have flagged accordingly. Now we have a mark to shoot at—however long it may be before we hit it.

Visitors' Great Play Criticism of the play of either team would be an ungracious task. Where such gallant courage and skill were shown on both sides, particularly in the second match, there is no place for the microscopic critic. As a matter of fact, the

English team played probably the best polo that has ever been seen in this country. Perhaps they had to do it in order to win, but they did it. It was standard polo played with the pace and accuracy that characterized the work of the Meadow Brook four in their palmiest days. England had apparently taken the old Hurlingham method and grafted on it all that was good in the American innovations. The result was a revelation in polo possibilities. There was the game, correct in all the fundamentals of position and combination, pace and accuracy of passing, with the elasticity necessary to meet any emergency that might arise. The emergency past, they could fall back on their standard formations, played at high speed and with marvelous horsemanship.

Barrett the Pivot To be sure, this result could not have been attained without four better than good players to carry the campaign through. And it was Major Barrett to whom, more than to any other one man, was due the credit for holding the attack and defense in proper and efficient balance. He is not a showy player, and the casual onlooker is apt to lose sight of him; but he was always there, steady, rallying, covering, the steadfast pivot around which the English play always swung. Captain Cheape showed great improvement over his play of previous years, particularly in the length and accuracy of his strokes. Always a great horseman, he was not so flurried and hurried by the American defense as in the two pre-

vious matches at Meadow Brook. Captain Lockett, too, was a different player from the form of last year. Apparently he had taken a small leaf from Mr. Milburn's book and was not afraid to leave the shadow of his own goal posts. He had learned that one of the best ways of making sure that the ball gets up to your forwards is to take it there yourself. This is on the assumption that there is a number three to cover the play, and such a reserve was present in the person of Major Barrett.

**No Shame
in
Defeat** For the American team we have nothing but praise. Extemporaneous experts in the stands criticized their riding, their hitting, and their strategy—presumably on the assumption that the team that loses must of necessity be playing badly. To be sure, in the first game the playing of Mr. Milburn at No. 3 and Lawrence Waterbury at back gave the appearance of strangeness in the work of both men. Neither seemed at home, and the team failed to get going. No such criticism could be made of the second match, however, when Mr. Milburn and Mr. Waterbury changed places. Oddly enough, in this match Mr. Waterbury was a highly efficient back on the numerous occasions when he was compelled to fall back to cover Mr. Milburn's headlong dashes down the field. To characterize the play of the latter it is necessary only to call attention to the fact that playing in a position which is not supposed to call for any scoring whatever, he made three of the five goals that went to the credit of his team. Should he never appear again in International polo, he can rest content in the knowledge that in his last game, although a member of a defeated team, he gave an exhibition of super-polo that will long stand as the high-water mark of individual play.

**Yale Wins
at
Last** Yale is imitating England in the gentle art of "coming back." Much to the surprise of many—even Yale men—Harvard succumbed at New London in a hair-raising finish to a rather badly rowed race. This is Yale's first victory on

the Thames in six years, and there are many enthusiastic Elis who hail the return of the old days, when everything was blue—including the crimson opponents. Further color is added to this belief by the baseball victory over Harvard, although Princeton's win at New York with a team that was declared to be only fair, as Princeton teams go, takes off a little of the luster. The New London affair is declared by many—including Mr. Guy Nickalls—to be a victory for the English stroke and English rigging. With all due respect we submit that it is nothing of the sort. That Yale crew with any good stroke adapted to their needs and abilities and any proper sort of rigging would have won against the Harvard crew this year. Furthermore, three feet lead at the finish line is not a very convincing demonstration of anything except the pluck and staying power of the men in the Yale boat.

**What
Is
Method?** Much of the talk about the magic of strokes in rowing is akin to the talk of method in other sports. There are right and wrong methods, to be sure, but there are very few sports—if any—in which there is one absolutely and invariably correct way of accomplishing the desired result. Methods must vary with men. The golf professional who attempts to teach all men the same stance and swing, without regard to age or physical habit, soon loses his pupils. The same thing is true of tennis. Many men who stand high in the ranking have reached it through the medium of a method that would be impossible to another. And yet the same fundamental idea runs through all. In golf and tennis and in all other games in which a ball is struck with any kind of a bat, the underlying purpose is to hit the ball hard and accurately with control at all times. Any method which permits any particular man to do this to the height of his power is the right method for that man. The same general principle applies to rowing. The object is for eight men to move a shell through the water for two or four miles faster than any other eight men who may be on the river at the same time.

These eight men will differ in large or small degree from any other eight men who might be brought together. Therefore the problem of the coach becomes the simple but difficult one of fitting a stroke and method to the eight men that he has, and not of fitting the men to the stroke. You can call it an English stroke or a Courtney stroke or a Hottentot stroke or any other stroke you please. If the coach is a wise man his details will vary from year to year, with his eyes fixed unwaveringly on the main objective all the time.

**An
Ideal
Race**

It was a long time coming, but Columbia's win at Poughkeepsie is appreciated by many beside Columbia men. It will be a good thing for the intercollegiate and for the sport generally, not merely because Cornell was beaten, either. We are not of those who hold that it is necessary to defeat the Ithacans every few years in order to keep rowing alive. It can be done any time there is another crew on the river equal in oarsmanship and with sufficient drive at the finish to send the challenge home. That was the beautiful thing about this year's race. There were three crews rowing practically stroke for stroke all the way down, beautiful in form, correct in judgment of pace and distance. At the beginning of the last half mile any one of the three was in position and condition to go out for the lead. This brought it down to a question of the final punch. Columbia was the crew with the necessary lift to send the boat across. This is as it should be. None of the three leading crews was in distress at any time. So here were all the conditions of an ideal race—correct oarsmanship and good condition, with victory hanging in the balance of the final drive. Again the magic of "stroke" and method receives a damaging blow. The finish of a close race is up to the eight men in the boat, and Columbia had the eight.

**Some
More
Amateurism**

For purposes of the Olympic Games the following definition of an amateur has been made by the International Amateur Athletic Federation:

"1. An amateur is one who competes only for the love of sport.

"2. Competing for money or any other pecuniary reward in any sport considered as athletic sports makes the competitor a professional in all sports considered as athletic sports.

"3. In the event of an amateur competing with or against a professional in any sport, not for money or other pecuniary reward, then the member of the federation to which the athlete belongs shall be the judge of such competitor's status according to its own rules, and its certificate as to the competitor's status shall be accepted by all other members of the federation.

"4. In track and field athletic sports anyone who knowingly competes with or against a professional thereby ceases to be an amateur.

"5. One who teaches, trains, or coaches in any sport for money or other pecuniary consideration is a professional, except, however, that so far as competition in his own country, and there only, is concerned, an employee or representative of the state or a school or other educational institution, who teaches, trains, or coaches as an incident to his main vocation or employment, may or may not be a professional, as the member of the federation of the country of such a person shall decide."

**Why the
Ban on
Professionals?**

We have quoted this definition at length for the purpose of calling attention to the clauses relative to competing with or against professionals, particularly in track and field sports. There seems to be some mysterious fear at the bottom of these declarations of hostility to the professional as a competitor with amateurs on track and field. We confess that the reason is beyond our feeble understanding. It is possible to play with or against a professional in golf or tennis, to shoot against him at the traps, to play against him at billiards, or on the diamond, but you must not, as you value your amateur status, run or jump against him. The case seems to be the more inexplicable in view of the fact that out and out professional competition on track and field is prac-

tically unknown, at least in this country, at the present time, save in long-distance and so-called marathon running. What harm would result if an amateur did compete against a professional? There must be some dire danger in it, if we could only see it. Strange that disaster has not attended the practice in the other sports that we have mentioned. Yet Jay Gould can compete against Covey, the English court tennis professional, and apparently not only win but come out untainted. The same thing is true of racquets and of squash, both good, lively games. Perhaps building a Chinese wall to shut out the avowed professional conceals the inability of committees and associations to deal with the hidden—and really dangerous—professionalism that is a constantly threatening canker of amateur sport.

State Rights in Birds It will be a pity if the Supreme Court follows the lead of Judge Trieber, of Arkansas, in its final decision on the constitutionality of the Weeks-McLean migratory-bird law. Inferior court decisions are now balanced, Judge J. D. Elliott, of the Federal District Court of South Dakota, having held that the law is constitutional. The Supreme Court will, of course, read the statute in the light of enlightened constitutional interpretation and their decision will be law, and sound law. With that side of the matter we have no concern, nor have we knowledge enough of constitutional law to hazard even a remote guess as to the outcome. But this much is reasonably

clear to the layman. If the states are permitted to regard migratory birds as their exclusive property with full power to kill or save, then we will find ourselves soon in the contradictory position of owning to-day a thing that to-morrow may be the full property of someone else. Furthermore, it will be in the power of one state by lax laws or lax enforcement to prevent the adjoining state from ever entering into the use or control of that which should in due course become its property. If it be decided that migratory birds are the exclusive property of the state within whose borders they are found, what right has any state to prevent any other state from having its full share of such property in the proper time. In the language of Hashimura Togo, we ask to know.

Sport as it Is Written "The final set provided enough thrills to satisfy the gallery for many weeks. Murray was like an untamed tiger on the courts. As he went into each rally at the net he gained mid-court at a single bound, and from there brought off his shots with a power and a viciousness that were unbeatable. Once the struggle was over, however, he became again the smiling, carefree boy, and shook Alexander's hand warmly." Thus the esteemed *Tribune* on the finish of the Murray-Alexander match in the finals of the Metropolitan tennis championship. We advise Mr. Murray's opponents to be careful, however. He may bite the next man or dash his brains out with a triumphant racket.

WHAT READERS THINK

An Argument for Rugby

"IT'S difference of opinion that makes hoss races." It also adds zest to living and a beautiful uncertainty to many of the cherished beliefs of life. All by way of introducing another letter on the rugby situation in California, this time in favor of the imported game.

Editor, OUTING:

As an old Rugby Union official, with many years' experience in England and South Africa, I strongly object to Eastern Stanfordite's letter in your June number. Permit me at the beginning to say that I think the old game is more suited to the American boy than English rugby.

Your correspondent's peroration clearly indicates his prejudice, and his letter generally shows such a one-sided opinion that for the sake of those in California who still prefer English rugby, I wish to indicate how such a letter is misleading.

The reason, in my opinion, why rugby has not been such a success in America is due to the lack of initiative in the average American boy. During his high school and college life he is under the guidance of someone in everything he does connected with sport. On the track, in baseball, intercollegiate football, and even in expressing his sentiments on the bleachers he is controlled in practically every movement. All at once a new game is thrust upon him from a country where these conditions do not exist—a game in which every movement is so uncertain and unexpected that he must have his wits and intelligence at his fingertips.

In the old game a player is told exactly what to do; the other players on his side know, too; possibly the opponents know to a certain extent what is going to happen. There is little intelligence needed by the player with the ball except to take advantage of some slip by the other side. To say that the giver of the signals does not need intelligence is, of course, untrue. To say that there is no quick action of thought in English rugby, but only in the American game, is absurd; in my opinion it is quite the reverse, as I have just explained above. Eastern Stanfordite uses such remarks as "pure luck," "no headwork formation," "no team work." How many games are won by fumbling the ball? Is not this luck? Team work, etc., is more intelligently carried out in the English game, as it has to be done instantaneously; the players do not have time to await orders and then have the ball passed back among them.

The run through of MacGregor in the New Zealand game was admired by your correspondent, but used for purposes of adverse criticism quite wrongly. It is new to me to know that in English rugby one *has* to pass the ball, even if there is a clear opening through. My experience of the game is that play-

ers do not pass enough, and allow themselves to be tackled when a pass would have ended in a score. To remark that there were no tacklers on the field when MacGregor made this run through would mean that when a player makes a run through in the American game there are also no tacklers on the field. What happened was that this New Zealander out-tricked the opposition and so bewildered them (they never having been taught how it could be done) that it looked child's play to have stopped the run (to those on the bleachers).

That the game is not spreading in adjacent states is due to the fact that other colleges are so far away and have scheduled games with neighboring colleges that it would be foolish to make a change. The reason why the University of Southern California seceded was on account of financial losses to themselves and the other colleges in Southern California by reason of the former staying out of the conference games.

Whatever game was or will be played here, the "big game" between Stanford and California will draw its crowds to the detriment of the other games. I do not suppose the preliminary games with the big universities in the East and the small colleges draw any crowd; results so diverging as 70-0, such as I read about, cannot be cause of rejoicing or attraction to students and alumni. So why cast this in the teeth of the California universities?

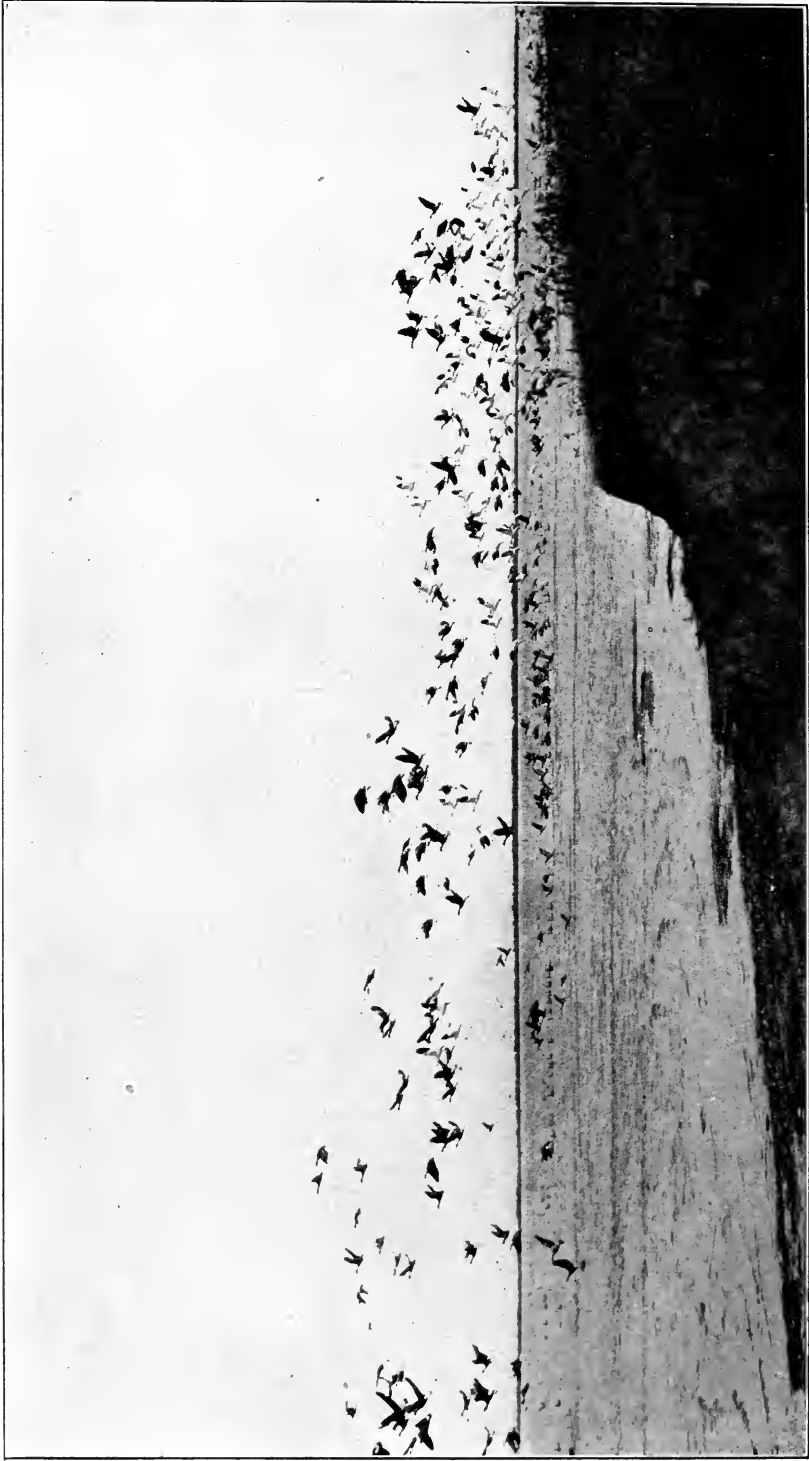
The American game has always remained a college institution. One does not find outside clubs such as are found in England and the colonies in the English game, which are the mainstay of the game. This is sure evidence that a football match under American rules is simply a trial of strength between rival universities, and it is this spirit of rivalry carried into the classrooms that causes the excitement and intense feeling.

I hope my remarks will tend to bring about a better understanding between the rival factions, and also show your correspondent that a more liberal view of sports, especially, is desirable these days.

W. F. SUTHERST, Ph.D.
Berkeley, Cal.

*THE QUAIL-SHOOTER'S
PARADISE*

*A dog and a gun and the wide-flung fields,
Youth in the heart and a whistling call;
A booming of wings like a bursting shell,
Crack of a gun and a hurtling fall.*



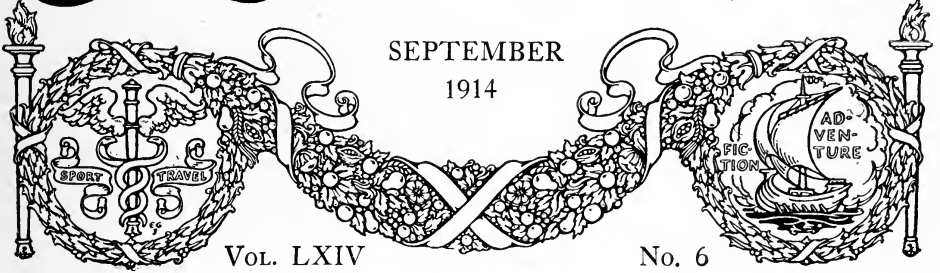
HE IS THE WILDEST OF A CLAN LONG KNOWN FOR ITS WILDNESS

(Illustration for "On the Trail of the Wavies," page 701.)

OUTING

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THE ELUSIVE MUSK-OX AND THE DELUSIVE DOG-RIB

By DAVID E. WHEELER

ILLUSTRATED WITH PHOTOGRAPHS AND MAPS

THERE are still wide open spaces in the Far North of the American Continent. The Barren Grounds still repel—and attract by their very repelling. The article which follows is an account of a long trip in that country and of the adventures and misadventures that befell the hunter. He fought storm and cold and the ignorance and laziness of the Indians—but he won his prize. Incidentally it is a vivid picture of conditions under which hunting must be carried on in that region.

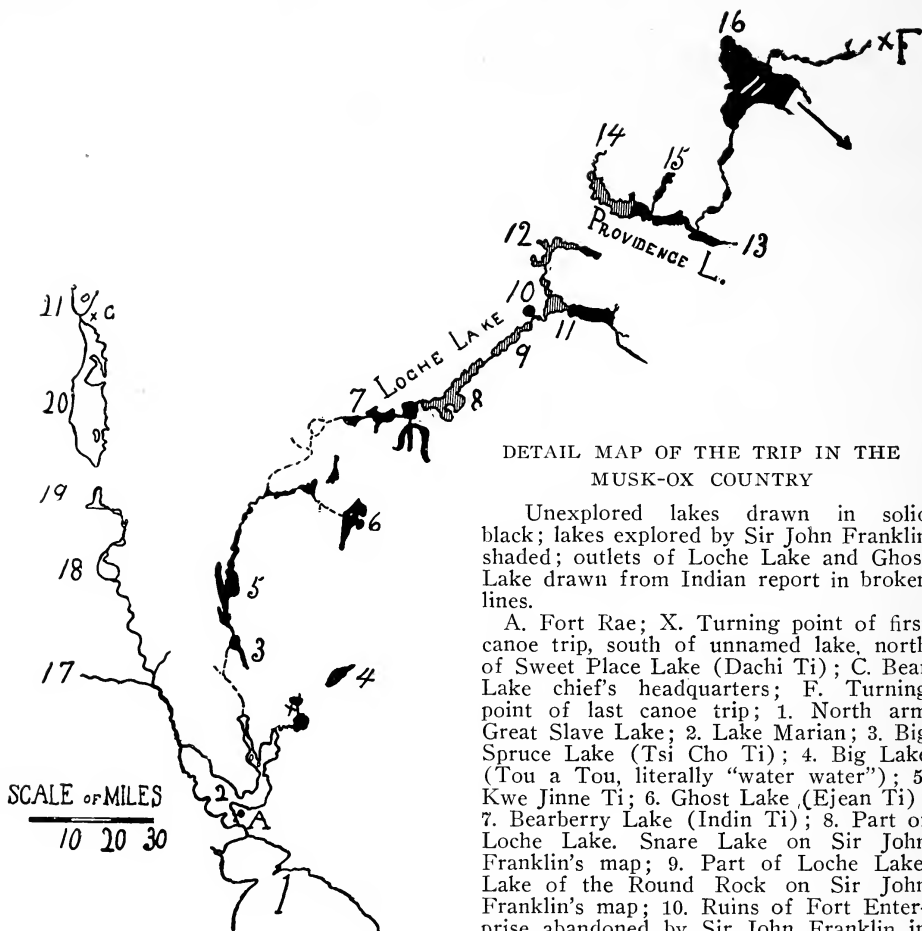
I HAVE found the game of hunting musk-ox to consist not so much in pitting one's wits against the musk-ox as against those of the wily Indian who fears the Barrens, yet whose help and knowledge of the country are essential for success. This story tells of endeavors to secure the services of these people and of attempts to hunt the Barren Grounds without them. The winter before starting for the fur countries I sent a letter by dog packet to the wintering factor of the Northern Trading Company. Through his good offices I secured from Germain, a chief among the Dog-rib Indians, his promise to meet me on the first day of September at Fort Rae, on Great Slave Lake.

In order to keep this engagement I

left Athabasca Landing and the railroad track early in August. The trail to Rae descends the Athabasca and Slave rivers and crosses Great Slave Lake. It is easily followed, so I took no guides, but traveled alone in a small canvas canoe. The weather was almost perfect, and there were no flies.

As a rule I turned in at night without fire, boughs, or shelter of any kind. Now, a man rolled in a smoke-stained blanket on the beach is an inconspicuous object, nor is his presence likely to disturb the denizens of the wilderness on their nocturnal rounds. The familiarity of game and fur is the chief charm of these fireless bivouacs. Such familiarity may even be carried too far. One night a wolf, on velvet paws, crept up and stole a bag of pemmican which

FROM THE AUTHOR'S SKETCHES
FROM FRANKLIN'S SURVEY



DETAIL MAP OF THE TRIP IN THE
MUSK-OX COUNTRY

Unexplored lakes drawn in solid black; lakes explored by Sir John Franklin shaded; outlets of Loche Lake and Ghost Lake drawn from Indian report in broken lines.

A. Fort Rae; X. Turning point of first canoe trip, south of unnamed lake, north of Sweet Place Lake (Dachi Ti); C. Bear Lake chief's headquarters; F. Turning point of last canoe trip; 1. North arm Great Slave Lake; 2. Lake Marian; 3. Big Spruce Lake (Tsi Cho Ti); 4. Big Lake (Tou a Tou, literally "water water"); 5. Kwe Jinne Ti; 6. Ghost Lake (Ejean Ti); 7. Bearberry Lake (Indin Ti); 8. Part of Loche Lake. Snare Lake on Sir John Franklin's map; 9. Part of Loche Lake. Lake of the Round Rock on Sir John Franklin's map; 10. Ruins of Fort Enterprise abandoned by Sir John Franklin in 1821; 11. Winter Lake (Ma A Ti); 12. Little Marten Lake (Tsan Ti); 13. Outlet

Lac de Gras; 14. Coppermine River; 15. Eda Ti; 16. Jjaba Ti, said to extend in the direction of the arrow as far as a dog-sled travels in three days; 17. River la Martre; 18. Chago Ti; 19. Kwecha Ti; 20. Lac Ste. Croix (?); Author's net lake (Si Mi Ti); 21. Dog Lake (Tli Ti), said to drain into Great Bear Lake.

formed a part of my pillow. So softly he did it I never wakened nor knew, until I examined his tracks in the morning, who had robbed me of my breakfast.

It was near the end of August when I reached Fort Rae. I was feeling in fine feather and much encouraged to expect a quick and successful hunt for the first thousand miles of the journey, more than two-thirds of the distance to the musk-ox country, had been made in

twenty-five days. I little knew the delays and disappointments in store for me, nor that, for nearly a year, Indian cowardice should alternate with my own inexperience of Barren Ground travel to cause the failure of one trip after another.

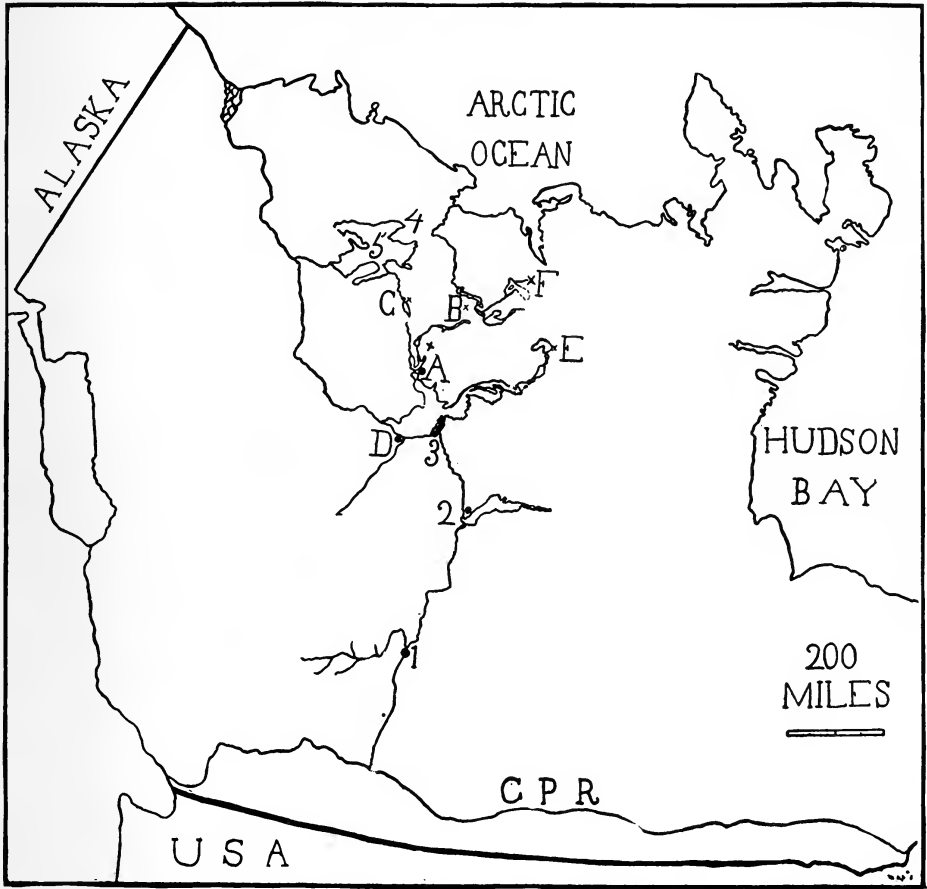
First came the word that Germain was not expected for several weeks. However, his brother-in-law, Adan, promised to guide me to the edge of the woods and agreed to start "*Sa tchon, Sa*

tchon; Sa tarné" (To-morrow, to-morrow; when the sun divides"). Noon of the day after to-morrow arrived, but Adan did not. This was a fair sample of the way the autumn passed. It was Dog-ribs yesterday and Dog-ribs to-morrow, but never Dog-ribs to-day.

From time to time the cry, "*Mana Klan*" (Many arrivals) rang through the post as a brigade of canoes came in

from the mysterious hinterland. Then I would hasten from my island camp to powwow with the Indians. The result was always the same. They wanted the luxuries I promised, but could live without them. Without meat they could not live, and so were obliged to follow the caribou instead of pushing out into the Barren Grounds for musk-ox.

When the ice was strong enough for



GENERAL TERRITORY OF TRIP

C. P. R., Canadian Pacific Railroad; 1. Athabasca Landing, railroad terminus on the Athabasca River; 2. Fort Chipewyan on Lake Athabasca at the head of Slave River; 3. Fort Resolution on the Slave River delta where it discharges into Great Slave Lake; 4. Dease River Mission between the Coppermine River and Great Bear Lake; 5. Great Bear Lake, turning point of first canoe trip; A. Fort Rae on the shore of Lake Marian; B. Turning point of first trip with dog-sled. Barrens between Winter Lake and Lake Providence; C. Headquarters of Bear Lake chief near Lac Ste. Croix (?); D. Hay River post on the shore of Great Slave Lake; E. Clinton Colden Lake; F. Headwaters of Coppermine River. This letter lies south of Bathurst Inlet, east of Jjaba Ti, and northeast of Lac de Gras. The cross marks the spot where the musk-ox was killed, the turning point of the last trip north from Fort Rae.

(Scale of original map 100 miles to one inch; on account of reduction present scale is 384 4/19 miles to one inch.)



ARMI LOADING THE FAMILY CANOE

travel with dog-sleds I left Fort Rae for the country to the northward. None of the Indians was willing to go beyond timber line so late in the season, but Bruno Jimmy went with me as far as Loche Lake, from which point I knew I could find the way without help. At the edge of the woods my road led through the narrows of a long lake where a current kept the ice thin. Here, where the caribou cross at the time of their migration and the waters teem with trout, stands Susa le Moëlle's house.

Now, before leaving the fur post I had been earnestly warned against Susa. He had, I was told, outfaced the factor of the Hudson's Bay Company and lost his fear of the traders; to pay a grudge he had shot Germain's dogs and esteemed himself a bad man; he had gone crazy and believed himself a prophet; his medicine was strong and bad against the white people, and, finally, in native eyes the climax of his crimes, he had called his father an old fool. Although I took all this with a grain of salt, yet I carried my rifle handy with a cartridge in the barrel when passing close under his house.

Absorbed in watching for signs of an

ambuscade, it was only natural to neglect testing for weak ice. The ice broke and one leg went through, getting wet to the knee, and after all Susa was from home, his house vacant, and the snow before it unbroken. As a matter of fact, he lives nearly all the year in his lodge and only visits his log mansion occasionally. That same evening I met two Dog-ribs. They told me that the night would be very cold and that I would do well to camp with Le Moëlle, whose tepee they said was near by. This I was unwilling to do, and followed the shore in search of a suitable grove of trees in which to spend the night.

A fine camping ground lay about the mouth of a small brook which emptied into the lake. On entering the trees suddenly a wigwam loomed into view. Now the fat was in the fire. It was too late to turn, for when first seen the lodge was so close that to pass it would give gross offense. Yet it did not seem to be the right thing to go gunning for a man in the morning and ask his hospitality at night.

While pausing on the threshold to debate this question, out of the tepee came, not Susa, but his father, the medicine-



CONVENTIONAL DOG-RIB TABLE MANNERS

man, whose face was wreathed in smiles and whose heavy, prognathous jaws were parted by a grin which proved to be the pledge of a cordial welcome. He was living alone with his squaw, for their son would not hunt for them, a thing very unusual among the Northern savages. This old couple feasted me royally on fat caribou guts, pounded dry meat, and marrow grease. They even offered fresh meat for my dogs. Medicine-men usually live in plenty, for they levy tribute on the other Indians.

After dinner the squaw gave me a sack full of native dainties, all carefully dried, and my host medicined with rabbit fur a snowshoe blister on my foot. His incantations sounded weird, for he stuttered badly. The normal native speech is as harsh as a raven's croak, but when the gutturals play leap-frog with each other they are raucous enough to choke a wolf.

In spite of his defect, perhaps because of it, he was easier to understand than any of his fellow-tribesmen. His disability had developed a wonderful patience and ingenuity. When words failed he added gestures, signs, and rude pictures drawn with charcoal from the

fire. He told me quaint hunting tales, all hard luck stories, for the native success in the chase is so constant that only failure makes sufficient impression to be worth the telling. So old Le Moëlle told me how twenty years ago he had missed a duck and also how he once lost some musk-oxen because his dogs howled too soon and scared them away. He recounted an experience with a blizzard when lost on the Barrens. He had spent the night buried in a snowdrift, his face covered with deerskin leggings to keep it from freezing.

He prophesied a hard trip for me, and said that on my return his house should be my house; there he would cache meat for me. This promise was faithfully kept. My visit to the medicine-man well illustrates the attractive side of Indian character. He is unexcelled as a host and his squaw is unequaled as a cook. It is only in business dealings that he is more exasperating than his own sled dog.

When I reached the Barren Grounds things began to go wrong. There was so little snow that everywhere boulders projected above the surface. If I went ahead the toboggan upset every few



SUSA BO

and cliff, hill and valley, all robed in spotless white, lay at my feet. It was hard, indeed, to leave so attractive a prospect, especially bearing the stigma of failure.

The journey back to Rae proved uneventful. At the post the Indians were commencing to gather for the Christmas trade. Among the Bear Lake Chief's people there was some talk of going out to the Dease River Mission, where the "Blonde Huskies" come to get religious instruction—and iron. Such a trip would suit me well. Even if I could not persuade the Eskimo to hunt musk-ox with me, at least I could learn enough of their technique to be able to travel the Barren Grounds alone.

I spoke to Cochia (Little Brother), the Chief's eldest son, about it. He was anxious to have me visit his camp and medicine an axe cut on his father's foot, but was non-committal as to the Dease River expedition. Although he would give no definite promise, the trip with him to his father's camp seemed to offer the best possibilities of sport during the month of January. We started the day after Christmas. Little Brother asked me not to use any of my "white's grub"

yards. If I went behind to steady the sled the dogs could not pick a good way. In the end it was necessary to double trip. That is to say, I would leave the train, run ahead for two or three miles, and then return and drive the dogs along my track. This, of course, meant traveling three miles for every mile of advance, and certainly emphasized the justice of the local saying that "Dogs need a man to run ahead of them and a man to run behind them, and even then they only haul their own grub."

It was cold enough for the dogs to feel the weather, which means about 40 below zero. As long as I was either traveling or sleeping in my robes I was comfortable enough, but was unable to make an efficient shelter where snow for drinking-water could be melted. One cup of ice-water night and morning was my ration. It did not take many days of this kind of travel to convince me that under the circumstances the musk-ox hunt was impracticable and must be deferred until spring.

While I was packing my sled for the return trip the sun, though still below the horizon, flushed pink the southern sky. In the north the moon hung like a silver shield. A gentle breeze carried the powder-dry snow, like rapid water running ankle-deep, up the hill. Lake



COCHIA

while traveling, because there were thirteen sleds in the brigade, and if once we started on the good food it would be all eaten before we reached the lodges. Apparently the other Dog-ribs were actuated by the same motive, for with real provisions on every toboggan we all shared with our dogs the rotten "hung fish" put up for their use the previous autumn.

We found the Chief in high feather over the success of a great medicine war with his rival, Old Jeremy. First Old Jeremy made medicine, but it missed the Bear Lake Chief and killed his son's wife's cousin. This made the Bear Lake Chief very angry and he made medicine which, however, missed Jeremy and killed his squaw's brother's illegitimate daughter. After several misses Jeremy's medicine came very close and the Chief cut his foot with an axe and was laid up all winter. This gave him plenty of time to make very strong medicine and Old Jeremy caught pneumonia when he visited the houses at the post and died. Thus only one chief was left among the Bear Lake Indians.

One of these people was a man without any face. His countenance was just a raw, red, suppurating hole reaching into the base of the skull with half an



GERMAIN'S YOUNGER SON, SUZA, DRUMMING TO AMUSE HIS NEPHEW

eye on top and half a mouth below. He besought me to cure him. I asked how long he had been that way. He said, "It is long, long; so many years I can't count them. I was young fellow like that boy there. I was smoke a pipe and pour powder in the powder horn. Bang! It burn me. So I got no face. Just like a louse. I used to be a man and hunt musk-ox, now I am a squaw and sew wrappers for the toboggans." Of course, I could do nothing for him nor do I think the Indians blamed my medicine for being over-matched by such a case.

The Chief entertained me most cordially. Both he and his crony, Susa Bo, gave feasts in honor of my visit, but they would not consent to any of their young men going to Dease River at that time of the year. So I bade them all farewell and returned to Rae.

As soon as the dogs were rested I decided to go to Hay River, 240 miles distant. Resolution lies on the way, so there is a chance to break the journey. Hay River is a great fish post, and I hoped there to get dry fish for my spring musk-ox hunt. I found it easy to travel alone on a good trail, or on the wind-swept ice of Great Slave Lake. It is only where the surface is bad that a foregoer is necessary. It took me, however, two days to make the long traverse. A



GERMAIN AND HIS GRANDSON



THE MEDICINE MAN'S SQUAW AT THE LEFT. BOA'S SQUAW AT THE RIGHT

blizzard was raging at the time and all landmarks were blotted out in the whirling drifts.

Early in the evening of the first day I ran across a wooded island which provided shelter for the night. All the second day the travel was over ice formed on the open lake with no land or sign of land visible. I carried no watch so that dead reckoning, which alone gave me any idea of my position, was somewhat uncertain. As darkness was closing in the dogs became unhandy and at every pressure ridge crouched down for shelter from the wind. As there was danger of losing them in the gathering gloom, I decided to camp among some hummocks under the lee of an up-ended cake of ice. My sleeping bag I left in the sled wrapper and after unhooking the dogs crawled into it.

Before sleep came many stories of men lost on the big lakes in snowstorms passed through my mind. One in particular of a Chipewyan dog puncher who had always said that under such circumstances he would turn his cariole upside down and sleep under it as in a tent. The time came when he had to test this device on Lake Athabasca. When the weather cleared he was found frozen to death within sight of the fort.

Soothed by these reflections, I fell asleep.

In the morning the storm raged as fiercely as ever. Failing in my efforts to free the toboggan from wind-packed drifts which wedged it between great cakes of ice, and rather than abandon my outfit, I returned to the sleeping bag for the day. The second night it was impossible to turn over, for the snow kept sifting between wrapper and blanket and compressed my person as in a plaster cast. Only in front of my face could I keep an air chamber in which to breathe and smoke. Here the atmosphere became so foul that only one match in six would light.

As the hours wore on toward morning, silence, as sudden as a blow, woke me. The wind had fallen. By the light of the brilliant stars and flaming Aurora land was visible three miles distant. Twelve hours later I pulled in to Resolution after having gone two days without water, two and a half without food.

At Hay River they were all out of dry fish, but were willing to sell me fifty pounds of bacon. At Resolution I was able to get flour, sugar, and dry fruit, but none of the half breeds would heat of going to the Barren Grounds.

At this crisis one of the best of these dog-punchers came over from Rae to

trade his fur at Resolution. For his services I offered \$500.00, to be paid when we returned to Athabasca Landing, where such wages would enable him to purchase a small outfit and set up as a free trader. It meant for him an independent start in life. The temptation was too great to be refused. He put his fears in his pocket and accepted my terms. But when it was time to start on the long trip he "had a sore arm" and refused to go. So in the latter part of March I set out without him.

The route chosen ran eastward on Great Slave Lake, and then over Pike's Portage to Artillery and Clinton Colden Lakes. It was impracticable to carry rations for more than a very small fraction of the time, but on the tenth day, before I had reached the end of Great Slave Lake, when my stock of provisions was nearly exhausted, I caught up with the migrating herds of female caribou. They were traveling in countless thousands toward the rich pastures beyond timber line. Like myself, they chose the

great lakes as their best road to the land, not of milk and honey, but of moss and musk-ox. From this time on there was no need to worry about supplies, for the deer furnished abundant food of the very best quality for both man and dogs.

On Clinton Colden Lake, far beyond the last stick of stunted wood, I was again caught by a blizzard and obliged to lie up for two days in my sleeping bag buried in snow which the half breeds call "*le couvert du bon Dieu.*" The gale swept over the barrens and the wide traverses of the lake. Lacking the resistance of trees or rough inequalities of surface, it raced in uncanny quiet. There was no howling in the branches, only the white darkness below, the blue sky and the sun dogs above, and the faint hiss of innumerable impalpable particles of finest snow dust driven by the storm at lightning speed over the ice and the hard surfaces of wind-packed snow. The drift sifted into every crack and cranny of my outfit. So forcibly was it driven that for days after the storm even the



FIREPLACE IN A DOG-RIB HOUSE. IT IS BUILT TO HOLD THE LOGS VERTICAL, NOT HORIZONTAL, FOR THE FIRE IS LAID LIKE A LODGE FIRE



ADI, ARMI'S SQUAW, CASTING BULLETS

dogs were unable to free their coats from it.

When finally the wind dropped it took all my wood, except enough for one fire, to get the dunnage clear enough from snow and ice to pack it on the sled. Failure of the fuel supply made it necessary to turn homeward again. Further progress was out of the question. Even as it was, I got thirsty before reaching the timber line, and at night dry lips and cracked tongue dripped blood on the blankets.

On the return journey I wounded three caribou out of a small herd. During the stalk the sled was tied to a rock to prevent the dogs from joining inopportunely in the chase. They, however, tore it loose and followed, not the cripples, but the unwounded deer. I ran after them, guided by their tracks for they were soon lost to view in the rolling prairies. A stiff breeze was blowing and the trail often crossed bare, wind-swept ridges where it was difficult to see footprints. For two hours I followed the runaways and had ample time to meditate on my predicament in case they could not be found. I would be left far from the edge of the woods without fuel, blanket, axe, or even a knife. My

total assets would be a score of matches and a dozen cartridges with four hundred miles to travel before reaching Fort Rae. Finally the dogs were caught and I blush to think how cruelly they were whipped for I was both frightened and angry, an evil combination.

With the advancing season it was necessary to travel at night and sleep in the day time, in order to avoid noon thaws and take advantage of night frosts. Among the Yellow-knife Islands I got on the toboggan about midnight for a cat nap. A change in the step of my beasts of burden wakened me. Sitting up heavy with sleep, it took some time to realize what was the matter. There were five dogs, one too many. I counted them over twice to make sure before shooting and then came broad awake with a snap. The fifth dog was a wolf following close on the blood slot of my poor, sore-footed animals. He ran off when the sled stopped and since it was too dark to see the front sight plainly I missed him.

On the ninth of May the battered, trail-worn toboggan reached the Fort. It was necessary to swim the dogs across



REPAIRING A CANOE. A FIREBRAND AND WHITE SPRUCE GUM ARE USED

a narrow channel which separates the post from the mainland. The spring thaw was well under way and the robins were singing their love songs. The grouse would soon be courting and even Dry Geese, the little, wizened old hunter, serenaded a fat and enormous widow in words which translated run as follows: "Mosquito Head! You good girl. You are as sweet as marrow grease. Your taste like the unborn caribou. My heart is strong for you. My heart beats like this Medicine drum."

The summer was far advanced before any of the Dog-ribs could be induced to



BOYS AND MEN MAKING MEDICINE, TO BRING LUCK, WHILE PLAYING THE HAND GAME



FEASTING AND GAMBLING AT RAE

leave the post for a musk-ox hunt. The party which finally started was composed of Germain, Armi, and Little Paul (Boa), besides squaws, children, and dogs. Paul's squaw stayed at the fort and asked rations for the time during which he should be away and unable to provide for her. Although we expected to be gone several months, all she demanded was a fish net and 12½ pounds of flour. She got them.

At first my men traveled very slowly with eyes turned backward to the feasting and gambling at Rae. They complained bitterly of the loneliness of the trail, for it takes a very large company to satisfy the social instinct of a Dog-rib, and deliberately delayed in the hope that other parties would catch up to them.

As our provisions ran short they became more cheerful and paddled faster in anticipation of the land of plenty we should find beyond timber line.

When we killed a black bear we had a great feast, all except Paul, whose medicine forbade him bear meat. Over the longest, steepest portage of the trail the natives fairly ran although their loads were heavy. They told me that this place was very dangerous because it was infested by Nagani, a kind of wood spirit or man-sized fairy, much feared by both Indians and half-breeds.

At Little Marten Lake, fifteen miles north of timber line, we first found caribou. They were abundant and we camped on the shore of the lake for nine days and killed seventy of them.



BOA WITH THE MUSK-OX HEAD

feeling. Gregarious animals act in just this way, but such customs make it impossible for the hunter to rely on native guides.

Bearing these facts in mind, I turned in with my mosquito bar carefully tied to one of the canoes, and lay under the bar with a loaded rifle by my side. As soon as I had feigned sleep Paul crept up and peered through the netting. His report must have shown the others that they were temporarily checkmated for Indians are good^e tacticians. At all events, there was no demonstration that night.

Next day we cached the canoes and all our dunnage, except blankets, cartridges, and tobacco, for we were starting on foot for the high hills. We expected to be gone several weeks. The morning was bright and fresh and the fears of the preceding night vanished away. After traveling about three hours Paul saw a musk-ox, one lone old bull. I killed him quite easily. Nature loves an anti-climax. The actual stalk which formed the culmination of a year's hunt was tame enough. The head, how-

ever, was a beauty with as large a spread as that of any ever brought out.

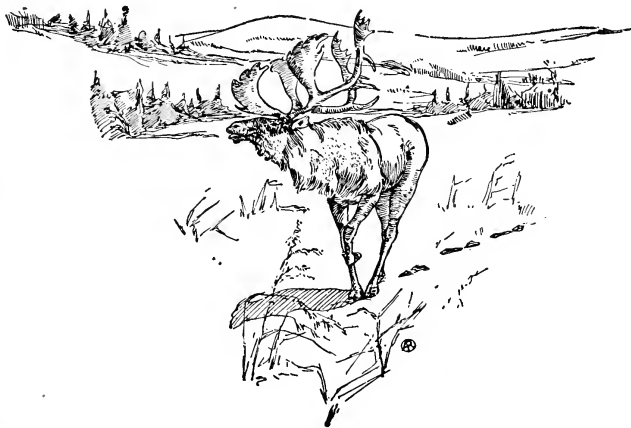
Rather to my surprise, the natives were most enthusiastic over this fine trophy and gave cheery and willing help in its preparation and transport. The skull was too heavy for me to lift, but at the commencement of every portage they placed it on top of my pack and at its close lifted it down, taking great pains not to scratch the horns on rocks.

We were now all of one mind. My companions were in haste to reach Fort Rae and get their presents. I wished to make speed in order to reach Athabasca Landing and rail head before the freeze-up, which could only be done by traveling southward rapidly and without interruption. Already the small ponds were freezing over and there was a smell of snow in the air.

At the fur post I parted with Germain and his young men. I saw him last as I was sailing from the fort in a canoe. He ran to the bank, waved his fillet about his head, and shouted:

"*Gwi ké ni whé tsi Hurrah bi Casey.*"
"Fair wind! Hurrah for Casey."

Another article by Mr. Wheeler—the product of his experiences in the North—is on the Sled-Dogs of the Sub-Arctic. It will appear in one of the early Winter Numbers.





THE COUNTRY ROLLS AWAY IN GENTLE, LOW-SLOPING HILLS, AS GREEN AS EMERALDS

IN BACK OF BEYOND

By STEWART EDWARD WHITE

PHOTOGRAPHS BY THE AUTHOR

VI

A LION SURPRISE PARTY

THE westward march has begun none too soon as the donkeys are dying one by one from the tse-tse bite and there is still a long way to go. The previous instalment landed Mr. White among the villages of the Wasonzi, "a pleasant, human people." Game is increasing daily and the problem of meat supply no longer bothers them, but transportation is rapidly simmering down to back-packing. A native messenger has arrived with the necessary customs visé from the German governor so that the last official formality has been complied with.

AUGUST fourteenth brought us a fine Japanese effect of flat acacias against the glow of the morning sky. Unfavorable reports came from M'ganga as to lack of water ahead, so we cut back in the hills to the north, between a big round mountain and a high rock outcrop. Here the

passes were low and the traveling open and very easy, while chances of water would be much better in the hills than on the flat.

Loads of game.

This route led us finally between two ranges to a wild valley sweeping upward, across which we angled toward the upper end where our glasses had disclosed a green spot. The green spot might mean



GIRAFFE MARCHING ALONG THE SKY-LINE

a spring. About noon we found it indeed to be a trickling little clear, cold stream, with big trees. The trickle soon ran underground, but the trees made us a shady, pleasant camp in which we resolved to stop for some days.

While waiting for the safari, Memba Sasa and I went on to see the source and got a very fine sight of a magnificent black-maned lion. The wind was wrong, and he bounded into the thicket, but he was a beautiful creature.

Our camp was made in the shady grove. The donkeys came in very late and tired. In the afternoon Cuninghame and I went on up into the pass whence we saw down the length of another narrow valley, widening between the hills. Then we made a high climb up the mountain to our left, and found a round, grassy summit at last on which were many Chanler's reedbuck. These graceful, and generally shy, creatures bounded all about us, stopping within a few yards and uttering their high, shrill whistles. East, north, and south fine, big, tumbled hills and mountains through the smoke; west a boundless plain, undulating and black with brush and fire. The sun struck in bars through the smoke, and the distance was lost in haze.

Got back to camp at dark to find it well stung by bees! An enterprising porter found a bee tree too near and got

everybody in trouble. After dark they went at it again and got a quantity of black, grubby honey.

While camped here we sent men back to the camp where we had seen the last of the Wasonzi to bring up the potio loads we had left there in charge of the sick men. Then we went out for a walk, meat, information, and anything else that might show up. From the mountain we had, the day before, seen a patch of green grass far back among the hills. We went toward this.

A very high wind blew. While we were going over a grassy shoulder, single file among some thickets, Cuninghame ahead, suddenly a bushbuck doe sprang out and stood sidewise forty yards away. Cuninghame dropped flat, his hands over his ears, and I put a .405 into her shoulder. Very hard animal to get, as it is mostly invisible in cover. I have a buck, and want a doe.

The green country we found inhabited by great herds of game, but extraordinarily wild. Through the thin growth of small trees with which all this country is sparsely covered we could see them disappearing at the mere first small glimpse of us. Even the top of a helmet cautiously raised above the grass sent them off. This puzzled us, for certainly this game had never been hunted or driven about. Indeed even game in a



A ZEBRA CATCHES MY WIND

much-hunted country will generally stand staring an instant or so before making off; but this lot bolted instantly. The probability is that ordinarily wild game depends for alarm on hearing and smell rather than sight. It will stare at a strange object; but will run away instantly from a strange smell or a strange sound. But in a high wind neither hearing nor smell are of any use. Then and then only the game falls back on the sense of sight. In fact they this day bolted off in just the headlong manner of game that has winded man.

We were much interested in this, and we spent some time trying out *the same* herds of game under different conditions. On windy days they were very wild; on calm days very tame; in sheltered places very tame.

We saw zebra, impalla, topi, kongoni, waterbuck, and many Bohur reedbuck. Tommy and Robertsi were there in numbers, but we saw little of them. By very careful stalking I wounded a topi at 180 yards badly enough to cause him to turn off. While following him I had an extraordinarily interesting experience. In a shady little grove without underbush stood a reedbuck, a graceful, pretty creature about the size of our California

deer. His head was up and he was staring at me. My course led directly toward him. He did not move. Nearer and nearer I walked, bold, upright and in plain sight, expecting every minute he would bound away, until I was within five or six yards of him. Then, as he did not move, I quietly turned aside and *walked around him* about ten feet away, and left him in his cool, green shadow, still staring.

And then, just a few yards farther on, I came on a family of sing-sing, some lying down, some standing. They, too, stared at me, in noble attitudes like a lot of Landseer's stags, until I was within thirty yards. Then I caught sight of my topi and

fired at him across them and they vanished. All this was under shelter of woods where there was no wind.

We then started back to camp. When two miles from there we ran across a few topi stragglers, almost invisible in the bush even at short range and to the gunbearers. Note this is protective coloration argument, as the topi is as conspicuous as the zebra out on the plains. Where *never* molested, as in this country, *both* topi and zebra are found mostly in light brush. Food for reflection.

One of these also I killed for future reference. This made us meat in hand, so we set everyone to making "jerky." New one on them, but it came out excellently, and everybody has kept a piece or so to chew ever since. Makes fine lunches.

In the evening millions upon millions of driver ants started through camp. Of course, if they get fairly going you have to get out, for they will eat through anything but tin, but we headed them and laid a thick barrier of hot ashes across and around them. Dolo got down on his hands and knees and was led back and forth by another man all round the donkeys. He carried grass on his head,

and claimed that by this magic his beasts were rendered safe from the "chop." A donkey died that night, and we had leopards about.

We stayed in this camp several days, resting, shooting necessary meat, and waiting for our other men to come up. Finally we set off over the low pass into the other valley. Left Dolo, donkeys, and sick men. Instructed Dolo to go back to "Windy Camp"—where, be it remembered, some time ago we left two sick men—to help the men with the relaying of the extra loads.

Down the slope of the valley beyond the pass the grass was very high and wearisome, and, in spite of soot, we were glad the country behind us had been burned. Many reedbuck leaped from their beds and bounded away, showing only heads and horns.

Then Cuninghame caught sight of a big roan standing in the shadow. He was over two hundred yards away, but by luck I managed to center his shoulder off hand. Ran into thicket. Found him there and brought him down at close range as he dodged through the bushes. Fine prize, and a big one. The curious part of it was that he had been wounded by a Wanderobo arrow in the neck. The poison with which these arrows are always smeared had not been effective, but had left a big pus cavity.

Farther down in the burned country we struck a fresh buffalo spoor, and



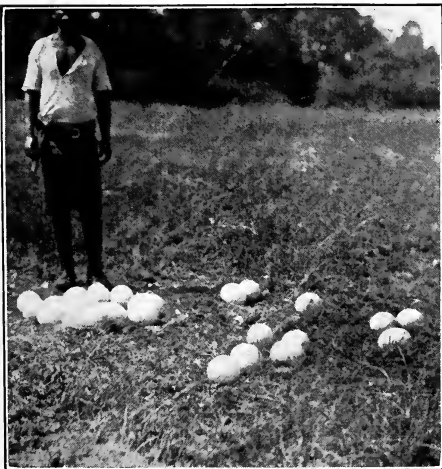
REEDBUCK FEEDING. IT IS RARE TO SEE THESE BEASTS IN THE OPEN

tracked it some miles and into a thicket only to have a fitful wind whip round on us at the last moment and send him off when we were within a few yards of him. Returned to find the safari, previously instructed, camped at a pretty green spring high up the slope of a hill, with clear water, green trees, and a far outlook. Rained a little. Heard lions.

All the scrub and small trees hereabouts are full of small, green parrots that chatter and scream and fly about; and monkeys; and brilliant plaintain eaters, the most gorgeous of created birds.

We started next morning at 6:15 and marched across a sort of mouth out across open country to a hill corresponding with the one we had left at our last night's camp. Crossed a dry streambed with tall trees and ferns, and advanced over a burning. Here, all by themselves, two animals stood side by side on the black soil among the bushes. Glasses discovered them to be roan. We had already two fine heads, but for our purposes needed two more buck and a doe of this species. I sneaked as near as I could and dropped the first in his tracks as though he had been struck by lightning. The other ran but stopped an instant to look back, and him, too, I knocked down in the same manner. The distances were 252 and 347 yards, which speaks well for the shocking power of the Springfield at long range.

Cuninghame and two men remained



THE OSTRICH NEST

to attend to these, and I skirted the hill, about half way up; for though these finished the buck, I wanted a doe. A half mile farther on I saw far below me a herd and counted nineteen. This is assuredly the greatest roan country in Africa. I managed my doe with one shot.

We camped near where I had shot the first two, in a grove of great, green trees with a spring of clear water, and the hills behind us and the plains before. Late in the afternoon when the sun was low I strolled among the lovely green, high trees and enjoyed the ibises, the many reedbuck—and the rhino.

Here we spent two days waiting for men to come up with the extra loads. When they did show up they brought with them the cheering news that several more of the donkeys had died.

Cunningham and I now realized that we must do a little figuring as to ways

up our minds to abandon the valuable equipments of the dead beasts; so that we now had, in addition to our regular loads and what few trophies we could not resist taking, a number of saddles and bags to carry. It was evident that we must now either throw away many of our goods and some of our food, and force a march to the westward! or we must get more transport.

We did not want to do the former. This new game country, into the borders of which we had penetrated so short a distance, fairly cried for exploration. Even in ideal conditions we would not have time enough to do it scant justice. The low hills at our back, for example, must be full of pockets and valleys, coves and little ranges, like the "green spot" we had examined. All this we must—regretfully—leave for the next comer; we had neither the food nor the time to turn aside from a fairly direct westward



EVERYWHERE WERE THESE TREES, SINGLY, IN LITTLE OPEN GROVES

and means. Seventy per cent. of our donkeys were now dead of tse-tse, and a strong probability existed that more had been infected. We had been for some time able to move forward only by short stages, and were forced continually to send men back for relays of goods. The burden was made still heavier by the fact that we had not been able to make

track. But on that westward track we felt that we must allow ourselves the leisure to cast about a little bit.

The Wasonzi had told us that at the old slave post of Ikoma—to the south—native donkeys were to be had. They even knew the prices. After canvassing the situation thoroughly we finally decided that I was to keep on straight

ahead, blazing out slowly the westward route; while Cuninghame, with a few men, was to make a "dash" to Ikoma for more animals. Dolo and the remaining donkeys, with a few men, were to camp right here until Cuninghame's return. Cuninghame would pick them up and follow after on my trail.

This seemed best all round. Cuninghame therefore took with him six

in the broad hollows were open parks.

And on every hill, standing in the openings, strolling in and out of the groves, feeding on the bottom lands, singly, in little groups, in herds, was game. It did not matter in what direction one looked, there it was; as abundant one place as another. Nor did it matter how far you went, over how many hills you walked, how many wide prospects you



IN ONE DAY MR. WHITE COUNTED 4,628 HEAD OF GAME

porters, Soli, Kongoni, and M'ganga. Eight porters and three donkey men stayed here in "Dolo's Camp." I went on with the rest. Cuninghame's adventures will follow in time.

I set out by compass, bearing for a river called the Bologonja, described by savages as running; marched for miles over rolling, burned-out desert on which roamed a few kongoni and eland. Then saw the green trees of my river, walked two miles more—and found myself in a paradise.

It is hard to do that country justice. From the river it rolls away in gentle, low-sloping hills as green as emeralds beneath trees spaced as in a park. One could see as far as the limits of the horizon, and yet everywhere were these trees, singly, in little open groves; and the grass was the greenest green, and short and thick as though cut and rolled; and

examined, it was always the same. During my stay at the next two camps I looked over fifty square miles. One day I counted 4,628 head! I mean counted—one by one—as one does sheep; not estimated.

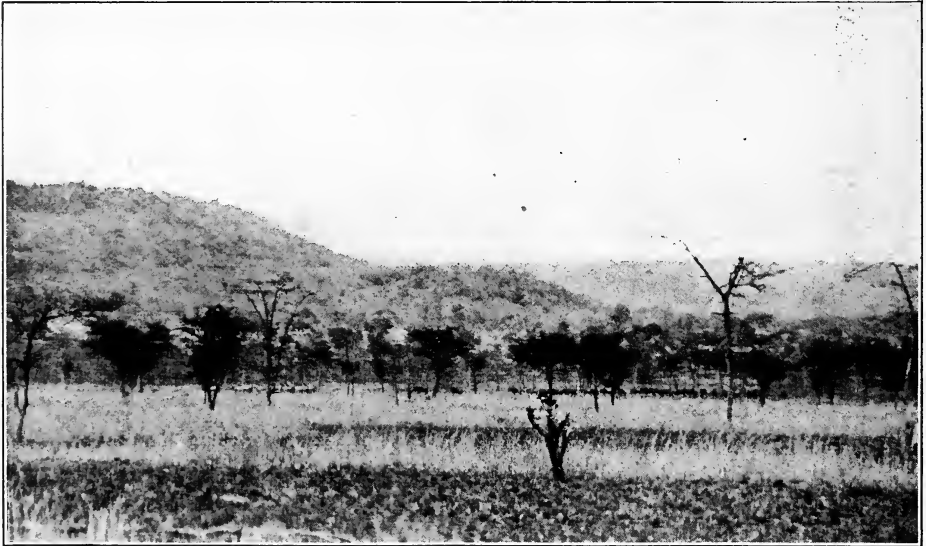
And in this beautiful, wide, populous country no rifle has ever been fired, no human being been except a few wandering savages. It is a virgin game country, and we have been the last men who will ever discover one for the sportsmen of the world, for Cuninghame says there is no other possibility in Africa unexplored. This game field is as big as all that of British East Africa, is as well stocked, has a good climate, and can be made accessible by our experiences.

The river proved to be a cold, sparkling stream running over pebbles, about ten yards wide and half-leg deep. And crystal water! Great trees overhung it;

and palms; and cool shade; and no mosquitoes. Pitched camp quite in the jungle where the stream sang, and the shade was so dense that no sun came through. Saw three lions, but they had the wind of the safari and decamped, though I chased them half a mile, to the detriment of my ankle,* which does not like running. Left a kill for them.

In the afternoon I strolled over the fine green hills and reveled in the sight

Heard wild dogs that night. Off early to look at lion kill (nothing), and then up the small, bushy ravines on the chance of seeing his lordship. Found where he had killed an eland with twenty-four-inch horns. Saw sign of greater kudu. Near the top of the roll of a hill had a fine sight of one of the immense mixed herds returning from water, single file, nose to tail, plodding slowly along one of the deep-worn game trails, hur-



IT DID NOT MATTER IN WHAT DIRECTION ONE LOOKED, THERE WAS GAME

of the game—black herds of wildebeeste, like bison in the park openings; topi everywhere, zebra, hartebeeste, Tommy, oribi, steinbuck, impalla, reedbuck, and others. The animals are all a little curious and a little shy. The topi are the most curious. Sometimes I was very close to animals right in the open; again a whole side hill would take a panic and run, and then the roar of the hoofs was actually like thunder. The sound of the rifle does not alarm them at all. Sometimes they hardly look up from grazing when they are not *too* near.

* Unfortunately I had to walk the whole of this 1,700 miles on an ankle recently broken and not entirely strong. This was a considerable handicap to enjoyment, though I never came to the point of abbreviating the day's march on account of the confounded thing. For this reason the loss of my riding mule so early was annoying.

dreds of them, zebra, topi, hartebeeste, wildebeeste, and eland. Other herds had already returned from water and scattered out over the green, parklike swells.

In a little open flat I found a Tommy (very few here) with a fine head, so I dropped him at 157 yards. His horns proved to be $15\frac{3}{8}$ inches (*good* ones 13 inches).* At the sound of the shot a lot of game across the valley actually decided to come over and see us, which they did, single file and at a dignified pace. They filed by four or five hundred yards away. There were fifty-two eland (how's that for a sight?), accompanied by about a hundred zebra, a few topi and kongoni, and eighteen wildebeeste.

Then returned to camp and rested un-

* Later shot one with $16\frac{5}{8}$ -inch horns!

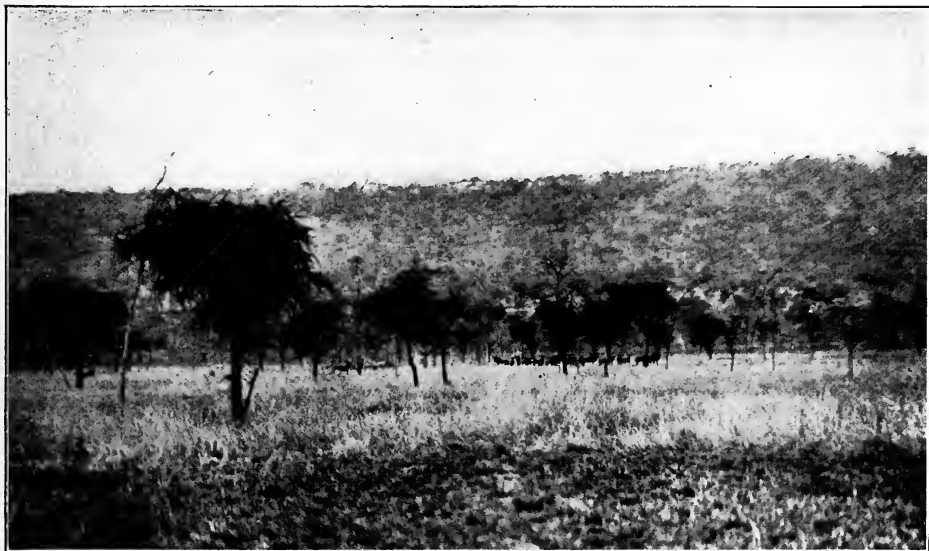
til two o'clock, when I took a different direction over the hills, and, to my wonder, found the game as continuously abundant there. From the tops of the swells it was particularly pretty to look over the tops of the trees to the green flats, resembling courts, and the wildebeeste grazing on them like bison in a park.

Memba Sasa and I sent the men back with meat and circled to cut the stream

gray monkeys. A Baganda-man named Maliabwana* brought in a long string of fish.

In the evening Memba Sasa reported with slight fever. I gave him the usual quinine, and told him to lie by the next day. Instructed Ali to pick me out a porter to visit lion kills with me, and added "one that will not run away." Overheard the following:

Ali—"You will carry the Bwana's



BLACK HERDS OF WILDEBEESTE LIKE BISON IN THE PARK OPENINGS

some distance below camp. Near the river the trees are thicker than on the hills. Here we caught a glimpse of sing-sing, a beast I was particularly desirous to get, both male and female. Did some very careful slow stalking and got within 150 yards all right. The difficulty was to make them out, and to get a shot through the thick stuff even after I had seen them. I had to wait nearly half an hour before I made out the buck's shoulder clear enough to shoot. Dropped him in his tracks. The herd crashed away, of course, but one doe paused to look back, and I got her, too. This made my pair. Hiked back along the river and sent out men.

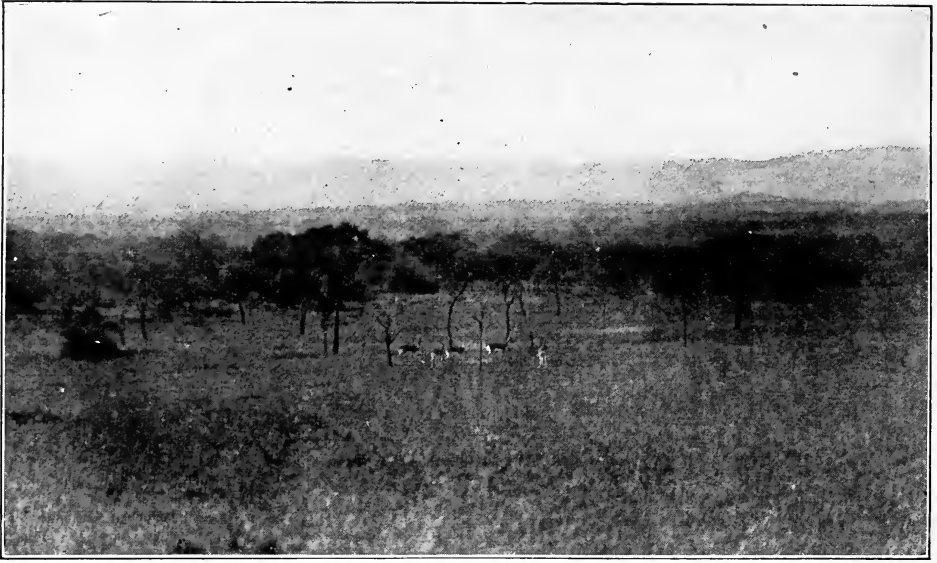
Saw little game and no game trails going to the river! So there must be water out on the plains. Many grouse, however, and some green parrots and

other gun. If you run away you will get *kiboko* [a thrashing]; if you do not run away you will get three rupees. If the lion makes *kalele*, do not run away: the Bwana will kill him. If the lion runs at you, do not run away: the Bwana will kill him. The Bwana has killed many lions. *Bass!*" †

Sent back all the men but two to bring up a relay of goods from Dolo's camp, as I had made up my mind to stay in this most attractive locality for some time.

* Mali-a-bwana—the money master. These men are self-named, and in their choice of cognomens modesty is not their strongest point. Example—Fundu=The Expert; Cazi Moto=The Hot Worker, etc.

† *Bass!*—"Finished," the usual method of dismissal.



THOMPSON'S GAZELLE

Started at the first dim light and had gone half a mile without looking back. Then I turned to say something to the porter, who had been dogging my heels—the porter who would not run away—and found it was Mamba Sasa! He swore he was all over his fever, felt strong, “and perhaps that man would run away,” he added. He is a faithful soul.

However, nothing doing at the kill, so his devotion had no practical result. I crossed the river and toiled to the top of a high cone hill for the sake of compass bearings and the “lay of the land.” Across the open, formidable veldt I made out a single rock outcropping from the bush ten miles away. As it was the only landmark, I took bearings on it, and resolved to use it if I came to the point of exploring the dry plains. Found Chancellor's reedbuck on the hill, and more roan at the base. In this country that particular sportsman's prize would be a certainty.

Returned to camp on that side of the stream, but saw comparatively little game there owing to the state of the grass. There were, however, a number of topi, Bohur reedbuck, and impalla. Got my needed Bohur doe with the .405.

Near camp I saw a queer-looking black hump sticking out of the tall grass.

When I approached it suddenly unfolded into a cock ostrich and departed. We found twenty-eight eggs. Only a dozen or so were covered by the bird: the rest were scattered out a few feet. This is the slovenly habit of the ostrich. The hen apparently keeps on laying for general results. Took one egg, but it was bad, so no omelette!

In the afternoon I took one porter and went out with the intention of taking game pictures. The sky was overcast, however, and the game had one of its unaccountable fits of being wild. Beside the understandable influence of the high winds, untouched game seems to be extraordinarily capricious. Some days you can fairly stumble over it; on others it thunders away without reason, a good deal like high-spirited colts in a pasture. Animals have more sheer fun than we think.

Speaking of pictures, some time back I heard Ali explaining the camera to some *shenzis* as follows:

“The *bwana* looks in the box; and when he sees what he wants in the box he makes it go *click, click*; and when he is at home and wants to see that thing again, he looks in the box and makes it go *click, click*, and there he sees that thing even though it is far away.” It was so good an explanation for the sav-

age that I adopted it for my own use.

Found six good water holes some miles "inland." On our way home we jumped a buffalo cow with a calf a week or so old. She trotted away across the open hills, buffalo fashion, nose straight out. Just about as she began to calm down she ran into Memba Sasa, and got a fresh start. And then, to finish, she tried to cross the stream at our camp ford! The whole camp boiled out to receive her. Poor old lady!

Off at first gray of next day's dawn before I could see about me. There is a great charm here in this time of day. The beasts are near, and you hear them snort, and dimly see them moving; and all the birds are waking; and the eastern skies are kindling.

A very high wind came up soon after sunrise. In the hollows I found the game fairly tame, and spent much time sneaking close. Took a half hour to go a hundred yards, an inch at a time, but was rewarded by some excellent opportunities of examining the beasts.

The true Neuman's hartebeeste is found here. Thought we had him from British East Africa, but that must be a hybrid race. This is a smaller animal, so light in color that he looks like a

ghost, long legged, and with quite a different head. No one familiar with the other hartebeestes could have a moment's doubt that this is a distinct species. And, believe me, he is shy! Where everything else is tame he is most difficult to approach. Being particularly anxious for specimens, I dropped one, after a heartbreaking lot of maneuvering to get close enough. There was always too much other stuff between me and them.

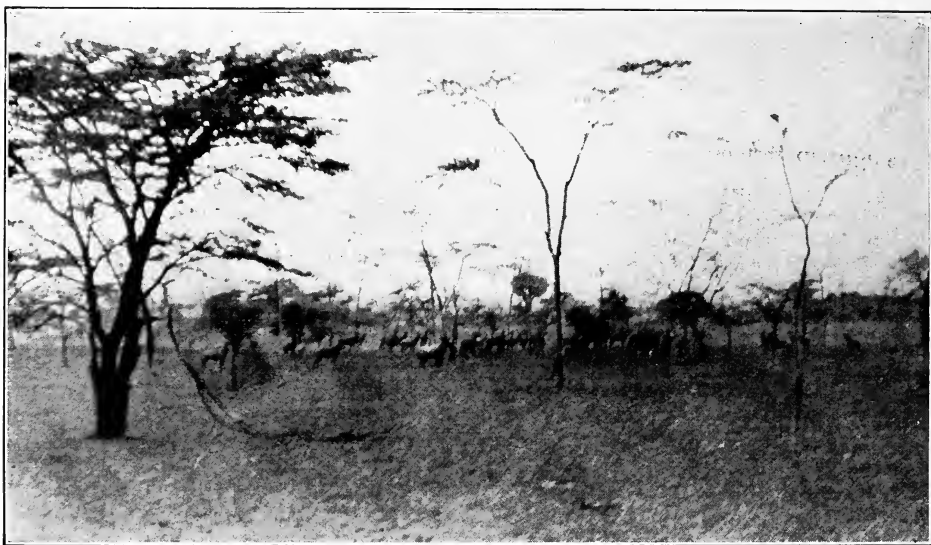
Off went everybody, of course. I held absolutely motionless, and, as often happens, many beasts did not locate me and came circling back. Among them were two Neumanii. I sat perfectly still for a long time, and at last they fed within range. Missed first shot, but got into the shoulder before they went. I was delighted at thus getting my two heads at once.

Sent to camp for porters and set about taking trophies. A herd of zebra ran over the hill ahead of the porters and stopped within fifty yards of me. Got a picture of one whirling as he ran abruptly into my wind.

Spent the afternoon labeling specimens, writing, etc., as for some days my ankle has been so bad that I often have



GAME HERDS IN TYPICAL GAME COUNTRY



THE ANIMALS VARIED MUCH IN WILDNESS ACCORDING TO THE FORCE OF THE WIND

to stop and "writhe a bit." In fact, for purposes of rest, I next day breakfasted by daylight for the first time on this trip. Did various small jobs until my relay safari came in about eleven. Had them put down their loads and rest; with instructions to pack up in an hour's time and follow my blazed trees down river. Intended merely to move to fresh camp. The men reported that four more donkeys and the other mule had died.

Marched three miles to the foot of the hill that Memba Sasa and I climbed the other day, and there camped in the river jungle, clearing ourselves a shady place for the purpose. While we were arranging camp, to me came one of the porters in great excitement; he had seen a leopard asleep. Grabbed the .405 and followed. Sneaked quietly through the green undergrowth and the thick green shadows. Finally, through the leaves, we saw below us, about forty yards distant, a gliding, silent, spotted creature. I caught the tips of ears, and blazed away. Made a good shot through the brain and killed—a hyena! However, it was a fine one, and nobody could tell who the spots belonged to in that thick stuff, so we did not laugh much at the porter.

Then Memba Sasa and I went scout-

ing. Saw quantities of game, as usual, in the same sort of country; including *both* Neumanii and kongoni, separate and distinct, the former wild as ever, the latter big, red, and curious as usual. Killed one of each, took both heads, hung the meat in trees, and returned.

About midnight a pack of baboons, traveling along the course of the stream, blundered into camp, and there *was* a fine row. Evenings rather dull and lonesome; no light to read and no white man to talk to. My Swahili is now about as good as anyone's, so I sit at the gun-bearer's fire a good deal, and we all swap yarns. They are much interested in the game of our country and require of me close descriptions. It is rather difficult to visualize a bear for them!

The following morning I visited the lion kill; then on with men to lug in the meat killed yesterday. After that scouted over the rolling green hills, rise after rise, valley after valley, with always the multitudes of game.

In one of the valleys we found fresh spoor of a single buffalo, and followed it down a narrow donga that gradually grew bushier and deeper until it was quite a ravine—twenty feet or so across, six to ten feet deep. Sent Sanguiki and the two other men I had with me to the

windward side, and Memba Sasa and I kept to leeward in hopes the buff might break toward us. Thus for two miles.

Suddenly I heard a tearing scramble in the bush. Forty yards down I could see a game trail coming up, and about the same distance back another. The bank in front was precipitous. I hurried for that strategic point. If the buff held the donga bottom I could shoot him from above; if he came out either trail I'd get a good chance.

Instead of that a big-maned lion scrambled up the wall of the ravine right at my face, and stopped for an instant four paces away. Just step off four paces!

He looked like a lion angry about something. It was somewhat startling, for I was not expecting him, but I had to get busy before he did. The first shot from the .405 did not knock him off his feet, but at that close range it literally *blew* him sidewise as though the gust of a tornado should catch a man off balance. Working the lever as fast as I could throw it, I put in another (they proved to be three inches apart). This blew him backwards again, literally over the edge of the barranca. He roared and growled and leaped. The third shot broke his foreleg. Another raked him from stem to stern. He rolled on his side, and died roaring. Fine little scrap with lots of excitement.

Found Memba Sasa next me with five more Winchester cartridges spread out fanwise in one hand, and the Springfield cocked and ready in the other. That fellow is all right.

The lion lay in the full sun, which is here strong, and the five of us could not lift him. So we cut brush and built a shelter so the skin would not be injured. He was a magnificent creature with a thick, long, black and tawny

mane, better than any other wild lion I ever saw, and almost equal to a menagerie beast. Never expected to get anything as good. Stood three feet seven inches at shoulder; nine feet three inches *straight line measurement* in length. Very heavy beast, must have gone well up between 600 and 800 pounds. Skinned him, and loaded the trophy on a porter, and started home.

Just across the ravine we found blood marks and a dragging spoor. Followed it into thicket and found a dead zebra. It had been dragged bodily, resting on its belly, its legs stretched out behind, until finally it had been left in a nice shady little bower. We caught a glimpse of a lioness. Probably the reason the lion was so anxious for trouble was that he did not like having his little supper-party disturbed.

We left the carcass as bait for the lioness.

Just before we dipped to cross the stream to camp Memba Sasa let out a peculiar sort of howl. Before we had gone two hundred feet every man in camp was there, most of them with their faces whitened, wildly dancing the lion dance. It was quick work.

Spent the afternoon caring for the trophy, paring it down, doping with alum-water, and finally stretching it in a huge frame, which we hoisted in a tree. Made a very mild joke, which lasted the camp some days. One of the Swahili porters was bragging that he liked any kind of meat, lion included. I knew him to be a Mohammedan. "Very well," said I, "I will take you with me hereafter, and you can *hallala* the next lion."* The crowd caught many fish.

* The Mohammedan is forbidden to eat any meat that has not been knifed alive by a believer.

(To be continued)

In the October instalment Mr. White describes some rhino camera stalking and gives Cuninghame's report of his Southern trip.

MEN AND DUCKS AND THINGS

By A. Y. McCORQUDALE

*How It Looks to the One Who Stays at Home to Do the Cooking
and Apply the Balm*

ARE you a member of a sport-ridden family? Is your husband spoken of at town banquets as "an enthusiastic sportsman"? Then for you August 23—open season for ducks*—is indeed a dreadful day, draped about with melancholy forebodings of a disorganized, husbandless, chaotic autumn.

Some evening, on or about the middle of August, John, your docile husband, fidgets, fusses, abandons his veranda chair, and joins a group of gossiping neighbors (men, of course). It is there the germ is sowed. You sense it—those men are talking shooting, the smell of powder and the dull, dead sound of falling birds is in the air.

John returns to you a stranger. An awful germ is sprouting in his sleek, well-combed head. A primitive, vagrant, blood-lusting fever is let loose in him. He is a Changed Man.

True, the average man does not entirely desert his wife and family and go forth to live with, and shoot at, Nature. But ever his spirit is winging. His bosom is no longer consciously your bosom, your card parties are no longer his card parties. You are not the apple of his eye. He does not even know that he loves you. He lives in his own world of sloughs and reeds and guns and plopping ducks and fine shots and high adventurings. Indeed, if he be a Big Game Artist and have the Larger Vision, he goes farther and lives on mountain side and forest side and lake sides and all other such sides. At any rate,

he is not living with his wife and family. He sheds alike his veranda, his domesticity, and his back garden. His pruning hook he beats into a spear.

He first dickers over a new shotgun. He talks of BB shot and the respective merits of four, five, and six; of ten-bore and twelve-bore. He is very deep. He hunts out his old shotgun and peers grimly along the barrel, getting a bead, or something equally deadly, on the passing magpie. He turns a calculating eye upon the domestic fowl that he has hitherto mothered and fathered. His conversation—at other times mild, humorous, intellectual—has now as its entire burden "ducks and chickens (in a perfectly respectable sense) I have met." He pays tribute to his personal prowess in the field of sport.

All this is merely preliminary, the getting in tune for the next few months.

The Night preceding the Day arrives and the scramblings of the Hunter may be heard in the land. There is a gleam in the eye of the sanest, the while he ferrets through attics and rummages through wardrobes for the elusive cleaning-rod, the disused hunting-jacket, the rubber boots of uncanny length, those old boxes of shells that he knows he had from last year. A muffled, blasphemous roaring indicates that your husband is pursuing his search through your chiffony party-dresses. You rush to the rescue. Temporary peace. This is the first awful night of preparation. You wonder vaguely why the wily hunter of the wilderness fails in locating the most obvious things in a house. But you don't say so. And into the night man rages.

At last you sleep, and a fitful silence reigns.

*This is Alberta. Wives in other states and provinces will please consult the game laws and correct accordingly.

The alarm clock at three A. M. meets with instant, cheerful response. No man ever failed to answer this Higher Call.

You rise, too. The virtuous woman of Holy Writ has nothing on you. She had the incentive, at any rate, of being priced considerably above rubies. You are one of hundreds of women all over Alberta who have risen while it is yet night to feed strange, unresponsive men who don't know they are being fed.

You see that John has on his sweater coat and a change of lingerie for the great emergencies. The house is strewn with boxes of shells, gun-cases, new shotgun, old shotgun, shooting-jacket—all the usual implements of murder are there.

The gleam which has shone in his eye is now the steady glare of insanity. John is out to kill.

The car rolls up promptly. Three other maniacs, ordinarily respected neighbors, are accompanying husband into the darkness. They are winter-coated and armed to the teeth.

Now, if John has not been able to get a day's holiday on the twenty-third—for some there be who must guard the town treasury and barter in business with those feckless creatures, women—if John has been able only to get out for the morning's shoot, then about nine o'clock four armed-to-the-teeth citizens return to town. John descends from the car.

If his laughter is loud and free, if his step is buoyant, if his jacket swells alarmingly around him, all is well. John has got a bag. Proudly he marches. He hopes the neighbors see him. He enters and unbuttons his jacket. One by one he sheds them on the hall rug, mallard, spoonbill, redhead. Gloatingly he picks them up and lays them down again, weighing and balancing. You exude radiance and wifely joy, the while you inwardly curse each individual bit of down on each and every duck. And then the family gathers round while John rests and tells the history of the passing of each duck.

If, on the sad other hand, John grunts his farewells, if his coat hangs normally and he stumps moodily up the walk, then all is not well. John has not got

a bag. Then, ah, then, is the time to rise to the occasion. Some fool women, in spite of their intuition, rush out effusively and say, "What luck?" Not so, you. You very gently take John's new shotgun, his old shotgun, his rifle. You comment on the chill of the morning air, the utter exhaustion that must assail even so strong a man as John. You pour him a cup of coffee. You unerringly gauge the degree of sympathy he will permit. And at last John tells his sad tale.

He was on the wrong side of the lake, he should have stayed with the other fellows. Besides, he did shoot several—monsters—and they drifted out too far. A fellow should have a canoe, a fellow should have a retriever, a fellow should stay out all night, the evening flight is best, the ducks fly too high anyway. Wild? A fellow couldn't reach them with an air-ship. Fast? Yes, fast, fast! Fast and wild and high is the burden of John's lament.

Always a Next Time

And as he argues his case the invincible light of the optimistic sportsman smoulders again in his eye. "Just wait till next Saturday. By Jove, I *will* bring you some ducks, Mother." And with shoulders braced and mind fortified with fifty-seven varieties of reasons for his duckless state, John fares forth to the workaday world.

And so it goes through the dreary months. He attends vaguely at his office; he spends many an evening under his own vine and fig tree. But ever his mind is turned to the next holiday. His autumn soul never sits back and rests itself. It is out and away.

Woman walks her ways alone. She intrudes into man's scheme of happiness only in her capacity to prepare mammoth hot meals to be served at strange, wild hours. She can also find lost equipment with singular ease. Her other occupation consists in excusing herself from parties because her once obedient, lamb-like spouse now refuses to be bound by one social shackle that might interfere with a possible chance to go for an evening's shoot.

But though woman's position is in-

deed negligible, she may at least lift herself into comparative favor by observing strictly a certain Western code governing the shooting months.

Never ask a man how big a bag he has brought home. He will tell you if you should know. Never ask one of the party how many he, individually, got. It is poor sport to tell. If he made a killing he will let you know in some way.

Always appear astonished if he tells you at what distance he shot his birds. Any distance he says is a fabulous distance. No bird was ever shot at close range.

Always comment on the "heft" of a bird. All ducks shot are extremely fine birds.

Always simulate great distress when mention is made of ducks shot and lost. Untold millions of ducks have been lost in the reeds and an equal number are floating dead, far out on the lakes and sloughs.

Always marvel at the impervious downy covering of the victim. Think how strong a man must be to fire a shot, to kill a bird, that was so high, that flew so fast, that was all covered with down.

Appear interested and sympathetic to the seventh (yea, to the seventy times seventh) recital of valorous deeds and horrid defections of fellow-sportsmen. For example, John relates to a pink-tea group the harrowing experience he has had while out shooting. In John's own words, "The duck flew by us. It was my duck, but I let Bill have him. And the damn fool hadn't his gun loaded!!"

The ladies all expressed sympathy for John and moderate disdain of Bill. But John, still smarting from Bill's awful inefficiency, broke the resumed conversation again with an even more highly flavored account. The pink tea's sympathy was casual this time; one tactless woman even ventured a suggestion that Bill might have been thinking of something else. Thinking!! John controlled himself with visible effort and retired for a time to sullen brooding. When, however, a third recital of Bill's gross, crass, immoral stupidity seemed pending,

all ladies (but one) smiled broadly. It wasn't serious to them. The lady who didn't smile is the only one tolerably popular with John now—some women have little sense.

Now, John's story of Bill has an absolutely different effect on men. They listen spellbound. They smoke in portentous silence for long minutes after. They say unanimously, "Bill is a damn fool—always thinking." Someone else has had a similar experience with Bill. Bill is about as popular as a year without Septembers and Octobers. To the scrap heap with Bill!

You see the difference.

Remember, the gun may miss fire, the gun may need cleaning, a man may use the wrong size of shot, the birds may be too far away and going too fast—they may be the other fellow's birds anyway. Fifty-seven reasons may serve why a man might be duckless. But never, never is it because he did not aim straight and fire quickly. Remember. Be flippant if you will about his religion, his wife, his mother—even his politics. But never about his shooting.

Verily you shall have your reward.

Some evening, when the chicken season is past, when practically the last goose and the last moose have been gathered into town—you notice that always there is a moose head in every town that measures fifty-eight or fifty-nine inches, just grazing that coveted sixty-inch C.P.R. prize—well, some evening when the last word has been said on the season's shooting your husband comes home tired. He says so himself. He says, "By Jove, I *am* tired," so often that you are fain to believe it. He wants to stay home at nights. He wants to sleep late in the morning. He wants to play with the children. He feels that he would like a game of cribbage. He thinks that you are the best wife a man ever had.

The autumn of your discontent is over. For nine more months this man is your own. He is so glad to be home that he figuratively curls up on the hearth-rug and purrs. He also eats out of your hand. You accept the next dance invitation, wheedle him into a dress suit, and enter into your kingdom.

THE LAST DAYS OF JERRY

By CULLEN A. CAIN

The Star Left Fielder of the Warsaw Blues Leaves His Fishing for One Final Burst of Glory

IF Jerry Engle had not swum out into the current of the Osage River one day during the big June rise and caught an old skiff that had been swept from its moorings some miles above, he might have gone up to the big league and drawn down \$4,000 per year as a star left-fielder and heavy hitter. But Jerry captured that boat and called the day his lucky day, not knowing that the act would mar his destiny. Nature, when she cast the mold for Jerry's form and habits, was undecided whether to make him a ball player or fisherman, so she left it at a standoff. Then along came this vagrant boat and took away from him a fat salary and the plaudits of the multitudes, giving in place thereof a home with leaky sides and muddy bottom and a stipend of twenty dollars a month from the sale of fish.

Jerry, be it known, lived in Warsaw on the classic banks of the Osage. He was born there. He is there still, and there he is like to die and be buried. Warsaw is cut off from the last stand of the Ozark foothills by the flow of this river. It is a little county-seat town, and its people are typical of the section, which is in the middle of one of the middle states, neither north nor south nor east nor west.

Warsaw's bid for fame in the days that Jerry first came to manhood was the batting average of Tige Morgan, center-fielder of the Warsaw Blues. Tige's feats and his downfall have been recorded in baseball history and story. Jerry's baseball history might have been greater still had it not been for this ill-fated boat.

Away back in 1890 Warsaw's sole

connection with the outside world was a narrow-gauge railway. It was the quaintest, quietest, best old town in the world. The word old-fashioned was invented especially to describe this town. Its chief manufacturing industry was a sawmill, its only forum of interest was the courthouse, its recreation was the river, and its pride was the baseball team.

Baseball was long in coming to the Ozarks, but when it did come it was an epidemic. It called the farmer from his plow, and the business man from his counter. It seduced the clerk, the sawmill man, and the blacksmith. When a game was played business stood still in its tracks while the town went to the ball lot.

Those first practise games that the Blues played were fearful and wonderful sessions. A 38 to 20 score was not referred to particularly as a slugging match. Not a man on the team had the least protection for his hands except the catcher and that individual wore a glove with reinforced caps of heavy leather on the fingers. The mitt, however, made its appearance a short time afterwards. I remember that the infielders thought it no disgrace to step to one side when a hot liner came their way, or a sizzling grounder on a particularly bad bound.

Breast protectors for the catcher were unknown. Now I did the catching for that team, and I got many a bad bruise in the course of a game, and I let many a ball get by.

If we could keep our opponents from scoring over three runs in an inning that was good work. The infielder who made a clean assist on a ground ball won cheers. Two errors on his part did not subject him to censure, nor even three,

if he redeemed himself later. A long fly caught in the outfield made that fielder over into a hero.

The crowd came to the ball grounds and camped on the grass. We had no stand or seats. But no crowd at the Polo Grounds or in the highlands or lowlands of any city under the sun ever enjoyed a game so much or took it to heart, body, and soul like the crowds that used to come to our old grounds and see the Blues play. Those games were meat and drink for the inhabitants for two days before and six days after a game.

The fame of a new pitcher traveled far and fast in those days, and grew like magic on the way. I remember word came from Vista about a pitcher named Foote who was a wizard. He had curves that bent like the track of a snake. He came to town with his country team and was lambasted for twenty-five runs in seven innings. There was not time or daylight left to finish the game.

Another team came to Warsaw carrying a pitcher who, it was said, could shiver a plank with his speed. He could. He did. We set up a plank against the livery stable that morning and this pitcher hurled a ball against it like a cannon shot from the French guns against the walls of Zurich. The board was split and splintered from end to end. We discussed this feat until time for the game and out of the discussion was born gloom. That pitcher fanned the first six men to face him that day. But after the second inning we fathomed his speed and his fielders were worn out when the game drew to a close.

And the practise games that were played out at the old ball field! They were played in the golden days. The town had five ball teams, ranging all the way from the "Seedticks" to the Blues. The "Seedticks" were twelve years old on the average. The Blues had players of twenty years and the short-stop was thirty-two. Every man in town who did not have the rheumatism or was not in the grip of old age used to go to the ball field in the summer days of the early nineties.

One day Bill Mason came down to look on and some wag got him to play.

Bill was the town wood-cutter. He could chop more wood in a day than any three men I ever saw. He had a bullet head, frame like a gorilla, and a big black mustache. He went behind the bat. Some one gave him a mask and he tried to put it on. It did not seem to work to suit him. He could not see through it, he said, and he threw it away.

A man came up to bat. The pitcher prepared to deliver the ball. Bill came up close behind the plate, spit on his hands, and made ready to shine in the limelight. The ball came through the air like a streak. The batter struck at it and just touched it, raising its course a trifle from the foul tip. Bing! that ball landed in Bill Mason's right eye. He yelled like a wounded bull and clapped both hands to his injured optic. It swelled shut in about a minute. We called Bill by the name of "Butterpaddle" after that, but I'll swear I do not know why we did it. Bill went back to the ax and the spade and was never seen again at the ball lot.

Jerry played right field for the Warsaw Blues. When the town picked its baseball team Jerry was a matter-of-course choice for a place on the team. He was a natural athlete. And he was more than that. He was cool, clever with his hands, had a clear vision, and was tireless in those accomplishments that required strength and endurance.

When the Blues were organized in old Warsaw town the people in the central part of the state became aware for the first time that Warsaw was on the map. The little towns around about sent their teams to the county seat in hope and received them back again in despair. Tige Morgan, center fielder for the Blues, made triples and home runs with his big bat. Jerry, batting left-handed, slashed line drives around, through, and over opposing players.

Baseball clubs came from other counties to play the Warsaw Blues and their pitchers were broken at the well. The Blues made a trip on a circuit that embraced five towns and were gone a week. Six members of the team rode in the old town hack and three others and the manager rode in a surrey. Five miles an

hour was our average speed over those awful roads in that hill country. I was the kid of the party, and the memory of that trip remains with me still.

Pullman cars and six-cylinder automobiles make a baseball trip nowadays a mere form and ceremony, all in the day's events, and only removed one degree from the routine. The ball players of to-day are blasé. They can never know the excitement and tense interest and heart-beat and overwhelming place that a ball trip of the old days inspired in the soul of the boy from the country town. Why, the night before that trip I did not sleep at all, and the old hack came by for me at two o'clock in the morning. I dressed on the jump and ran down the front steps and out through the yard to the hack waiting in the starlight by the gate. I was so young then and full of hope and vigor that life seemed as eternal as those shining stars. I could see dimly the outline of the big hack and hear the impatient stamping of the horses. Every nerve and thought were set at concert pitch.

We were to play the first game at Clayton, and the town had imported a pitcher. It was said that he had speed like an electric spark. The town went down to the ball field when we played that day. It was a larger town than Warsaw and was located on the main line of a railroad. The populace hooted us for "jays" from beyond the boundaries of civilization. But that day the barbarians sacked Rome.

There was a deep ditch about twenty feet wide that cut across the far edge of the field just behind where the right-fielder stood if he played away back. This ditch had never taken any part in any game on those grounds before, but it came into its own that day.

The first time Tige Morgan came to bat he walloped the ball to the clouds. It sailed over the right-fielder's head like a meadow lark over a hedge. This fielder ran backwards as fast as he could to try to get under the ball. (The outfielders of the Ozark circuit of the year 1890 did not run forwards with the ball) And just as Tige turned first base—bing! that right-fielder disappeared in the ditch. The crowd gasped in

astonishment, and then its voice was raised in imprecation and revelings.

The unfortunate fielder crawled out of the ditch on the other side and got the ball and threw it in to the first of the relay men. Then he descended again into that ditch and emerged on the ball field side to take his place in dejected fashion in the right garden. Tige had beaten the ball home by a hundred feet and was sitting placidly on the grass when the fielder resumed his position. The crowd continued to heap abuse on the fielder's devoted head.

In the next inning Jerry came to bat and drove a liner far past the right fielder. The ball rolled into the ditch and the fielder went in after it like a retriever pup. The crowd cursed him by the gods of five different nations.

The game became a farce. The heavy left-handed hitters of the Blues team murdered that pitcher's speed, and every little while the Clayton right fielder would have to descend in haste into that ditch. The crowd's anger changed to mocking. It jeered and howled. Certain individuals volunteered advice. They told him to build a bridge, to install steps, to get a rope and a bucket, to play on the far side, to stay down there and follow the ditch to its mouth. It was the funniest thing I ever saw or expect to see.

Finally the fielder stood at the edge of the ditch. His heels seemed to hang over it. Out sailed a high fly and the fielder saw that it would pass over his head. He forgot the ditch entirely and stepped backwards. He went into that ditch like the blind man who was led by the blind. His heels were the last I saw of him. The crowd roared with laughter and rolled on the ground.

We won the game 14 to 4. And men said that right-fielder never smiled again.

Well, we made that circuit, and the last town we played in was Leesville. This was a small town, smaller than Warsaw. The ball grounds were in a meadow a mile out of town. The field sloped downhill to an alarming extent back of first and second base. The home plate was a slab that had been taken from an old tombstone. The bases were

of stone, too, but they had never rested on a grave.

The Leesville team of strapping country boys played a good game and gave us the hardest battle of the trip.

It was during this game that Jerry did the quickest and most remarkable piece of fielding I have ever seen or heard of to this day. Some Leesville slugger knocked the ball to right field far over Jerry's head. There was a cornfield back of right field and the corn there was three feet high. Jerry saw in a second that the ball was going to light in that field, so he turned around and sprinted for the fence. Without stopping his speed when he came to the fence, he placed his hand on the top rail and vaulted over into the corn. He was only a fraction behind the ball. He dived in among the stalks of growing corn and was lost to view for a moment. But instantly that ball arose out of that cornfield as though propelled by a catapult, and it traveled swiftly on a line for second base. The runner had leisurely turned first and started on the next stage of what he supposed was an easy home run. But he put on brakes when he saw that ball and marked its speed and line of flight.

Jerry's quickness and his wonderful throw held a man who had hit a legitimate home run to first base.

The manager of the Blues was the town lumberman, and his name was Willis White. He was one of the biggest men I ever saw, over six feet tall, and he weighed over 250 pounds. He was the real sport of that burg. He had an income considered large in that quiet, simple community and he spent all of it on various forms of sport and pleasure. He had a big black mustache, and his laugh was like the waves on the shore. He rocked back on his heels when he laughed, and he shook all over. Our main street was three blocks long. Willis White's lumber yard was at one end of the street and the printshop where I worked was at the other. When Willis laughed, standing on his own doorstep, I could hear him as I set type at the open window.

Willis was the angel for the Blues. Without him our glory would have been

dim. We were just as poor as poor could be. He bought our catcher's mitt and our mask and paid for the entertainment of visiting teams and satisfied the liveryman for the use of the big hack and the sorrel horses that hauled it.

Our manager sometimes bet money on the games. Our real baseball feud was with Coleville, a town nearly as large as Warsaw and located in the north end of the county. The Blues would go to Coleville and win and Willis White would carry home fifty extra dollars and a hack-load of joy, or the Blues would lose and the hack would groan under its load of gloom. But I noticed that a bet or two during the season hurt the sport in the country just as it does in the city. Our Coleville schedule was broken off for the rest of a season two or three times, as the result of bad blood from betting on the games.

In the early days of the Blues our feud with Coleville was at its Kentucky height. The teams were evenly matched then. Later the Blues outclassed Coleville and the feud faded to a dim rivalry. But one June day the town of Warsaw was stirred to its depths by a challenge from Coleville. Two days before the game, or rather two nights before, a muley cow with a crumpled horn craftily lifted the latch of the gate to my mother's yard and entered to destroy. My mother feared for her flowers and up I had to get in the night-time to chase that cow. My anger overcame my judgment and I followed that mean red cow out the gate and down the street, pelting her with rocks. I hurt my bare foot on a stone and faced the calamity of being kept out of the game with Coleville. The town cursed that red cow next day while it passed judgment on my bunged-up foot.

The upshot of it all was that Willis White telephoned to the city for an imported battery for the coming game. This was the first and last time Warsaw tried that innovation for many a long year. Other towns had imported pitchers and catchers, but Warsaw depended upon its own and won double glory and satisfaction from its baseball campaigns. This battery came down on the train next day and was admired by the popu-

face. But a tory Warsawite telephoned to his brother, a Coleville merchant, about this importation, and the result was that when the Blues went to Coleville on the noon train they found an imported battery there waiting for them.

The teams and the managers and the citizens of the two towns wrangled all the afternoon and the sun set in discontent because it had not seen a game that day. Warsaw besieged the telephone office for news and followed the quarrel in excitement and the expenditure of many words and gestures. It is all comedy now, but any man who has taken part in baseball in a country town knows that the matter was of tragic importance at the time. The announcement of war with Spain that came a year or two later did not create so much interest and tense feeling in Warsaw town.

After two or three seasons of victory over all the clubs in that region, the Blues began to slow down and the other clubs to take on speed. The story of how Emmet Boles introduced the curve ball to the Ozarks and fanned Tige Morgan has already been told.

A new team was organized to represent Warsaw on the diamond. Of all the old Blues only Jerry and the little Dutch third baseman and myself were retained. I had learned to catch Boles. The imported catcher, brought along as his battery mate, had suffered a split hand in his first game and I was pressed in as the only available substitute. Boles had perfect control with his speed, and I soon learned to work with him pretty well. But I was the weak sister of the team.

The old sluggers of that Ozark region all faded away before real curve pitching. The lighter youngsters who poked out base hits had succeeded the home-run hitters. But Jerry remained the surest batter on the new team. He could hit any pitching that circuit had to offer. He practised every day, and it really seemed that he had been weaned by the work and sweat and pleasure of the ball field away from his nomadic joys of river and field.

Then, on that June day, the old skiff came down the river and Jerry brought it to shore and patched its sides and

calked its bottom and painted it and loaded it with fishing tackle and bait. And good-bye to the ball lot. We coaxed and pleaded and threatened, but all in vain. Jerry was wedded to his idols and baseball was not among them. We went to the ball lot to practise and he went to his boat and cast off its moorings to go fishing.

The dog days of August drove even Jerry from the river and the woods. The ball team had a trip ahead that promised the hardest game of the season for the Blues. Calhoun was on that schedule, and Calhoun had a left-handed pitcher with as great a strikeout record as our pitcher, Boles, had to his credit. If we could beat Calhoun the championship of our section of the state was as sure for Warsaw as death and taxes.

We persuaded Jerry to go along on that trip. We climbed into the town hack and a borrowed surrey at four o'clock of a hot summer morning in the full strength of the town's baseball powers. The first game, with Vista, was a pudding. And the second at Winton was not a hard game to win. Then we drove to Calhoun. This was a town twice as large as Warsaw. It had a real ball club, and this left-handed pitcher was the brindle fringe on the Christmas card.

The game that day succeeded the battle of Gettysburg as an event from which to date history. Boles was in great form. His dewdrop was working like an 18-carat diamond ring in the hands of the successful suitor of the village belle, and his inshoot broke like the flick of a whiplash. Those Calhoun aristocrats went down in blocks of three and the scorn of the multitude for the visitors from the hills was changed to mourning.

And this left-handed pitcher, who was the pride of the prairie country, you ask of him? He was everything that the placards nailed on his door by fame said about him. He was a lou-lou of a pitcher and an Annie Laurie from the heather in the dell thrown in. He mowed us down with that side-arm delivery as Father Time, with his sickle, mows the sons of men.

Jerry, batting left-handed, struck out

the first time up like a little child. We did not get a man on a base until the third inning. With one out in that inning, I got a base on balls and stole second on a poor throw by the catcher. I came home when the second baseman let a grounder get by him on a bad bound.

That one run looked like a dozen. Calhoun had had men on first, but they had known nothing of the glory of second base since that game began. But in the fifth inning our infield went to pieces under the strain and messed up two easy chances and then the right-fielder misjudged a high fly-ball and two runs came across the plate like a Saul's death march to our hopes of victory.

Two of our men fanned in the sixth inning and a pop fly to the infield was the best the third batter could do.

Boles fanned the side in the last half, pitching with every ounce of steam he had and with his game, loyal heart behind every ball.

In the eighth we were still easy for that southpaw cross between a hickory bow and a watchspring. And Boles made the flower of the Calhoun batting list eat from his good right hand.

When we started the ninth inning the town of Calhoun held its breath and prayed for air. It was the time when gameness counts more than skill, talent, and all other things put together. Our little Dutch third baseman was game to the core. He poled out a dinky hit in front of the plate and beat it to first when the third baseman fumbled it. The second baseman struck out. The center-fielder went to bat with his jaw set like cement. He hit out a long fly to the outfield and we groaned in despair. But the fielder muffed it in his anxious haste and we yelled like marooned sailors when they see a sail. Our runner scuttled to second base.

The next batter lifted a foul fly and the catcher put him and our hopes on ice together.

But wait! Here comes Jerry to bat. He was as calm and imperturbable as he ever was in his life. He had not made a hit that game, although the Calhoun center-fielder had robbed him of a certain double by a great catch in an

earlier inning. As near as emotion ever came to stirring his heart, Jerry was sore about his day's batting average.

A cool man in a pinch is worth a million. The indolence that marred Jerry was gone now. He was set tensely to do his best. He smiled with his eyes at that pitcher, but his mouth was drawn to the notch of highest endeavor.

Two out, two on, and one run needed to tie and two to win. It was one of those moments of a lifetime when nothing else counts but that victory or defeat.

The umpire called the first one a ball, while Jerry gently waved his bat in a two-foot orbit near his left shoulder. Jerry waited the next one out, but the umpire called it a strike. The pitcher coiled up like a spring and flashed the sphere toward the plate. Crack! and the ball sailed to right field on a line. The right-fielder made a desperate effort to get it, but shoe-lace catches were not a familiar practise of those times and he fell heels over head from the effort.

Two runs came in and Jerry stopped at third.

He died there when the next batter hit to the pitcher.

We went to the field and Calhoun came in to bid hope good-bye. Boles was as good as he needed to be in that last half inning of the game. He struck out the first batter. The next one hit to second base and was thrown out at first. The last batter popped up a little foul fly and I waited with glaring eyes, muscles that threatened to collapse, and brain in a trance for what seemed like two endless, terrible hours for that ball to come down again. It came. And I held it as a man back from the edge of the pit holds the hand of a friend. I sat down, I was so weak from the strain of that two hours of hard work waiting for that ball to fall.

When we got home to Warsaw that old hack and that surrey were the chariots that were hauled through the streets of Rome. Cæsar never saw the sun shine on such a triumph.

Those old baseball days are gone, and all the king's horses and all the king's men cannot bring them back again.

A NIGHT PADDLE

By JOHN MÄTTER

Groping for the Channel to Lovely Lake with the Stars for Range Lights

WE were very familiar with the island's trees and rocks, for the wind held us prisoners during two days and nights and we sedulously explored and picked huckleberries. Behind a shelter of canoes and blankets we cooked and ate our meals, told our tales, and watched the trees come marching over the hills.

At five the weary wind lay down to rest and we sprang to our feet. Shortly our paddles dipped in the lake and again we were light-hearted travelers. The channels between the islands poured fire; to the north the surface reflected the clouds and we mounted a trail of pink. A sawbill duckling was sporting alone on the rim of color. We gave chase and there followed a lively game that ended in a capture among the rocks of his home island. The duckling's blue eyes filled with fear and his heart thumped with panic as we passed him from hand to hand and then set him on the lake. Instantly the little creature up-ended and dove head first. We had provided him an adventure that would bear recital through old age.

With his disappearance, a flock of wild geese flushed to the right and flew like white ghosts in a wide circle. Beneath them, the brood of goslings, gray and small, winged close to the water. The parents carefully remained above the youngsters until a point of land hid them all from view. The lake by now was smooth as one drop; the low, black shores were crouched as though to spring. A young moon grew brighter and brighter until it spilled a trickle of silver down our course. The sky had cleared and the stars were burning high.

We stroked rapidly to make the Narrows before absolute darkness came. Our haste was waste, but luck found us the entrance and we felt our way in between the high cliffs. It was cold and quiet as in a cave. We went whispering and at the lower end we heard a cow moose in the shallows of a cove and then the complaints of the calf beside her.

"A late supper," said Henri.

With a lighted candle waxed tight with drippings to the floor boards, a compass, and the map, I figured our way. The right shore was to be our railing, we must hug it close save where it broke to the south from the east and west line and curved around an expanded bay. With the moon at our backs and the shore a shadow on our right, we held steadily down the unapprehended lake. If there is greater joy than this, I do not know it.

Hercules took up a song: the theme dealt with a girl, and I think the thoughts of each of us leaped south clear of the pine woods.

"One hundred and twenty miles to a railroad," sighed Walton.

Soon we were singing and whistling, and the shore threw back a hash of sounds. We offered to paddle all night, we agreed to make a surprising distance, we related how strong and capable we felt, we boasted of former remarkable deeds. In time the mood passed and we moved in a silence broken only by the dip and drip of the paddles and the rasping of a match on the gunwales. The canoe trembled and spurted under Henri's strokes; we drew forward on the moonlighted path through the unknown water. Mystery was abroad and we bowed our heads. When at last I glanced over my shoulder, he still knelt

in the stern; swaying to his long, urging strokes, he seemed intent on the swirl from his paddle.

"*Mon Dieu!*" he cried. "Your eyes with the moon in them. . . . In Ontario she said, 'Henri, will you come back?' . . . That was one, two, three year gone. . . . What do you say?"

"Go back, you fool," I answered.

Our pilot light had dropped low into the west. The north shore had been straying around a succession of bays; it drew near now, and the map said we approached the channel into Lovely Lake. It was eleven-thirty by the watch; we waited for the other canoe, found biscuits in the provision bag and fortified our shoulders and arms. The Northern Lights began their performance. Shaking spears of cold, clear flame shot into the sky.

"Watch 'em dance," whispered Henri. He whistled some bars of quick music. "Cripes, see 'em now!" He whistled again. "Now watch 'em close. No, they won't do it. You should see them in the fall. They will come close and dance till your heart jumps. B-r-r! I do not like it. Paddle."

We were in a tangle of reeds. We went forward and backed, we veered to the right and left. The channel had slipped away from us and we groped in the dark. It was midnight and chill; the air off the water struck persistently through our clothing. The moon was

down and only the remote stars made light for our search. Bay followed bay to the confusion of the map.

It was now necessary, I held, to parallel the south shore, and if a passage existed, we would of a certainty find it. In the midst of my theorizing, our canoe struck. It scraped and mounted under its own headway. There was a long moment while we waited for the overturn or the cracking bottom, then the craft listed gently and slid free of the rock. We took a deep breath apiece and Henri swore softly.

"What's wrong?" called the second canoe.

"The water looks cold," I replied, and was answered with mockery.

Two minutes later we saw the gleam of the channel and made much over it. Ten strokes and we were unmistakably in the passage to Lovely Lake. It lay straight with the compass, a dark road between the pines. We paddled joyously for an hour, then our eyes began to close and we sought a landing place. Between two high pines we spread out the tent, then laid down the tarpaulins and wormed into the blankets, lying side by side, close as packed fish. I took a moment to look up through the branches at the stars. I heard the waves on the rocks and two mosquitoes at my nose; then came sleep. It must have been nearer unconsciousness, for I knew not a thing until morning when I found myself in the same position of a packed fish.



In his next story Mr. Mätter tells of the run Down the Welcome and of the town of Bacon Rapids—sixty men and five women.

SMALL BORING WITH THE SMALLEST BORE

By EDWARD C. CROSSMAN

The Showing for a .410 "Caliber" Shotgun That Our English Cousins Have Introduced

THIS essay is written in the endeavor to discourage the unsportsmanlike use of big bore shotguns on our fast diminishing feathered game. But the other day I heard a man actually admit in public that he used a 20 bore, an arm throwing the huge amount of $\frac{7}{8}$ or $\frac{3}{4}$ oz. of shot, merely to get a few ducks. I reprov'd him for his game hog disposition and quit his company.

Again I came upon a misguided one who was babbling foolishly of using a "small bore?" 28 gauge that shot a full $\frac{5}{8}$ oz. of shot. All he sought was quail, yet this person actually carried this huge cannon to fire at the few birds he saw. I endeavored to reason with him, but he was of the old big-bore school and beyond the bounds of my patience. Therefore I smote him once and fled ere he recovered. Verily, such persons carry one back to the dark ages, when the 12 and even the 10 bore were carried by the heathen then knowing no better.

This story is to inform you truthfully of the possibilities of the truly sportsmanlike shotgun, the .410 bore. In the experiments, merely to demonstrate what could be done, I did use the large load of $\frac{4}{10}$ oz. of shot, but the true sportsman need not do this.

You'll note, first, that this is a .410 caliber not gauge, which is a different system of measurement. For the gauges, used to indicate shotgun sizes, refer to the number of round balls to the pound that would fit the barrels of these guns. The 12-gauge round ball would run 12 to the pound, the 16, 16 round balls to

the pound. This little shotgun, possibly the first ever brought over here from the wilds of England, where they hunt the ferocious rat and sparrow in their lairs, is a .41 caliber, which means that it is .41 inch across. The 20 bore in inches is .615, the non-existent 50 bore in inches would be .453, so this little .410 bore would be around a 55 gauge shotgun.

I had come across violent ravings about the .410 bore shotgun in English gun crank magazines. The said ravings had gone into long and grave discussions of the best load for this .410 bore gun, its patterns at various ranges, its deadly effect on rats, which they hunt in organized style in Merrie England, its penetration in sparrows, and its effect on trouser seats of poachers.

To this I paid little heed, fancying the gun one to shoot some made-over brass cartridge like those fired in our ex-Civil War muskets. Then I came across a reference to the 2 and $2\frac{1}{2}$ -inch casings for the little gun, and I became suddenly aware of the fact that it was a real shotgun, paper case, wads, standard loads, and all. I knew I had the small bore bug in a mild form, but suddenly it broke out in full course.

I sent over to England for a cheap gun to shoot this little cartridge and for 200 of the cartridges to shoot in said gun.

The arm itself, in this instance, is a little, cheaply-gotten-up, bolt-action shotgun, with stock along the lines of some of our cheap .22 repeaters. It has a Lee-Enfield bolt, a very well bored barrel, and weighs all told $4\frac{3}{8}$ lbs. It is, of course, not the gun for the shotgun lover expecting to do serious work, but it is

some gun, at its price of around \$10 laid down in America, for the pot-around man. I've got my eyes on a double hammerless made for the same cartridge, and what's more I'm going to have one.

The little bolt-action shotgun—was there ever such a cross-breed arm—strange to say balanced and pointed like a real shotgun. The weight is well distributed, it is very light, and, in spite of



THE SMALLEST BORE SHOTGUN SHELL BESIDE A REGULAR 12 GAUGE

the bad pull, I did manage to hit things pretty consistently with it.

The cartridge is the cutest little thing you ever saw. Mine is the 2½ case, although the 2-inch is made. In every respect, from steel lining to crimp, it is a well-made, regular shotgun shell, as carefully loaded and as carefully made as the finest of our regular 12-gauge stuff. They came packed in square boxes, 25 to the box, and each box of 25 weighed just a pound. Also each box was only 2½ inches square.

On each top wad was printed, like a full-grown shell, the size of the shot, etc. In each cartridge of one of the two hundred rounds was 120 No. 6 English shot, counting 270 to the ounce, the charge therefore weighing about .44 oz. In the other hundred was 142 No. 7 English

shot, counting 340 to the full ounce, this charge being therefore about .41 oz.

Under the shot was a card wad, then a thick felt wad, and another card wad. The powder proved to be much like Schultze, and just a shade over one dram in amount.

For comparison, the 12-bore trap load is 1¼ oz. of shot, or about 420 of nearly the same size as this English No. 7 of which 142 constituted the .410-bore load. The powder load for the 12 bore ranges from 3 to 3¼ drams.

My respect for the little fice went up as I noted the fine paper of the case, the even loading, the good wads, and the business-like appearance of the whole cartridge.

Then we toted it out to the range.

You know how it is, you can't wait until things are in order and everything is ready for you to begin. You have to get off just one shot from that new gun, if it brings the police after you. The first trial was at an ordinary, humble tin can of commerce, one that formerly was wrapped around condensed milk. I threw it hard into the air, then pitched the little gun to my shoulder.

It was one of my lucky days, I hit it.

From the gun there came a feeble pop, the precise sound of a shotgun primer under a couple of wads, when the powder has been left out. I could not tell from the feel that the shot had gone.

The can suddenly whirled madly and started back skyward again. In it we found a dozen clean-cut holes.

I looked at the gun with some amazement. I suspected that something had gone wrong with that cartridge, even though the shotholes in the can testified otherwise.

Then, in a very inopportune moment for a ground squirrel, one of them stuck his head out of his hole under the live oaks and commenced to whistle squirrel profanity at me for trespassing on his private rifle range. He came clear out to watch me leave in my shame—and the little gun popped feebly once more.

We gathered in the erstwhile abusive squirrel at 35 yards, and California ground squirrels are very hard to stop. True, he did revive enough to kick a couple of times, but we gathered him in,

that's the main thing, and the thing that few guns do when the bullet is not carefully placed.

I've shot all my 200 shots. I don't know now whether I'm more surprised at the feeble noise of the vicious little runt, at its absolute failure to kick, or at its really wonderful shooting.

The barrel, being a single barrel, is heavier than the tubes of the ordinary double gun, and this tends slightly to reduce noise. But the noise is absent, and it would be nearly as much missing with the lightest of double gun tubes. It cannot be heard as far as the sound of the .22 Long Rifle black powder. It is merely as I have described it, a feeble pop that makes you laugh every time you hear it, if you've heard it a hundred times before. It hasn't a single bit of the hearty roar of the shotgun, of even the 28 bore. It is some gun for the law-breaker, this is its only drawback. The "sooner," shooting out of season, could clean out a whole covey of quail without Farmer Jones, 500 yards away, being aware that anything was going on in the shooting line.

The recoil is nil. It would be perfectly comfortable as a .410 pistol. If a gun under 4½ pounds does not kick enough to make one sure the shot has gone, it may fairly be said to have no recoil.

I began to see why the interest that the gun had aroused in England.

Then we had a little seance with the clays. Firing such a tiny gun at a clay bird seems truly the lowest depths of piffle but we were willing to try anything once.

Once more we got a surprise party. At overhead birds, those thrown off a sixty-foot hill and coming down toward the shooter like a duck to a decoy set, the little gun broke every one when the shooter felt he had it pointed correctly, and the total score was 17 out of .20. But, at this game the birds were coming toward the shooter and some of them got in very close.

Therefore we tried the crossing overhead game, a far harder style of fire, wherein the birds hiss swiftly from the hill trap, athwart the course of the shooter, some 20 to 25 yards away, and

sixty feet high. Here the bird flies farther away at a gentle angle as it progresses on its course. If it is caught early in the game before it gets very far, it is traveling at high speed.

The spring of the trap was not set up as it has been on some memorable days, but at that the birds were traveling fairly speedily, and were keeping their regular distance from the gun.

That little runt, literally a "pop-gun," broke 18 out of the 25 on which it was tried, and only once did the shooter feel that he should have had the bird, when he lost it. In the rest of the misses the shooter knew he was wrong when the trigger went. Also this particular gun had a pull of 7 pounds and creepy besides, interfering greatly with the swing.

The thing became uncanny, a charge of less than a half ounce of shot doing such work. However, a 28 bore with but ⅝ oz. had been accounting steadily for birds under the same conditions so it was evident that there were enough pellets in the loads to do the work when the shooter did his.

Standing just back of the regulation traphouse, firing at birds that flew a full 55 yards, the regulation fast flier of the regular game, the little gun broke them regularly. Here, of course, the bird did not get out more than 20 yards or perhaps 25, before the shot caught up with it.

What the Pattern Showed

Remembering quail experiences and admitting to myself, if to nobody else, that most of my birds fell under 25 yards, which is 75 feet, and the width of three lots in the crowded cities, I began to have dreams of a little 4½-pound double hammerless to shoot this shell, in the times when the birds flushed close by.

We adjourned to the patterning board to see what the white paper record of the shooting would tell us. I know that 40 yards is the standard distance, but we chose 25, as being fair to the little gun, and also as quite typical of the distances at which quail are often killed.

Four loads we threw at the white paper, two of 6's and two of 7's. If the paper is to be believed, the little gun is

as deadly as any gun made up to 30 yards, but the pointing must be perfect.

At 25 yards, with the 6's, the tiny gun put 77 per cent. of its pattern in the 18-inch circle, or 93 pellets, and it put 96 per cent. of its load into the 30-inch circle, or some 116 pellets. Pointed right, the little gun would have torn a quail badly; pointed nearly right it would have grassed him in nice style.

Another shot with the 6's gave us 75 per cent. of the load, or 89 pellets, in the 18-inch circle, and every pellet into the 30-inch, not one outside anywhere on the white paper.

The 7's put 64 per cent. of the load into the 18-inch, or 90 pellets, for the first shot, with 91 per cent. of the load into the 30-inch. The next shot gave 70 per cent. of the load, or 98 pellets, into the 18-inch circle, and 96 per cent., 135 pellets, into the 30-inch.

Now if you'll take a pencil and stick around 90 dots in a circle of a foot and a half, you'll discover that you've got some full house, and that said circle full of pellets would pepper a bird if transformed into a shotload. My levity as to that little shell became tinged with a sneaking desire to own a gun that would shoot said little shell and its family. I regretted the shells I had wasted potting around the range.

I hate to come out flat-footed and shoot holes in the shotgun distance superstition, the 70-yard, and the 60-yard, and the 50 and 40-yard shots. I've stepped a few of them off, and while a duck over water may look 50 yards when at 100, yet upland birds look the other way. The quail falling at 35 yards looks to be 50, and sometimes passes therefor.

I kept count of some quail that fell to our luck over on Catalina. The birds flushed out of cactus where they lay after the preliminary scare had been thrown into their systems, necessary to keep them from "beating it" afoot for

miles and miles and miles. Five of the birds, flushing from my very feet as is the case of the California quail when frightened, fell within 20 feet. Sounds improbable, but step off 20 feet and then reflect honestly as to some of your own shots. The average was under 20 yards, and but two birds fell at 40 or over.

In this day's work, the little .410 bore would have got practically everything the 20 did, and would have mangled fewer birds. Also it would have weighed less, and its shells likewise. Also on that day the lady and I walked from Avalon to the Middle Ranch and back, which is some 20-mile hike.

Of course it is folly to talk of shooting such a small gun on birds flushing at all wild, or for ordinary work, but I desire to show that even such a tiny affair might serve perfectly well under certain conditions. For small game, "varmint," such as sparrows, rats and shrikes; for squirrels and rabbits, and upland birds at close range, this little .410 bore would be the most wonderful little shotgun in the world. Its freedom from noise, its lack of recoil, the small bulk of its cartridges, the light weight of the entire outfit, all conspire to make the shotgun lover fairly hanker for one of the little fellows.

In England the cartridges, first-class make, cost \$1.20 a hundred. The cost would be little more in America were they shipped over by freight. The guns, made by various makers cost from \$8.00 up in England. The cartridges and the gun are, of course, common property to all gun and ammunition makers, and many of the gunmakers turn out these little weapons.

I firmly believe that we will see this little but wonderful cartridge introduced into the United States, and then there are going to be some very surprised shotgun users, even though now they belong to the ranks of the scoffers as I belonged.

Next month Mr. Crossman will have something to say about Shotgun Ballistics; among other things he will tell what "hard shooting" really means.

A LATE-SEASON USE FOR THE FLY ROD

By ROBERT S. LEMMON

Proving That the Enthusiast Need Not Put Away His Pet Bamboo Just Because the Trout Have Ceased Rising

IT has always been a cause of regret to me that the march of the seasons should preclude thirteen months of fly-fishing out of every twelve. Possibly this is an unreasonable attitude, but I fancy there are others who, if the truth were known, incline toward similar sentiments. There is something about the game which does not quite exist in any other branch of sport.

With most of us, the fly-rod goes into action some time in April and retires to winter quarters in August. There ensues, perhaps, a period of surf fishing, or casting for bass, or even still-fishing in some pad-dotted lake where pickerel are the *sine qua non*, but by the end of September or early in October the dyed-in-the-wool fly rod man is prone to yearn for just one more day wherein he can legitimately and successfully put his four or five ounce split bamboo in service again. It is with the means of gratifying this desire that the following suggestions have to deal.

There is a certain New Jersey stream, a river in name but a deep and grass-fringed brook in fact, which by its calm complacency, its perfect contentment with the restful tenor of its way, is a true encourager of indolence. It is such a stream as one imagines Walton must have loved, contemplatively angling for bream in the crook of its elbows, or passing a dreamy noontide under its trees waiting until the lengthening shadows set the trout to feeding. Ideal for fly-casting though it is, with no brush to hinder and never a low growing tree to serve as framework for a drapery of flies and leader, the stream

is fishless save for minnows and a most appalling citizenry of lantern-jawed and ever-hungry pickerel. Never a trout, never a bass—just minnows and pickerel and a clear back cast.

Personally, this miniature river worried me for years. I used to imagine it stocked with speckled trout instead of the farmer lads' "pike"; pondering, I had visions of a long line and a light cast and a dry fly floating over the deep pools. Then one autumn day the fly-rod fever touched 110 degrees, and I went for those pickerel with serious purpose, a nine-foot trout rod, and two tiny casting spoons no larger than a dime.

In an hour were two results achieved: the casting attractions of the river were realized and a post-season use for the light rod became a demonstrated fact, for those shovel-nosed rascals took the minute feathered spoon with awe-inspiring swirls, and on the delicate tackle they furnished really satisfying fights. In an afternoon's fishing I landed eight, the largest a little over twenty inches in length, and trudged home in the evening convinced that, given half a chance, the pickerel is worth while.

Subsequent experience has justified that opinion of six years ago. I have tried out the idea on many pickerel waters, and invariably it has been attended by much pleasure and as full a creel as could be secured by almost any of the recognized pickerel methods. It entails no watchful waiting in an anchored boat, no swatting with a half pound frog or a wholly dead minnow. Instead, there is the constant activity of fly-casting, the spoon is close enough to the surface to keep it always visible

and make every strike virtually a rise; and the ensuing fights are spectacular enough to make them pleasantly reminiscent of the earlier season.

Except for the elimination of leader and flies, regular trout tackle is employed for this variety of pickerel fishing. A rod of eight or nine feet, weighing from four to five and a half ounces, fills the bill admirably; twenty-five or thirty yards of enameled line will be ample, and, unless the fish run unusually large so that a short gimp leader is advisable, the spoon may be attached directly to the line. The spoons themselves weigh but little more than a good sized bass fly, and casting and retrieving them place no undue strain on a well-made rod.

They are of the type in which a single hook fly, tied on a No. 2 or No. 4 ringed hook, is removably attached to a shank of piano wire which carries the nickel or copper blade on a revolving lug. Some of the shanks are fitted with tandem blades about a quarter of an inch in diameter, but a single blade of slightly larger size is, I think, just as effective. Various color combinations, in blades as well as flies, can of course be arranged to meet different conditions of weather and water, but for a general working basis a nickel blade and flies in which red and white predominate, such as Soldier, Parmacheene Belle, and Scarlet Ibis, are perhaps the best.

With such an outfit delicate as well as decidedly long casts are easily made. Accuracy, too, is more readily attained than with regular flies, and it is possible to "spot" the lure into those small openings among lily pads or weeds which are so beloved by pickerel for whom the perils of more accessible water have slight attractions. If the rod is equipped with snake guides and the line is a good one, you can "shoot" the spoon a considerable distance at the end of the cast. Then hold the rod ready for a strike

while you strip in the line, drawing the spoon—which is amazingly easy-spinning—slowly toward you.

If there are pads in its path, or weeds a few inches below the surface, they are easily avoided by "jumping" the spoon in the former case, or slightly increasing its speed in the latter; and in water like that a pickerel is pretty apt to grab it before it has a chance to get snagged anyway. Do not try to twitch the spoon into the back cast directly from deep water; draw it to the surface before starting the back cast proper, else the strain on the slender rod will be rather severe.

It sometimes happens that the fly, attached to the spoon shank merely by an eye as it is, doubles back in casting and fouls the lug of the blade or the shank itself, necessitating a clearance by hand. With anything like skilful handling of the rod this fouling occurs so seldom as to be almost negligible as a drawback, but it may be entirely eliminated by slipping a short section of rubber tubing like that used on camera shutters over the head of the fly and the ring on the shank end. This allows sufficient flexibility and yet serves to keep the fly in proper position.

There is another side of this fly-rod-and-pickerel game, a side which has to do with many a regular trout expedition. How often has it happened that, when in May or June we succeeded in squeezing a few days out of the year's routine to spend on some favorite trout water, an east wind has blown, or a freshet has come down the stream, or any one of a dozen things has happened to put successful trout fishing on the wrong side of the balance sheet! But was there not a good pickerel pond up on the mountain, where the disappointment of losing a day's stream fishing could be somewhat abated via the little fly-spoon method? I think so; at least, there is up at the place where I go.

Mr. Lemmon is a taxidermist as well as fisherman and in an early issue we will publish an article by him on Field Taxidermy for the Sportsman.

THE TRAIL OF THE PAINTED WOODS

By NEVIL G. HENSHAW

*Jean le Bossu Finds Old Friends at Camp
Bon and Sees the Beginning of Stirring Events*

CHAPTER I

Jean Fagot

I JEAN LE BOSSU, first knew the Fagots amid that great stretch of forest which, in my own corner of Southwestern Louisiana, is called the Grand Woods. Jean Fagot, the father, was a wood-chopper by trade, and his family consisted of a son and a daughter. His wife, a woman of Spanish extraction, had died upon the occasion of the daughter's birth.

During the time of his residence in the woods, Fagot and I became fast friends. Our huts were not far apart, and often we would beguile the long winter evenings by visiting one another. Thus I came to see much of Fagot that one less intimate would have missed. He was a small, mild man, with a great shock of stiff, bristly hair, and one of those deep, rumbling voices that are often so strangely bestowed upon just such quiet little men. At his work he was both clever and industrious, and of ambitions he had but one. This concerned the success and happiness of his children.

Of these children, Jean Pierre, the son, was fast approaching manhood. He was a dark, handsome youth, very quick of eye and hand, and from his mother he had inherited his full share of Spanish pride and temper. On account of his brown skin they called him "Dago" when first he came to the woods, but the name did not stick. Or rather I should say that, due to Jean Pierre's ability with his fists, the wood-folk did not stick to the name.

The daughter, Jeanne, was only a little thing at that time. Like Jean Pierre, she was dark-skinned and handsome, and in her great black eyes there was already abundant promise of pride and passion to come. It was strange that these children possessed so much of their mother, so little of their father. Gentle, simple old Fagot was like some thrush that has fledged a brace of hawks.

But Fagot, father-like, could never be brought to realize this dissimilarity. The children were dark, perhaps, he admitted, but this was their only heritage from their mother. In all other respects they were exactly like himself. Had he not, foreseeing this, baptized them Jean and Jeanne? They would continue like him, if only to show the reason for their names.

Thus, when at the age of twenty Jean Pierre became involved in a serious affair, Fagot's surprise was only equaled by his dismay. For the affair itself a few words will suffice.

It occurred one Mardi Gras in a coffee-house at Landry, where some half-drunken idler applied the old term of "Dago" to Jean Pierre. In the quarrel that followed the wood-folk took sides against the townspeople, precipitating a general fight. Knives were drawn and, before peace could be restored, the originator of the difficulty had been seriously wounded.

Later when, chiefly through neglect, the injured man died, all involved in the affair were put on trial. Of the lot Jean Pierre alone was convicted. There was no evidence to show that he had actually caused the wound. It was merely proved that he had been opposed to the

dead man at the beginning of the mêlée. Jean Pierre swore that he had used nothing but his fists and that he had not even carried so much as a penknife. Nevertheless they sent him to prison for ten years.

It was hard, but Fagot, despite his mildness, behaved with admirable courage.

"Jean Pierre will show them when he comes out," he said to me, his big voice trembling pitifully with the words. "He is innocent, and the truth cannot remain hidden forever. I can only count the time until he is out again. First it will be the years, then the months, and then the days. They say that if one behaves one need not serve out a full term, and my son is a good boy. I shall be here waiting for him, and he will find his ax in its accustomed corner. Also it will be as bright as it was when he went away."

So Fagot kept on for two years, polishing the ax and counting off time. Then there came bad news from Baton Rouge. Jean Pierre, accustomed to the clean, open life of the woods, had been unable to stand his confinement. It had broken his heart, and he had died.

It was the last blow, and Fagot's supply of courage had been taxed to the utmost. For two weeks he shut himself up in his hut, and in that time his dark, bristly hair became streaked with white, like the ash tips of a burned-off marsh. Then, one afternoon when I was considering how best I might comfort him, he called to me from outside my door. He seemed utterly crushed and broken, and the small bundle of household possessions that he carried announced his intention even before he spoke.

"I am going, Bossu," said he. "Also, before I leave, I wish to thank you. You stood by me bravely in my trouble, and I will not forget."

"Where are you bound, Fagot?" I asked him.

He shrugged, sweeping his arm in a circle.

"Anywhere, everywhere," he replied. "I seek only to escape from memory. As long as the trees grow we shall not starve—the little Jeanne and I."

Thus he departed, his ax upon his

shoulder, his small, dark-faced daughter trotting along at his side.

CHAPTER II

Au Large

IT was perhaps some ten years later that I determined, one summer, to make a visit to the swamps. Having spent my youth in that land of cypress and water, the longing to see it once more often takes possession of me. At such time, if my work allows, I bundle my few effects into a pirogue and set forth *au large*.

Thus, when I pushed away from shore upon this particular occasion, I had no definite goal. I only drifted along the smooth, brown bayous, flanked by their fields and meadows and patrolled eternally by scattered fleets of drifting hyacinths. At night I would moor alongside the stranded banks of the lilies and when, at dawn, the first sunbeams flashed upon their purple expanse of dew-drenched blossoms, it was like some glimpse of Paradise. So I drifted lazily, until fields and meadows gave way to long stretches of forest, and these in turn—the solid ground swept away from them by the ever-encroaching bayou—yielded their place to the water-loving cypress.

It was a somber country that I entered then—a country of still, black water, of tall, fluted trunks, and of vast, silent aisles, arched raggedly with a hanging tatter of moss. For hours I would paddle along, hearing no sound save the cry of the birds, or the dull, thumping splash of some diving turtle. And then, all of a sudden, there would come the call of a voice, the ring of an ax, the sullen crack of a tree as the steel bit into its heart.

"Hola you, little man," the swampers would greet me. "What is the news outside?" And that night I would sit out late at the camp, while the big, brown men listened to my tale of what was afoot in that fresher, brighter world which lay beyond.

So I went on, plunging ever deeper into the heart of the swamp, until I arrived at what I thought to be the most remote of the inner camps. In this,

however, I was mistaken. There was still another camp one day's journey beyond, the swamper told me. It was called Camp Bon and, being built upon high ground, it was the most comfortable spot in the swamp. The cabins were permanent ones, and there were even some women about. In addition, if one made a detour to a certain bayou, one could approach the place by way of open water.

After this nothing would do for me but that I must visit Camp Bon. Also, scorning the advantages of the bayou, I decided to continue my journey through the swamp. I set forth at sunrise the following morning, and, although the day promised to be one of blazing heat, I foresaw no difficulty in my undertaking. The water was up, there was a current, and this current was in my favor. Had it not been for the length of time necessary to such a proceeding, I could have drifted the entire way.

But in the wild nothing is certain. It is ever when one is most confident that trouble peeps over one's shoulder. Thus, when at noon I found my way barred by an almost impassable tangle of grape-vines and creepers, I made the mistake of forcing my way through them before stopping to rest and eat my mid-day meal. I was weary and hungry, and in my impatience I set about my task with a carelessness which, later on, was to cost me dear.

Yet I had all but won through, and the bow of my pirogue lay clear of the tangle, when I was overtaken by disaster.

It was a vine that caused the trouble—a heavy coil of muscadine that caught me amidships as in some great noose. Seizing it angrily, I flung it aside without one single glance overhead. As I did so a blunt, rusty shape came writhing down from above to twist itself for an instant about my bare right arm. I felt the harsh, sickening rasp of the scales, the sharp prick of the fangs, before I tore the moccasin away. It was a cottonmouth and, almost before it had struck the water, I was fighting the poison.

With the aid of my handkerchief and a hastily broken stick, I formed a tourniquet which I twisted above my elbow,

knotting it tightly so that it would remain in place. Then, with my hunting-knife, I attacked the bite, which was upon my forearm. Marking the spot carefully, with the blade pressed against the skin, I cut cleanly and deeply from one tiny puncture to another.

Now, it is never pleasant to cut one's self purposely. Also, when this task is performed by the left arm upon the right, one is rendered clumsy. Thus, as the steel bit into my flesh, I made a sudden movement and the knife, jerking upward, slipped from my grasp into the water. At the moment, save for a flash of annoyance at the loss of a useful tool, I thought little of this mishap. Applying my lips to the wound, I began at once to suck out the poison.

Afterward, when I sought to remove the tourniquet, the knots defied every effort to undo them. They had been drawn cruelly tight, they were soaked with perspiration and water, and the movements of my left hand were both awkward and uncertain.

"So," said I to myself after some moments of useless struggling. "You will never accomplish anything in your present condition, my friend. You are weak and shaken and very much in need of something to eat. First fortify yourself with food, and the matter will prove more simple."

Thus, having made one mistake, I capped it with a second, fatal blunder.

As I ate I was not conscious of the swelling of my arm. It was very gradual, and it was accompanied only by a dull throbbing. I had been bitten before, and my treatment had always proved successful. Perhaps it was the heat, the swamp, or an especially active venom. At all events when, after a hasty meal, I again considered the tourniquet, I found it already sunk between two rapidly rising walls of angry flesh.

It was then that the loss of my knife began to assume the proportions of a tragedy. True, I always traveled with a small ax, but only the day before I had presented it to an obliging swamper. Utterly destitute of any edged tool, I attacked the knots with hands and teeth in a frenzy of desperation. I bit. I tore. I bruised my swollen flesh until

it fairly leaped out at me in protest, but all to no avail. In the end, faint and dizzy, I was forced to acknowledge to myself that, without aid, my case was hopeless.

Clear-headed now, when the time for clear-headedness was past, I considered my position. The camp that I had left that morning was probably the nearest civilization, but if I turned back in that direction the current would be against me. Already the throbbing in my arm had changed to a sharp ache which would soon render paddling impossible, Camp Bon seemed my one hope, and, gripping my courage hard, I resumed my interrupted journey.

CHAPTER III

A Song and a Girl

OF my struggles through the swamp I do not like to think even now. For the first hour, despite my ever-increasing agony, I managed to paddle. After that I made shift to help the current with my left arm. It was one of those dreadful, breathless days of early summer, and the swamp, beneath its dense roof of moss and branch, was like some vast oven.

As for my arm, it sickened me to look at it. From wrist to shoulder the flesh was puffed to the bursting point, and the tourniquet was pressed in until I marveled that the bones did not crack. Upon the forearm the two minute punctures that had caused the trouble were all but lost amid the general discoloration. They fascinated me, those punctures. They were such a paltry entrance for so great a king as Death.

Toward the end of the third hour I lost my paddle. It slipped from my hand, and I gave it not so much as a glance as it drifted off. By then my torture was unbearable, and my wits were fast leaving me. My arm had swelled until I wondered that, balloon-like, it did not float me away. It was numb now, save at the tourniquet, but the agony of that ever-tightening band was the greatest that I have ever known.

It was dreadful to be so helpless in my misery. I could not even divert myself by struggling uselessly with the

knots. They had long since disappeared from view.

Throughout the late afternoon I was, for the most part, happily insensible. I can recall brief flashes of consciousness in which I stared up from the bottom of my pirogue at the ever-changing roof of the swamp. It was a thick, close-woven roof, speaking of a growth almost primeval, and, from the way it slid past, it was evident that, if the water had stolen my paddle, it was repairing the loss through the swiftness of its currents. But I was in no condition then to appreciate this tardy repentance of Nature. Half mad with pain and fever, I prayed only for a speedy end to my torment. Had the thought not been denied my darkened mind, I would most certainly have rolled from the pirogue and ended the matter at once.

Near sunset there came a swift change in my condition. My brain cleared suddenly, and the agony in my arm subsided into a dull, grinding ache, as from the worrying of some savage animal. Weakly raising myself to a sitting posture, I found that I was drifting between huge, ancient ranks of cypress trees whose trunks were all splashed and mottled with a growth of pinkish lichen. The water was thick and dark, but the current bumped me along through the maze of scattered knees with a skill that was more than human. Clear though it was, my brain swam dizzily, while before my eye there pulsed a vague reddish glow that was shot with an ever-increasing blackness.

"*Bien, Bossu,*" I said to myself. "This is the end. At least you will have a vault of no mean proportions."

How long I waited for the blackness to close in upon me I do not know. The lichen vanished, the water cleared, yet still I trembled upright, seeking the end that would not come. And then, even as the last red gleam was flickering out into darkness, I caught, as from an infinite distance, a faint thread of song.

At first I thought it some bird who unknowingly chanted my requiem. An instant later, as it swelled upon a high, clear note, I knew it for what it was. Too often had I heard the women croon that old lullaby as they rocked their

little ones in the brief twilight of the Grand Woods.

It is strange how we poor humans will cling to the last shred of hope. A moment before I had awaited death with only a feeling of weary impatience. Now I began to fight for my life as fiercely as though the struggle had only begun. I sought with my very soul to scream, but my parched lips could produce scarce a whisper. I beat with my heels upon the bottom of the pirogue, only to bring forth a faint, thudding sound. Wild with despair, I finally remembered my gun. It lay in the bow, and, if only I could find it and shoot it, the report might bring an answer.

Blindly, desperately, fighting off the blackness that beat down upon me in great choking waves, I groped about until my hand finally encountered the stock of my old weapon. With the last ounce of my strength I drew back the hammer. Then, as I dropped a limp finger toward the trigger, the blackness triumphed in a roar of sound.

Later I was flashed back to life for an instant by a flood of such agony as only death itself could have withstood. I had but a glimpse, as my eyes fluttered open and shut, but in the glimpse I saw that I was saved. I lay upon a great, loose heap of green moss that had been piled into a broad, flat-bottomed boat, and over me there bent a young girl. She was dark and beautiful, and in her hand was an enormous knife. If her eyes held pity, there was also in them determination, and the blade of her knife was red with blood.

As she stooped to her task again the blackness mercifully whirled me away.

CHAPTER IV

Camp Bon

WHEN next I opened my eyes I found myself in the bunk of a swamper's cabin. It was a strong, well-built cabin, and its furnishings, if rude, were of the sort that speak of woman and home. Gay pictures and calendars had been tacked about. Upon the shelf above the open fire straggled a row of little china ornaments. There was even a curtain of some gauzy

stuff before the small window in front.

This much I saw in a roving glance before my attention became centered upon one who sat at the side of the bunk. It was the same young girl who had rescued me, and, now that I could see her more clearly, I found that her beauty was of a rare and wonderful sort. She was tall and lithe, yet for all her slenderness and grace, there was that about her which gave one the impression of endurance and strength.

For the rest, she was of a type frankly Spanish. Her eyes were large and dark, her lips red and full, while her cheeks, faintly touched by wind and sun, were of a marvelous, shadowy olive. Her dress, of dull crimson, served well to set off her dark beauty while, as though to heighten the effect, she had thrust through the black, heavy masses of her hair a spray of scarlet blossoms.

Seeing that I was looking at her, she nodded pleasantly.

"So you are awake at last, are you, Bossu?" said she. "I was beginning to think that you would sleep forever."

"I thank you, Mademoiselle," said I. "You have most certainly saved my life. How was I when you found me?"

"You were all but drowned, Bossu," she replied. "Your gun had kicked you half into the water, and your head was almost under. Five minutes more and I would have been too late. You were lucky, Bossu, not only in that I reached you in time, but because I was there to reach you at all. It is very seldom that I go so deep into the swamp."

"And my arm?" I went on.

The girl winced.

"That was a terrible business, Bossu," she returned. "Also, with the only instrument at my command, it proved no easy one. But I will show you. If I have cut you often and deep, the fault is not my own."

Rising, she took, from a nail driven into the wall, a belt. This belt was fitted with a leather scabbard, and from the scabbard she drew a knife such as I had never seen before. I say a knife, since that is what she afterward termed it, but in appearance it was more like some short and heavy sword. The handle, of bone wrapped about with brass

wire, ended in a plain, but massive, guard. The blade, long, flat, and of an extraordinary breadth, rounded off with a bluntness that could scarce be spoken of as a point. Evidently, despite the apparent fineness of its steel, the weapon was intended for hacking rather than for cut and thrust.

"*Dieu, Mademoiselle,*" said I, as I gazed at it. "You need not apologize for any cuts that you may have inflicted upon me. I only wonder that, with such a cleaver, you did not take my arm off entirely. Wherever did you get it?"

The girl smiled as she returned the knife to its sheath.

"It was given me by a sailor at Morgan City," she replied. "He said that, in the far-off Southern country, from which he brought it, they use such knives in the cutting of cane. At all events, it is most useful to me in clearing my way through the swamp, and I always wear it in my journeys about the camp at night. But enough of my cleaver, as you call it. Tell me now how you, Bossu, came to let the swelling of your arm get beyond you."

Briefly I told her of my carelessness, of my disastrous meal followed by the loss of my knife. Afterward she informed me that I had slept from one sunset to another. When I asked her name and how it was that she knew my own so well, she only smiled and told me that I had talked enough, and must now go to sleep again. As the dusk was falling and I still felt very weak and tired, I lost little time in obeying her command.

I awoke the following morning to a great burst of sunshine, and the sound of a loud, deep voice that was strangely familiar. The voice came from just outside the open window, and, as it rumbled on in greeting to some passerby, I found little difficulty in placing it. My weariness was gone and the thought that I had fallen into the hands of a well-remembered comrade, brought me a feeling of pleasure and comfort. As I raised myself I found that my arm, although weak and tender, was already much improved.

"*Hola, you, Jean Fagot,*" I called,

and a moment later my old friend was inside the cabin.

He came forward in a series of short, irregular steps, but save for his limp, and the now uniform whiteness of his bristly hair, he had changed little since that day, ten years before, when he had turned his back upon the Grand Woods.

"Bossu, Bossu," he cried. "It does my heart good to see you. I was busy when you awoke at sunset, and afterward Jeanne would not let me disturb you. And the arm? Is it better?"

"The arm will soon be all right again," I assured him. "And so it was the little Jeanne who saved me? I would never have known her, Fagot. This is indeed like old times. In one way, at least, my friend the moccasin has served me well."

We talked throughout the morning, and I learned of Fagot's life since his departure from the woods. He had just drifted about—following the trees. At first he had avoided the swamps, fearing their effect upon his child. Later, as the timber thinned, he had been forced into them. Starting at the outer edge, he had worked his way inward, chopping along from one camp to another, until he had been overtaken by the inevitable disaster. As usual it had come from a jammed pirogue and a falling tree, and he had been lamed beyond the hope of ever swinging his ax aggin.

After that he had come to his present home. It was a nice place—just the quiet, comfortable spot for such a wreck as himself—and Voltaire Bon, the founder and leader of the camp, was very kind. For the rest, he and Jeanne made their living by rotting moss, which they sent outside by the tow boats that came up every now and then from the cypress mills.

In return I began to tell Fagot of all that had occurred in the woods since his absence, but, to my surprise, several of the incidents were already known to him.

"Why, Bossu," he teased, when I questioned him, "do you not know that you are becoming famous? Even here, in the depths of the swamp, we have heard of your success in matters of investigation. You are becoming quite a

detective, Bossu. I must be careful while you are here, else you may reveal some dark secret of my life to Jeanne."

He paused, while the light of humor faded slowly from his eyes, leaving them dull and brooding.

"Ah, Bossu," he went on in a different tone, "I have often thought of what might have occurred had you known of your talents when first we were friends. Then, perhaps, it might have been different."

His voice broke. He bowed his head. In the matter of Jean Pierre's memory those ten years might have been but a day.

"Come, Fagot," I encouraged him. "You must forget the past. That is over and done with. You still have Jeanne, and such talents as I am possessed of are at her command. Suppose now that I employ them in finding her a good husband?"

It was hard to win him back to his former mood, but I persevered until, at midday, he was talking as brightly as before. Then, as Jeanne was away in the swamp, we two ate together. Afterward, feeling strong enough, I left the bunk for a seat outside.

Here I had my first view of Camp Bon, to which, despite their praises, the swampers of the inner camp had done scant justice. In front a broad, open sheet of water stretched away to the distant cypress, lapping its tiny waves against the series of rough landings to which the inhabitants moored their craft. Back of these landings the cabins were built along a sloping crescent of high ground, each with its floor raised upon blocks against the spring floods, each with its ladder-like stairway leading up to a little front porch. Vines grew before the porches. Coarse garments snapped as they dried in the breeze. Here and there, even, a rank green patch of garden stuff told of an industry beyond that of the ax and saw.

It was very strange and very beautiful, this little permanent settlement in the heart of the swamp. Sunwashed and clean, it flashed like some jewel amid its dark setting of moss and branch and rusty foliage.

I will not soon forget that revival of an old friendship. Fagot was still the same gentle creature that he had always been, and when, that afternoon, Jeanne arrived with her boatload of moss, our little reunion was made complete. Again I sought to thank the girl, but she only replied by adding to her kindness.

"It was nothing, Bossu," she protested. "If we swamp folk did not help one another, we would not long survive. But since you feel that you owe me a debt of gratitude, you can repay it by staying with us throughout the summer. We hear little of the outside world, and, unless you have changed since my childhood, you will prove no bad companion. So come, Bossu. Promise that you will remain."

"There is no need for him to promise," boomed Fagot. "We will hide his pirogue until we are ready to let him go."

Thus adjured, I promised to remain a while, especially as, through the condition of my arm, a lengthy journey would be denied me for many days.

CHAPTER V

Jeanne

THOSE first few weeks at Camp Bon passed pleasantly enough. Under Jeanne's care my arm healed rapidly, and it was not long before I was able to take my part in the work of my benefactors. Often I went with Jeanne into the swamp where we gathered the moss for the rotting. The girl knew each nook and cranny of the great reach of cypress, and no spot, however tangled, seemed inaccessible to her skill. Drawing her great knife, she would hack her way unerringly inside where, with the aid of a long, spiked pole, she would twist down her spoils into the bottom of her boat. At such times she ever wore a pair of heavy leather gauntlets, and often she teased me about them.

"See," she would say, holding out her slender, shapely arms. "You must get yourself a pair of these, Bossu. Then you can jerk as many vines as you please without disaster. Believe me, I have

had my full share of unwelcome visitors. If, as they say, the penance for one's sins is lessened by the killing of a snake, I shall spend but a short time in Purgatory."

We became good friends—Jeanne and I—and, as the days wore on, I came to see that, to her beauty of face and form, there was added another, greater beauty of heart and soul. In nature she was still little more than a child, and, if through her heritage of Spanish blood, her gusts of temper were swift and fierce, they were always quickly followed by the pity and gentleness of her father. Often I have heard those who saw her in anger say—"There is a little vixen for you." But afterward, when in her humbled pride she asked their forgiveness, they would only esteem her the more through the beauty of her repentance.

And I will add in justice to her that, of her many virtues, the least was not charity. If in the care of my arm she had shown much skill, I soon found that it was a skill born of long practise. Whenever illness or disaster showed their dark faces at Camp Bon, there was Jeanne ready to fight them to the bitter end.

Now, living as she did in such a small and remote community, it was only natural that Jeanne, being admired by all, should be held in especial regard by a few. To Voltaire Bon, the leader, and his wife she was as a daughter, and this was not strange since, through the love for her of Blaise Duron, their nephew, it was understood that she would some day become their niece.

Duron lived with his kinsfolk in the largest and most comfortable of the cabins, and, by his air of ever-increasing authority, it was evident that he only awaited his uncle's death before appropriating the leadership to himself. He was a young man, of great size and strength, and he was also very handsome in a bold, insolent manner. In all the sports and labors of the wild he was an acknowledged expert, and, thus far, his courage remained unquestioned by any man.

Yet, at first glance, I knew him for a braggart and a bully, for one of those

men who, in the dancing halls of my own country, are wont to halt the music so that they may proclaim themselves master of the ball. Indeed I had often heard of Blaise Duron in the towns and villages outside. He often came in upon the tow boats, and the coffee-house keepers told great tales of fights and broken furniture. But always, when I took the trouble to inquire, I found that Duron had fought a smaller man.

As for his courtship of Jeanne—if courtship it could be called—it was an affair of long standing. At first Voltaire Bon had been very kind to Fagot, and when the boy Blaise had developed an affection for the child Jeanne, the leader had crowned his benevolence by approving the match. Later, as Jeanne's beauty increased with her age, the camp had been given to understand that the girl was for Duron alone. There had been no betrothal, no public announcement. The affair had been merely understood.

Nevertheless, several of the men, abandoning such hopes as they might have cherished, had married girls from elsewhere. The remaining ones—whose names were Ledet, Mamus, and Trappey—had thus far religiously respected the understanding. Jeanne might be desirable, but Voltaire Bon was a leader whose slightest wish was law.

In addition to these original members of the camp, however, there had arrived a while before myself, a young swamper of the name of Marcel Var. He was very quiet and reserved in manner, while in appearance he was one of those small, compact men whose size belie their strength and determination. Living in the cabin that was occupied by the other unmarried men, he had, from the first, displayed a decided interest in Jeanne. True his companions had informed him of the leader's wish, but he had only replied by saying that, in the matter of his affections, he considered himself his own master. As can be imagined his words had not been long in reaching the ear of Duron.

Most men, at this prospect of rivalry, would have made some definite move, but Duron, secure in his self-conceit and long-recognized proprietorship, had

merely allowed the affair to drift along as before. Confident to the point of contempt, his attitude toward Jeanne was, to my eyes at least, not so much one of love, as of lazy patronage. He desired the girl, and that should be enough for her. He would claim her when it suited his own convenience.

As for Jeanne herself, if she was dissatisfied with this calm arrangement of her future by others, she made no sign. Duron she treated with the intimacy of their long companionship. To Var she showed only kindness and consideration, as she did to all. So far the situation was satisfactory, but it was one that could not last.

Thus, when I arrived at Camp Bon, its little woodland stage was set as for a play. Perhaps, through their acquaintance with the actors, the inhabitants did not realize this. Before the end of the first week it was all too plain to my fresher sight.

Duron, confident in his possession, was acting with a contemptuous assurance that would have destroyed him in the eyes of a far less high-strung girl. Var, having recognized this fact, was patiently biding his time. Jeanne, young and care-free, was undecided. The play might be either a tragedy or a comedy. It all depended upon her mood.

So the set stage waited until, upon the fourteenth of July, the play began.

CHAPTER VI

A Swamp Fête

IT was the custom of Voltaire Bon to hold at his camp a fête upon the fourteenth of each July. His youth had been spent among the towns outside, and to the swamp he had brought with him an undying memory of those celebrations wherewith our folk are wont to commemorate the fall of the Bastille. Beginning in a small way with a ball, or perhaps only a feast of gumbo, he had added each year to the fun with sports and competitions, until now the affair was known throughout the length and breadth of the swamp.

As Mardi Gras is to the dweller in the city, as Christmas is to the town-folk, so was the fourteenth of July to the

swampers. They spoke of the fête throughout the year, they measured their feats of strength or of skill according to its standards. Did a pirogue fly swifter, an ax bite deeper, or a tree fall truer than usual, he who was responsible would exclaim—"Ah, but I should have saved that for the Fourteenth." And when the day came around, there was no hope of holding even the most distant swampers to their work. They would as soon have labored upon Good Friday.

They began to arrive as early as the morning of the thirteenth, and from then on a scattered stream of visitors poured into the camp. They came in pirogues, in flat boats, in borrowed gasoline launches. Once even a tow boat swung out of her course to leave behind a fiddler and a chattering flock of girls who had come up from outside. The broad, open reach of water in front was half hidden by a multitude of small craft. The short curve of high land was dotted with the innumerable small camps of the visitors. The swampers, driven out of their cabins to make room for the women folk, took refuge with their friends, and hoped that the weather would remain clear. The air was thick with smoke of many campfires. The silence of the swamp was made as naught by the shouts of the men, the laughter of the girls. The very birds skimmed madly about, as though imbued with the spirit of the hour.

It was a time of joy, of revelry, and over it all Voltaire Bon presided with a dignity, a courtesy, that could have been equaled by few. He was a huge, rugged old man, with great, rough-hewn features, and a white, patriarchal flow of beard. Enthroned in state upon his landing, he received each visitor as he arrived, placing him unerringly in his well-ordered memory, even recalling at times some special feat of the year before.

"Welcome, Vital," he would say. "And have you brought your ax with you again? Our own Ledet has made some records lately, so, if you would win this time, you must stir yourself."

But if Voltaire Bon was the king of it all, Jeanne was queen. Many girls came to the fête that year, most of them pretty, some of them really beautiful,

yet there were none who could match the dark Spanish loveliness of old Fagot's daughter. Clad in a new crimson dress that she had saved for this occasion, she darted about amid the ever-shifting groups like some bright flash of laughter and joy. They were mad about her, those visiting swamper. They claimed her for the ball that night. They promised her their prizes if they were fortunate enough to win. For the most part they were free rovers of no permanent camp, and, in the matter of a pretty face, they hearkened to no man's command.

Yet Duron did not appear jealous. Rather he seemed to take pride in the popularity of his future wife. He agreed heartily to the praises of the others. He even added aloud, boisterous commendations of his own. He was like one who, having gained possession of a prize, lauds it openly for the purpose of self-glorification.

Var, upon the other hand, seemed ill at ease. Everywhere that Jeanne went he followed her with his eyes. They were gray eyes, clear and shrewd, and in them was a look of fixed purpose such as I had seldom seen before.

"So, Bossu," I said to myself, "it will not be long now before something happens. Also, if he is true to those eyes, the something will be worth while."

The morning of the fourteenth broke bright and clear, and, with the rising of the sun, the sports began. There was running, jumping, wrestling, boxing, a shooting match—even some fights with game cocks. Afterward all crossed to the nearby cypress where were held the more important contests of the swamper's art. Trees were thrown in the shortest possible space of time. Logs were trimmed as if by magic. Rafts

were made, so it seemed, in the twinkling of an eye. They were gay, but earnest, these men of the swamp, going about their tasks with a swiftness and precision that were wonderful to see. It was play perhaps, but it was also the real business of the day; for he who could establish his supremacy over tree, or log, or raft, would be, for the coming year, a king among his kind.

So the fête continued with its victories and disappointments. The judges were fair and the prizes, if simple, were hard won. The contests were open to all, and I had been asked to take part in the shooting. But I had declined, feeling myself an outsider, and the prize had gone to Duron.

To his skill with his gun Duron had added other victories, and when all repaired to the feast that had been laid by the women, the big man could scarce contain his importance. Blustering, bragging, he swaggered about, followed by a train of admirers. For weeks he had been laying in a supply of liquor, and, upon each visit to his cache, the throng about him increased.

Var became even more quiet and reserved than usual. He was a skilful swamper, but he had been matched against the very flower of his calling. He had done well, but no more, and to his credit there was no positive victory. Yet it was whispered by those who knew him that, in the final event, he would redeem himself.

At the feast he ate moderately, refusing each offer of the wine that flowed on every hand. His comrades joked him about his temperance, but the elders nodded wise heads.

"He is smart, that one," they said among themselves. "He is saving himself for the end."

(To be continued)

Next month comes the pirogue race and a fore-shadowing of the woe that followed it.



ON THE TRAIL OF THE WAVIES

By HAMILTON M. LAING

PHOTOGRAPHS BY THE AUTHOR

A Game of Wits with "the Wild and Wary One of a Clan Long Known for Its Wildness"

BY all the rules of the goose-trail the goose season ought to have been past. It was late in October, and, as the birds had come down at the first of the month, their time was more than up; in fact, if precedent was any guide, they should have been in the Southland. For this reason our firm had disbanded and at least one of these four who annually find life at its fullest while in the pursuit of wawa, was gone; gone; and, disgusted, beaten—the last hunt a sad anti-climax, the worst of the season—the case the more pitiable that he admits candidly that he endures the forty-nine weeks of existence, "stale, flat and unprofitable," that he may live to the full the other three.

But the geese were not gone into the Southland. All day, as I hustled about camp getting odds and ends in shape for an early leave-taking, there came across the five-mile expanse of lake a jabber of goose talk that assured me of that fact. It had been a seething clamor at day-dawn, and I needed no ocular proof to be certain that five thousand or more wavies were yelling there in their morning chorus. There was little of the mellow trumpeting of the gray geese in the din, and I knew that their squadrons had departed; but this was little in my mind, for we had already settled the season's accounts with those simple-minded chaps. It was the white legions that worried me and kindled anew my half-hearted desires—longings that had been driven out and frozen out of me in our last futile expedition. So I sent off the message; and in the evening the

democrat rumbled into camp, and now, though but three strong, we set out again on the trail of the wavies.

There is no goose like him—this white wanderer of a mighty continent. He is the wild and wary one of a clan long known for its wildness. The man who coined "a wild goose chase" I feel assured must have chased him. Nesting on the far Arctic coast, wintering along the California tide-waters, twice yearly his snowy legions swing back and forth across the interior of the continent and no one has an opportunity to call him neighbor. Individually he may be stupid sometimes, but collectively his organization is crafty and fits his race to survive. His flocks are the largest—he outnumbered the grays twenty to one—he flies the highest while migrating—often indeed it takes a good eye to find his company in the blue void of autumn—he moves on his feeding-grounds in great masses that cannot be decoyed by shooters; and his roosting-places are out on the wind-swept lakes.

His voice is a yell, a very slice of the ice-fanged north wind; his temper, when you get him down wounded, has the edge of a saw, and he bites like a pair of pliers. He is big-headed and pig-headed and erratic. You may prophesy the behavior of a gray goose a day ahead, sometimes a week, but not that of a wavy; he doesn't know his next move himself. Living, he mocks you; dead, he avenges himself on the cook—for his feathers are clinched and riveted into his dusky skin. Though like all the inland geese he is delicious when he comes out of the oven, it takes a vast deal of connivance and persuasion to

get him into it. Take him, all in all, he is the worthiest game-bird foe-friend of the man who hunts; he is truly, all of him, a wild goose.

It was impossible for us to do more at night than take up a position where we could watch the course of the morning flight; so some time after dark we turned off the trail, drove over to a little stack, and made camp. To one accustomed to bivouacking in the woods and to whom the term camp is synonymous with timber, lean-to shelter, or tent, with a fire and all its associations, ours would indeed seem a joke. While Robert, the junior member, unhitched, unharnessed, and blanketed the team, the Old Boy and I climbed upon the six-foot stack. We split the top—it was old, abandoned hay and we had no qualms over it—turned it back to right and left and ahead till we had a flat roof or floor; then we spread the blankets and the camp was complete. Here we had a wind-break and food for the horses, and a balcony sleeping-porch, warm, comfortable, airy, for ourselves. What woods bivouac could provide so much comfort?

The Nights Under the Stars

Often upon these shooting-grounds I see hunters who at approach of darkness hasten away by team or automobile to the nearest farm-house or go home to secure night shelter. But in the strenuous game of following the goose-trail, such hunters miss much that to me is vital. These nights out on the prairie make an appeal of their own. When the time comes—I hope it may be very far in the future—wherein I shall have to quit the trail, when the past with a hundred expeditions grows obscure, and I have forgotten whether in the morning flight I wiped Doc's eye or he mine—the latter probably—when all these things are fading, I know that the memories of every one of our night camps out under the stars will remain.

Perhaps it is because I am the poorest sleeper of our hunting quartette. Rob succumbs to Morpheus as soon as he gets half adjusted in the blankets—but he can fall asleep in the crisis of a tale

of his own telling and dream like a babe when his feet are out in the frost. By and by brother Doc ambles off after him, and the Old Boy and I have a spell of remember-the-time stories of other years till a certain kind of breathing warns me that I am alone.

So I lie and listen and feel the things of the night world. The horses munch and crunch their hay; the night-winds whisper in the frost-rimed grass; a mouse squeaks and scurries in the hay and I hope meanly that he may find his way under Doc's or the Old Boy's collar; overhead some little night-migrant speaks timidly; a string of whiffing mallards pass by; a migrating goose flock, seeking the lake, calls inquiringly far out of the night; a coyote, miles distant, sings in his shrill key and is answered by two more voices still more distant—then oblivion till the Old Boy shouts that daylight is near.

At dawn the wavies began to move at the lake. Across the open country, level as a floor, we could see them rise in misty, trailing clouds, that seemed to hover a moment, then flow along the horizon toward the southwest. We were far out of their course and but the faintest sound of their clamor on the water reached us. Yet it was a goodly picture—these silent battalions in the dim distance, and our imaginations, backed by the experiences of days gone by, by no means subtracted from the view.

"Southwest, eh!" said the Old Boy. "Same old spot; but we may fool them this time! Rough weather coming, lads."

We made breakfast in the willows fringing the creek in the same spot where four days previously, homeward bound, we had halted to build our little tea fire. The place now was full of recent memories. Here that evening we watched the great flight of the white squadrons come into the country—we had been futilely chasing a few of the advance guard for three days—and we saw them storm about the plains, their gossamer-dotted lines in all points of the north and west and south, as like an army of invasion, which, in truth, they were, they fell upon the fields.

Fifty yelling companies had passed over our heads barely out of reach of our eager guns; and one squad, recklessly officered, attempted to get by low, and three of their number swirled earthward to our shots—there was more than one piece of toast burned hopelessly that evening at our fire! And in the dusk we watched them swing back lakeward in two or three hosts, thousands strong, that ranked in V's and 7's and parallelograms, formed an irregular network across the heavens—oh, it was a goodly flight, the like of it not seen in years; and even the Old Boy joined the pow-wow on the bridge, and we shook hands all around and hugged one another in ecstasy.

It was almost eleven o'clock when we found the feeding-ground. The birds had remained late on the stubble; but when we came within a mile of them the glistening area in the field rose in a miniature snow flurry, and then, holding stationary on the horizon, told us that they were coming directly at us. So we scattered and wasted no time in doing it. Leaving the horses to their own devices—and they had no objections—we dashed off to right and left of them and threw ourselves in the grass. And that long, on-coming army, in orderly arrangement covering three or four hundred yards, now glinting white against the dull sky, now fading into it, worked up low toward us. Now it appeared that Rob, on the left, was to get the shooting, now the Old Boy—sprinting is not in his line and he did not get very far from the team—yet ever they sheered and sheered northward till they headed for me, and I fingered the safe on my gun in eager anticipation. Yet still they crept sideways, as it were, and, when the leading files crossed our line they were far out of range. As the end birds in the string on the outermost flank passed me, I rose and slammed away vengefully, and instantly a white veteran collapsed and twirled down to bump in the grass.

One! and the other four or five odd thousand, harrying the air with their mocking yells, swung on lakeward. Had they been grays they would have dribbled by in fifties for an hour, and

goodness knows how many of them would have fallen along the way.

"Cute devils, aren't they?" said the Old Boy as he climbed in over the wheel. "Going to snow soon! I wish that wind was the other way."

We drove over to the feeding-ground—a quarter-section of wheat-land—and prepared for business. Guns, ammunition, decoys, cameras were bundled out, and while Rob took the horses to the shelter of a straw-stack, the Old Boy and I set to work with the decoys. We had perhaps fifty counterfeit wavies up in the wind when of a sudden there came a loud squawk, almost it seemed in our ears, and to our horror right over our heads was a goose! He was holding on his wings and peering down while he wagged his head in a "Well-I-never!" sort of way—and my comrade muttering something fitting—excellent English and to the point, but unprintable—leaped out of his tracks and pounced upon the nearest gun. He tried to shoot with it empty; he loaded and aimed and pulled with the safe on; then he put it down and with the sick look of a man in mental anguish gazed upon that vanishing wavey. The latter was a youngster unskilled in the diplomacy of the goose-grounds; but the star of his young life was in the ascendant; luck was with him.

Hard Work in the Pits

When we attempted to dig our pits we found that luck was still adverse. The soil was gumbo clay; it was dry and caked in huge lumps that defied the best efforts of the Old Boy's two hundred and some odd pounds on the spade handle. Nothing less than a pick or a steam shovel would have been of much use there, but the spade wielder tore away persistently.

"I believe"—puff, grunt—"those danged white devils!"—grunt, puff—"knew what they were feeding on!"—grunt, grunt—"when they picked this field!" Puff, puff, puff—"If that wind was t'other way—but, oh, damn——!"

So he gave it up and struck out across the field, apparently at the mercy of a new idea, while I took the spade and

attacked the gumbo. Profiting by his trouble I made no attempt at a pit, but contented myself with a six-foot furrow or trench a foot in depth. When Rob arrived he said: "What's the Old Boy building—a fort? Guess I'll shoot with you!" Whereupon he also started to dig a trench, while I ran over to inspect the "fort." The builder had found a number of sheaves and set them around the mouth of the shallow hole—chiefly, I noted though, on the windward side—a landmark to catch a wavy's eye at a mile; and it was plain that he had little faith in the birds coming back again.

The wind was now blowing a strong gale from the northeast; it was bitterly cold and growing colder every hour. Soon it began to snow, cold, dry, fine snow, the blizzard kind of the north that bites and stings savagely when it reaches the skin. The Old Boy had retired; he was humped up with his broad back to the wind like a jack-rabbit, his coat around him cloakwise so that it might be dropped quickly in case of trouble. So we cuddled down also in the trenches—coffins, Rob designated them—and tried to feel comfortable. For a short while this was easy enough. We had a layer of straw in the bottom; the earth, not yet being frozen, had some latent heat in it; and the strong wind could not reach us. Also the exertion of digging had charged our bodies with a fund of warmth.

"How long till the first of them are back?" said Rob. "I'll give them an hour to wet their bills. In this cold they will feed nearly all day—listen! There they come!"

There was a faint shrieking coming out of the teeth of the storm, and we squirmed around and peered half-blinded into the wind. Stronger, louder, rose the yells; then they swept into our vision, a hundred strong, high in air; and, on seeing the decoys, they held on their wings and sidled in the gale—then swirled onward and disappeared in the stormy heavens.

"Gosh! If that wind was in the opposite direction!"—this longingly, dejectedly, from my comrade's coffin.

But it was not; and for three hours we lay and shivered and shook and

rolled and squirmed as the whole flight, in companies averaging perhaps a hundred, streamed yelling over our heads. Always we hoped, for often they appeared likely to turn; but not once did we realize. They were all down-wind birds and high, and from their vantage they quickly discerned our duplicity and passed on. It seemed impossible that so many geese could be in the neighborhood without paying toll to us; but every freezing minute drove home the fact that the wavies had scored another triumph over us.

"Mark! South!"

Then I saw something that instantly thawed some of the icicles in my marrow and sent a little warm blood quick coursing. A score of white chaps, with one dusky form in their midst, were beating back to us scarce twenty feet above the stubble. Slowly, quietly, they worked up. It seemed that it took them many minutes to cover a hundred yards; but they were coming directly into the wind, and our suspense was unbearable. Soon they began to veer a little from their first course between the pits, and pointed directly toward the Old Boy in his fort.

"Watch that blue fellow get it!" said Rob. He has a standing order for a blue goose.

Now they were almost over the fort. There was a move within it, a flurry upwards by the birds; then crack—down came the blue goose, and crack—down followed a white comrade. Good! But then we look for such things from the Old Boy.

Half an hour later we decided unanimously that we must eat or die. But we decided also that it would not do to leave the decoys unwarded; so after a parley the Old Boy, with the stiff hobble of a man partly congealed, set out on the first raid on the grub-box. I think we stood it some fifteen minutes longer while we discussed the timely topic of the pleasantness or unpleasantness of death by freezing; then we got out of the trenches and started rough tactics. We shoulder-butted for a while; we wrestled—no holds barred—till a deal of stubble had been rolled on; then we boxed—anything fair except a

closed mit in the other fellow's shooting eye; that was ruled out. This was one continuous round; there were no bells nor intermissions. About the end of what must have been the fifth round, as I sidestepped to get my back to the wind, the better to further a vindictive

they ambled slowly up almost over the Old Boy's fort, where the muzzle of a loaded double-barrel with no one to man it peeped up at them. They crawled over the end of the decoy layout; then with a volley of excited jabbering they swung around on the other



A FEW OF THEM ROSE FIRST

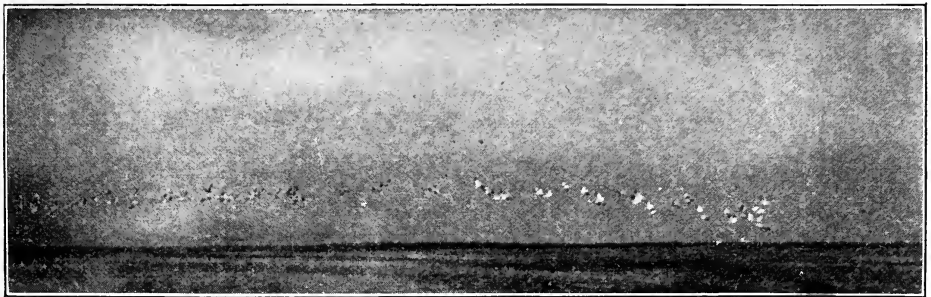
retaliation, my eye lighted upon something and I called a halt.

The Old Boy was out on the windy side of the stack. He was jumping up and down, swinging his arms, cap in hand, bending double and capering like a clever German toy. Then he saw that he had stopped us; he pointed with his left arm almost it seemed at us, then flopped in the stubble. Too late!

"Wooly-head! Wooly-head! Ha-ha-

side of us far out of range, turned down wind and went straight over the stack that sheltered the horses and the Old Boy. He was out of our sight now; but the cold had not in any respect clogged the works of our imaginations.

It was nearly four o'clock; all the geese were on the fields, so when the Old Boy returned we laid new plans. There were ten thousand geese some where southwest of us; they must beat



THEY BEGAN TO MOVE EARLY

ha! Yelp! Yelp!" sang a crowd of wavies scarce a hundred yards distant as we dived into our coffins. Too late, alas! Those crafty scions of the cruel north wind had been spectators of our methodically-mad caperings, and apparently they liked little our sudden exit, for they immediately began to veer off their former course. Yet still, with that occasional stupidity of their kind,

back low in the storm; we were near their path; they would pass either north or south of the buildings south of us: therefore we should command a portion of both leads. I volunteered myself—a most willing martyr—to attempt to hold the south lead. Who else? Whereupon Rob volunteered the entirely useless information that if he had to remain in the coffin another ten min-



THE PICK-UP

utes he would die; so we set out southward.

We called at the stack to pay our compliments to the grub-box. The very bread was frozen. Our fingers were too numb in our mits to carve the roast goose; but we fell upon him like wolves and tore our portions. And how one can eat at such times! Health that mocks the doctor's rules—we downed clammy mouthfuls that at any other time would have made our stomachs turn over and yell.

"Guess it—will thaw—after it gets down," said friend Robert. "'Nough?"

"Mn-hmn."

"Then come on! Carry it in your fist"—and he slammed the lid.

We had still more than half a mile to go and we set off on the run. When we reached the desired road allowance we separated a hundred yards and dropped into the grass. It was colder here than in the coffins, and in spite of recent exertion, I soon shivered so that my joints rattled; but we had more now in our eye to aid us in forgetting. The fine snow had almost ceased falling, and now a mile to the west we could see our geese. Rising intermittently, great clouds of them would circle a few moments and then settle again. This is the usual order of procedure on a wavey

feeding-ground, where the rear ranks in such an army find scanty gleaning and at short intervals are forced to move to fresh pasturage ahead of their comrades.

At last! A great mass rose, and, as a large part of them swung about and deployed across the wind, the head of the column started to beat back toward us. So slowly did they move that they seemed almost to be stationary. Was it north or south? Now was the test. First they tacked to the right of our line, then to the left. They were broken now in battalions and their course appeared to be half a mile wide. Shimmering white or gray, or fading momentarily, they worked forward, and when they reached a wide expanse of plowing they dropped low and skimmed the ground, knee-high, beating, beating into the teeth of the wind. It was a wondrous sight; it was worth the price we had paid!

But we had more business in hand than sight-seeing. The long, sinuous strings in the lead turned to the northward: we were out-maneuvered. I glanced up the trail to where Bob was peering like a fox from the golden-rod cover; and he rose and pointed and shouted a volley at me. Though I could not catch a single word, I knew its purport, so I waved my arm, and

immediately he raced off across the plowing. He was going to head them off.

I watched him sprint several hundred yards, and flatten out of sight, then run again and efface himself. Yet though the lines of geese seemed to be passing over and around him, there came no sound from his gun, and I knew that the cunning rascals were spotting him afar off and steering safely by, out of range. Then four shots rang out at intervals, and though no birds fell, I saw that indirectly he was going to succeed, and I blessed him for it. For the rearmost flocks, scared by the shots, were swerving southward and heading directly toward me. The end of the first string of this yelling bedlam that crossed the trail almost tempted my fire, and I reserved it only because the next rank appeared likelier. Never, I think, did hungry Cave-man shoot with more fierce precision, and two white wanderers quit the goose-grounds.

When we returned to the Old Boy early dusk was falling and the snow again coming heavier. He had two more wavies—young ones both—one of

which he admitted that he had killed by accident. He imparted the not unwelcome news that the farmer nearest at hand had sent down his boy to invite us to come under cover for the night.

"And we're going!" decided the Old Boy. "We would be all right in that stack; but it is too cold for those horses to stand out in it. Coldest day I ever chased geese! Get up the rest of those decoys."

Three or four hours later, as we courted the coal-stove in the farmhouse while the windows grew frosted and the northeaster outside swept across the prairie and hummed shivery tunes around the corners, we discussed goose prospects for the morrow.

"That lake will freeze solid to-night. They will move south before morning, is my guess," I prophesied.

"Not till they take another feed," declared the Old Boy.

"I saw them leave last year; and they left at noon, not at night," said Rob. Then he recounted how he and Doc had set up on their feeding-ground after the flight had left it in the morning, only to see the whole concourse of geese,



THE MEMORY OF OUR NIGHT CAMPS WILL REMAIN

after spending a short while in the lake, rise in huge detachments and bear away high into the south.

The next morning when we went out at daylight the ground was iron-hard, and the wind, now in the northeast and light, had a sting of winter in it, but the sky was clear. All eyes were trained on the eastern horizon: would they come? We had decided that the game was scarce worth the candle, that our chances were too slim to warrant setting out the decoys and digging in frozen gumbo; so we waited.

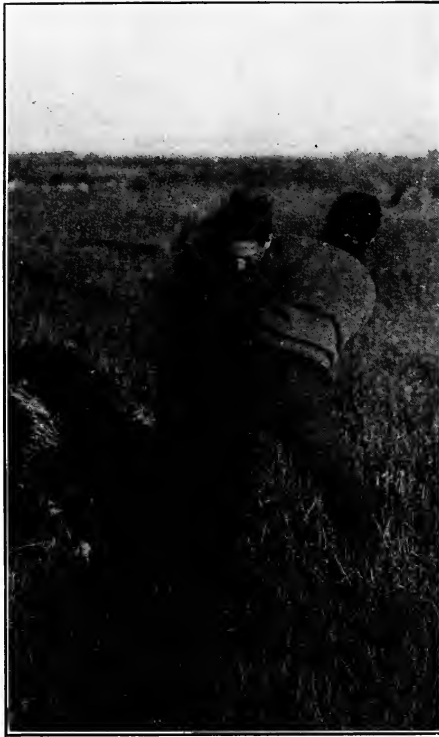
Just at sun-up some one shouted "Coming!" and there in the yellow sky was a long dotted line, then another and another—lines straight as though ruled there; and we knew that the white legions had not yet left us. And with the perverseness or wondrous cunning of their kind, soon the foremost flocks were circling and dropping upon a big field where the farmer assured us not a goose had fed during the season. Each flock arrived high and spiraled down to the others. There was no way we knew to circumvent them, and we had to stand by and gaze. For an hour the east gave them up, and the field behind the knoll swallowed them.

"I can't stand this much longer!" said the Old Boy. Then he went into the barn.

"Hey! Films or feathers?"—he was in the door with two guns and a camera in his arms.

"Films! No, bring both!"

"Good. I'll carry the gun for you. I haven't crawled on my belly for a



NO HOLDS BARRED

generation, but I am going to get a little closer to that mob. Get your blunderbuss too, Jack"—this to the farmer, Rob having already disappeared.

So we set off. The nearest geese were but five hundred yards from the buildings; so we walked the first hundred and then got down on fours. Between the birds and us was a derelict field covered with a scanty weed growth, and we toiled away through this. The first hundred yards was tedious, the second was penance, the third was purgatory, the fourth was a worse

place with all the trimmings.

The rough, frozen ground was cruel, and I had to look at my knees occasionally to be assured that I was not stumping on the bones. I was full of spines and briars—nearly all our cover was rose bushes; the stubby, prickly, prairie kind—I had a cramp in my neck and my jaw ached—for I carried the 5 by 7 camera, pirate fashion, in my teeth. My mainstay and chief consolation was that I could see the labors of the Old Boy. I knew that he had seventy-five more pounds of himself to drag through the briars, and that he was a much bigger pin-cushion for them to stick into. His cap was off; his face was dark with agony; and when he paused for breath he steamed in the sunlight like a ham set out to cool.

"This gosh-danged field—must be stretching!" he panted, as we paused for perhaps the seventeenth breathing-spell.

At length we came into a slight depression where, by contorting horribly,

we were able to utilize shoe-leather for fifty or sixty yards; then came the last crucial lap up the gentle slope to the brow of the knoll. Here we had to get down and crawl flat—lunge forward a bit on our elbows, then rest and lunge again.

Getting Within Range

All this time a rare and wonderful goose picture was before us; though when I look back now, I feel that we did not then appreciate it. Still a few new-comers were arriving out of the east, and in cherubic pose dropping slowly to the others on the ground; and closer at hand the feeding birds were constantly flying up toward us. We could not see them on the field; but flock after flock bore straight up at us till, when it seemed that they surely were coming out over the weed cover, they would suddenly drop in a scintillating mass out of our sight. Several small knots did come out over the weeds, and circled our heads and fluttered and cried an alarm, yet in the ceaseless jabbering clamor of the throng on the ground, their puny voices went unheeded. Again a dozen, low-circling, seemed bent on brushing our heads, and the Old Boy's gun came up longingly, then jerked down again. Nothing less than a river of goose blood could wash out the memory of that crawl and those briars; I could see that carved in his agonized visage.

Finally our friend on the left stage-whispered that he was close enough; but I shook my head and implored him to keep traveling. I wanted big fat geese and plenty of them on that film. Twenty painful yards farther the Old Boy declared in a "Shoot-now-or-I-die" whisper that he also could reach them, so I nodded assent.

"Ready? Go!"—and we rose on our knees. There was a rush and roar and ten-fold clamor punctuated by four staccato raps from the guns as a thousand geese rose in front of us, and I snapped my shutter. Then the whole field gave up its white burden—a quarter of a mile of them. And now that I had time to think, I gasped to realize

how far from us the nearest birds had been. They had been lighting behind the knoll and had risen fully fifty yards from us. A minute earlier we would have sworn, jointly and severally, that they were not half that distance. Deceit, thy name is lesser snow goose!

Then as the view to the southeastward was somewhat clearing of geese, and their din growing fainter, two sick and sorry gunners rose stiffly and went out to gather the slain. Five wing-tipped birds; not a dead goose among them. As for my shot I had no means of knowing at the time what I had potted; which perhaps was just as well for me.

It was early in the afternoon as we were bound homeward that these white goose wanderers showed more of the stuff they are made of. We saw them from afar, for now the air was clear and the sun bright; and glittering specks shone here and there in the low sky to the eastward; the flight had changed! They were coming from the lake and now working toward the northwest. They were miles distant, and though we urged the horses, it seemed an hour before we could get close enough to solve their new workings. They were streaming out over the scrubby sandhills and falling upon the first field they reached; and many of the flocks were low. It seemed to be a gift from the gods.

"Get in behind them!" said the Old Boy. "Use that whip! Straight across—never mind the hummocks"—bump-bumpity-humpity—"We'll get there on the axles! Come on, Dick!—there's more at home to fit your collar—Gi-dap!"

We dashed into the corner of the scrub, a few hundred yards back of the field where plain in our sight a great glittering mass of whiteness was hiding the stubble, and the sky above it thick with more of these living snowflakes. Then we sprang out and scattered.

For an hour the living tide continued to flow out of the eastward and the clangor at our backs grew louder. To ask why these birds so suddenly altered their course, why they dribbled out in small detachments, why so many came

low, why of all places they should follow a course over the willow scrub where a gunner might stand upright and shoot, would be to answer merely: they were wavies. But they did all these things; and here and there a double report rang out at times, and a snowy form or sometimes two hurtled down into the shrubbery. Yet but a pittance of that army could fall; and just when I figured that we had a dozen down, there came the rumble of a

wagon in the field and our decoys rose with a crash and struck westward. Our game was up.

"I wish that gump had left us alone for another hour!" said Bob, as he disentangled Dick from a clump of willows, while we packed the victims. "I wonder if we will ever get right wise to the combination of those white devils?"

"Not if you live to be a hundred!" grunted the Old Boy.

SWIMMING THE IDEAL EXERCISE

By L. DE B. HANDLEY

ILLUSTRATED WITH PHOTOGRAPHS

Cases Which Prove That "Water-Dogs" Increase Their Chances for Long and Healthy Lives

SWIMMING has made leaping strides throughout the United States in recent years. Most of our schools and colleges have made it a compulsory part of their curriculum, the public is taking more and more interest in it, and by degrees those sections of the country not favored with open water facilities are building indoor and outdoor pools, so that it is now possible for almost anyone to enjoy frequent bathing. Nevertheless, the great majority seem not to realize what splendid opportunities this branch of athletic sport offers for taking exercise and recreation at the same time.

This, in view of all that has been said and written concerning the advantages to be derived from natation, is rather strange. No form of exercise affords a better means of developing the body in a thorough, symmetrical manner. The equal distribution of the effort calls into play every part of the muscular system, giving it its apportioned share of the work, the functional organs are benefited, and the natural result is improved

health, greater strength and efficiency, and general physical upbuilding.

The only explanation to be found of the attitude toward swimming of those not engaged in competition is their apparent belief that it is too strenuous an exercise for every-day use. This belief, fostered by supposedly competent but really ignorant would-be authorities, is absurd. Granted without argument that there is nothing more tiring than attempting to exploit an awkward, unscientific, faulty stroke. On the other hand, a correct, well-executed stroke is no more trying to wind and muscle than comfortable walking. There is absolutely no reason, indeed, why everyone, irrespective of age or sex, should not adopt swimming as the favorite pastime.

The well-known longevity of competing watermen is one of the best proofs which can be adduced in support of this statement. If a man who trains steadily for swimming, year in, year out, is able to undergo the constant gruel of speed-work and still carry success well beyond the age estimated to limit an athlete's period of utility in other sports, it cer-

tainly seems illogical to claim that swimming in moderation will harm even the adolescent or the person in middle life.

But let us glance over the careers of some of the world's leading watermen and find out what swimming has done for them.

During the indoor season of 1913-14 the soccer water polo team of the New York Athletic Club easily took honors in the metropolitan district, defeating all rivals. Now, among the players who helped the team win were four former members of the late Knickerbocker Athletic Club sextet, which won the national championship at the American type of game in 1898. This quartet, then, is still able to hold its own after twenty years of activity, for it may be taken for granted that it served its novitiate before breaking into the championship ranks.

Edwards Adams, a former district champion, did not take up racing until



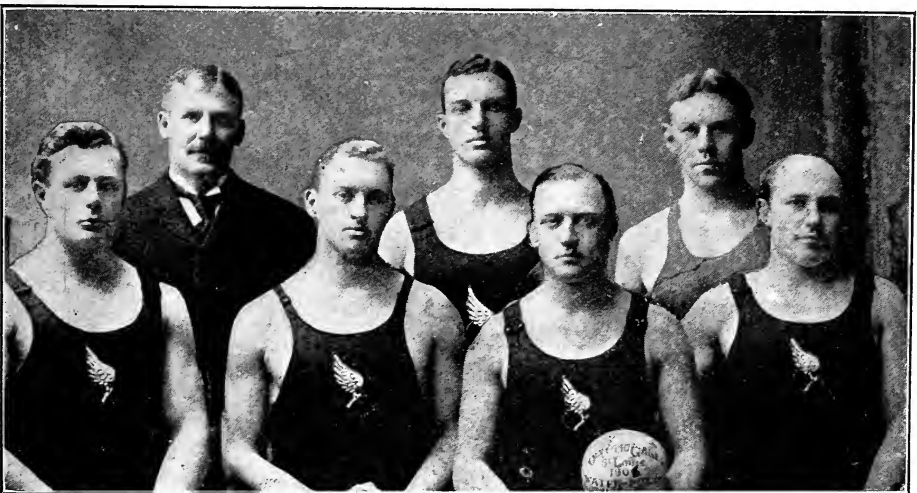
E. H. ADAMS, N. Y. A. C.
 Won his first championship at the age of 36. Plunge champion and record holder (70 ft.).

in the thirties, and he was thirty-eight years old when he landed his first title, which shows that even an early start is not necessary to attain marked proficiency.

Bud Goodwin, who last summer cut a nice slice out of the American one-mile swimming record, swam his initial race in 1896 and won his first national championship in 1901, so that he has been a competitor for eighteen years. Yet all his recent performances proclaim beyond question that he is to-day a better and faster swimmer than ever before in all his career.

Joseph A. Ruddy, pronounced this season the leading American player at the international type of water polo, graduated from the novice class in 1893 and has followed aquatic sports so successfully that he now boasts a collection of nearly seven hundred trophies. No indication here of his continuous swimming having had ill effects.

J. Scott Leary, one of the San Fran-



N. Y. A. C. WATER POLO CHAMPIONS 1902, 3, 4, 5, 6, 7



J. SCOTT LEARY, OLYMPIC CLUB,
SAN FRANCISCO

Former holder outdoor straightaway 100
yds. world's record of 60 seconds.

cisco men picked last February to represent California at the Mid-Pacific water carnival in Honolulu, was the national 100-yard recordist before Charles M. Daniels had been heard of, but he demonstrated against the great Duke Kahanamoku that, far from having lost his speed, he has kept moving abreast of the times. He covered the century straightaway in $58 \frac{4}{5}$ seconds, a mark not previously touched by him under similar conditions.

Alfred Brown, our professional long-distance swimming champion and the man who last August placed to his credit the Battery to Sandy Hook trip in New York Bay, formerly attempted in vain by the hardest of foreign and home nators, won his spurs a little over twenty-three years ago. Hale and hearty, he laughs at the idea of retiring from the field he has so long honored. Indeed, having added the Panama Canal—which he spanned last winter from ocean to ocean—to the list of his sensational achievements, he now proposes to tackle the crossing of the English Channel, the

coveted goal of the world's greatest swimmers, and he went abroad this summer to try the memorable feat.

At the Olympic games of Athens, in 1906, there swam on England's victorious relay team a veteran nearing his fiftieth year, J. Henry, and the more recent Olympiad at Stockholm saw another veteran, Cecil Healy, help to garner laurels for Australia. Healy was figuring already in important events in the early nineties.

Other cases aplenty might be quoted, but the world-wide prominence of the foregoing makes them especially valuable as illustrations, for the mentioned men, notwithstanding unceasing swimming of the most violent form—training and racing—have found it possible for two decades or so to hold the van, not in ordinary competition, but in national and international contests. Can any other



ALFRED BROWN, NEW YORK

Professional long-distance
champion who won his spurs
twenty-three years ago.

athletic sport claim such a beneficial influence on its devotees?

That a correct modern stroke entails very little exertion on the part of the swimmer is also proved by the remarkable performances of mere boys and girls. The list of our district and national champions contains the names of several youngsters ranging in age between fourteen and seventeen, as, for instance, Gilbert Tomlinson, Robert Dippy, Joseph Wheatley, Leo Handy, Fred Cherry, and Edward McCarron. We have also seen a twelve-year-old lad, Eddie Snyder, cover fifteen miles in 6 hours 45 minutes, and among the little girls of amazing ability we find three under ten years of age

—Florence MacLaughlin, Josephine Hose, and Mary Hannaford—who have figured in races for women at distances measuring from two to five and one-half miles.

Obviously, if swimming required undue effort, immature youths could never have triumphed over seasoned rivals, nor could tiny girls have stood the two- and three-hour strain needed to negotiate the courses they did last season. It may be stated without hesitation, therefore, that the modern strokes are practically effortless, and that either the trudgeon or the crawl will allow one to cover any distance within reason comfortably and easily.

The trouble with a good many swimmers is that they do not know how to swim. Most of the energy which would carry them along



JOSEPH A. RUDDY,
N. Y. A. C.

Leading American player at association water polo. Swam his first race nineteen years ago, and has helped to win many water polo and relay swimming championships since.

smoothly and rapidly, if properly applied, is wasted in faulty movements. Time and again have I seen men thrash away madly for a short space, misusing arms and legs, then stop suddenly, puffing hard and in distress. To such tyros swimming means a stubborn fight to keep going, and there is no doubt that if they tried to swim for exercise, frequently serious harm might come from it. But can this parody of watermanship be considered swimming? Hardly, according to present-day standards.

Watch a skilled trudgeon or crawl exponent and note the difference. He will take a graceful dive, strike out unhurried, move along without fuss or flurry, roll-

ing gently from side to side and emerge from the water fresh and invigorated, barely breathing hard. Rest assured it is not he that will suffer, even from daily practise.

In the final analysis, the problem is simply one of method. Let anyone who enjoys bathing attend first of all to mastering a good stroke and he need never fear over-exertion. It is no more difficult to learn the trudgeon or the crawl than one of the old-fashioned strokes. A competent instructor should be able to impart the fundamental principles, the basic movements, in a few weeks. After that only practise is required to make perfect, and it is safe, meanwhile, to exercise constantly, though, of course, common sense should be used in determining the amount of work to be done in the early stages.



EDDIE SNYDER, BROOKLYN

Twelve-year-old lad who swam the 15 miles from Coney Island to Brooklyn Bridge in 6 hours 45 minutes in 1913.

Where an expert swimmer may undertake to cover his quarter-mile daily, at moderate pace, and profit thereby, the beginner, or the man who has not attained good form, should be satisfied at the outset with about one hundred yards. Then, gradually, he can increase the distance as his stroke improves and his muscles become accustomed to the new action.

One who starts by acquiring a correct stroke, and afterward swims often, will soon begin to mark the beneficial effect of the work, both in his looks and in his feelings. A brisk stretch in the water activates the circulation, opens and cleanses the pores which eliminate impurities from the blood, and stimulates the functions of all the vital organs. One finishes clean and rejuvenated, the ruddy color of good health on the cheeks, a pleasant sense within of buoyant and vigorous well-being.

And in the long run swimming tends toward physical perfection. In the over-stout it acts as a reducer, eliminating by degrees the excess of fatty tissue; in the unduly thin it adds bulk and muscle, thanks to increased appetite,



LEO HANDY, BROOKLINE (MASS.) HIGH SCHOOL

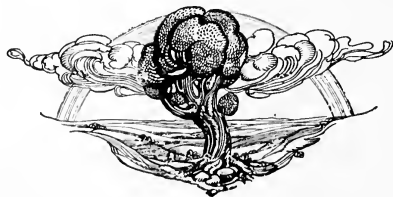
Age sixteen. 220-yard interscholastic record holder and all-round champion of the New England district.

improved digestion and better assimilation of food. It is, in fact, a great normalizer, leading insensibly to the ideal standard of manhood and womanhood.

One has but to attend a water carnival for either sex and glance over the competitors to realize what enviable results are obtained by indulgence in swimming. The graceful, symmetrical bodies, with long clean, well-rounded muscles, speak loudly in every line of health, strength, and efficiency.

Similar development is within reach of all, and the summer bathing can be made by anyone a period of reconstruction by following the prescribed course. It will work wonders. The end of the season will find the faithful swimmer in splendid condition and far better able both to enjoy life and to attend to his duties.

Fortunately, in most towns and cities of any size swimming is now practically an all-the-year-round sport. Swimming pools are increasing yearly and competent instructors may be found in practically every Young Men's Christian Association or athletic club gymnasium.



For the first time in any magazine the "standard" game of football will be explained in *OUTING*, beginning in October. The authors are Herman Olcott and Herbert Reed.

FEATHERWEIGHT CAMPING IN ENGLAND

By HORACE KEPHART

ILLUSTRATED WITH PHOTOGRAPHS AND DIAGRAMS

Things That Our English Cousins Can Teach Us in the Art of Going Light

A READY-MADE camping outfit that weighs just 7 pounds! Tent, jointed poles, pegs, groundsheet, sleeping-bag, air-pillow, toilet articles,

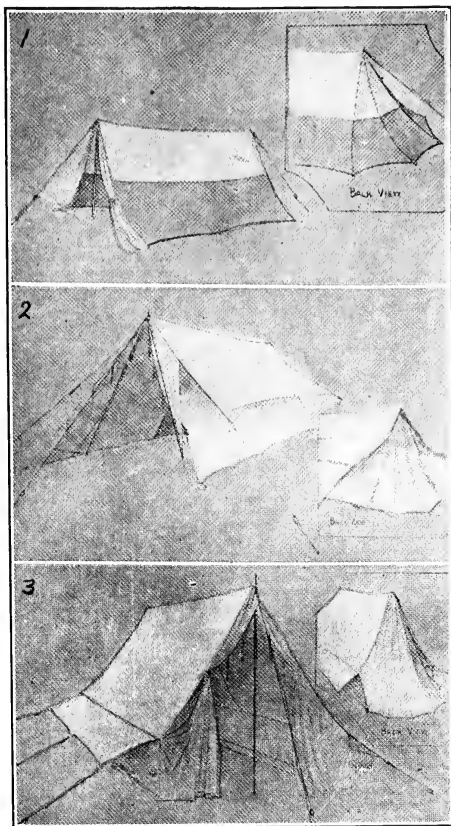
canvas bucket and wash-basin, spirit stove, cooking utensils—seven pounds to the very ounce; and the whole kit is so compact that it stows in a light rucksack, or a cycle pannier, with room left for spare clothing and such rations as are not bought along the route of travel. Total burden about ten pounds, with which the lone pedestrian or cycle tourist is independent of hotels and boarding-houses!

I first heard of this campestral marvel in 1910, when a young Londoner wrote me for a dimensional sketch of an Indian tomahawk I had recommended. A chatty correspondence followed that introduced me to a new Old

World scheme of tent life very different from what I was used to, but one developed to the last line of refinement and full of canny tricks of the outers' guild.

For me it was an eye-opener to find the lightest camp equipments of the

world in England, a nation I had always associated with one-ton "caravans" at home and five-ton "safaris" abroad. And my British cousin's letterhead was a surprise in itself. It announced him as a professional adviser in lightweight camping, a designer of tents and kits, a member of two camping clubs that hold regular meetings and publish their proceedings, a contributor to a periodical that specializes on camping and nothing else. It stated that he gave illustrated lectures and demonstrations of camp life, rented out lantern slides of camping subjects, planned and equipped camping trips for anybody anywhere in the



WILLIAMS' TENTS

- (1) The "Featherweight" Model, $1\frac{1}{4}$ lbs.
- (2) "Improved Gipsy," $2\frac{1}{2}$ lbs.
- (3) The "Motor," 6 ft. high, 4 lbs.

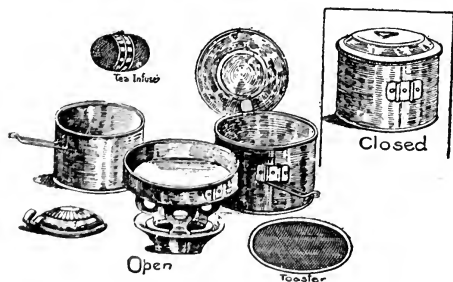


4. EIDERDOWN SLEEPING BAG, 1 LB. 4 OZ.

British Isles. Verily, here was the art of open-air life evolved to a type undreamed of in our own country. And all this related not to wilderness travel but to simple gipsying by the highways and hedges of the densely populated country of Great Britain.

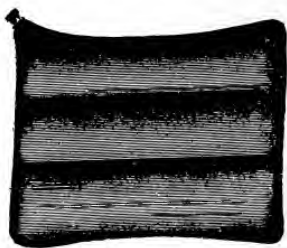
Back of this development, I learned, were years of patient, thoroughgoing experiment by scores of men and women whose one fad (if it be a fad) was to perfect a camping kit that should be light, lighter, lightest, and yet right, righter, rightest. Then it came to me from faraway years that the father of modern lightweight camping was not the Yankee "Nessmuk," but the Scotchman Macgregor, who, in 1865, built the first modern canoe, *Rob Roy*, and cruised her a thousand miles with no baggage but a black bag one foot square and six inches deep. It was said of Macgregor that he would not willingly give even a fly deck passage.

Featherweight camping in "civilized" fashion began with the *Rob Roy*, progressed with the flotillas of British and American canoeists who followed its skipper's example, was refined by the squadrons of cycle tourists and the pedestrian campers who now scour the highways and byways of all Christendom in their yearly holidays.



6. INDIVIDUAL COOKING KIT, 14 OZ.

To one whose camps have always been pitched in the wilderness the seven-pound English kit seems amusingly frail and inadequate. Such a one might exclaim in mock reverence, as my partner used to when he caught me modeling some new-fangled dingbat: "Great and marvelous art thy works, Lord Geeminy Criminy!" But such an outfit is not meant for the wilderness. It is for the independent vacationist who wants to ramble off the beaten track, to see what conventional travelers always miss: the most interesting and picturesque places and peoples in their own or foreign country.



5. JAPANESE AIR PILLOW, 2½ OZ.

Of such outers the legion outnumbered all our big-game hunters numerous as these seem to have become in recent years.

European outfitters have been catering for years to this class of trade; but what have we done for it? Precious little. Whoever goes in for that sort of vacation must either pack around with him twice as much weight and bulk as there is any sense in, if he buys his kit ready-made, or he must build an equipment for himself, which few tourists have either the time or the skill to do.

Perhaps, then, this foreign cult may be worth looking into. Maybe here we shall find some "kinks" that we can adapt or improve to our own needs, some ideas that will breed others in our own pates.

First, the featherweight kit mentioned at the opening of this article. It was designed by Owen G. Williams, of Liverpool, and is marketed by an outfitting firm in that city. The constituent parts, with their weights and prices, are given below. If ordered together the price of complete outfit is £4 4s, or about \$21.00.

SINGLE OUTFIT FOR PEDESTRIAN OR CYCLING TOURS

	Price £ s. d.	Weight lbs. ozs.
"Featherweight" tent complete..	1 10 0	2 8
Ground sheet and pegs for same	0 4 3	15
"Comfy" sleeping bag (eider-down)	2 20	1 4
Compact brush and comb and mirror	0 19	2
Japanese rubbered air cushion.	0 16	2
"Compleat" cooking outfit and stove	0 36	15
Aluminum knife, fork and spoon	0 14	2
¼ pint aluminum flask and egg cup	0 28	3
Enamelled cup, plate, and mop per set	0 09	5
Canvas bucket and wash basin	0 23	6
Pole clips and candle holder...	0 06	2

£4 10 6 7 lbs.

The tent is barely large enough for one man to sleep in: 3 feet high, 6 feet long, 3 feet wide on the floor, with front



8. "WIGWAM" WITH RIDGE POLE AND SIDE PARRELS

and rear extensions of 32 inches and 36 inches respectively. It is a modification of the common "A" or wedge pattern. The doorways are cut so as to peg out straight in front, affording an outside windshield for cooking. The back end is rounded for storage accommodation and to provide in the worst of weather for cooking without risk of spilling food-stuff on the ground-sheet.

The top, which shields the sleeper, is made of "swallow-wing," unprocessed but practically waterproof. The bottom portion of the tent (shaded in the illustration) is of a lighter material that helps ventilate, but still is spray-proof. The tent alone weighs 22 ounces, poles and case 10 ounces, pegs and lines 8 ounces. The tent rolls into a package



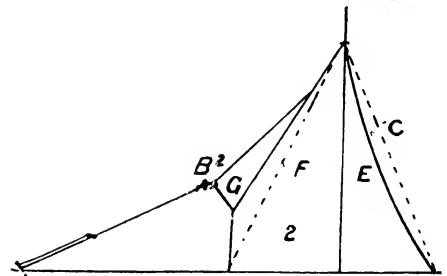
7. MR. HOLDING AND HIS SILK "WIGWAM"

8½ inches long by 4 inches thick. The poles unjoint to a length of 23 inches.

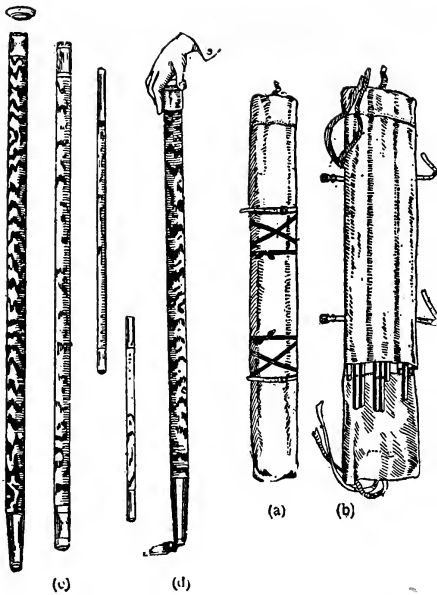
I am assured that this midget shelter will stand up in a hurricane that overthrows wall tents, marquees, and the army Bell tent. Enthusiastic campers use it even in winter, sleeping out without a fire when the tent sags heavily with snow. They find it satisfactory protection in torrents of gusty rain so fierce as to wet through a common tent in spite of the fly, by driving through the material of back or front. It has stood nine months' continuous service in Canada.

The ground-sheet is of a special fawn waterproof sheeting, 5 feet by 3 feet, eye-letted at each corner, and with pegs to hold it down.

The sleeping-bag is shaped as shown in the cut, narrow at the foot to save weight and bulk, and of the old-fashioned pattern closed with a draw-string. It is stuffed thinly with genuine eiderdown, the warmest of all known materials for its weight and (rolled up) bulk. It has a thin rubbered cover bag, waterproof and windproof. For those who dislike



9. SIDE PARRELS



10. TENT POLES OF JOINTED BAMBOO
 ab. In cover.
 cd. Walking-stick form.

the stuffiness of so small a "sleeping-pocket" the same outfitters provide down quilts (common down) of two sizes. The 6 by 4 feet quilt, with valance, weighs $3\frac{1}{4}$ pounds.

The air-pillow, which serves also as a cushion, is incredibly light and compact. The reeded form here illustrated (more comfortable than the plain oblong pillow listed with the set) is 12 inches by 10 inches, weighs only $2\frac{1}{2}$ ounces, and three of them can be carried in a coat pocket when deflated.

Since the English camper can seldom use wood for fuel, he is obliged to carry a miniature stove and some alcohol or kerosene. In this instance it is an alcohol burner of common pad form, which is less likely to get out of order than an alcohol vapor stove. The one-man cooking set shown in accompanying cut comprises an outer pan holding $1\frac{1}{2}$ pints, an inner pan holding 1 pint, a $4\frac{5}{8}$ -inch fry-pan, a fine gauze toaster, a tea infuser, and pan-handles. The utensils are made of light sheet tin. The kit, with stove, nests in a set $4\frac{5}{8}$ by $3\frac{1}{2}$ inches, and weighs 14 ounces. A larger set, 7 by 4 inches, weighs 28 ounces.

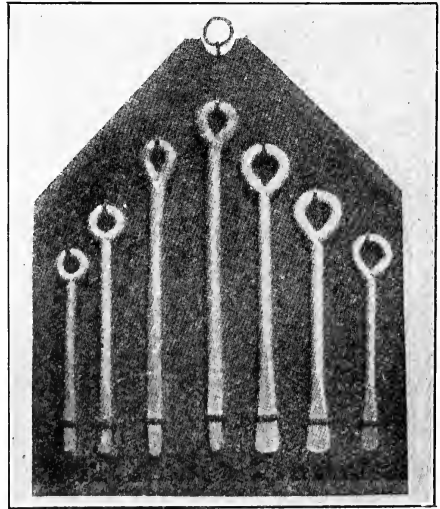
Another very light outfit is the "Phantom" kit, designed and made by the vet-

eran camper and outdoor writer, T. H. Holding, of London. It includes the following articles:

Tent	13	ounces
Poles (3)	15	"
Pegs	10	"
Ground Sheet	10	"
Ground "Blanket"	8	"
Down Quilt	20	"
Cooking Kit	16	"

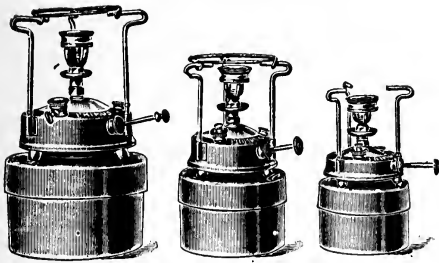
6 lbs.

The "Wigwam," as Mr. Holding calls his tiny tent, is of ordinary "A" shape and is made of Japanese silk. It is larger than the Williams pattern, 5 feet 11 inches long, $4\frac{1}{2}$ feet wide and 4 feet high, giving sufficient headroom to lounge in comfortably. When rolled up it can be carried in an ordinary pocket. It will be noticed that the poles and pegs weigh practically twice as much as the tent itself. This is due partly to the use of shear poles in front, instead of a single vertical pole, giving freer entrance and egress, besides supporting the tent better. A ridge-pole, weighing ten ounces, is supplied extra, and is recommended for the sake of trim setting. The poles are of jointed bamboo, $21\frac{1}{2}$ inches long and $\frac{7}{8}$ inch diameter. Pegs are of aluminum, shaped as here shown, and sharpened flat to give a good grip in the ground.



11. TENT PEGS

Aluminum or galvanized iron, 4 to $7\frac{1}{2}$ in.



Motor Primus

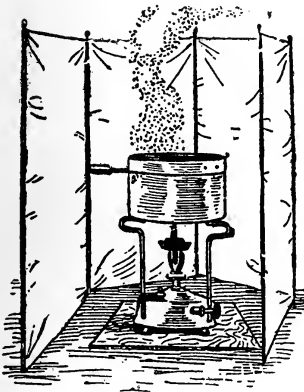
Baby Primus

Pocket Primus

12. KEROSENE VAPOR STOVES

Tents of very thin material, even when mere midgets, sag badly both at top and sides, when pitched in the common way. To overcome this, Mr. Holding uses parrels or guys in the middle of each side, as shown in the diagram. (An American invented this expedient independently, some years ago.) The parrels pull outward, turning the wedge tent into a semi-wall tent. They increase the roominess and make the tent stauncher in a gale. Referring to the diagram, *C* shows the theoretically straight side of an "A" tent. *E* shows the actual inward sag from wet and wind pressure. *F* is the opposite side of tent without parrels. *G* is the same wall held out and made taut by the parrels *BG*.

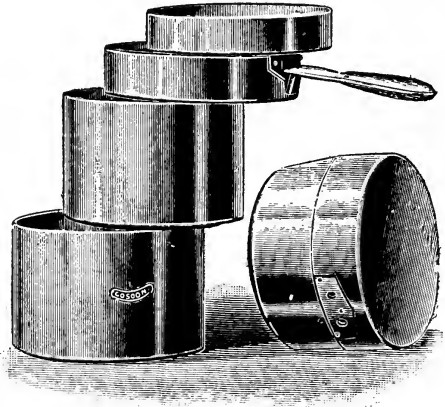
The ground-sheet is of light mackintosh. Over it goes a little "ground-blanket" of thin cashmere, with eyelets at the corners, so that it can be pegged down. This is not only for the sake of warmth, but also to save wear on the mackintosh, which has to be very thin.



14. CANVAS WIND SHIELD FOR PRIMUS

Mr. Holding's eiderdown quilt is only to cover with, not to roll up in. The Wigwam size is 5 feet 10 inches by 4 feet, to which is added a foot of cloth valance all around, which is pegged or weighted down so that the sleeper will not kick off his covering. These quilts are thinner than the domestic ones of down, and roll up into remarkably small compass.

The cooking kit is made of thin cop-



13. SO-SOON COOKING KIT, 1 LB. 5 OZ.

per. It includes a pad spirit stove with damper and windshield, a boiler 6 inches across, a porridge pan that fits inside, and a fry-pan that forms a cover for the boiler; also a separate handle for the various pans. The vessels are seamless. The kit weighs one pound and costs twelve shillings.

Of course, this six-pound outfit does not include everything that a hiker requires in camp and on the march. Mr. Holding gives a list of articles recommended for two pedestrians traveling together:

	lbs. oz.
"A" Tent, 6 ft. by 5 ft. 9 in. by 5 ft. 9 in.	2 0
Set of 2 Tent Poles.....	1 0
Set of Pegs (ordinary skewers).....	3
Oil Stove—"Baby Primus".....	1 3
Aluminum Pans—"So Soon" pattern.	1 1
Piece of Waterproof, for tent.....	2
Two Aluminum Cups and Saucers (plates)	4
Two Aluminum Knife, Fork and Spoon sets	4
Candlestick and Candle.....	2
Aluminum Box of Soap.....	1
	6 4



15. CYCLING KIT FOR TWO

Weight 20 lbs. Bag standing in rear holds entire outfit.

The piece of waterproof is two feet square. It is to roll up the tent in when wet, and serves otherwise as wash-basin, seat, etc.

Each man carries half of this company kit, making his share 3 pounds 2 ounces. Adding his personal equipment, his burden becomes:

	lbs.	oz.
Share of Baggage.....	3	2
Mackintosh Coat	1	6
Air Pillow		3
Down Pillow (a luxury).....	1	
Sweater	1	0
Sleeping Stockings (long ones).....		6
Extra Walking Socks.....		4
Down Quilt	1	10
Thin Extra Vest (undershirt).....	5	
Scarf		2
Tooth Brush, etc.....		3
Hold-all with Straps (under).....		8
	9	2

For hiking instead of cycling, a rucksack should be substituted for the hold-all. Adding a towel, the total weight, without food, is close to ten pounds, with part food 12 pounds.

Of the silk tent Mr. Holding says: "Such is its toughness that I have seen a pair of the strongest fingers try to tear the material, and fail. For its weight and thickness it is the most powerful stuff in the world in the shape of textile goods. I have put several tents I possess to protracted and severe tests, and I have never had one to tear. One has stood some of the heaviest rains, in fact, records for thirty hours at a stretch, without letting in wet, and I say this of an 11-ounce silk one. . . ."

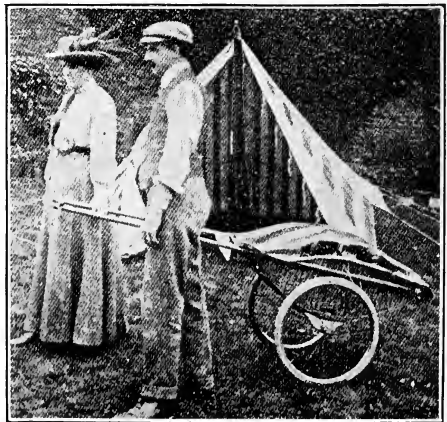
"What, however, silk does not stand well is *friction*. As an instance, open

your silk umbrella and look down the folds, half way between each rib. The parts of a tent, therefore, which show the wear are at the pegging and head places, where the fingers touch it in erecting. To this end I recommend they should not be rolled up, as cotton fabrics, but rucked, like a pocket handkerchief."

The "Wigwam" is also furnished ready-made in various other materials, cheaper but heavier than silk, of which the next lightest is lawn, weighing 1 pound 8 ounces.

The "Baby" kerosene vapor stove here listed is like a regular Primus except that its valve is in different position, the pump is set in snugly at the side, it has rounded cone feet set inward, and it is of reduced size, weighing only 1 pound 3 ounces instead of 4 pounds. A still smaller stove of the same pattern, called the "Pocket Primus," measures $2\frac{3}{4}$ inches deep by 4 inches across, when packed, and weighs only 1 pound 1 ounce.

Another specialty worth introducing over here is the "So-Soon" cooking kit. We have nothing equal to it as a light and compact set of utensils for vapor stoves. In the accompanying illustration, the lower vessel is a boiler $3\frac{3}{4}$ by $5\frac{1}{2}$ inches the second is another boiler that fits inside the first, next is a stew or porridge pan which, inverted, makes a cover for the kit; on top is the frying-pan, 1 inch deep. All of these vessels are of stamped aluminum. A separate handle fits all of them. A "Baby



16. "PEDO" CAR, 18 LBS.

Primus" stove fits inside the nested pans. The main boiler tapers narrower at the bottom, so as to keep the set from rattling when carried about. No part has excrescence or projection to obstruct the packing. The whole set, omitting stove, weighs 1 pound 5 ounces.

There is a smaller "So-Soon" set made for the "Pocket Primus," which is $3\frac{1}{2}$ by $5\frac{1}{4}$ inches, and its three vessels weigh only 8 ounces.

A complete cycling kit, weighing less than twenty pounds, including food and sufficient for two men, is shown in accompanying illustration. The rectangular bag standing in the rear is empty, and carries the whole outfit. It is 15 by 7 by 7 inches.

A novel aid to pedestrian travel, for carrying luggage, is the "Pedo" car, which can be taken anywhere—on foot-paths, mountain paths, or roads. There are two sizes, weighing 15 pounds and 18 pounds, respectively, of which the larger is here shown. The shafts are simply the tent poles, and the cross trace at the end is a section of the ridge pole. A rather elaborate outfit for two people can be carried in one of these little perambulators without scarcely feeling the drag. The idea originated with a member of the National Camping Club, who, not caring to pack a heavy bundle on his back, rigged a pair of baby-carriage wheels to a frame and axle, attached his tent poles for shafts, and made a trip, with his brother, without hardly feeling the weight at all. I suppose it would take grit for a New Yorker to be seen with such a rig in the "provinces."

Returning to the subject of tents: the English outfitters supply them of many shapes and sizes and various lightweight materials, besides common tents, of course. It will strike American campers as peculiar that none of the extra thin materials used in tents up to 7 x 7 size are subjected to any water-proofing process whatever. For rain-shedding quality they depend solely, like an umbrella, upon the closeness with which the textile is woven. On examining these cloths one is surprised at their exceeding fineness of texture. Some of the cotton goods are woven almost twice as fine as our so-called "balloon silk" or the

4-ounce special Lowell cloth used for extra-light racing sails on small craft.

The best lawns, etc., are made from Egyptian cotton, which has a stronger and finer fiber than American cotton, and is said to be 15 per cent stronger. In spite of this, I doubt if any thin, unprocessed tent is really rainproof unless it is stretched very taut and the occupant takes great pains to avoid touching it from the inside. In a shelter only three or four feet high, and wedge-shaped, one can hardly help rubbing against the interior, and then will come the *drip-drip* that we know too well. Even the rear wall, though vertical, will be rubbed by one's pillow in a very short tent, and then, if rain is driven by the wind, this wall will leak. The only remedy would be to waterproof the cloth or use a fly.

Dangers of Thin Tenting Material

There is another objection to extremely thin tenting material: it requires tighter stretching, and hence more pegs, than stouter material would, or it will belly and sag. Moreover, it stretches excessively, and then the poles will no longer fit. Mr. Holding himself reports that a small tent stretches from three to nine inches, in service, and we infer that it will never stop "growing." Waterproofing would prevent nearly all of this, for it is the alternate tightening and loosening of the cloth from wetting and drying that makes the fiber of the material loosen up.

On all accounts, lightness of material may be carried to an extreme. I have samples of rubberized balloon cloth (the real articles) that are lighter per square foot than a silk handkerchief, and they are genuinely waterproof, but no one in his senses would use such stuff in tent-making.

A feature of some of the English tents that deserves copying is the angular extension of lower edge of door flaps, so that the doors can be pegged out straight in line with sides of tent, forming wind-shields and protection against driving rain when one wants the door open.

Another is that the ground-sheet, instead of being made square or rectangu-

lar, has the sides and rear end cut in segments of a circle, so as to fit against the walls when they are drawn outward by sagging of ridge and stretching of sides.

The bedding described in this article would not suit us at all. The down sleeping-bag would be too stuffy. The down quilts are so narrow that they can only be used to cover with, and so the under side of the body is left unprotected by anything but cold mackintosh and a very thin sheet of woollen goods. In

England, I suppose, it is taken for granted that the camper will procure, for each night, a bedding of straw or hay; but in our country there are many places, even in "civilization," where one would have to chance it on the bare ground. The bone-searching chill that comes up from that ground at night is never endured twice if one can help it. In our climate (or climates), as a rule, we need twice as much bedding under us as over us, if we have nothing to serve as mattress.

The next article by Mr. Kephart describes Adventures in a Cavern—in the Ozark hills below St. Louis

AN EFFECTIVE NAIL

By F. E. O.

FOUR of us were camping, some years ago, on Big Moose Lake in the Adirondacks. One morning, finding that I had exhausted all the ammunition which would fit my rifle, I was forced to use an old muzzle loading twenty-bore shotgun which one of the boys had brought along for bird shooting.

On proceeding to load the gun, I discovered that there was no small shot in camp, and had about decided that I would have to forego any hunting for the day, when I happened to put my hand in my pocket and pulled out a nail. It was of good size, but decidedly rusty. The sight of the nail gave me an idea. Why would it not do for a bullet or projectile in the gun?

After pondering the idea for a moment, I dropped the nail down the muzzle, head first, pushed home a wad, and started for a likely thicket for partridge.

I had been traveling perhaps fifteen minutes, when a fine buck jumped up ahead of me and bounded gracefully away through the trees. He did not run directly from me, but sharply off to the right, his tail (commonly called the "flag," by hunters) switching violently from side to side at every leap.

Instinctively I brought the gun to my

shoulder, and then paused, recollecting the nail, and considering it unlikely that it would do more than wound the animal and that to wound and not kill would give me little satisfaction. Then the sight of the switching flag gave me an idea.

Drawing my eye pretty well down into the sights, I waited for the right moment. Just as the buck fairly grazed a big tree in his flight, his tail slapped the bark. I fired on the instant—at the tail, sending the nail through the solid part of the flag, and into the tree.

To my delight, the tail did not tear through the nail and release the deer. There I had him nailed to the tree.

But the animal was as much alive as ever, and struck out viciously at me with his sharp forward hoofs when I approached. I had no more ammunition and debated what to do. Finally I decided to return to camp and borrow a rifle from one of the other boys, if any of them had yet returned.

I was back with a rifle in half an hour, but did not have occasion to shoot again. The deer was still there, nailed to the tree, but he was dead. While I was gone for the rifle, he had died of galloping lock-jaw, from the rust on the nail.

“OLD SHARPNOSE” OF BONE VALLEY

By JOSEPH T. BOWLES

How Beginner's Luck Was the Downfall of the Prize Bear of the Big Smokies

LIVING just eleven miles above Elkmont, Tennessee, to the south, is a section of the Smoky Mountain region known as “Bone Valley.” The section came by its appellation by reason of the fact that many years ago a herd of some two or three hundred head of cattle perished in a terrific snowstorm. Even yet, bones of cattle can be found: on the ridges which bisect the valleys at intermittent intervals; in the beds of streams; alongside the creeks; in the gaps, and at the bases of the knobs which rise irregularly to assist in completely walling in that section from the outlying boundaries springing tributary from the main lead of the Smokies, lying only a short distance away.

It is, therefore, small wonder that no living thing could survive the deep snows nor that starvation followed as a matter of course. One lone herder, housed in an ill-provided log cabin located at the summit of one of the ridges, tended the cattle. Some say he was able to extricate himself and flee. Others tell that he, too, perished with his cattle. In either event “Bone Valley” is appropriately named.

On one side of the main lead of the Smokies at this point lies North Carolina. On that side is to be found a plentiful supply of chestnut timber, which furnishes, in good seasons, an abundant “mast.”¹ Here is one of the numerous “feeding grounds” of the Smoky Mountain Black Bear.

On the opposite side of the same lead

lie the “slicks”² and “roughs”² in the Tennessee territory. It is customary with the bears to lay up in their “beds” on the Tennessee side during the day and, at night, to cross intervening ridges over into North Carolina to feed. Surprised in their feeding grounds on the North Carolina side, the bears flee for safety over into Tennessee.

Right on the boundary line sits Hall's Cabin, where many hunting parties rendezvous every spring and fall. The cabin is so constructed that one-half rests on North Carolina soil, while the other half is in Tennessee. The chimney—a two-sided affair—rests right on the line, throwing the kitchen end of the cabin in Tennessee and the sleeping quarters in North Carolina. Snug and comfortable, with bunks arranged alongside the walls in the sleeping-room, Hall's Cabin is truly an ideal hunter's camp. Many a bear has been skinned at the cabin, and if the walls could speak they would doubtless recount many tales of the old bear hunters who have been frequenters of the cabin for years.

On an eminence free from all trees and undergrowth for several hundred yards on either side, with gentle slopes from all directions, the cabin commands a magnificent view of the surrounding country. Far to the southwest can be seen the outlines of Hang-Over Mountain, limned faintly against the horizon. To the northwest, the lights of Knoxville, Tennessee, some forty-odd miles distant as the crow flies, can be seen on clear nights; while against the setting

¹Chestnuts.

²Very thick growths of laurel, ivy and green brier, practically impenetrable.

sun the smoke from the lumber mill at Ritter, North Carolina, some twelve miles away, slowly winds its way upward, making grotesque figures against the countless intervening ridges over in the direction of the Tennessee River.

Wonderful is the view from this vantage-point, five thousand feet above the sea-level! Ranges and knobs and valleys, one after another in rapid succession, show in plain sight to the naked eye, resembling in effect the undulations of the ocean's waves, except that here and there is a vivid patch of color, green, where laurel and ivy flourish in violent confusion; dark brown and red, where the stiff winds of early winter have tanned the leaves—not yet all fallen—of the chestnuts, the beaches, the hemlocks, and the buckeyes, while dark gray against the knobs appear the ominous cliffs which seemingly frowned down upon the whole countryside.

The Home of the Bears

In all this beauty and grandeur, marked by a rugged picturesqueness, does the Mighty Bruin live and move and have his being! Small wonder is it that he contests every foot of ground when his ancestral homestead is invaded by hunters and their dogs; nor that, when at bay, he fights with all the wonderful strength with which Nature has endowed him, that he might prevent interlopers wresting away from him his domain, the title to which was vested in and handed down to him by his illustrious ancestors! Here, 'midst all this picturesque grandeur, is staged the story which follows.

When Joe Cole, his son Amos, and myself joined the party at Hall's Cabin at their invitation there were eight men in the crowd. We had eight dogs to begin with, but one of them—just a pup he was—never showed up after the first chase. It was assumed—and the assumption was well grounded—that "Old Sharpnose," a she-bear with a wonderful record for fighting and maiming the dogs, had been jumped in that race and that the pup, new at the game, had unceremoniously closed in on the bear, with the result that he was either

squeezed or bitten to death. The dogs are what are known as "Plott's,"³ and soon learn that they are not expected to get too close to the quarry, but that on the contrary they are to "dog" the game and "worry" it, jumping in and taking a bite when opportunity offers, then as quickly jumping out of the danger zone before the bear has time to nab it.

Bears instinctively know that the thick, inflexible laurel furnishes their best retreat, and they invariably make for a patch of it when jumped. Dogs do not have much of a chance when fighting a bear in the thickest laurel meshes. The dog's only salvation is the fact that a bear will invariably turn loose a dog that has been nabbed and reach for the dog that has hold of it. Otherwise all the dogs in the mountains would be killed off in short order.

The dogs know the bear's manner of fighting equally as well as the bears appreciate that the laurel affords them the most likely arena in which to be put at bay. Apropos of this, I recall hearing old "Doc" Jones, a member of our party, tell about a fight of which he was a close eye-witness. The laurel was so thick and the dogs in such close proximity that he was afraid to risk a shot for fear of killing a dog. One of the dogs standing close to the bear was taken off his guard, when the old bear reached out and nabbed him. With one foreleg around the dog's body she was pulling him toward her, while with the other she was drawing his head toward her cavernous jaws.

The pup whined a little which was a signal for one of the other dogs to jump in and take hold. Immediately one of the dogs came to the rescue of the one held in the bear's arms and took a bite at the bear, when the latter instantly turned loose the dog in her arms and made a lunge at the latest offender. He as quickly released his hold and sprang to one side out of reach. This gave

³Plott hounds were originally bred by the Plotts of Haywood or Jackson County, North Carolina. Plott "curs" are the same except that they are interbred with some foreign dog, probably a mastiff. These make splendid bear dogs. (Authority: Horace Kephart.)

"Doc" the chance he was looking for and he shot the bear through the head.

Before our little party of three, consisting of Cole, his son, and myself, reached the cabin, several unsuccessful drives had been conducted. Then for two days we drove with the same result. Late in the afternoon of the second day after our arrival, after having followed the dogs all day, we were a discouraged lot—tired, disheartened, disgusted. Our rations were about gone and we had decided to break camp the next morning.

Old Joe Cole, a grizzled old bear fighter of many years' experience, here vouchsafed the statement that he had had a dream the night before and felt that something was going to happen in spite of the fact that all the dogs, as well as the drivers and standers, were in camp. The dogs had been gone all night and were lolling around camp. They had been hunting steadily for two weeks and every one bore the marks of "Old Sharpnose's" claws or teeth. Cole's sixteen-year-old son Amos had borrowed his father's shotgun and had gone across on Chestnut Ridge, about a mile and a half away, to kill a "mess" of boomers⁴ for supper. Suddenly, about three o'clock, the report of a shotgun from the direction Amos had taken reached our ears.

"Thar's one boomer!" sang out old "Doc" Jones.

Then, BANG! again.

"Thar's another!" said "Doc."

"Mebbe he's missed the fust shot," drily remarked Allen Crisp.

Nothing more was thought about the shots. In about half an hour or more the boy came running into camp, his red cheeks and eyes aglow with excitement. Something had evidently happened.

"Whar's yer game, Boy?" queried "Doc" Jones.

The boy's father saw instantly that something had happened to the boy and he asked kindly:

"What's the matter, Amos?"

"I shot at four bears, Pap," replied Amos. "Shot the old she fust and one of the cubs nex'. I hit 'em both, I know, 'cause I seed the fur jest bile whar I hit 'em. I would er taken a shoot at all of 'em ef a shell hadn't hung in my

gun." Then, after a moment, "Thar was bears all around me!"

The soporific atmosphere which had been hanging over our camp was immediately dissipated. Each man grabbed his gun and, despite the fact that the dogs were tired and worn out, they were forthwith pressed into active service, and all made a bee-line for the latest rendezvous of Bruin. Riley Cable, Allen Crisp, his son, Ira Crisp, and young Cole went with the dogs to put them on the trail, while the standers hurried out to the stands for the Chestnut Ridge drive, which luckily were located less than a quarter of a mile from camp.

Young Cole explained hurriedly that he was looking for squirrels and that, a few minutes before the four bears walked up on him, he had shot a squirrel. Shortly after he heard a rustle in the leaves and looked around. He thought at first it was some of the hogs that belonged to the logging camp a mile or so below. But directly an old she-bear, of tremendous proportions, came into sight not more than thirty paces from him; then a yearling bear and a couple of cubs. Not far away some loggers were felling trees. The crash of an extraordinarily large tree that had been felled a few minutes before doubtless caused the bears to come along at that time of day. They evidently did not hear the report of the shotgun, as they approached from the other side of the ridge.

Bred in the Bone

True to his mountain instinct and training, the boy's nerve never quavered for a moment. Hurriedly throwing in a couple of shells loaded with buckshot, he took careful aim at the old she, sighting at the point on the bear's body where his "pap" had many times told him to shoot a bear—low down below the shoulders, "for a bear's heart is right agin' the breastbone," explained the father. The boy fired a load into the bear's side and, as he expressed it, "the fur jest biled from her whar the buckshot hit." He then shot one of the cubs, which he said fell off the log on which it had momentarily hopped and

⁴Small squirrels.

went rolling down the hill. A cartridge hanging in his gun prevented further shots. The old she had run off down toward the creek and, shortly after, the boy says he heard her let out a "squall."

When the dogs were put on the trail at the point where he fired at the old she they ran on down toward the creek and, for a moment, stopped barking, then took on up the creek. Evidently they had come upon the old she's dead body and then, sensing the trail of the two other bears leading off from that point, went on up the creek in the wake of the yearling and cub. When the boy Amos ran back to the camp to get the dogs, the two bears evidently tracked the old she and then, when they heard the dogs coming, started out in the direction described.

It was not long after striking the trail leading from the point where the old she was lying that the dogs were in full fettle and furnishing as pretty a race as falls to the lot of man to witness. The creek flowed right at the base of the Chestnut Ridge, leading on past the stands, while the woods on the right were open and furnished a splendid vista. While the participants in the race could not be seen, the sound of the chase, the dogs' barks, and the general hue and cry, supplemented by shouts from the drivers, could be heard distinctly all the way and furnished music to our ears.

It was growing late and we were very much afraid that we were not in time to intercept any of the bears which had not been fired upon by the boy. On came the yelping pack of dogs. Nearer grew the sounds from their muffled throats. Suddenly to the right of one of the standers there was a noise as of something heavy running. Directly the brush in that direction began to move hurriedly as though a large body was passing through. Something was coming fast and sure and making for the crossing. John Cable moved down that he might get a better shot if it really was a bear. A few minutes more and it would be too dark for an accurate shot. The nerves of all were tense. Everyone was on the *qui vive*. Tired and worn out as we all were, with

many days of unsuccessful driving to our credit, small wonder was it that our pulses beat quicker and that our breath came faster.

When Cable moved down nearer the point where the noise in the brush indicated that the invisible object would cross, the other two standers, located only a few hundred yards on either side, looked with strained eyes filled with desire to be in Cable's shoes. The excitement of the chase itself, the yelp of the dogs, the shouts of the drivers, all paled into insignificance as compared to the interest which centered around the heavy body approaching the stands out of the brush. Everything else was forgotten. Each man had his hands firmly pressed upon his gun.

Suddenly out of the brush a black object appeared, stopped for an instant as if uncertain whether or not to proceed; then, sighting a log in Cable's territory which would make its passage across the ridge simpler, this dark object resumed its mad flight at the head of the "flying squadron" in its wake. Cable was prepared. Experience in many drives had taught him coolness. He took deliberate aim at a point on the log which the dark object would have to pass before the distance of the log was successfully negotiated. Rapidly the dark body approached that point. Just as its nose obstructed the "bead" which the marksman had drawn, the trigger was pulled and the dark object crumpled up into a helpless ball. The bullet had entered just back of the ear and broken the neck of the yearling.

What he was doing with the old she and two cubs could not be figured out. Perhaps he intended crossing over into Tennessee territory with them. Shortly after, the drivers and dogs arrived, the latter in the lead. It was then about dark. It was accordingly decided to wait until next morning to look for the old she and the cub Amos had fired upon.

That night talk around the fire was centered about the chase just ended. Conjecture was rife as to whether or not Amos had killed the old she. It was believed that it was "Old Sharpnose," according to Amos's report of her size, and then, too, this famous old bear had

been what is termed a "bor'en⁵ shee" the previous year. The general consensus of opinion as expressed around the fire was that we would find the bear dead in the spot where she must have been lying when she gave vent to her "death squall."⁶

Early next morning we repaired to the scene of the conflict. The ridge where the bears were fired upon is quite steep on one side, and, when the cub was shot, it half fell, half jumped off the log it was momentarily standing upon and went rolling down the more or less precipitous hillside. We put the dogs on its trail (we were slow-tracking the dogs) and it was not long until we came upon the dead body of the cub. It had rolled nearly to the bottom of the incline, when its progress was arrested by a large chestnut.

We retraced our steps to the top of the ridge and then put the dogs on the trail of the old she. She had taken the opposite side of the ridge to that of the cub and was looking back to see if her cubs were following, when Amos fired upon her. The boy said that she had her fore feet up on a log preparatory to jumping over, with her head turned toward him, giving a splendid side shot, when he fired. She immediately jumped down off the log and ran off in the direction of the stream. About a hundred yards from this log the dogs led us to a rock ledge protruding on the side of the ridge. With some difficulty we

⁵B^{ar}ren she. Bears breed every two years. The years they do not breed they are termed "bor'en shees" by the mountaineers.

⁶Old bear hunters to a man declare that never in the history of their experience have they known of a case where a bear "squalls" after being shot that it was not dying.

scrambled across this ledge and saw where the old she had slid down or fell off at the end. She was making for the laurel, but could not quite make it, as another hundred yards revealed her dead body in a sort of sink hole—the kind of hole that would be made by a small tree being torn up by its roots. It looked as though she had just fallen in the hole, her fast-ebbing strength preventing her from going farther. It must have been "Old Sharpnose," for she had many marks of conflicts with dogs on her anatomy. She weighed more than four hundred pounds. It required five men to pack her back to camp.

The evening before the dogs, having preceded the men who went with them, stopped when they reached the dead body of the bear and took on up the creek in the wake of the two bears whose trail led from the dead body of "Old Sharpnose." The men, of course, followed the hue and cry of the chase. Otherwise the bear would have been found then. But Amos should have found both the cub and the old she had he not lost his head. Old bear hunters say, though, that it is a bit disconcerting, to say the least, to hear a dying bear holler "Oh-h-h-h Lor," resembling "Oh, Lord," as closely as possible without really using those words.

No more drives were made and the party broke up that afternoon and the next day. The boy Amos had an experience that he will probably never again have, even though he lives to be a hundred years old—an experience, furthermore, that the author and many others who love to engage in bear drives would cheerfully pay fifty dollars for any day. It was "beginner's luck" over again.

One of the features of the October OUTING will be The North Woods Guide by Edward Breck. It is a story of personal experiences and observations.

SAVING ALL PARTS OF THE PICTURE

By WARWICK STEVENS CARPENTER

DIAGRAMS BY THE AUTHOR

I

THE WORK OF THE LENS

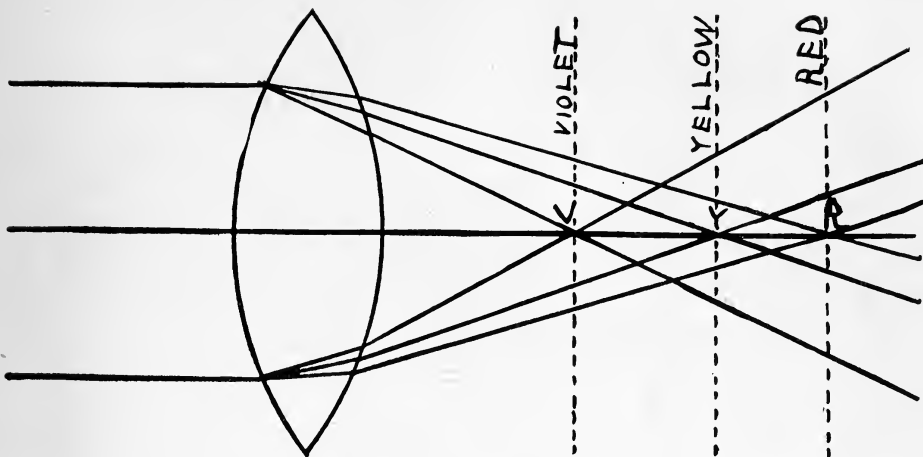
THE simple, uncorrected eye of the camera has defective vision. It cannot see clearly. This is not a matter of focusing by the operator, but of genuine faulty "eyesight," quite comparable in many respects to the imperfect vision of the human eye. Like the latter, it must be fitted with glasses to overcome its defects. Thus, while the first cameras had but a single glass in their lenses, nearly all of those manufactured to-day, including even the cheapest, have objectives built up of from two to six or eight, each one of these elements in the lens having its share in the production of a clearer image on the ground glass than was at first obtainable. The number of glasses entering into its construction, however, is not in itself the measure of the efficiency of the lens, one of the best having but three, while another in the same class has eight. The formula according to which the glasses are ground and adjusted determines the number of elements used and the final efficiency of the whole.

Accordingly one who purchases a photographic lens selects it for the attributes that it is stated to possess. Fortunately for the great number of amateur photographers who cannot have expert knowledge, this business is on a most satisfactory basis for the consumer, and he may rely with a considerable degree of assurance upon catalogue statements. As a further safeguard, every reputable lens manufacturer will supply lenses on trial and refund the purchase price if

they are not satisfactory. The chief requirement upon the purchaser, therefore, is to know the features which a lens must embody to meet his needs. These attributes are several and not entirely simple, but I shall endeavor to make them clear in the limited space here available.

The most serious defect of the simple spectacle lens, composed of but a single glass, is chromatic aberration. This is quite analogous to the dispersion of white light into its constituent colors upon passing it through a prism. The lens disperses the light which passes through it, instead of holding it together, and brings the rays of different colors to a focus in different planes, the violet and blue light being focused nearest to the lens, green and yellow focusing at a point sometimes as much as an eighth of an inch farther back, and the red focusing still farther away. Green and yellow are the rays of strongest visual intensity, while blue and violet are the most powerfully active upon the plate. Thus when one has a clear image on the ground glass the resulting negative will be perceptibly blurred on account of the lack of focus of the blue and violet rays.

Chromatic aberration may be lessened by stopping the lens down. It is largely corrected, however, by fitting the single spectacle lens with a glass which brings the violet and blue rays to a focus in the same plane with the yellow and green. For all ordinary work this is quite enough chromatic correction, as the red rays, though out of focus, have so little effect upon most photographic plates.



CHROMATIC ABERRATION

The rays of light near the margin of the lens are broken up into their constituent colors, and the different colors are focused at different points. Thus wherever the plate is placed it will receive some rays which are out of focus, and blurring will result. The defect disappears at the center, and becomes less and less as the lens is stopped down. The proportions of this diagram are exaggerated for clearness.

Lenses thus corrected are termed *achromatic*. Those corrected for the red rays as well, which is advisable when one takes pictures on the new Autochrome plates to show subjects in their natural colors, are called *apochromatic*. Chromatic aberration was the first defect of photographic lenses to be corrected, a step which is indicated to-day in the description of lenses for the cheapest cameras as achromatic meniscus lenses. They are the simplest now used, and though achromatic, are vitally defective in other respects.

Spherical aberration is quite similar in its ultimate effect upon the picture to chromatic aberration. It is caused by the rays which pass through the outer portion of the lens, at right angles to its plane, coming to a focus in a different plane from those which pass through the center. Thus it blurs the entire plate. Like chromatic aberration, it is lessened by stopping down and eliminated entirely by a suitable combination of glasses. It exists in all the cheaper lenses, though it is seldom prominent in the negative because of the fact that these lenses are made with a comparatively small aperture. Thus they are always stopped down to a point which has largely eliminated spherical aberration, though at the expense of speed.

Rays which strike the lens obliquely, rather than at right angles, produce the same result, but this is called *coma*. Lenses in which spherical aberration has been corrected are termed *aplanatic*.

Spherical and chromatic aberration are frequently intentionally employed to obtain the soft-focus, impressionistic pictures of the artistic photographer, and there are specially constructed lenses in which the amount of this diffusion may be readily controlled.

Of quite different character is the defect known as curvature of field, in which the margins of the plate will be out of focus when the center is in sharp definition, and the center will be blurred when the margins are sharp. Lenses not corrected for this defect focus their images upon a curved surface, so that a ground glass which would show all parts distinctly would have the shape of a saucer or dish. This defect is also known as *dishing* of the image. It yields, like the others, to stopping down and to the grinding and adjustment of the glasses.

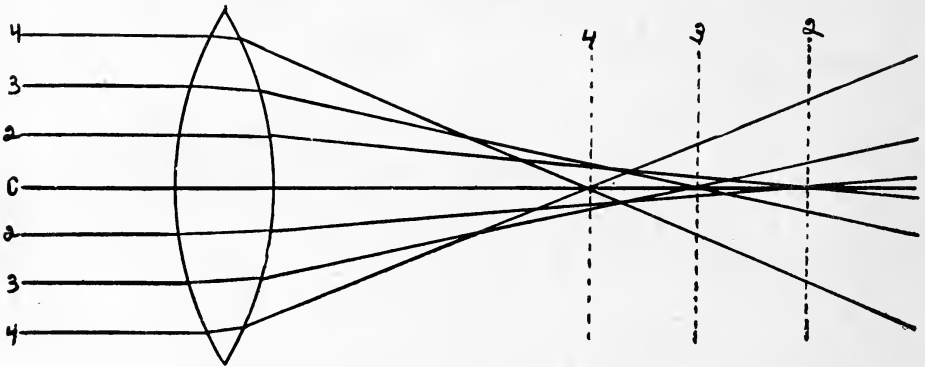
Distortion is the failure of the lens to render straight lines in the subject as straight lines in the picture, and is especially noticeable at the margins, the center of the picture being comparatively free from it. It is present in all

single lenses. When the stop is placed in front of the lens the lines bulge outward, causing barrel distortion. With the stop behind the lens the curvature is reversed, causing pin-cushion distortion, and as this latter is far more objectionable, all cameras with single lenses have the stop in front.

It is completely corrected in the lens known as the rapid rectilinear, or orthoscopic lens, which is a double lens with the stop between. In it the pin-cushion distortion which would be caused by the front combination alone, with its stop behind, is neutralized by the rear combi-

lenses. They are incapable of focusing vertical and horizontal lines at the same time, the blurring increasing toward the margins of the plate and vanishing at the center.

It was not until a new kind of glass was discovered, about twenty-five years ago, that astigmatism could be corrected in photographic lenses. This glass is popularly known as Jena glass, and its discovery has made possible the production of photographic objectives in which every defect of the lens is overcome. They are perfectly corrected for astigmatism, are apochromatic, so that rays of



SPHERICAL ABERRATION

Rays of light near the margin of the lens are brought to a focus nearer the lens than rays from the same point which strike the lens toward its center. Thus there is no position for the plate at which all of the rays from the same point are in focus at one time. As the marginal rays are cut out by stopping down the defect lessens, until it disappears at the center of the lens. The proportions of this diagram are exaggerated for clearness.

nation of the lens with the stop in front, the same stop, of course, serving for both combinations. The construction of the rapid rectilinear lens, with its number of glasses, makes possible not only the correction of distortion, but also to a considerable extent the reduction of curvature of field and the elimination of spherical aberration. Rapid rectilinears are also achromatic, and next to that type of lenses known as anastigmats they are the most efficient in use to-day.

Those who wear glasses for astigmatism are familiar with the way in which certain lines on the optician's chart were blurred while their eyes were being tested, while other lines on the same chart were clear and distinct. This identical defect is found in many photographic

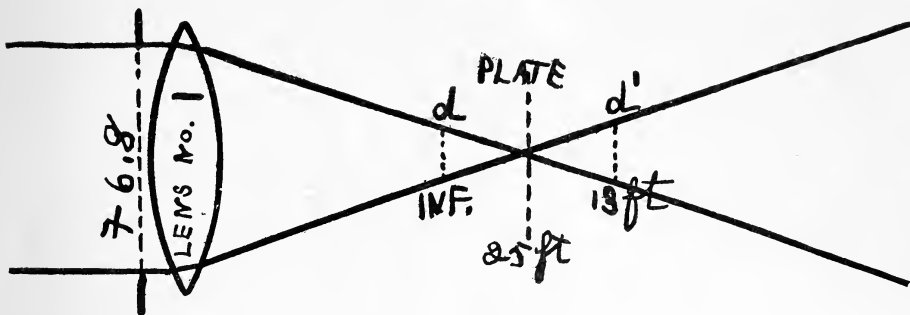
every color may be brought to a focus upon the same plate, and are free from distortion, spherical aberration, coma, and curvature of field. All of these results are brought about without the use of a small stop, and thus no quality of the lens is impaired to gain another.

Another characteristic of the anastigmat lens, which is of the utmost importance in saving all the snap and brilliancy of the subject in the finished picture, is its freedom from the defect known as flare or ghost. This is caused by internal reflections in cheaper lenses, part of the light reflecting from glass to glass, until it finally reaches the plate in diffused form, instead of passing directly through, particularly when it comes from a very strong source. It sometimes appears in the negative as a dark

spot, usually at the center, which is, of course, light in the print. At other times the flare or internal reflection is so thoroughly diffused over the entire plate that it causes an even grayness in the print without localization in any one spot.

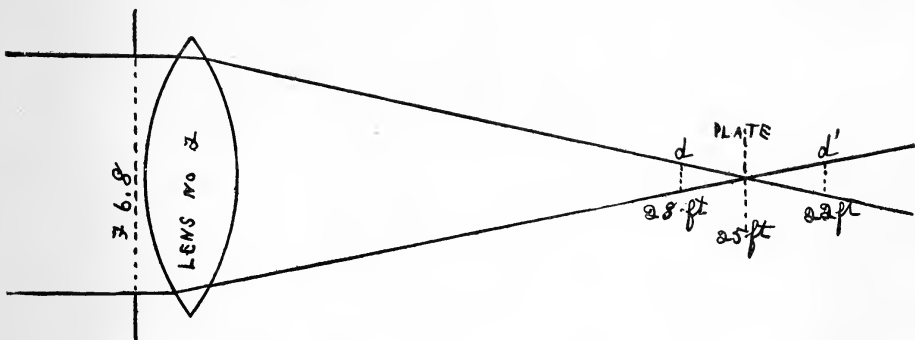
it does exist, it will appear frequently as an even grayness or lack of brilliancy. Thus it is often not suspected.

The focal length of a lens is the distance between the optical center of the lens and the ground glass, when the lens is focused upon infinity. In most lenses



EFFECT OF FOCAL LENGTH ON DEPTH OF FOCUS

The two lenses here represented are of the same relative opening, $F 6.8$, but of different focal lengths. With a lens of short focal length, as lens No. 1, the image planes lie close together, so that the plate need be moved only a very short distance to sharply focus all objects from very near to far distant. When the focal length is as short as three inches the image plane for 10 feet, and that for infinity are but 0.077 of an inch apart, so that with the plate midway between them the diffusion of all points from 10 feet to infinity will not exceed 1/100 of an inch, and from 13 feet to infinity, as in the drawing, it will not exceed 1/250 of an inch. With longer focus lenses, as lens No. 2, the image planes are far apart, and the allowable circles of diffusion, d and d' , fall far inside the points of focus for 10 feet and infinity. Thus the depth of a long focus lens is very limited. A three-inch lens has universal focus, and depth decreases as focus increases, until with lenses of more than seven inches focus it is extremely difficult to estimate distance with sufficient accuracy for hand camera work. The proportions of these drawings are exaggerated for clearness.



One has but to compare the brilliancy of a collection of many pictures made in cheap hand cameras with those made with instruments fitted with anastigmat lenses to see at once the much higher percentage of crispness and snap in the latter. Flare will not occur in every picture taken with lenses of poorer construction, its presence depending largely upon light conditions. Moreover, when

the optical center is at or near the position of the diaphragm or stop. Accordingly, for all practical purposes in this article, the focal length is the distance between the diaphragm and the ground glass when the lens is focused upon the sun or moon, or even upon a far-distant object such as a range of mountains.

The selection of a lens of suitable focal length is of considerable importance.

Focal length determines the size of the image upon the ground glass, the image being directly proportional to the focal length, so that a lens of fourteen inches will give an image just twice the size of a lens of seven inches, when both photographs are taken from the same distance.

The Best Focal Length

Focal length also determines the angle of view in the picture, the angle decreasing as the focal length increases, while the size of the plate remains constant. Thus a seven-inch lens subtends an angle of sixty to seventy degrees on a five-by-seven plate, while a lens of twelve-inch focus on the same plate includes slightly less than forty degrees. Focal length also affects the perspective with which objects are seen in the picture. *The most satisfactory focal length for outdoor photography is that which approximates the long side of the plate with which the lens is used.*

Compound lenses, such as the anastigmats, are frequently composed of two single lenses in one mount, the single lenses having a longer focal length when used alone than in combination. Compound lenses in which both single elements have the same focal length are called symmetrical. They supply two lenses in one—the shorter focus, fully corrected doublet, and the longer focus single lens, in which some defects are uncorrected.

Convertible lenses are those in which the individual single lenses have unequal focal length. In some of them many different elements may be obtained, which, properly combined, give a great variety of focal lengths at little additional expense. Thus large images of objects at a distance may be obtained with the longer focus elements, though at the sacrifice of speed.

Focal length has an extremely important bearing upon the speed of the lens, speed being dependent upon the focal length of the lens and its working aperture. Speed will be more clearly understood if it is remembered that it refers not at all to the rapidity with which light passes through the lens, the retarding and absorption of light by the glass

being practically negligible, but rather to the volume of light which falls upon each unit of area of the plate. Thus speed is in reality intensity, and this latter term is frequently employed, particularly in England. The greater the intensity the more readily may full exposure be made under poor light conditions or when rapidly moving objects make a high shutter speed imperative.

Working aperture in most lenses is the opening in the diaphragm, though it may vary slightly from this. With lenses of the same focal length the one of the larger opening will pass the greater quantity of light, just as a larger pipe will transmit more water than a smaller. But speed decreases when focal length increases, since with lenses of the same working aperture the farther the plate is from the lens the smaller will be the proportion of the total volume of light which falls upon each unit of area. Thus the speed depends upon the relation between these two factors, and is said to be the quotient obtained by dividing the focal length of the lens by the working aperture.

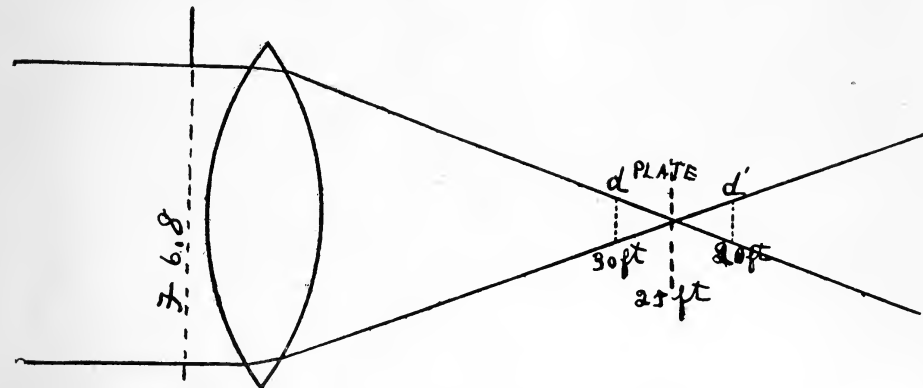
A lens, therefore, of seven inches focal length, with a working aperture of 1.029 inches, has a speed of 6.8. This is usually expressed photographically as F 6.8, or frequently as the fraction $F/6.8$. In this last form it is clearly evident that the focal length, F, which in this particular case is seven inches, divided by 6.8, will give the working aperture, or 1.029.

Every lens having the same ratio between its focal length and working aperture works at the same speed, and the larger the working aperture is in proportion to the focal length, the greater will be the speed. As the lens is stopped down, however, its speed does not decrease at the same rate that the numbers increase, but rather decreases in proportion to the squares of these numbers. Thus a lens at F 16 is four times as slow as if it were at F 8, this being in the proportion of 256 to 64.

Many lenses, however, are marked so that each higher number indicates a speed just one-half as great. Other lenses, particularly those of foreign make, have their stops numbered in proportion

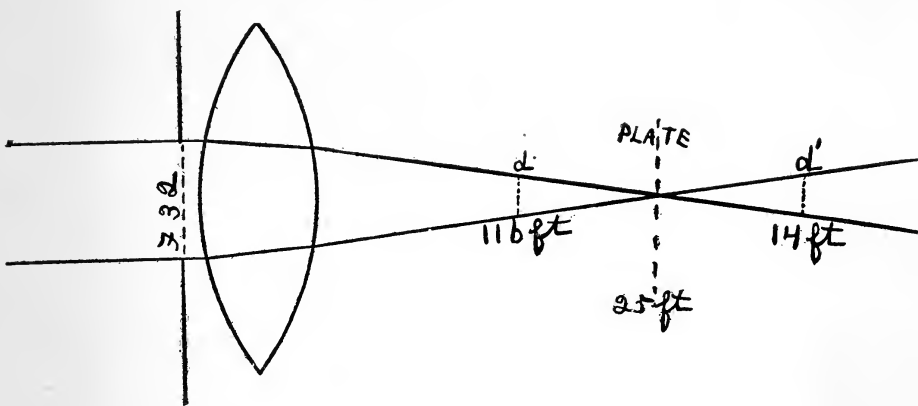
to their speed without reference to the ratio between focal length and aperture, and thus one has only to compare the stop numbers themselves to determine the proportionately longer exposure with the smaller stops. This sys-

tem is called the Uniform System. The corresponding numbers of these two systems are as follows:



EFFECT OF APERTURE ON DEPTH OF FOCUS

The plate is represented at the position of sharp focus of a point 25 feet distant. It may be moved either forward or back and still appear sharp to the naked eye, until it reaches the circles of diffusion d or d' . All points whose images fall between d and d' will be in sufficiently sharp focus when the plate is at the focus shown. The opening in the diaphragm determines the angle of the cone of rays emerging from the lens, and when this angle is decreased by a smaller stop, the two circles of diffusion are farther apart, thus giving greater depth. The depths of focus here given are calculated for circles of diffusion of $1/250$ of an inch, giving sufficient sharpness for enlarging. With circles of diffusion of $1/100$ of an inch they would be still farther apart. When using a hand camera, one has all of this leeway in judging distance. The proportions of these drawings are exaggerated for clearness.



tem is called the Uniform System. The corresponding numbers of these two systems are as follows:

F—8	11.3	16	22.6	32	45	64	etc.
U.S.—4	8	16	32	64	128	264	etc.

Under the Uniform System an exposure at stop 8 requires twice the exposure at stop 4, that at stop 32 requires

systems have been devised, but they are little used in this country.

Stopping down, as stated above, will lessen many of the defects of a lens, but when using an anastigmat, in which all of these shortcomings have been corrected by other means, the sole reason for stopping down is to increase the

depth of the focus, or depth of field. Depth of focus depends not at all upon the quality of the lens, but entirely upon the relation between the diaphragm opening and the focal length of the lens. The smaller the opening and the shorter the focal length, the greater will be the depth.

Theoretically a lens is capable of focusing sharply at one time only those objects which lie in one plane before the camera. The number of planes, however, is infinite. Thus, if the camera is focused upon an object at twenty-five feet distance, an object a few feet nearer the camera will require the ground glass to be drawn farther back from the lens, while an object a few feet farther will necessitate bringing the focusing screen nearer to the lens. A diffusion of 1/100 of an inch, however, is not perceptible to the eye. Thus if a point twenty-five feet distant is in absolutely sharp focus, and other points on either side of it are diffused on the ground glass so that their area of focus is not greater than one one-hundredth of an inch, the fact that these objects are not in absolutely sharp focus will not be perceptible.

The depth of focus of a lens is the limit within which the circle of diffusion will not exceed one one-hundredth of an inch. Lenses of great speed have but little depth at full aperture, and the depth increases as the speed decreases. A high-speed lens, however, has precisely the same depth as one of lesser speed, but of the same focal length, when it is stopped down to the same relative opening. In other words, a lens whose lar-

gest relative opening is F 4.5 has the same depth as one whose largest aperture is F 8, when their focal lengths are equal and the first lens is stopped down to F 8.

A diffusion of 1/100 of an inch is allowable only for contact prints. If negatives are to be enlarged or used for making lantern slides, a circle of diffusion of 1/250 of an inch is about the maximum for sharp results in the enlargement or projected slide. Knowledge of the amount of depth that his lens possesses is of the utmost importance to every user of a hand camera, and this data may be found in the catalogues of some of the lens makers. The figures there given are applicable to any lens, when the focal length is known.

It is evident from the foregoing outline that the only lenses which may be depended upon to record faithfully all parts of the picture are the fully corrected and speedy anastigmats. The rapid rectilinears and single lenses, however, will, of course, give good pictures under suitable conditions of subject, lighting, and exposure. It is in not understanding the limitations of these lenses that so many amateur photographers meet with disappointment and lose so much of the snap, brilliancy, and correctness of outline of their subjects in the finished picture. If one wishes to work with certainty he should use a lens in which all of the defects here mentioned are corrected, except when artistic rendering makes diffusion desirable. The impressionist will make concession only to chromatic and spherical aberration for soft-focus effects.

(To be continued)

In his next Article Mr. Carpenter takes up the problems connected with plates.



BALLISTICS OF CARTRIDGES

By CHARLES NEWTON

VII

SOME OF THE REMODELED HEAVY-WEIGHTS

BYOND question the finest big game hunting of the present day is found in Africa, where the frontier is making its last stand against the encroachments of civilization. Here, in primal savagery, and in India, where civilization was aging to decay when Hengist and Horsa led their hard-fighting, hard-living bands of adventurers across the North Sea to found the race which should become the dominant world power of the present generation, alone can be found those fauna which can readily add the thrill of danger to the hunter from the quarry, despite the most modern equipment. Here only is the pursued likely to turn pursuer and impart to the chase that zest ever welcome to the true sportsman, which it possessed when primitive man faced wolf or bear, armed only with sling and spear.

While there are a few sportsmen who attempt, and with some success, to cope with the heavy African game with the .256 Mannlicher, .303 British, and other cartridges of that class, we fear they omit, either through lack of information or other reasons, to give us a list of those wounded animals which escaped to die a lingering death from wounds caused by those little full-jacketed missiles. Yet the great majority of both visiting sportsmen and residents of those localities usually have handy, when meeting the heaviest game, a heavy double rifle of the .450 cordite class, being either of that caliber or of the .465, .476, or some other modification, made because under the Indian law rifles of exactly .450 bore are, as one English manufacturer so felicitously expresses it, "not allowed into India."

These double rifles are all of about the same weight, about 12 pounds, and of about the same power, using a bullet weighing from 480 to 500 grains, at a muzzle velocity of about 2,100 to 2,200 feet per second, and developing about 5,000 foot-pounds muzzle energy.

These long, heavy, blunt bullets are splendidly designed for plowing through the thick skin of the elephant or rhino, or the heavy muscles and bones of the buffalo, and are considered almost the last word in stopping power. Some few, however, will stand the punishment of similar rifles in calibers of .500, .577, and .600, but the recoil of even the .450 cordite is so terrific that twenty to thirty cartridges are usually sufficient for a six months' hunt. All users of even the .450 speak with great respect of its butt plate as well as its muzzle energy.

Some time ago the writer became curious to try one of these rifles, thinking he could stand as much recoil as anyone. He made up a single shot rifle, weighing $9\frac{1}{2}$ pounds, and adapted it to a practical duplicate of the .450 cartridge, driving a 500 grain, .45-caliber bullet (our old .45-70 in a metal jacket) 2,050 feet per second. The recoil did not hurt the shoulder, but the backward thrust gave the neck such a disagreeable jerk, as the head was snapped forward and downward by the receding shoulder, that even after the lapse of five years the rifle has never been thoroughly sighted in. He still thinks he can stand as much recoil as any man, but considers the above-mentioned allowance of twenty to thirty cartridges amply sufficient for a six months' hunt.

The above-mentioned cordite cartridges are infinitely more pleasant to shoot than the older type of elephant

gun, from Sir Samuel Baker's "Baby," weighing 21 pounds and firing a four-ounce explosive shell, down through the eight and ten gauges, once considered the proper thing for this work, but it does not follow that they cannot be still further improved.

A bullet of a given weight and at a given velocity will strike a blow of the same energy, whether it be of large caliber and short, or of a smaller caliber and greater length. Nevertheless the smaller caliber bullet will give the less recoil, owing to the less area of cross section of the bore from which the gases impinge upon the atmosphere.

Therefore, since we may reduce recoil without affecting striking energy, either by using a lighter bullet at higher velocity or by using a bullet of smaller diameter and of the same weight, by the use of both modifications we should obtain a double reduction. And, inasmuch as the bullet which formed the basis of operations had a blunt point, we could preserve the ballistic coefficient in a lighter bullet in a great measure by sharpening the point, thus enabling it to retain its velocity nearly as well as the original.

The first step beyond the .30 Adolph Express with its 3,000 f. s. velocity with 172-grain bullet was to the .33 caliber. The regular 200-grain bullet, made for the model 1886 Winchester, had about the requisite weight in proportion to its cross section. The Adolph Express shell was adapted to this caliber and furnished the requisite boiler room. The result was a muzzle velocity of 3,000 f. s. and a muzzle energy of 4,000 foot-pounds. The .33 Adolph Express was born.

A private gunmaker, desiring a series of cartridges of decided power for use in Mauser rifles, we next adapted the small shell to a .35 caliber rifle, equivalent to the 9 mm. in bore, and used the regular bullet for the .35 W. C. F. cartridge, weighing 250 grains. This weight was somewhat over the standard of 2,300 grains per square inch (the proper weight being 225 grains), hence our velocity suffered somewhat, but not badly since the .35 Adolph Express gives a muzzle velocity of 2,975 f. s. and a striking energy of 4,925 foot-pounds.

The muzzle energy of the .450 cordite, the regulation English elephant gun, is 4,944 foot-pounds, or but 19 foot-pounds more. Here we have a magazine rifle, weighing less than eight pounds, which can be fired without discomfort from recoil, practically equaling in efficiency the 12-pound terror.

But we must have the best, hence we made from the same shell a .405 Adolph Express. The regular bullet for the .405 Winchester, weighing 300 grains, was used. The proportion of shell room was too small in proportion to the area of cross section of the bore to permit of the best results from the No. 10 Military powder, so we had recourse to the quicker-burning Hivel powder, made by the Hercules Powder Company. By its assistance we obtain a muzzle velocity of 2,867 f. s. and a striking energy of 5,490 foot-pounds, or 546 foot-pounds more than the .450 cordite shell. This also is fired from a Mauser repeater and without approaching the punch of the .450.

This caliber looked good, provided we had sufficient chamber room for our old friend, No. 10 Military powder, so we provided it a new shell, using the .40-110 Express for that purpose. For a bullet we used a .40-caliber, 300-grain, metal-cased. This bullet was of the proper length for the caliber and the shell gave a goodly amount of chamber room in which we placed 99 grains of powder. The result was a muzzle velocity of 3,042 feet per second and an energy of 6,180 foot-pounds. This was a somewhat heavy single-shot Winchester, weighing $10\frac{1}{2}$ pounds, but the recoil was not sufficient to prevent using it for an afternoon at target shooting at 200 yards, offhand, and making good scores. Comparisons are usually odious, but we will venture one.

The .600-caliber cordite rifle has an energy from its 900-grain bullet of 7,592 foot-pounds. The .577 cordite, with 750-grain bullet, has 6,994 foot-pounds. The .500-caliber cordite, with 570-grain bullet, has 5,844 foot-pounds. The .476 cordite, with 520-grain bullet, has 5,086 foot-pounds. The .450 cordite, with 480-grain bullet, has 4,944 foot-pounds. The .40-110 rifle has 1,236 foot-pounds

more energy than the .450; 1,094 foot-pounds more than the .476; 336 foot-pounds more than the .500, and is beaten only by the .577 by 814 foot-pounds, and the .600 cordite by 1,412 foot-pounds.

The conclusion of the foregoing paragraph will probably bring a smile to the face of the veteran who has been there, or who has read the opinions of those who have been there. "But this excess of energy does not signify a proportionate excess of efficiency. The bullet needed for use against the heavy game mentioned is the heavy slower cordite bullet. Everyone who has killed this kind of game agrees upon that," says he. We admit they do, but we have never been privileged to read of a test of a similar rifle against this class of game, and until it has been tested who can state with certainty the result?

We have here the same principle which makes the .22 h. p. so deadly—the extreme velocity and accompanying shock, "only more so." The .22 h. p. has over 300 foot-pounds less *striking energy* than has the .30-30, yet the pages of our magazines constantly bear witness to its vastly greater *killing power*. The little 70-grain soft-point bullet has repeatedly bored through both shoulders of a deer, the base being found under the skin on the farther side, yet it goes to pieces promptly and drops the game when a paunch shot is made. This extreme velocity has, in fact, made the paunch shot the most deadly of all, where once it was the most unsatisfactory.

It is hazardous to attempt to reason from point to point concerning the action of smokeless powders or of high-velocity bullets. The natural laws governing such action are just as immutable and just as universal in their application as in other branches of physics, but we are constantly encountering what we may term "new legislation," or, more properly speaking, newly-discovered laws. We say that if a given bullet will not shoot through the body of a woodchuck, crosswise, or expands completely on a paunch shot, it certainly will not shoot through the shoulder of a deer. Yet we find in actual practise that the .22 high-power, soft-point bullet, at 3,000 f. s.,

will not shoot through the woodchuck, nor, at 2,700 f. s., will it penetrate through the paunch of a deer, yet it will, at the latter velocity at least, penetrate both shoulders of a large buck, and the writer has one which passed completely through a two-year-old grizzly, immediately back of the shoulders.

As to the amount of penetration of the bullets for the above described cartridges, if made in full, jacketed form, they should penetrate decidedly better than those of the cordite type. The penetration, in wood, of the 150-grain Springfield at 2,700 f. s. exceeds that of the 220-grain bullet at 2,200 f. s. The 220-grain, .30-caliber bullet has almost identical density and form with the cordite bullets and at the same velocity. The 150-grain, .30-caliber has decidedly less density than has the .40-110-300 and 342 f. s. less velocity; hence the latter should show a far greater superiority in penetration over the heavier, blunt type.

In the expanding point type of bullets it is possible, and easily so, to regulate the amount of expansion by varying the temper of the core and by varying the amount and manner of exposure of the core, thus permitting the sportsman equipped with bullets having different expanding qualities to select for a given case those having the proper expanding properties to deal suitably with the case in hand.

The marked reduction of recoil in proportion to energy developed by the .40-110 h. p., rendering possible a reduction of the weight of the arm to a point where the sportsman himself may carry it with ease instead of entrusting it to a gunbearer, suggests the consideration of what it might do on more vulnerable game, particularly in view of the near approach to its ballistics of the .405 Adolph Express in the form of a magazine rifle.

Nearly every sportsman with African experience has reported the results of trying to stop a charging lion with a .450 cordite rifle, and the reports are practically uniform that unless struck in a vital spot, where almost any rifle will stop him, it will not stop the charge. So far as we are aware, none have reported the results of a bullet from any of the

ultra-high velocity rifles in this emergency. Unless natural laws are suspended in the case of Leo Rex it would seem that a single shot from a rifle of such power as either the .35 Adolph, .405 Adolph, or .40-110 h. p., if placed well within the body at any point, should end the circus then and there. Find the lion, and the writer will furnish the rifle.

With a rifle of this type the sportsman is well equipped for the larger antelope, lion, rhino, buffalo, or elephant without changing guns, thus permitting him to carry his own weapon at all times and to acquire that degree of speed, certainty, and proficiency in its use usually attributed to the "man with only one gun."

In conclusion, it would seem strange if the utilization of velocities of 3000 f. s., or thereabout, which have so vastly increased the efficiency of our medium-power rifles for medium-sized game,

should not similarly increase the efficiency of our heaviest rifles for our heaviest game, and this with the same reduction in weight of weapon and recoil as have been realized with our smaller weapons.

The following table shows the ballistics of the leading foreign big-game rifles, as well as those under discussion. In computing the remaining velocities, energies, and trajectories we have assumed a coefficient of form of .70, representing a medium sharp point rather than the extreme sharpness of the service bullet, which is valued at about .59. This is because it is impossible to obtain as fine lines with a bullet of large diameter as with a smaller one without lengthening the bullet beyond the prescribed weight of 2300 grains per square inch of area of cross-section, and to this proportionate weight we must cling in case we desire the 3000 f. s. velocity.

RANGE	BULLET	.33 Adolph-Express C-.34 200 gr.	.35 Adolph-Express C-.40 250 gr.	.405 Adolph-Express C-.378 300 gr.	40-110-300 Newton H.P. C-.374	.450 Cordite C-.384 480 gr.	.476-520 Cordite C-.387	.500-570 Cordite C-.378	.577-750 Cordite C-.385	.600-900 Cordite C-.40
Muzzle	Velocity, ft. sec.....	3000	2975	2867	3042	2150	2100	2150	2050	1950
	Energy, ft. lbs.....	4000	4925	5490	6180	4944	5086	5844	6994	7592
100 Yd.	Velocity, ft. sec.....	2720	2737	2619	2784	1944	1898	1940	1850	1766
	Energy, ft. lbs.....	3300	4175	4590	5220	4032	4158	4579	5695	6227
	Trajectory, ft. ....	.044	.044	.048	.042	.086	.090	.086	.095	.102
	Time, Ft., sec.....	.105	.105	.109	.103	.147	.150	.147	.154	.160
200 Yd.	Velocity, ft. sec.....	2457	2512	2383	2541	1752	1711	1745	1667	1595
	Energy, ft. lbs.....	2700	3500	3780	4320	3264	3390	3876	4665	5103
	Trajectory, ft. ....	.195	.192	.211	.186	.38	.402	.387	.422	.462
	Time, Ft., sec.....	.221	.219	.230	.216	.31	.317	.311	.325	.340
300 Yd.	Velocity, ft. sec.....	2208	2297	2160	2310	1576	1540	1567	1476	1438
	Energy, ft. lbs.....	2180	2950	3120	3570	2640	2756	3135	3638	4140
	Trajectory, ft.....	.490	.473	.521	.462	.96	1.00	.968	1.17	1.16
	Time, Ft., sec.....	.350	.344	.361	.340	.49	.501	.492	.542	.538
500 Yd.	Velocity, ft. sec.....	1754	1896	1750	1882	1280	1255	1269	1210	1193
	Energy, ft. lbs.....	1360	2000	2040	2370	1728	1820	2052	2445	2844
	Trajectory, ft.	1.72	1.59	1.80	1.56	3.31	3.49	3.39	3.94	3.96
	Time, Ft., sec.....	.655	.632	.670	.628	.91	.936	.921	.994	.997
1000 Yd.	Velocity, ft. sec.....	1053	1165	1080	1130	942	935	935	918	919
	Energy, ft. lbs.....	480	750	780	840	960	1013	1112	1410	1701
	Trajectory, ft.	13.0	11.0	13.0	11.3	21.53	22.3	21.9	24.0	24.2
	Time, Ft., sec.....	1.80	1.66	1.80	1.68	2.32	2.36	2.34	2.45	2.46
1500 Yd.	Velocity, ft. sec.....	823	910	855	881	768	764	760	749	756
	Energy, ft. lbs.....	300	450	480	510	624	676	735	937	1143
	Trajectory, ft.	47.1	38.9	45.4	41.0	66.58	69.2	67.9	72.9	72.9
	Time, Ft., sec.....	3.43	3.12	3.37	3.20	4.08	4.13	4.12	4.27	4.27



THE POOREST OF THE POOR, DWELLERS IN REED HUTS FROM THE GREAT SWAMP, JOURNEYING ON THE PILGRIM ROAD TO THE SHRINES OF KERBELA

JOURNEYING TO BABYLON

By WILLIAM WARFIELD

PHOTOGRAPHS BY THE AUTHOR

From Bagdad, the Soul of Iran and Arabia, to a City That Was Old Before History Began

IT was not that we had had enough of Bagdad. The fascination of that romantic city never palled. The least spoiled city in Turkey, the soul, not only of Irak, but of Iran and Arabia, we found it ever alive with romance, kaleidoscopic with strange sights, teeming with men of all descriptions, desert dwellers and city dwellers, mountaineers and plainsmen. But we wished to exchange these medieval scenes for a glimpse into the shimmering dawn of history, bright with the hopes of surging peoples, resonant with strange tongues, and fresh with the dew of unquestioned tradition. It was for this that we decided to leave the noisy bazaars to cross the desert silences and sit down by the waters of Babylon.

It seemed prosaic to make this journey in a post-carriage. We sent our servant with the requisite number of Turkish liras to procure a ticket and such oranges and dates and other things as we should require for sustenance on the road. The ticket began to dispel our illusions about

the prosaic character of the ride. It was a slip of paper, four inches square, bearing at the top a rough wood-cut representing an old-fashioned stage-coach; below it was filled in with flowing Arabic characters, setting forth our names, our destination, and the date. Our last illusion was dispelled when we were confronted at the consulate with a trim, blue-uniformed *zaptieh*, his rifle slung over his shoulder, his hand raised to salute, who was to accompany us to guard us from the perils of the road.

The carriages leave bright and early so as not to reach their destination after dark when robbers are abroad. It was not yet four o'clock when we arose and jumped into the warmest clothes we had. In the courtyard a flickering lantern cast fantastic shadows on the yellow brick walls. Above we caught a glimpse of sharply glittering stars. A Kurdish coolie was produced from somewhere and loaded with kit-bag and tiffin basket, with the odds and ends of wayfarers. Mustafa, the cook's boy, seized the lan-



AN ARAB REFRESHMENT SHOP IN A DESERT VILLAGE NEAR BAGDAD ON THE PILGRIM ROAD TO KERBELA

tern and let us through the outer courtyard toward the street. Yusef, the porter, had to be aroused to unlock the heavy door and let us out. Not contented with this service, he snatched up his lantern and set out to accompany us. But Mustafa had no intention of dividing his backshish with a porter. A shrill discussion ensued in which our servant joined, and, worsted, Yusef returned to his blankets in the niche within the door.

That was a weird walk through the deserted streets. At first the starlight revealed the scene beyond the uncertain flashes from the swinging lantern. Soon projecting upper stories shut out all but a narrow strip of sky. The lantern light splashed on massive doors and barred windows. We entered the bazaar. The vaulted roof shut out the sky; the darkness was oppressive. Our voices echoed down the empty passage as in a tomb. A dog, roused by our footsteps, leapt up with a shrill bark and faced us, his hair bristling, his teeth showing white against the backward curled lips. The light flashed from the eyes of a group of his fellows; some rose barking fiercely; others slunk away from the light.

The alarm spread and in a moment the whole street was filled with a tur-

moil of barking. All the dogs in the neighborhood, wakened by the noise, joined in, half in anger, half in fear. Rays of light were reflected far ahead from pairs of eyes. Stark forms with bristling backs and gleaming teeth backed against the wall as we passed. If any stood in our way he was quickly put to rout by Mustafa's cane and fled, howling, his tail between his legs. As we passed they quieted down, we turned into other streets, and all was silent again. Only occasionally a sinewy brute leaped to his feet or a pair of wide eyes glowed at us from the edge of the way.

As we made our last turn before reaching the bridge a gleam of light flashed as from metal, we heard the click of spurs, and two officers of the watch passed with a solemn greeting. A little group of coolies, slouching, deep-chested, trotted by without turning their heads. We stepped on the rickety bridge of boats, following the lantern carefully so as not to step through some hole in the planking. The Tigris swirled and gurgled beneath us; the starlight flashed on the water down stream; before us yawned blackly the entrance to the bazaars of West Bagdad.

Into this black hole we plunged and were greeted almost instantly by a furi-



WE RESUMED OUR JOURNEY, CARRIED BY THE IMMEMORIAL BURDEN-BEARER,
THE HUMBLE ASS

ous crowd of white-fanged curs through which we made our way only after vigorous use had been made of Mustafa's cane. A couple of donkeys laden with brushwood, followed by a cursing hag, brushed by. The lantern light revealed a huddled coolie asleep on a pile of rubbish. The rickety roof of poles lay like a gridiron against the sky. Then we left the bazaars behind and found ourselves among the khans whither the caravans come. The air was full of the smell of stables and the musty odor of camels. A group of laden mules were standing before an arched doorway.

In the darkness we heard the creak and thud followed by stamping which means a load has been lifted upon the saddle. We cringed against a wall in a litter of straw to let pass a caravan of shouldering, jostling camels. A curious brute thrust his ugly, scowling countenance into the lantern light, blinking stupidly into our faces. "Daughter of wickedness! Mother of asses!" shrilled a voice through the night. The camels passed on. The air was sharp with the chill that comes before the dawn. The stars were growing dull. So we came at last to the khan from which the *arabanas*, the post-carriages, start.

The bustle of departure over, we

banged away in our narrow rattle-trap of a stage-coach, collars turned up, hands stuffed in pockets, shivering in the still cold of the winter morning. We reared over the high banks of irrigating ditches, bumped against deserted graves, and entered upon the flat, brown, clay desert. Behind us the sun rose over the minarets and domes of the city. The brilliant sky was reflected in a marsh left by last year's floods. The chains jingled merrily as we rattled on. A telegraph line lay on our right, now near, now far, as the track we followed wandered capriciously. Around us stretched the desert.

At first we found it rather lonely, this vast, flat stretch of sun-baked clay. We overtook a few little groups of laden donkeys and the caravan of camels that had passed us in the streets, but we met only a knot of black-clad women, each staggering beneath an enormous load of brushwood, the bitter, prickly camel thorn, sole product of the unirrigated wastes.

But as the sun rose higher and the dry soil gave back its heat and the mirage began to appear, first on the horizon, then nearer like a flood of crystal water, as the day went on we began to encounter those who went toward Bagdad from beyond the Euphrates. We passed a

ruined castle and climbed clumsily over the mound that marks an old canal. There before us was a throng of other wayfarers, Persian pilgrims returning from a visit to the shrines of Kerbela. Strong, bearded men strode sturdily along beside heavily laden mules or rode sideways on tiny donkeys. Women and children swayed back and forth in a sort of cradle on the backs of animals or were hidden away in curtained boxes slung on each side of a pack saddle.

The men showed the effects of wear-

And here they are setting out again to brave the perils of a road beset with hostile tribes, barred by lofty mountain passes. Such is the fanatical power of the religion which they profess. Not a few must perish by the road, some will lose their animals and have to leave their simple loads behind and trudge on destitute. "All is in the hands of Allah! *Allamdulillah!* Praise be to God!"

Behind the pilgrims strode groups of camels, marching in irregular groups, plodding along in awkward indifference.



PERSIAN PILGRIMS, TOWN-DWELLERS FROM NORTHERN IRAN, MAKING THEIR JOURNEY IN TOIL AND SUFFERING

ness for theirs had been a long journey. But they were dogged, and the leaders among them greeted us cheerfully enough. They formed a large body straggling for several furlongs along the desert track, simple folk who made their pilgrimage in toil and suffering, sacrificing wonted comforts and using the savings of years for the expenses of the road. They were town dwellers from the shores of the Caspian or north-central Persia, unaccustomed to hardship. At home they had lived by cultivating a little garden or vineyard or by doing a little quiet trading in the bazaars of their native town. The women had lived always in the jealously guarded secrecy of their apartments, rarely appearing on the street.

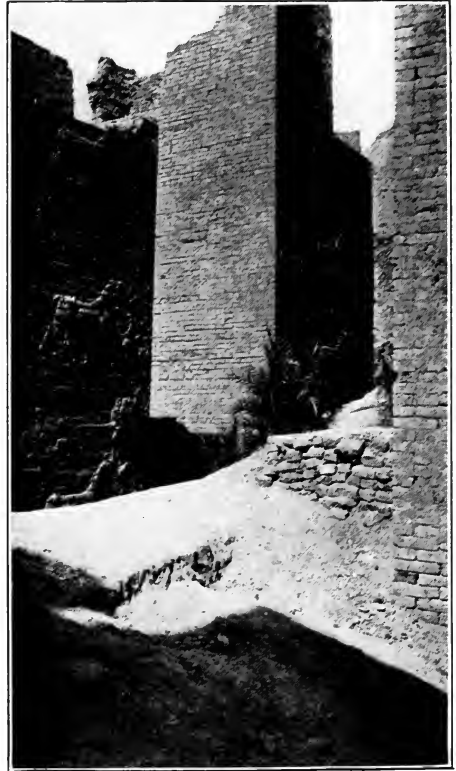
Somewhere in each group was a man or boy striding along with his staff across his shoulders or perched high up on the hump of one of the beasts. But the leaders of the caravan rode in stately dignity, each upon a tiny ass before a group of forty or fifty towering, heavily laden camels. The donkeys pattered along on dainty feet with drooping heads and swishing tails. The camels, swaying from side to side, swung their huge padded feet in ungainly fashion, deliberately, as though pausing after each step. They made a picture of patient submission, for they seemed to have got it into their undulating heads that the donkey was to be followed, so follow him they did, albeit protestingly.

When we had passed the last group

of these burden-bearers, spread out right and left on each side, grumbling at having to make way for us, when the last stragglers from the pilgrim caravan had given up their quest of alms and followed their brethren, this is the tale that was told us by Thomas ibn Shamu, our servant:

“Sahib! This matter happened to a sheik of the desert, a Bedouin, not like the people of the city, but a dweller in tents, filthy, and a Moslem.” Thomas was a Chaldean of Bagdad and feared as much as he despised the dwellers in the desert.

“This man was about to die and called his animals about him, asking them to forgive what wrongs he had done them. His mare looked tearfully upon her master and said she had nought to forgive;



THE IMPOSING TRIPLE GATE THAT GIVES ACCESS TO NEBUCHADNEZZAR'S PALACE



AS WE EXPLORED THE PALACES WE PASSED GROUPS OF WORKMEN WHO BROKE INTO A NOISY CHANT CALLING UPON GOD TO BLESS OUR EXALTED GENEROSITY

she had had milk from the camels and water provided for her on long marches in the desert; why should the master ask her forgiveness?

“The greyhound said he had always had sufficient water to drink and a warm place to sleep, so he would gladly forgive his master if he had had to go hungry at times and been tied up when he wished to roam abroad.

“The ass said, with pity in his voice, that he had been beaten and ill fed and driven by women, but, as his master was dying, he would forgive all.

“Then came the camel, growling and groaning and gurgling in his throat. Glaring bitterly at his master, he said: ‘You have made me go hungry and thirsty; you have sent children to strike me in the face when I was restless and wished to walk about; you have burdened me with an ill-made saddle that galled my back; you have made me carry



PERSIAN PILGRIMS ENTERING A KHAN. THE WOMEN ARE HIDDEN AWAY IN KEJAVEHS, CAREFULLY CURTAINED, CARRIED TWO AND TWO ON THE BACKS OF MULES

for all that are in your tent. All these things I forgive, since you are dying. One thing I will not forgive; that is that you have made me walk behind a donkey."

Caravan after caravan we passed, more pilgrims and more camels; some we overtook and some we met. Strange effects were often caused by the mirage. A caravan went by. A lake appeared before them. They seemed to enter it and were reflected in it. The camels grew taller and thinner in the shimmering heat until, tremendously lengthened and utterly unstable, they disappeared in the distant haze. In another quarter the lake reflected a forest of palms, set with white buildings, giving an impression of comfortable shade. We drove on, the lake receded, dwindled; a band of pilgrims seemed to be walking in a marsh; then the mirage vanished away and we saw clearly. We were driving into a squalid village set by a dried-up irrigating canal. Upon a mound stood three drooping, draggled, dusty palms, all that was left of our lovely grove.

Here we stopped to change our mules. In the roadway before the khan sat a group of Arabs. A servant supplied them with little cups of tea from a rude samovar. "*Salaam aleikum.*" We saluted them, and taking our places in the circle we were served in turn, we and our following. Someone in the dark

doorway was thumping away on a drum. A boy came out of the khan beating a poor, lame donkey, covered with fly-invested sores. I turned to one of my neighbors:

"Is it not cruel for that boy to beat a lame ass in that way?"

"Effendim, it is the will of God!"

"But you do not allow horses or camels to be beaten thus."

"Effendim, the donkey is not like the horse, nor yet is he like the camel. The reason is this: Upon a certain day the donkeys went before Allah and complained that they were grievously beaten by men, so that life was a greater burden than they could bear. Then said Allah: 'I cannot make men cease from beating you. It is no sin; neither does it cause them any great loss. But I will help you. I will give you so thick a hide that however much you are beaten you shall not suffer.'

"So," said my informant, "it is of no consequence if men beat an ass. So thick a skin did Allah give him that after he dies men use it in the making of drums and the donkey continues to be beaten after death."

Thump, thump, thump-thump! came the sound from the shadowed doorway.

Soon after leaving the village we overtook a throng of pilgrims trudging along on foot. They were the poorest of the poor, dwellers in reed huts from the

great swamp. Yet they seemed the most cheerful of all the pilgrims. They whiled away the time with merry talk, flaunting their green and red banners overhead. The women were unveiled and walked with bare feet beside their lords, carrying the few necessities of their culinary art. Old men greeted us pleasantly. A mere slip of a girl with a baby in her arms cracked a joke at our expense, much to the amusement of her companions. Four or five hundred people they were on this tramp of a thousand miles, which they had undertaken to insure their future happiness.

Journeying for the same purpose was another caravan, that of a rich Persian family. The father, riding a handsome gray stallion, was in the lead, clad in somber black, his beard stained red with henna. His sons came behind with a group of armed servants, all superbly mounted. Not a woman was in sight. They were hidden away in *kejavehs*, carefully curtained, carried two and two on the backs of mules. I wonder if ever these pale, cramped women in their stuffy boxes wished to exchange their lot for that of their slender, sad-eyed sisters who had tramped, barefooted, from the swamp.

That night we spent in the hospitable dwelling of an English engineer, representative of a well-known London firm. He was engaged in placing a huge barrage across the channel of the great river Euphrates. Long ago, in the dim past, this land-between-the-rivers was intersected by a network of canals which made it the home for the dense population of Babylonian and Persian times. These waterways are marked to-day by long clay ridges, for so laden with silt are the rivers that canals are rapidly silted up and have to be dug out afresh each year.

For some reason, or more likely for many reasons, these canals were abandoned one by one until now even Kerbela and Babylon have no running water except in flood time. The barrage is a long series of arches, each of which may be closed by a steel door. Its purpose is to hold back the river in the season of low water, so it will run freely into the canals to the threatened cities. In flood time the gates will be opened so the great mass of water, which would carry a dam away, may sweep by as though running under a bridge.

Four thousand years ago a civilization existed in this land which I doubt not



KEJAVEHS, THE CURTAINED BOXES IN WHICH THE PERSIAN WOMEN ARE CARRIED ON THE DREARY PILGRIMAGES



THE OLDEST ARCH IN THE WORLD, RECENTLY UNEARTHED IN NABOPALASSAR'S PALACE AT BABYLON. THIS BUILDING DATES FROM 524 B. C.

was old in the days of Noah. Somewhere in the buried past of the earth a prosperous race increased their prosperity by conducting the life-giving waters far and wide over the face of the land. They developed a tremendous culture, fostered literature, art, and science; their armies spread terror among their neighbors; the justice of their courts was unequalled; their wise men solved the problem of creation in a way that has come down to us to-day.

But city after city has fallen as the waters ceased to flow and their places have become sun-scorched mounds. Only the greatest of them remains whose people have cried in despair, "Give us water! Without water we perish!" The cry has been heard by an alien government and they in turn have called for help from a still more alien people. So this

barrage was undertaken, and even as I write the waters are beginning to flow again from the Euphrates toward Babylon the Great.

We resumed our journey, carried like the pilgrims by the immemorial burden-bearer, the humble ass. Ridge after ridge of sun-baked clay we crossed, traversing the flat desert. Only one of the many large canals still contained any water, and that only in stagnant pools. Once was passed a group of mounds covered with sherds marking the spot where once a village stood. Only one miserable group of huts was still inhabited. There was no one to greet us but dogs and a ragged child, for men, women, and children were out caring for the sheep or toiling to raise water from the deep wells to irrigate the palm gardens and the slender crops of grass.

As the day wore on the horizon became fringed with palms. There was no mirage, for the desert no longer gave back the slanting rays. My companion's donkey trotted ahead, neighing pleadingly to his master, who had been striding in advance all afternoon. Ceasing his weird desert melody, he took from his bosom a handful of dates, which the pet took gratefully from his hand, immediately falling back with his companions. We found the palms separated into groves by half-ruined mud-walls. A glossy long-tailed magpie leapt from palm-stump to toppling wall and examined us critically. A pair of crested hoopoes made note of our coming, then disappeared among the branches of a blossoming pomegranate. The lower limb of the sun touched the horizon. The pious leader of our caravan, having instructed his underlings, stepped from the path, and, his face toward the setting sun, his hands upon his breast, began to repeat the evening prayer.

We rode on to a village strongly surrounded by a mud-wall capped with thorns. We followed a flock of sheep through the gate and out again through the opposite wall. A winding path led down to the dry bed of the ancient canal where once ran a large part of the mighty Euphrates. The sheep were driven down, bleating, to a little hole where a slight moisture still remained.

Behind them the last glow of the setting sun clad the palms in splendor. A collapsed *goufa** lay in the sand of the water-course, beside it a *bellem*† with seams gaping from dryness. The hand of Drought lay upon all.

We found the dwelling of the German excavators among the palm trees on the other bank. Our journey ended, we dismounted in the dusk, while Ibrabim, the *zaptieh*, dinned against the door. A blue-clad guard flung open the portal and we were admitted into the courtyard. A flock of geese waddled importantly to meet us; a ruffled turkey-cock complained truculently over an empty feed-pan; a flock of pigeons rose, flapping, to the roof. It seemed as though we had entered a Rhenish farmyard, having left the sights and sounds of the desert far behind.

Sitting around the dinner-table that evening, we made the acquaintance of our new friends. They told us of their work and its results, of the discoveries they had made and the difficulties they had encountered. The conversation turned upon personal safety and the value of human life in this land of quickly roused passions.

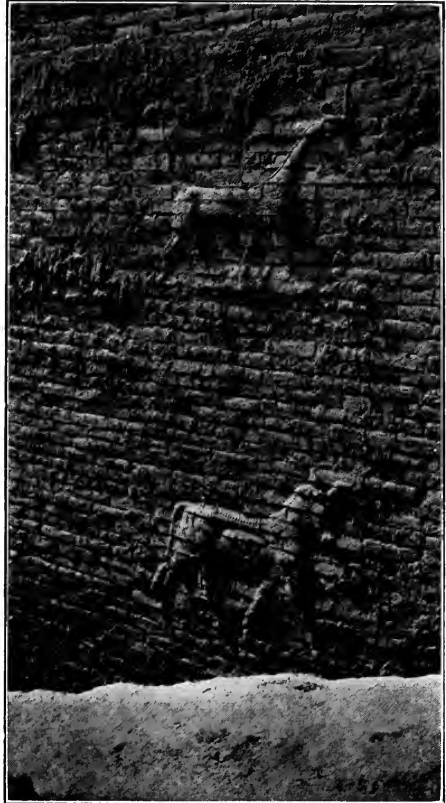
"With us," said Herr W——, who sat at my right, "if you kill a man you do not go to prison; you will not be killed. No, you must pay fifty *liras* to the family of the man, that is all.

"The son of one of our laborers killed a man. But, of course, a poor laborer had not fifty *liras*, so they had to settle it by special arrangement.

"The boy was a shepherd and had a field of grass to feed his flock. Another shepherd who was too lazy to irrigate came into his field one day and stole grass. But it happened that the other found it out and went and called his fellow a thieving sneak, an unprincipled wastrel, and other names of an undignified nature. This made the thief very angry, so he went into the field again and stole more grass. Once more the owner caught him. 'Again, son of Satan, child of Beelzebub! Surely I will send thee

*A bowl-shaped boat, made of reeds and pitch, used in the Tigris and Euphrates valleys.

†A long, narrow canoe.



THE BULLS AND GRIFFINS STAND OUT IN BOLD RELIEF ON NEBUCHAD-NEZZAR'S GATE

to join thy father!' and he shot him dead on the spot.

"Now, his father was by the canal watering his donkey, when some one of his neighbors came and said, 'Thy son hath slain his fellow.' Immediately the old man packed all his goods, his pots and his pans, upon his donkey and fled to the next village.

"But when the murdered man's family heard of the crime they rushed to the murderer's house and tore from it every last remaining article of value; then they returned to their own place. After this exhibition of rage their anger cooled somewhat and the murderer's father returned to his house, but without his donkey. He knew that now they would harm neither himself nor his son because of the fifty *liras* which was their due. Truly the Arab is too shrewd to kill the goose that lays the golden egg.

"After a seemly interval the family of the murdered man came to demand their money. Over their narghilehs and cups of coffee the parties discussed this question.

"Surely our brave young man who feared neither wolves nor robbers and carried a great silver knife in his belt was worth four hundred *liras*!"

"Nay! Thy son was a rascal and not worth twenty *liras*. Moreover, he stole my donkey!"

"But I am a poor man and have nothing. Wherewithal shall I pay?"

"Truly, we know thou didst receive six *mejids* for certain dates, last November."

"But all this money is spent save two *metaliks* and a bad *piastre*, without which I cannot purchase salt for my son's sheep."

"So it was arranged that payment should be made in kind. More bargaining ensued over this. Finally the rela-



THE NAME UPON THESE BRICKS IS THAT OF NEBUCHADNEZZAR. SOMEWHERE AMONG THESE WALLS WAS DANIEL'S WINDOW; SOMEWHERE AMONG THESE CRYPTIC RUINS WAS THE BURNING FIERY FURNACE

"Now the relatives did not know that the old schemer had but carried off the donkey to the next village; so they said:

"But thy donkey, we know, was an ugly brute and old and not worth two *liras*!"

"Nay, rather was he an animal of great beauty, pure white without a blemish and scarcely five years of age. Surely he was of great value. But now that he has been stolen and knows me not, I will make a concession to you and value him at one hundred *liras*."

"So they bargained over the donkey and then over the man and fixed upon his value, less that of the donkey, at last. The father must pay thirty *liras* to the murdered man's family.

tives agreed to accept two sheep, a young ass and ten *abbas*,* to be made by relatives of the murderer who dealt in such goods.

"When the time for payment came these goods were brought together and turned over to the relatives. The animals were passable and duly accepted. But as for the *abbas*—they were scarcely big enough for a three-year-old child.

"This is not according to the bargain. We cannot wear such *abbas*."

"Nay! but there was no word in the bargain requiring me to make *abbas* for big men."

"So the relatives were outwitted and the neighbors said, 'What a clever man!'

"We have a neighbor who is a rich

* An Arab cloak.

man and keeps fifty *liras* always at hand. So the villagers know his gardeners will shoot and do not trespass in his gardens in the date season, for no one likes to get killed."

As we were preparing to leave the table there was a rustling in the veranda without, then a sound of scuffling and a voice resembling that of the common or back-fence variety of cat. But as we left the room we saw that these were no common cats. Solemnly the aged,

will show you others in the morning."

Beyond the palms and the deserted river-bed is the city, a group of huge mounds from which the curious of another world have removed the dust and revealed the foundations. Here are endless mazes of walls, floors and vaulted chambers, all built of bricks laid in asphalt. This is the land to which the people came when they said, "Let us go down into the plain and use bricks for stone and pitch for mortar."



A GIGANTIC LION DEFIANT OVER THE PROSTRATE BODY OF A MAN. THIS GREAT BLOCK OF STONE MUST HAVE BEEN A CURIOSITY INDEED, IN THIS LAND OF CLAY WHERE EVEN A PEBBLE IS UNHEARD OF

dignified, and very learned Herr Professor assured us that they were Babylonian cats. Not one or two, but a score at least, black and tawny, striped and marbled, like ordinary cats, but each showing his royal race by his tail, which was laughably misshapen, crooked and kinked like the tail of a bulldog. This motley crew swarmed over the Professor, who fed them with pieces broken from one of the coarse, unleavened loaves of native bread which he had brought from the table for the purpose. They climbed to his shoulders, clung to his coat, scuffled and cuffed each other in the struggle for his favor.

"You have now seen one of the sights of Babylon," said the Professor. "We

Every brick in these enormous structures is stamped with the name and lineage of a king, the master-builder. Down at the base of the mound, where the trenches of the excavators are filled with water like the wells of the village, are bricks bearing the name of Hammurabi and a date 2,200 years before our era. Above them are many bricks bearing a more familiar name. A sloping roadway leads up to an imposing triple gate upon which the figures of bulls and griffins stand out in bold relief. Beyond the gate are the walls and floors of a palace; but the road slopes on upward to a higher level, and there also are the ruins of a palace, a palace built upon a palace. The name upon these bricks is that of

Nebuchadnezzar. Somewhere among these walls was Daniel's window open toward Jerusalem; somewhere among these cryptic ruins was the burning fiery furnace.

Overlooking one part of the palace, stands a gigantic sculptured lion, defiant over the prostrate body of a man. This great block of stone must have been a curiosity indeed in this land of clay where even a pebble is unheard of. Why it was brought here and how, would certainly make an interesting story. It may have been a trophy brought to grace a Babylonian triumph; it may have been an offering from an Assyrian king to appease the god of Babylon for the removal of the capital to Nineveh. Be that as it may, the long journey down the Tigris valley and across the plains of Irak must surely have been an eventful one.

Down among the ruins of Nabopolassar's palace is a striking detail, an arch, so far as we can tell, the oldest in the world. Did the Chaldean mathematicians invent the arch or did they learn its principle from an older civilization? Did they in turn hand their knowledge down through their neighbors to the Roman architects or was the value of the arch discovered independently at different times? Upon this page of architectural history the writing is so dim that I fear it will never be read.

Entering Nebuchadnezzar's palace, we find the guard-rooms, the halls of audience, the chambers of the king; but beyond them all, innermost, is the most dramatic of all, the banquet hall. This place has witnessed the pride and fall of many an empire, Assyrian, Babylonian, Persian, Macedonian. Here have been many triumph feasts, many displays of captive splendor; here has resounded down the centuries to conqueror after conqueror that dread sentence, written, seared upon these very walls, "*Mene, mene, tekel upharsin.*"

The splendor of wealth, the pride of empire, have vanished, the palaces and temples have fallen to shapeless mounds, but still the names remain stamped in strange characters in many languages upon innumerable bricks, "I am Hammurabi, I reared this temple"; "I am Nebu-

chadnezzar, I built this palace"; "I am Alexander, mine is the conquest."

As we explored the palaces and temples we passed groups of workmen who broke into a noisy chant as we approached, calling upon God to bless our exalted generosity. Indeed, I fear they shouted this sentiment more from the desire to make a noise than for the sake of any blessing that might accrue to us therefrom. They are constantly singing at their work, which seemed to us rather commendable than otherwise, until we were told that they expended far more energy upon their choruses than upon their work.

That evening, toward sunset, we strolled across the dry channel to the groves of palms beside the village. Here was a scene of peaceful beauty in strange contrast with the dead city. Overhead the feathery palm leaves lay black against the reddening sky. Underfoot grew rich green grass, fresh with moisture from the irrigating ditches which had been kept flowing all day long. In the midst of the grove was the well, a shaft fifty feet deep. The sloping palm trunks over which the waterskins are drawn to the surface stood gaunt, uncanny in the falling light. All was silent, but there was an odor of growing things, a sense of life, and the air was full of moisture.

We turned again toward the palaces where once had been the hanging gardens of Babylon. A great change has been wrought since those ancient times. The city is an abode of death. Only one living thing remains in this tomb of perished empires, only a single voice is lifted over it. A prophecy remains to be fulfilled. The sun sinks out of sight beyond the palm trees; the sheep are driven to the shelter of their fold. The gates are closed in the village beyond the gardens and the cooking smoke of evening hovers above the roofs. A dim gray form slinks behind a pile of ancient bricks. Off among the ruins a quavering, high-pitched cry breaks the stillness. Anguish is there and despair; then the cry is broken by screams of mocking laughter. The prophecy is fulfilled, "The jackals shall howl in their palaces and the wolves in their pleasant places."

THE RUCKSACK—A TRAVELER'S BEST FRIEND

By HARRY KNOWLES

ILLUSTRATED WITH PHOTOGRAPHS

Handier than the Knapsack, More Spacious, and Easier to Carry While Making Tours a-Foot

THE rucksack is so convenient as well as adaptable to the needs of tourists that it meets every demand of the wayfarer as a receptacle for

clothing, toilet articles, and other things needed on a journey. It is used quite generally by Europeans when making walking trips on the Continent. On whatever highway or byway, through whichever town or country the "personally conducted" tourist goes, he is sure to see pedestrians with rucksacks suspended from their backs. At the Rhone glacier, over the Grimsel pass, ascending the Jungfrau, and elsewhere the rucksack is a common carrier of personal belongings. That the rucksack has not been adopted in this country undoubtedly is because of the general antipathy Americans have to traveling afoot in these

days of 40-horsepower touring cars.

Briefly, the rucksack is a bag made of denim, or heavy cloth. It has one or two pockets on the back in which books or articles frequently required by the tourist are readily accessible. The top is fastened by a cord, so the rucksack,

filled with a couple of suits of underwear, toilet articles, and the like, resembles a meal sack, except in color. Most of those sold in Europe are green, harmonizing with the landscape. But khaki is suitable in color and material.

The rucksack has a number of advantages over its cousin, the knapsack. It is easier to get at, for one thing. It is not necessary to unfasten any straps to open the rucksack. Untying the string around the top by pulling one free end of a bow-knot enables the tourist to select anything contained therein in a jiffy. Perhaps the greatest advantage to



ON WARM DAYS THE COAT MAY BE ROLLED UP AND CARRIED BENEATH THE FLAP OF THE RUCKSACK



THE CORRECT POSITION OF THE RUCKSACK IS JUST ABOVE THE SMALL OF THE BACK

the pedestrian who would make several miles a day is the comfort with which the rucksack may be worn. There are no tight straps going around the shoulders, seemingly binding tighter with every stride. The rucksack is hung from the shoulders lightly, suspended by two straps that are never taut.

The correct position for the rucksack is just above the middle of the small of the back, where it rests easily as one walks over plains and through forests. However heavy the articles contained, their weight never becomes burdensome in this position. The rucksack is readily adjusted.

Two straps extend from the top of the bag, one over each shoulder. They are fastened, after passing under the

arms, to the corners of the rucksack. One strap buckles in the usual way. The left arm is thrust through the loop and the rucksack swung upon the back. Then a small loop on the other strap is slipped over the hook on the right lower corner of the rucksack. There you are—ready for a tramp of miles with all the essential clothing and paraphernalia.

Rucksacks are of various sizes. The average measures about eighteen by twenty-two inches. This affords ample space for all the things that any tourist by foot can possibly need. It is true that all the articles are put into one space but this is no disadvantage in these days, when one



SUSPENDED FROM THE SHOULDERS BY STRAPS THAT DO NOT BIND, THE WEIGHT OF CLOTHING AND TOILET ARTICLES IN THE RUCKSACK NEVER BECOMES BURDENSOME

has his sponge bag, his toilet case, his soap box, etc. The only precaution necessary is to pack the things rarely needed at the bottom of the bag. A guide-book, or book to read, tobacco, pipe, or handkerchiefs, can be put into the outside pocket, whose flap buttons.

On hot days one's coat may be rolled up and carried beneath this flap securely. Some rucksacks are waterproof—"wasserdict" the German salesmen term them when you are making a purchase. But the ordinary kind will rarely wet through in a shower. It is only when one contemplates walking in all kinds of weather that the waterproof rucksack is actually required.

Only tourists who cherish baggage "stickers" need hesitate to wear a rucksack. It looks every bit as respectable as a suitcase. Young Germans enjoying their *reise jahr* throughout the Fatherland invariably travel with no other baggage than a rucksack. I have seen dozens of them thus equipped enter city and country hotels, respectfully remove their hats before accosting the proprietor or clerk, and ask for lodging. On the morrow they would leave for the next stopping place, utterly regardless of perplexing time-tables and not having to worry about the uncertainties of baggage transportation. It is the ideal condition in which to travel.



THE WORLD OF SPORT

State and National Game Laws We publish this month an abstract of the game laws of the various states, together with the Federal law as amended. It is assumed as a matter of course that no good shooter will violate knowingly the provisions of his state laws or of the Federal statute. There is some confusion of mind, however, as to the relations of state and national legislation on this subject. Although the issue is fairly clear, we shall repeat here what we have said in the past on this subject. In the first place, the Weeks-McLean bill is still the law of the land despite the decision of a Federal judge in Arkansas last spring. Only the Supreme Court of the United States can settle the question finally. Neither can the law be ignored on the ground that it is a "bad law." There is no such thing as a bad law in that sense. It is either law or it is not. As it stands to-day it must be obeyed. In the matter of apparent conflict between state and Federal regulations, par-

ticularly in respect to seasons, the shorter season prevails, whatever be the authority that prescribes it. The National Government cannot grant the privilege of shooting when the state denies it, nor can the state infringe on the period closed by Federal statute. In the past, state legislation on game protection has suffered from confusion and carelessness on the part of the legislators. Amendments have been adopted altering the shooting dates or changing the classification of game without definitely repealing other clauses that conferred conflicting privileges. As a result, in certain states hunters have been allowed the privilege in one part of the law to shoot certain birds between certain dates and in another paragraph have been forbidden to shoot those same birds at any time. The natural consequence has been a growth of distrust and contempt for game laws and a great confusion in the minds of even competent and industrious wardens. Most of these tangles have been cleared

away, and there is little opportunity now to plead ignorance or misunderstanding. This is especially true in regard to the relations of state and Federal legislation as cited above.

As They Do There is some protest in the
It on the Middle West against the
Missouri Federal prohibition of shoot-
 ing on such navigable rivers as the Mis-
 souri and the Mississippi. Undoubtedly
 this does work certain hardships, but we
 cannot feel great sympathy, since it is
 along these rivers that the most shame-
 less and unblushing pot-hunting has taken
 place. Recently a shooting friend from
 Kansas described the motorboat shooting
 that he had seen on the Missouri. The
 boat was run out into midstream below
 a raft of ducks, headed upstream, and
 throttled down to current speed. Then
 the gunners would wait quietly until the
 ducks drifted down. The first shot was
 usually put in while the ducks were on
 the water and bunched. In one case that
 our informant cited as a fact of personal
 knowledge, four men with pump-guns
 accounted for forty-four birds out of one
 flock. That is, forty-four were recover-
 ed. Some wounded birds escaped and
 some dead ones drifted away in the ex-
 citement. The kill was then cached
 ashore and the feat repeated on the next
 flock that was sighted. The guns hap-
 pened to be pump-guns. The case would
 hardly have been different with any other
 kind, since it is the man and not the gun
 that is the murderer.

National A plan has been proposed
Trap-Shooting that will extend the benefits
Competition of competition in trap-shoot-
 ing far beyond the present limits. The
 idea briefly is to provide for a "club
 championship" of North America. To
 this end five leagues are to be formed,
 as follows: Eastern, Southern, Central,
 Western, and Canadian. Clubs may
 join the respective leagues and enter the
 competition on payment of an entry fee
 of \$3. The months of competition will
 be June, July, and August. Each club
 will shoot on its own grounds, amateurs
 only being allowed to participate, and no
 person may shoot with more than one
 club. Matches will be at fifty targets

per man, and scores must be reported
 within one week after the match. The
 clubs winning the league championships
 will then compete for the North Ameri-
 can championship, each club shooting
 three matches on its own grounds under
 the same conditions as above.

Harvard The victory of Harvard in
at the Grand Challenge at
Henley Henley is gratifying in more
 ways than one. It is the first time that
 an American crew has ever won this
 classic event, and it is pleasant that it
 should have been won by a crew from a
 university that has done more than any
 other in this country in recent years for
 the development and encouragement of
 general rowing by all members of the
 university. It would, of course, be a
 mistake to regard this as, strictly speak-
 ing, an international affair. Henley is
 not a hippodrome, nor is it an arena in
 which Great Britain takes her stand to
 challenge all comers. It is preëminently
 an English affair, the crown and climax
 of English rowing. The participation of
 foreign crews is purely a privilege and
 courtesy accorded by the English rowing
 association, and the cup goes back next
 year to be rowed for again as though it
 had never visited this country. England
 would be quite within her rights if she
 excluded foreign crews entirely from all
 Henley racing.

What It What has been said is quite
Means for without intention of detract-
America ing in any way from the
 splendid work of the Harvard and Union
 Boat Club crews. That two American
 crews should be competing in the finals
 of this race is honor enough without at-
 tempting to make of the event something
 that it is not and, it is to be hoped, never
 will be. Furthermore, these crews went
 over in the right spirit and attitude. It
 was as though they said to themselves:
 "Here is a boat race to which we are
 eligible. Therefore, we will row. We'll
 have a mighty good time, and perhaps
 we'll win." They did. The lesson that
 lies back of this is not one of strokes or
 methods, but rather of possibilities for
 American rowing in general. Harvard
 is the center of a big revival in general

sweep rowing. The members of the Union Boat Club crew were, we believe, all old Harvard oarsmen, and there are many other crews in and around Boston that are working steadily. This is only a beginning. What Vivian Nickalls did at Detroit can be done elsewhere. New York, Philadelphia, Baltimore, St. Louis—to mention only a few examples—are centers favored by nature for the development of crews. Each city contains a number of men with varsity experience and a love for the game. The crux of the problem is beginning. Once made the start and the support will follow.

Broaden the Intercollegiate A long step in the right direction could be taken with the Henleyizing of the Poughkeepsie regatta. Instead of a half-dozen college crews rowing for a single afternoon, there should be fifteen or twenty amateur crews, of various classes, rowing for three or four days. The Intercollegiate can be retained as at present, although it is our firm belief that the distance for the Varsity event should be shortened. Four miles is too long for men of the average age now competing at Poughkeepsie. There are probably few oarsmen of any experience who do not regard the four-mile stretch with dread when the boats line up at the start, and the third mile finds many a man praying for an accident that will give him relief with honor. There are few races in which the same crews could not have won at three miles, or at two, with the same success as at the longer distance, and the futile and heart-breaking sprinting in the earlier stretches would be eliminated. In other words, the shorter race would be a race from start to finish, with less danger from fatigue too long sustained.

Chance for Smaller Colleges Henleyize Poughkeepsie and there will be a chance of bringing in some of the smaller colleges in their special classes. Princeton is rowing already, and rowing with distinguished success, but there is hardly a chance of a Tiger crew appearing at Poughkeepsie under present conditions. There was a day when Brown and Wesleyan rowed, and doubtless am-

ple material for at least four-oared crews could be found in those institutions today if the opportunity for good races presented itself. Other colleges that might be induced to come in are New York University, Dartmouth, Northwestern University, the University of Chicago, Washington University in St. Louis, Lake Forest, and Georgetown. These are only a few possibilities that occur offhand. The Navy rows already, and the Army should, if the authorities are not opposed. With such material in the background there should be no difficulty in making of Poughkeepsie a real American Henley that would be a three or four-day rowing festival of national importance.

Real Sport in Surf-Fishing If you have the opportunity—and have never taken it—to practise the noble art of surf-fishing, now is a good time to begin. Almost anywhere along the Atlantic Coast is the place, and the fall is the season. The equipment varies; it can be almost as expensive as you please, especially in the matter of reels, but it need not be. The game is striped bass, channel bass, drum, and kingfish principally, particularly in the northern waters. Then there is the flounder that occasionally intrudes—not much sport, but mighty good eating. Surf-fishing has the quality of action that so much fishing lacks. Even when the fish are not striking, the pounding of the surf and the general surroundings of beach and ocean give a thrill that is not to be found on most lakes and rivers. The casting is an art in itself, and the beginner will find himself divided between the desire to get his four-ounce sinker well out beyond the breakers and fear of the annoying over-run and the resulting tangle of line on the reel. When they strike—well, the fisherman has his hands full. A lively fish, fighting with all his strength and helped as often as not by the undertow and the backwash of the waves, can give even the skilled caster the time of his life.

Forest Fire Prevention Co-operation between state and national governments for the prevention of forest fires is being developed rapidly. Michi-

gan is the latest state to take advantage of this opportunity, making the eighteenth state to take such action. Under the terms of the law passed in 1911 the National Government, acting through the Forest Service, stands ready to contribute an amount not to exceed the amount appropriated by the state and not to exceed \$10,000 yearly in any one state. The initiative must be taken by the state and plans and maps filed with the Forest Service showing plans in detail and indicating the location of watchmen or patrols. The Federal appropriation must be used exclusively for the hiring of such patrols, who are selected by the state, subject to the approval of the Forest Service. The areas protected must be on the watersheds of navigable rivers, and the arrangement may be terminated by the Secretary of Agriculture at any time that he finds it not working out satisfactorily. The total amount expended down to date is \$275,000, and the appropriation for the present fiscal year provides \$100,000 for carrying on the work.

For the
Man with
the Gun

At this time of the year we suggest a re-reading of the article, "Safety First," by Mr. Edward C. Crossman, published in the April, 1914, *OUTING*. It offers a few thoughts that are as necessary preparations for the shooting season as buying a new gun or overhauling the old one. If you have an idea that your gun is "safe," read the article. If you don't know the different and impossible ways in which accidents may happen in the hunting field, read the article. If you think that you, at least, will never be the fool who didn't know it was loaded, read the article. It will show you that no gun is "safe" or fool-proof, despite the money that manufacturers have spent toward that end. It will prove to you that no man can be too sure. It will lead you to consider the vast number of near-accidents that shave fatality or seriousness by inches or seconds. The lesson of it all is: Be just as careful as you can, and then—be twice as careful. So may you bring nothing but game to bag.

WHAT READERS THINK

*How Slow Ducks "Speed Up"—Are Wild Pigeons Still Alive?—
How to Cook a Steak in the Open*

Making Ducks Fly Faster

WHY does an ordinary, slow duck like the mallard fly faster when he gets in fast company—with the teal, for example? Mr. R. P. Holland raised the question in *OUTING* last September. Now comes an answer from Chicago, a year after. It may not be right, but it is interesting. If anyone has a better answer, now is his time to speak.

Editor, OUTING:

In *OUTING* of last September I noted an article on the flying speeds of the various species of wild ducks. Said article seems to have been written by a very intelligent and conscientious observer who would not be likely to allow his imagination to get the better of his high

regard for the strictest truth and accuracy.

Among other things, he mentioned the fact that when a "mixed" company of wild ducks was frightened into full-speed flight, a certain variety, whose maximum speed when flying alone or in company with only members of his own species was less than 60 m.p.h., would, when in company with ducks that had speeds of more than 120 m.p.h., have no difficulty in keeping pace with his fleetier companions. Your contributor of last September could give no explanation of this phenomenon, and seemed to invite the theories of others as to this. Since no one else has advanced any opinions on this matter, I would like to venture my theory for the consideration of yourself and of your readers.

If one will stand first about twenty feet in front of a whirling aeroplane propeller, then stand the same distance to the rear, and note the difference in the movement of the air, it may easily be understood what a large proportion of the air that is thrust backward by the propeller is drawn into it centripetally rather than from in front of it. I believe that the same is true, and in much greater degree, with the wings of birds, especially with the wings of such a violently wing-flapping bird as the wild duck. My theory is that the currents of air set in motion by the wings of the wild duck take the form of sort of oval or elliptical eddies, which accompany the duck in its flight.

Of course, the bird, to be assisted by its more powerful companions, would fly, not directly abreast with them, but obliquely so, for thus these oval eddies would not oppose one another on the short end turns: and it *is* a fact that wildfowl *do* fly generally in more or less regular double oblique or "wedge-shaped" formation. The fact that birds' wings and propeller blades do draw the air into them centripetally seems to give color to my theory that these oval eddies really do exist. So my theory is not so entirely fanciful as it may seem at first glance. At any rate, the theory may be easily and inexpensively proven or disproven by simple tests, and I trust that OUTING will use its influence to have these experiments performed, in the interests of both sport and science, for not only would sportsmen and other nature students better understand the why and wherefore of this phenomenon as applied to the mysteries of the wildfowl's flight, but also would aeroplane designers better understand the reasons for certain cases of wing failure and be enabled to provide against them, which might result in the saving of many valuable lives. Thus would both the safety and efficiency of aviation increase tremendously.

I believe that two powerful aeroplanes, one flying obliquely forward to the left and the other obliquely on the rear to the right, could assist a much less powerful one to attain a speed much in excess of its maximum speed when flying alone. But here, as in the case of the mixed

company of wild ducks, the faster ones would be slowed up just as much as the slower ones would be accelerated. It would also be better—for reasons I will give later—that the direction of propellers' rotation be the same for all the aeroplanes engaged in the experiment.

Or a suitable arrangement of pilot tubes or similar instruments would show that these oval eddies really do exist with the aeroplanes in full flight. Also, a somewhat similar arrangement of pilot tubes would show that the down strokes of the propeller blades are more efficient than the up strokes, and that the bottom strokes are more efficient than the top strokes. Although, of course, these latter facts can have no bearing on the flight of wildfowl, still they are not entirely outside the province of OUTING, since the sport of aviation even now is rapidly becoming an important feature of such sportsman's magazines as OUTING. So I trust you will not be impatient or inconsiderate with my theories, unproven though they may be. All this might seem to be an argument in favor of a flapping-wing aeroplane as opposed to the present propeller-driven type; but this is not necessarily the case, for a proper knowledge of these facts—for they are facts—may be utilized to great advantage even with the present type of aeroplane.

Although I have long since thoroughly convinced myself as to the truth of my theories, I am having a rather difficult task in convincing others. It may interest you to know that for more than two years I have been endeavoring to press forward these and similar theories, and find it absolutely useless to try further to gain the co-operation of any aviation magazine. One would very naturally suppose that with such a modern movement as aviation, those connected with it would be extremely open-minded and progressive; but, strange to say, I have rarely met such bigotry and discourtesy anywhere. So I am offering this for the consideration of OUTING and its broad-minded readers, in the hope that it may be found both interesting and convincing.

Chicago, Ill. J. B. McQUEENY.

P. S.—I would suggest that the won-

derful success of the small-span "tabloid" biplane is very largely due to the fact that the span is not enough to be unfavorably affected by the return side of oval eddy. When a tractor aeroplane of great span is used, it would be well for the wing spars to be absolutely bare of ribs or fabric at the point where the return side of eddy flows, and that the spars themselves be "stream-lined" against that current, or that extremely low "aspect ratio" be used to keep the span small and the wing area large.

Wild Pigeons Still Alive

FROM time to time reports, usually vague and unverified, have come in from various parts of the country that passenger pigeons have been seen again singly or in small flocks. The prize offered by Clark University for proof of the existence of any of these birds and for a nest and eggs has never been won, although it has been standing for some years. Last July *OUTING* published an article on the disappearance of the pigeons and described the passing of the last large flocks in their northward flight. Now comes a letter, which we print below, claiming that some have been seen in the Canadian woods toward which Mr. Martin saw them disappearing a generation ago.

Editor, *OUTING*:

My brother, Mr. Jos. B. Dobie, of Chatsworth P. O., Ontario, writes me that he saw, this week, a flock of more than one hundred wild pigeons on his farm in Sullivan township, Grey Co., Ont., nine miles from Owen Sound, on Georgian Bay. As he has lived for about sixty years on the same farm and saw millions of these wild pigeons in the 60's, he could not be deceived and says there is no doubt about it and believes the wild pigeons are not only not extinct, but must be rapidly increasing. I thought this information would be interesting, and as I am sure it is true, I hope the most strict measures will be advocated for the protection of these birds. When I came to Algonia district, in 1869, there were millions of them here, but I have not seen one in twenty years. A son of mine saw one at the St. Anthony mine,

one hundred miles north of Fort William, last May.

J. B. DOBIE.

Thessalon, Ont., Can.

A CORRESPONDENT in Louisiana has evidence to add later than that adduced by Mr. Martin, in his article in the July *OUTING*, but not so late as that presented by Mr. Dobie in the letter above. It is also of interest to our friends who read dream-books.

Editor, *OUTING*:

In my *OUTING* for July, I find an interesting article from Mr. Edwin T. Martin, entitled "What Became of All the Pigeons?" I have seen two theories advanced as to their disappearance. One was that they had emigrated to the unexplored regions of the South American Andes, and another that in their emigration thither they had been caught in a storm at sea and completely destroyed. I very much doubt any such cause.

Mr. Martin carries his data of large masses of pigeons in the far Northwest up to 1880, and then says that about a dozen years after the pigeons were supposed to be extinct he saw a flock of them flying over the Illinois River.

Now, I have some data about the passenger pigeon which perhaps would be interesting to Mr. Martin, and which may reach him either by publication in *OUTING*, or which you may forward to him.

My home is on the Yazoo & Mississippi Valley Railroad, at Ethel, East Feliciana Parish, State of Louisiana, twelve miles east of Port Hudson, on the Mississippi River. In 1889 I was living just a little out of the village and the woods came down to the north side of my yard fence. On Sunday night I dreamed that on a bright, beautiful Sunday morning, with my gun upon my shoulder, I was walking along a splendid public road in a country strange to me. Ahead of me, on the left of the road, was an occupied house resembling very much the house in which I was living. Between myself and the house stood a water oak tree full of wild pigeons. I selected a position to fire from, but saw

that every shot which failed to strike something would fall on the house. I changed to another position. From this position I concluded to shoot both barrels of my gun at once, but on second thought deemed it best to fire one barrel at the pigeons and keep the other to argue the question with the proprietor, should he come out to raise a dispute. I fired one barrel and killed one pigeon.

The next morning, which was Monday, at the breakfast table I related my dream to my wife and two daughters. My daughters had never seen a wild pigeon. After finishing my breakfast I went out into the yard and passed through a gate into the woods. In a large beech tree near the fence I saw quite a number of birds, which I thought were our common doves. After going a short distance it occurred to me that they were rather large for doves, and, upon looking again, saw that they were wild pigeons. I called to my wife to bring me my gun, which she did. I fired one barrel and killed one pigeon. This was the first wild pigeon they had ever seen, nor have they or I seen another since.

I have a large and excellent portrait of one, taken from a package of soda, which I prize very highly and keep hung up in my room to remind me of the days in my boyhood when the pigeons used to come by the millions.

Ethel, La. HENRY L. POND.

An Amateur Defined

TWO more definitions of an amateur that have come in response to our invitation published last May are worth printing because of their succinctness, although they sacrifice comprehensiveness to brevity. According to Mr. C. C. Vinton, Portland, Ore., an amateur is "An unpaid participant in any

branch of sport, in contrast to those who follow it for pay."

Mr. Kennedy, Glasgow, Scotland, is of the opinion that "An amateur is one who plays for pleasure, not for pay."

These are both excellent as expressing the spirit of amateurism, but it is to be feared that the Amateur Athletic Union would not find them greatly helpful in deciding disputed questions of standing. The right definition should not only cover the general field, but should also be capable of application as an acid test of standing in particular cases.

Cooking a Steak in the Open

NOT the least important feature of a successful camping trip is the food. Therefore, anyone who can add to our knowledge in this respect is a public benefactor. That is why we print the following letter:

Editor, OUTING:

To cook a steak out of doors permit me to suggest the following, which I have tried and not found wanting:

Take an old tin or zinc pail with the bottom knocked out, or if the bottom is intact punch a couple of holes in the side, put it on two old paving blocks and start your fire in it. Wait until fire has burned, so there is no smoke, then hold the steak over it in a broiler—you can get a broiler at the ten-cent store—and cook until done enough to suit you. Then remove and eat in the usual way. The wood fire and the little smoke that will be mixed in certainly give it a flavor that is hard to beat. I often do this on Sunday, and find that I do not have to go into the country for an outing, as you can build a fire in a pail anywhere.

I don't know how to make gravy, as the fat falls into the fire.

New York. J. G. BETHELL.

OUTING invites letters from readers on outdoor subjects, whether suggested by articles in the magazine or arising from the writer's own observation or experience.

GAME LAWS FOR 1914

The State and Provincial Laws of the United States and Canada; Together with Federal Regulations for Migratory Game Birds

ALABAMA

Wild turkey gobbler, Dec. 1 to March 31; quail, Nov. 1 to Feb. 28; geese, brant, ducks, rails, coots, mudhens, woodcocks, sandpiper, curlew and other shore birds, Sept. 1 to March 14; snipe, plover, Nov. 1 to April 30; pheasants, Nov. 15 to Dec. 14; deer, Nov. 1 to Dec. 31; squirrels, Oct. 1 to Feb. 28. Bag limits: 1 deer per season; 2 turkey gobblers, 25 game birds of any species per day. Licenses: County, resident, \$1; State, resident, \$3; State, non-resident, \$15.

ARIZONA

Deer, turkey, Oct. 1 to Dec. 15; quail, snipe, rail, Oct. 15 to Feb. 1; ducks, geese, brant, Sept. 1 to April 1; trout, June 1 to Sept. 1; doves, whitewings, June 1 to Feb. 1; elk, mountain goat or sheep, antelope, bobwhite quail, grouse, pheasants, protected. Bag limits: 2 deer per season; 25 quail per day; 25 ducks per day; 35 doves or whitewings per day; 3 turkeys per season. License: Resident, \$0.50; non-resident, big game, \$25; non-resident, bird, \$10; alien, big game, \$100; alien, bird, \$25.

ARKANSAS

Quail, Nov. 1 to Feb. 28 (Dec. 10 to Jan. 31 in Columbia, Carroll, Lafayette and Grant counties); partridge, Nov. 1 to Feb. 28; deer, Sept. 1 to Jan. 31 (Oct. 1 to Jan. 31 in Chicot County; Oct. 1 to Dec. 31 in Desha County); wild turkey, Sept. 1 to April 30 (Feb. 1 to May 15 in Chicot County); grouse (prairie chicken), Nov. 1 to Nov. 30 (protected in Prairie County); pheasant, protected; squirrel, county laws. License: Resident varies with county; unlawful for non-residents to hunt or fish, except may fish in Spring River in the northern district of Sharp and Fulton counties.

CALIFORNIA

Divided into hunting districts as follows: No. 1, Siskiyou, Modoc, Lassen, Shasta, Trinity, Tehama; No. 2, Del Norte, Humboldt, Mendocino, Glenn, Colusa, Lake, Sonoma, Napa, Yolo, Solano, Marin; No. 3, Plumas, Butte, Sierra, Yuba, Sutter, Nevada, Placer, El Dorado, Sacramento, San Joaquin, Amador, Calaveras, Tuolumne, Mariposa; No. 4, Madera, Tulare, and eastern parts of Stanislaus, Merced, Fresno, Kings and Kern; No. 5, Contra Costa, Alameda, San Francisco, San Mateo, Santa Clara, Santa Cruz, Santa Barbara, San Benito, Monterey, San

Luis Obispo and western parts of Stanislaus, Merced, Fresno, Kings, Kern; No. 6, Ventura, Los Angeles, Orange, San Diego, Imperial, Riverside, San Bernardino; No. 7, Inyo, Mono, Alpine.

Deer, 1, 3, 7, August 15 to Oct. 31; 2, 4, 5, July 1 to Aug. 31; 6, Aug. 15 to Sept. 15; ducks, brant, geese, mudhens, blackbreasted and golden plover, yellowlegs, jacksnipe, Oct. 15 to Jan. 31; all other shore birds, rail, wood duck, wild pigeon, protected; valley or desert quail, 1, 2, 3, 4, 5, 7, Oct. 15 to Feb. 15; 6, Oct. 15 to Nov. 15; mountain quail, grouse, sagehen, Sept. 1 to Nov. 30; rabbits, Aug. 1 to Jan. 31; tree squirrels, Sept. 1 to Dec. 31 (no closed season in Mendocino). Bag limits: Deer, 2 per year; ducks, brant, 25 per day, 50 per week; rabbits, 15 per day; tree squirrels, 12 per season; plover, yellowlegs, jacksnipe, 20 per day; valley and desert quail, 20 per day; mountain quail, 10 per day; grouse, sagehens, 4 per day. Licenses: Hunters, resident, \$1; non-resident, \$10; aliens, \$25.

COLORADO

Elk, deer, mountain shecp, antelope, wild turkey, quail, pheasant, protected; prairie chicken, mountain and willow grouse, August 15 to Oct. 10; ducks, geese, brant, swan, cranes, plover and other wading, marsh and shore birds and water fowls, Sept. 1 to April 20; sage chickens, August 1 to Sept. 1; curlew and yellowlegged snipe, August 1 to April 20; doves, August 15 to Aug. 31. Bag limits: 20 birds in aggregate of all kinds per day. License: Non-resident and non-citizen hunting, \$10; resident hunting and fishing, \$1.

CONNECTICUT

Deer, protected; squirrels, Oct. 8 to Nov. 23; hares, rabbits, Oct. 8 to Dec. 31; wood duck, protected; wild ducks, geese, brant, swans, Sept. 1 to Dec. 31; quail, ruffed grouse, woodcock, pheasants, Oct. 8 to Nov. 23; shore birds, sandpiper, plover, snipe, Sept. 1 to Dec. 31; rail, Sept. 12 to Dec. 31. Bag limits; Quail, woodcock, grouse, pheasants, partridge, 5 per day or 36 per year; shore birds, snipe, 50 per day; rail, 35 per day. License: Resident, \$1.25; non-resident, \$10.25; alien, \$15.25.

DELAWARE

Quail, partridge, hare, rabbits, Nov. 15 to Dec. 31; reedbirds and rails, Sept. 1 to Nov. 1; wild geese, brant, wild ducks, Oct. 1 to March 15; summer duck, Sept. 1 to Oct. 31;

squirrels, woodcock, Nov. 15 to Dec. 31. Bag limits: 50 rails per day; 20 ducks per day; 12 birds of any other species; 6 hares, rabbits, squirrels per day. License: Resident hunters, \$1.10; non-resident hunters, \$10.50.

FLORIDA

Deer, squirrels, wild turkey gobblers, bobwhite quail, doves, swans, geese, brant, ducks, rails, coots, mudhens, sandpipers, curlews, snipe, plover, Nov. 20 to Feb. 20; grouse, pheasants, protected until 1915. Bag limits: 1 deer, 2 turkeys, 20 quail, 25 birds of any other species per day; 3 deer, 5 turkeys, 500 other game birds per season. License: Resident (county), \$1; (State), \$3; non-resident, \$15, for each county.

GEORGIA

Quail, partridge, doves, turkey gobblers, plovers, Nov. 20 to March 1; snipe, Dec. 1 to May 1; woodcock, wood duck, Dec. 1 to Jan. 1; deer, Oct. 1 to Dec. 1; squirrels, August 1 to Jan. 1; pheasants, grouse, protected; opossum, Oct. 1 to March 1. Bag limits: 3 deer per year; 3 turkey gobblers per year; 25 game birds per day; 40 snipe or doves per day. License: resident (county), \$1; (State), \$3; non-resident, \$15.

IDAHO

Deer, elk, mountain sheep, mountain goat, Sept. 1 to Nov. 30 (elk in Fremont and Bingham counties, Sept. 1 to Dec. 31; elk in Bonner, Kootenai, Shoshone, Latah, Nez Perce, Clearwater, Idaho counties, protected until 1916; deer in same counties, Sept. 20 to Dec. 20); moose, buffalo, antelope, caribou, imported pheasants, prairie chickens, pinnated grouse, protected; sagebirds, turtle doves, July 15 to Nov. 30 (Fremont County, August 15 to Nov. 30); quail, Nov. 1 to Nov. 30; partridge, pheasants, grouse (north of Salmon River, Sept. 1 to Nov. 30; south of Salmon River), August 15 to Nov. 30; ducks, geese, snipe, plover, Sept. 1 to Jan. 31. Bag limits: Elk, mountain sheep, mountain goat, 1; deer, 2; sagehens, partridge, pheasants, grouse, 12 per day; doves, ducks, snipe, plover, 24 per day; quail, 18 per day; geese, 4 per day. License: Resident, \$1; non-resident (big game), \$25; (birds), \$5.

ILLINOIS

Deer, wild turkey, pheasant, partridge, protected until 1923; bobwhite quail, Nov. 11 to Dec. 9; prairie chicken, Nov. 11 to Nov. 24; ruffed grouse, quail, Hungarian partridge, capercaillie, black (or heath) grouse, woodcock, protected until July 1, 1920; squirrels, July 2 to Nov. 14; shore birds, snipe, plover, Sept. 2 to April 30; wild geese, ducks, brant, coot, rail, other water fowl, Sept. 2 to April 14. Bag limits: Quail, 12 per day; prairie chicken, 3 per day; squirrels, shore birds, snipe, plover, ducks, 15 per day; wild geese, brant, 10 per day; coot, rail, other water fowl, 20 per day. License: Resident, \$1; non-resident, \$25.50.

INDIANA

Deer, wild turkey, pheasant, prairie chicken, Hungarian partridge, protected; quail, ruffed grouse, Nov. 10 to Dec. 20; geese, ducks, brant, Sept. 1 to April 15; squirrels, July 1 to Nov. 1; woodcock, July 1 to Jan. 1. Bag limits: Quail, grouse, geese, ducks, brant, 15 per day, 45 per season. License: Resident, \$1; non-resident, \$15.50.

IOWA

Prairie chicken, Sept. 1 to Nov. 30; woodcock, July 10 to Dec. 31; ruffed grouse, quail, wild turkey, Nov. 1 to Dec. 14; ducks, geese, brant, rail, plover, Sept. 1 to April 15; squirrels, Sept. 1 to Dec. 31; deer, elk, protected; pheasant, protected until 1915. Bag limits: Birds, 25 of a kind per day; squirrels, 25 per day. License: Resident, \$1; non-resident, \$10.

KANSAS

Fox squirrels, Sept. 1 to Jan. 1 (other squirrels protected); antelope, deer, quail, prairie chicken, Hungarian partridge, imported pheasants, protected; geese, brant, ducks, Sept. 1 to April 15; plover, August 1 to April 30; snipe, Sept. 1 to April 30. Bag limits: Snipe, 12; plover, 20; ducks, 20; geese, 6; brant, 6. License: Resident, \$1; non-resident, \$15.

KENTUCKY

Squirrels, June 15 to Sept. 15, and Nov. 15 to Feb. 1; rabbits, Nov. 15 to Sept. 15; wild turkey, Sept. 1 to Feb. 1; quail, partridge, pheasant, Nov. 15 to Jan. 1; pheasant (imported), protected; woodcock, Nov. 1 to Jan. 1; geese, wood duck and other ducks, Oct. 1 to Jan. 16; doves, August 1 to Feb. 1. License: Resident, \$1; non-resident, \$15.

LOUISIANA

(1913 laws)

Doves, wood ducks, Sept. 1 to March 1; ducks, geese, brant, rails, curlew, plover, Oct. 1 to March 1; wild turkey (gobblers), Nov. 15 to April 1; teal ducks, snipe, sandpipers, Sept. 15 to April 1; Florida ducks or black mallards, Aug. 1 to March 1; woodcock, Nov. 15 to Feb. 1; quail, Nov. 15 to March 1; prairie chickens, kildeer, pheasants, protected until 1915; squirrels, July 1 to March 1; deer (territory above lower line of Vernon, Rapids, Avoyelles and Concordia parishes), Sept. 16 to Jan. 15; balance, Sept. 1 to Dec. 31; fish, no closed season for rod and line. Bag limits, 25 ducks, doves, 50 snipe, 15 other game birds per day; 10 squirrels per day; 5 deer per season; 25 bass and crappie, 100 perch and sunfish per day.

MAINE

Caribou, cow and calf moose, protected; deer (counties of Hancock, Isle au Haut, Knox and certain islands), protected; Hungarian partridge, pheasant, wood duck, curlew and smaller shore birds, protected; bull moose, deer (eight counties), month of November; deer (eight counties), Oct. 1 to Dec.

15; rabbits, Sept. 1 to March 31; gray squirrels, Sept. 1 to Oct. 31; partridge, Sept. 15 to Nov. 30; woodcock, Oct. 1 to Nov. 30; ducks (exceptions), geese, brant, Sept. 1 to Dec. 15; rails, coots, gallinules, Sept. 1 to Nov. 30; plover, snipe, sandpipers, August 15 to Nov. 30. Bag limits: Bull moose, 1 per season; deer, 2 per season (exceptions); ducks, woodcock, snipe, 10 per day; partridge, plover, 5 per day; sandpiper, 50 per day. License: Non-resident (to hunt until deer season), \$5; during deer and moose season, \$25; alien residents of Maine, \$15; non-residents must be in charge of registered guide May to November inclusive.

MARYLAND

Partridges, pheasants, woodcock, rabbits, squirrels, Nov. 10 to Dec. 24. (The other laws of Maryland vary so much with the different counties that they cannot be given in full here. However, we shall be pleased to give any detailed information which may be desired upon receipt of request.)

MASSACHUSETTS

Deer, protected (licensed hunters may kill from third Monday of November to sunset of following Saturday); gray squirrel, Oct. 12 to Nov. 12; rabbit, Oct. 12 to Feb. 28; quail (protected in Essex county); ruffed grouse, woodcock, Oct. 12 to Nov. 12; pheasants (exceptions), gray partridges, wood duck, protected; ducks, geese, brant, Sept. 15 to Dec. 31; plover, snipe, rail, marsh birds, August 1 to Nov. 30. Bag limits: Ruffed grouse, 3 per day, 15 per year; quail, woodcock, 4 per day, 20 per year; black ducks, 15 per day; squirrel, 5 per day, 15 per year. License: Residents, \$1; non-residents, \$10; aliens, \$15.

MICHIGAN

Moose, elk, caribou, protected; deer, Nov. 10 to Nov. 30 (protected in some counties); rabbits, Sept. 1 to March 1; squirrels, protected until 1915; quail, pheasants, black fowl, capercaillie, hazel grouse, wild turkey, protected until 1917; prairie chickens, protected; partridge, woodcock, spruce hen, Oct. 1 to Nov. 30; ducks, snipe, plover, shore birds, Sept. 1 to Dec. 15; rails, coots, Sept. 1 to Dec. 1; geese, brant, Sept. 1 to Dec. 16. Bag limits: Deer, 2 per season; partridge, woodcock, spruce hen, 6 per day, 50 per year; ducks, geese, brant, 25 per day; snipe, shore birds, 10 per day; plover, 6 per day; not lawful to have more than 15 partridge, spruce hens, or 25 of other kinds of birds in possession at any one time. Deer license: Resident, \$1.50; non-residents, \$25; other hunting, resident, \$1; non-resident, \$10; alien resident, \$10.

MINNESOTA

Moose, deer, Nov. 10 to Nov. 30; snipe, prairie chicken, woodcock, plover, Sept. 7 to Nov. 7; quail, partridge, ruffed grouse, pheasant, Oct. 1 to Nov. 30 (imported pheasants, protected); elk, caribou, protected; wild ducks, geese, water-fowl, Sept. 7 to Nov. 30.

Bag limits: Moose, deer, 1 per season; 15 birds per day. License: Resident (small game) \$1, (large game) \$1; non-resident (small game) \$10, (big game) \$25.

MISSISSIPPI

Deer, bear, Nov. 15 to March 1; wild turkey, Jan. 1 to May 1; quail, partridge, geese, swan, brant, ducks, wood duck, rail, coot, plover, Nov. 1 to March 1. Bag limits: Vary with county. License: Non-resident, \$20.

MISSOURI

Deer, turkey, Nov. 1 to Dec. 31; duck, geese, brant, snipe, Sept. 15 to April 30; quail, Dec. 1 to Dec. 31; plover, Sept. 1 to Dec. 31; squirrels, July 1 to Nov. 30; woodcock, prairie chicken, pheasant, protected. Bag limits, 1 deer, 2 turkeys, 10 birds per day; 2 deer, 4 turkeys per season; 10 birds at any one time. License: Non-resident, \$25; resident, \$5, State; \$1, county.

MONTANA

Deer, elk, mountain sheep, mountain goat, Oct. 1 to Nov. 30; moose, bison, buffalo, caribou, antelope, quail, imported pheasants, protected; grouse, prairie chicken, sagehen, pheasants, partridge, Oct. 1 to Oct. 31; geese, ducks, brant, swans, Sept. 1 to Dec. 31. Bag limits: Deer, 3 per season; elk, mountain sheep or goat, 1 per year; pheasant, grouse, prairie chicken, sagehen, partridge, 5 per day; ducks, 20 per day; geese, brant, swans, no limit. License: Resident hunting and fishing, \$1; non-resident small game, \$10; non-resident large game and fishing \$25; alien hunting and fishing, \$30.

NEBRASKA

Ducks, geese, water fowl, Sept. 1 to April 5; prairie chickens, grouse, sagehens, Sept. 1 to Nov. 30; snipe, Sept. 1 to April 30; plover, doves, July 15 to August 31; swans, white cranes, protected; squirrels, Oct. 1 to Nov. 30; deer, antelope, protected; quail, Nov. 1 to Nov. 15. Bag limits: 25 birds, 10 squirrels, 10 geese, prairie chicken, grouse, quail and 25 other game birds or 50 game fish in possession at any one time. License: Resident, \$1; non-resident (hunting and fishing), \$10.

NEVADA

Deer, antelope, Oct. 15 to Nov. 15; mountain sheep, mountain goat, pheasants, bobwhite quail, partridge, protected; sage-birds, July 15 to Oct. 1; grouse, Oct. 1 to Dec. 15; mountain quail, Oct. 1 to Jan. 1; ducks, cranes, plover, curlew, snipe, woodcock, swan, geese, Sept. 15 to March 15; valley quail, Oct. 15 to Jan. 15. Bag limits: Antelope, deer, 2 per season; ducks, 20 per day; mountain quail, valley quail, 15 per day; sage-birds, 10 per day; grouse, 6 per day; plover, 5 per day; geese, 10 per day; swans, 3 per day; snipe, 15 per day. License: Non-resident, \$10; resident, \$1; aliens, \$25.

NEW HAMPSHIRE

Moose, caribou, elk, protected; deer, Coos

county, Oct. 15 to Dec. 15, Grafton and Carroll counties, Nov. 1 to Dec. 15, elsewhere, Dec. 1 to Dec. 15; squirrels, Oct. 1 to Oct. 31; rabbits, hares, Oct. 1 to April 1; wood duck, pheasant, plover, sheldrake, blue heron, protected; woodcock, partridge, quail, snipe, Oct. 1 to Dec. 1 (Coos and Grafton counties, woodcock, Sept. 15 to Dec. 1); ducks, Oct. 1 to Jan. 31 (beach birds, teal, coot, July 15 to Jan. 31 in Rockland county); black or dusky duck (tidewaters and salt marshes only), Sept. 1 to Jan. 31. Bag limits: Deer, 2 per season in Carroll, Grafton, Coos counties, elsewhere 1 per season. License: Resident, \$1; non-resident, \$10.

NEW JERSEY

Quail, rabbit, squirrel, male English and ringcock pheasants, ruffed grouse, prairie chicken, wild turkey, Hungarian partridge, Nov. 10 to Dec. 15; female English and ring-neck pheasants, upland plover, wood ducks, protected; black-breasted plover, golden plover, jacksnipe, yellowlegs, Wilson snipe, Sept. 1 to Nov. 30; rail, marsh hen or mudhen and reed bird, Sept. 1 to Dec. 31; woodcock, Oct. 10 to Dec. 15; black and mallard ducks, Oct. 10 to Nov. 30; waterfowl, except wood duck and swan, Nov. 1 to Jan. 31; deer, Nov. 1 to Nov. 5. Bag limits: 10 quail, 3 pheasants, 3 partridges, 10 woodcock, 3 ruffed grouse, 20 ducks, 10 geese, 10 brant, 10 rabbits, 30 marsh hens or mudhens. License: Resident, \$1.15; non-resident, \$10.50.

NEW MEXICO

Deer (with horns), Oct. 1 to Nov. 15; wild turkey, Nov. 1 to Jan. 15; grouse, Sept. 1 to Nov. 15; native or crested, Messina, California or helmet quail, Nov. 1 to Jan. 31; ducks, snipe, curlew, plover, Sept. 1 to March 31; elk, mountain sheep, mountain goat, ptarmigan (or white grouse), protected; antelope, pheasant, bobwhite quail, wild pigeon, prairie chicken, protected until 1917. Bag limits: Deer, 1 per season; turkey, 4 per day; grouse, 6 per day; quail, ducks, snipe, curlew, plover, 30 per day. License: Resident (big game) \$1, (small game) \$1, combined big game and birds, \$1.50; non-resident and alien resident, combined bird and big game, \$10; bird, \$10.

NEW YORK

Deer, Oct. 1 to Nov. 15, in Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Jefferson, Lewis, Oneida, Oswego, Saratoga, St. Lawrence, Warren, Washington counties (exceptions); Nov. 1 to Nov. 15 in Ulster County and in towns of Neversink, Coshocton, Tusten, Highland, Lumberland, Forestburg and Bethel and parts of Orange and Sullivan counties; protected elsewhere; moose, caribou, elk, antelope, protected; rabbits, hares, Oct. 1 to Jan. 31 (exceptions, Long Island, Nov. 1 to Dec. 31; other exceptions); squirrels, Oct. 1 to Nov. 15 (Long Island, Nov. 1 to Dec. 31); ducks, geese, brant, Sept. 16 to Jan. 10 (Long Island, Oct. 1 to Jan. 10);

wood duck, protected; grouse, Oct. 1 to Nov. 30 (Long Island, Nov. 1 to Dec. 31; other exceptions); Hungarian partridge, protected; pheasants, last two Thursdays in October and first two Thursdays in November (Long Island, Nov. 1 to Dec. 31; protected in some counties); quail, protected until 1918 except in Long Island where open Nov. 1 to Dec. 31; snipe, plover, sandpipers, curlews, other shore birds, Sept. 16 to Nov. 30 (Long Island, Aug. 1 to Nov. 30); woodcock, Oct. 1 to Nov. 15 (Long Island, Oct. 15 to Nov. 30). Bag limits: Deer, 2 per year, 1 of which may be transported; rabbits and hares, 6 per day; squirrels, 5 per day; ducks, geese, brant, 25 per day; grouse, 4 per day, 20 per year; pheasants, 3 male per year, except Long Island where 6 male per day or 36 male per year; quail on Long Island, 10 per day, 50 per year; shore birds, 15 per day; woodcock, 4 per day, 20 per year. Licenses: Non-resident, \$20.50; resident, \$1.10.

NORTH CAROLINA

(1913 laws)

Local laws. Quail and wild turkey, Nov. 1 to March 1.

NORTH DAKOTA

Prairie chicken, grouse, woodcock, snipe, upland or golden plover, Sept. 7 to Nov. 1; wild ducks and cranes, Sept. 7 to Dec. 15; wild geese, brant, Sept. 7 to Dec. 15 (one-half mile from permanent waters); deer, protected until 1916; antelope, protected until 1920; quail, partridge, pheasants, doves, protected. Bag limits: Prairie chicken, grouse, cranes, 10 per day; geese, brant, ducks, woodcock, snipe, plover, 25 per day. License: Resident, \$1; non-resident, \$25.

OHIO

Virginia partridge, quail, pheasants, ruffed grouse, protected until 1915, then Nov. 15 to Dec. 4; woodcock, Oct. 1 to Nov. 30; rail, coots, mudhens, Sept. 1 to Nov. 30; duck, geese, brant, or other water-fowl, plover, Wilson or jack snipe, greater or less yellowlegs, Sept. 1 to Dec. 15; Carolina dove, Sept. 1 to Oct. 20; rabbits, Nov. 15 to Dec. 4; raccoon, Nov. 1 to March 1; squirrels, Sept. 15 to Oct. 20; fox, Oct. 2 to Jan. 9. Bag limits: Woodcocks, rails, plovers, snipe, geese, shore birds, 12 per day; ducks, 25 per day; squirrels, 5 per day. License: Resident, \$1.25; non-resident, \$15.25.

OKLAHOMA

Buck deer, Nov. 15 to Dec. 15 (protected in Comanche, Caddo, Kiowa, Swanson counties); antelope, pheasant, protected; geese, brant, duck, snipe, plover, shore birds, Aug. 15 to May 1; quail, Nov. 15 to Feb. 1; wild turkey, Nov. 15 to Jan. 1; prairie chicken, Sept. 1 to Nov. 1. Bag limits: Deer, 1 per season; geese, brant, 10 per day; ducks, shore birds, 25 per day, 150 per season; quail, 25 per day, 150 per season; turkeys, 3 per season; prairie chicken, 6 per day, 100 per season. License: Resident, \$1.25; non-resident, \$15; alien, \$25.

OREGON

Divided into two districts, District 1 comprising all counties west of the Cascade Mountains, and District 2 comprising all counties east.

District 1—Buck deer, August 1 to Oct. 31; gray-squirrel, Oct. 1 to Oct. 31; ducks, geese, rails, Oct. 1 to Jan. 15; shore birds, Oct. 1 to Dec. 15; male Chinese pheasants, quail, grouse, Oct. 1 to Oct. 31 (Chinese pheasants protected in Jackson, Josephine, Coos and Curry counties); doves, Sept. 1 to Oct. 31.

District 2—Buck deer, August 1 to Oct. 31; ducks, geese, rails, Oct. 1 to Jan. 15; shore birds, Oct. 1 to Dec. 15; sagehens, August 1 to August 31; grouse, doves, Sept. 1 to Oct. 31; quail, Oct. 1 to Oct. 31; Chinese pheasants protected; gray squirrel, Oct. 1 to Oct. 31.

Both districts—Mountain sheep, antelope, elk, bobwhite quail, golden pheasants, English and Hungarian partridge, fool hen, prairie chicken, swan, wild turkey, sandpipers, plovers, protected; trout (over 6 inches), April 1 to Oct. 31. Bag limits: Deer, 3 per season; squirrels, 5 per week; quail, 10 per week; pheasants, grouse, 5 per day; 10 per week; doves, 10 per day, 20 per week; ducks, geese, rails, coots, shore birds, 30 per week. License: Resident, \$1; non-resident, \$10.

PENNSYLVANIA

Deer (male), Nov. 10 to Nov. 25; elk, protected; English, Mongolian, Chinese, ring-neck pheasants, Oct. 15 to Nov. 30; hares, rabbits, Nov. 1 to Dec. 31; Hungarian quail, Oct. 15 to Nov. 30; plover, July 15 to Dec. 1; quail, Nov. 1 to Dec. 14; ruffed grouse, Oct. 15 to Nov. 30; snipe, Sept. 1 to April 30; shore birds, Sept. 1 to Jan. 1; squirrels, Oct. 15 to Nov. 30; water-fowl, Sept. 1 to April 10; wild turkey, protected; woodcock, Oct. 15 to Nov. 30; wood duck, protected until 1918. Bag limits: Deer, 1 per season; imported pheasants, 10 per day, 20 per week, 50 per season; rabbits, 10 per day; Hungarian quail, 5 per day, 20 per week, 30 per season; plover, snipe, shore birds, unlimited; quail, 10 per day, 40 per week, 75 per season; ruffed grouse, 5 per day, 20 per week, 50 per season; squirrels, 6 per day; water-fowl, unlimited; woodcock, 10 per day, 20 per week, 50 per season. License: Non-resident, \$10; resident, \$1.

RHODE ISLAND

Partridge, quail, Nov. 1 to Dec. 31; woodcock, Nov. 1 to Nov. 30; plover, snipe, greater and lesser yellowlegs, Aug. 15 to Nov. 30; geese, brant, ducks, Oct. 1 to Dec. 31; other shore birds, Hungarian partridge, wood duck, pheasants, deer, protected; squirrels, rabbits, hares, Nov. 1 to Dec. 31. License: Resident, \$1; non-resident, \$10; alien, \$15.

SOUTH CAROLINA

Deer, Sept. 1 to Jan. 1; fox, Sept. 1 to Feb. 15 (exceptions); wild turkey, partridge, Nov. 15 to March 15 (exceptions); quail, pheas-

ant, Nov. 1 to March 15; woodcock, Sept. 1 to Jan. 15 (county regulations); willett, Nov. 1 to March 1; wood ducks, Sept. 1 to March 1. Bag limits: Partridge, doves, 25 per day; woodcock, 12 per day; turkey, 2 per day; deer, 5 in season. License: Non-resident, hunting, \$25; hunting duck, \$10.

SOUTH DAKOTA

Ducks, geese, water-fowl, Sept. 10 to April 10; quail, pheasant, protected; prairie chicken, grouse, snipe, plover, woodcock, partridge, Sept. 10 to Oct. 10; deer, Nov. 1 to Nov. 30. Bag limits: Prairie chicken, grouse, partridge, snipe, woodcock, plover, 10 per day; water-fowl, 20 per day; deer, 1 per season. License: Non-resident, \$25; resident, \$1.

TENNESSEE

Deer, protected; squirrel, June 1 to March 1 (exceptions); rabbits, no closed season; quail, Nov. 15 to March 1 (exceptions); grouse, pheasant, wild turkey, Nov. 1 to March 1 (exceptions); plover, snipe, woodcock, geese, duck, Oct. 1 to April 15 (exceptions); teal, wood duck, August 1 to April 15. Bag limits: 50 duck, 30 quail. License: Non-residents, \$10; resident, \$3.

TEXAS

Deer, Nov. 1 to Jan. 1; antelope, mountain sheep, prairie chickens, pheasants, protected; wild turkey, Dec. 1 to April 1; quail, doves, partridge, Nov. 1 to Feb. 1; ducks, geese, snipe, curlews, no closed season. Bag limits: 3 deer per season; 25 birds per day (3 turkeys, December to February). License: Resident, \$1.75; non-resident, \$15.

UTAH

Elk, antelope, mountain sheep, protected; deer, Oct. 1 to Oct. 15 (protected in Tooe County); partridge, prairie chicken, pheasant, morning dove, protected; quail (Washington, Garfield, Kane counties, Sept. 1 to Feb. 1; Salt Lake, Davis, Weber, Utah, San Pete, Sevier, Uintah, Carbon counties, Oct. 1 to Oct. 31; Iron County, Oct. 1 to Nov. 30); sagehens, August 15 to Oct. 31; grouse, Oct. 6 to Oct. 15; ducks, geese, snipe, Oct. 1 to Dec. 31. Bag limits: Deer, 1 per season; quail, 15 per day; sagehens, 8 per day; grouse, 6 per day, 25 per season; geese, 12 per day; snipe, ducks, 25 per day. License: Resident, \$1.25; non-resident, \$5; alien, \$15.

VERMONT

Moose, caribou, elk, protected; deer, Nov. 10 to Dec. 1; rabbits, hares, Sept. 15 to March 1; gray squirrels, Sept. 15 to Dec. 1; ruffed grouse, quail, woodcock, Sept. 15 to Dec. 1; snipe, plover (except upland plover), shore birds, Sept. 1 to Dec. 1; ducks, geese, Sept. 1 to Jan. 1; pheasants, upland plover, wood duck, protected. Bag limits: Deer, 1 per season; rabbits, 5 per day; squirrels, 5 per day; ruffed grouse, quail, woodcock, 4 per day, 25 per season; snipe, plover (except upland), shore birds, 10 per day; ducks, geese,

20 per day. License: Resident, 75 cents; non-resident, \$10.50.

VIRGINIA

Wild turkey, pheasants, grouse, quail, partridge, woodcock (east of Blue Ridge Mountains), Nov. 1 to Jan. 31; elsewhere, Nov. 1 to Dec. 31; deer, Sept. 1 to Nov. 31; waterfowl, Oct. 15 to April 30; wood duck, August 1 to Dec. 31; rails, mudhens, plover, snipe (except Wilson snipe), sandpipers, curlews, surf birds, July 20 to Dec. 31; Wilson snipe, no closed season; rabbits, Nov. 1 to Jan. 31. Bag limits: 30 water-fowl, 50 quail or partridges, 10 pheasants or grouse, 3 turkeys, 1 deer, 25 of each or 100 in aggregate of plovers, snipe, sandpipers or curlews may be transported from State by non-residents. License: Non-resident, \$10.

WASHINGTON

Moose, elk, caribou, protected; deer, mountain sheep or goat, Oct. 1 to Dec. 1 (deer in Okanogan County, Sept. 1 to Nov. 1); ruffed grouse, Oct. 1 to Nov. 30 (protected until 1915 in Kittitas, Yakima, Okanogan, Whatcom, Skagit, Snohomish, King, Pierce, San Juan, Island counties); Hungarian partridge, protected until 1920; prairie chicken, Oct. 1 to Nov. 30 (all counties east of the western borders of Okanogan, Chelan, Kittitas, Yakima and Klickitat counties, Sept. 15 to Oct. 31; protected until 1915 in Kittitas and Yakima counties); wood duck, sagehen, protected; pheasants, Oct. 1 to Nov. 30 (all counties east of the western border of Okanogan, Chelan, Kittitas, Yakima and Klickitat counties, Sept. 15 to Oct. 31; native pheasants protected until 1915 in Kittitas and Yakima counties; Chinese pheasants protected until 1915 in Asotin County; all imported birds protected until 1915 in Okanogan County); quail, Oct. 1 to Oct. 31 (protected in all counties east of the Western borders of Okanogan, Chelan, Kittitas, Yakima and Klickitat counties except Spokane until 1915; California mountain quail may be hunted in Kittitas and Yakima counties from Sept. 1 to Sept. 30); blue grouse, Sept. 1 to Nov. 30 (all counties east of the western borders of Okanogan, Chelan, Kittitas, Yakima and Klickitat counties, Sept. 15 to Oct. 31; counties west of summit of Cascade Mountains, Sept. 16 to Sept. 30); geese, brant, ducks, snipe, curlews, plovers, rails, surf or shore birds, Oct. 1 to Jan. 31 (in Okanogan, Ferry, Stevens, Douglas, Grant, Lincoln, Spokane, Adams, Whitman, Sept. 15 to Jan. 31); swan, protected. Bag limits: 2 deer (1 deer in Okanogan County); 1 mountain sheep or goat; 5 each, but not to exceed aggregate of 5, of prairie chickens, grouse, partridge, pheasants, per day; 10 quail per day; 10 birds of all kinds per day, not more than 5 (of a kind or total of all kinds) of which may be prairie chickens, grouse, partridge, pheasants, 25 birds per week; aggregate of 20 geese, ducks, etc., per week. License: Resident, county, \$1; (State), \$5; non-resident (hunting and fishing) \$10.

WEST VIRGINIA

Elk, protected; deer, Oct. 15 to Dec. 1; squirrel, Sept. 1 to Dec. 1; rabbit, no closed season; quail, Nov. 1 to Dec. 1; ruffed grouse, pheasant, wild turkey, Oct. 15 to Dec. 1; plover, woodcock, rail, reedbird, July 15 to Dec. 20; snipe, Oct. 15 to March 1; duck (except wood duck), geese, brant, Sept. 1 to April 20; wood duck protected. Bag limits: 12 quail, 6 ruffed grouse, 2 wild turkeys per day; or 96 quail, 25 ruffed grouse, 6 wild turkeys per season. License: Non-resident, \$15.50.

WISCONSIN

Deer, Nov. 11 to Nov. 30 (protected in some counties); moose, quail, pheasant, swan, protected; rabbit, squirrel, Sept. 10 to Feb. 1 (exceptions); grouse, prairie chicken, Sept. 7 to Oct. 1 (protected in some counties); wood-duck, plover, woodcock, Sept. 7 to Nov. 30; partridge, Oct. 1 to Nov. 30; brant, geese, Sept. 7 to Nov. 30 (protected on Lake Geneva); water-fowl, Sept. 7 to Nov. 30. Bag limits: Deer, 1 per season; grouse, prairie chicken, woodcock, 5 per day; geese, brant, partridge, 10 per day; ducks, water-fowl, 15 per day; mixed birds, 20 per day. License: Non-resident, small game, \$10; non-resident, big game, \$25.

WYOMING

Elk, mountain sheep, Sept. 1 to Nov. 15 (only in Park, Lincoln and Fremont counties; exceptions); deer, Oct. 1 to Oct. 31 (in Fremont, Lincoln and Park counties from Sept. 1 to Nov. 15); sage grouse, August 1 to August 31 (protected in Sheridan County until 1915); all other grouse, Sept. 15 to Nov. 15 (in Albany, Carbon, Laramie, Sweet-water counties all grouse from July 15 to August 31); Mongolian pheasants, quail, protected until 1915; ducks, geese, Sept. 1 to March 1; snipe, sandpiper, Sept. 1 to April 30; curlew, August 1 to Sept. 30. Bag limits: 2 elk, 1 deer with horns, 1 male mountain sheep per season; 18 game birds per day, not more than 6 of which may be grouse. License: Resident (big game) \$2.50, (game bird) \$1; non-resident (big game) \$50, (game bird) \$5; (bear license) \$10. Non-residents must be accompanied by guides.

ALBERTA

Buffalo, elk, wapiti, antelope, protected; mountain sheep and goat, Sept. 1 to Oct. 14; caribou, moose, deer, Nov. 1 to Dec. 14; ducks, swans, Sept. 1 to Dec. 31; cranes, rails, coots, snipe, sandpiper, plover, curlew, other shore birds, Sept. 1 to Dec. 31; grouse, partridge, pheasant, ptarmigan, prairie chicken, Oct. 1 to Nov. 31; imported pheasants, protected. Bag limits: 2 mountain sheep or goat, 1 caribou, moose, deer; 10 per day, 100 per year of grouse, partridge, pheasant, ptarmigan, prairie chicken. License: Non-resident, general game, \$25; bird, \$5; resident, big game, \$2.50; bird, \$2.25.

BRITISH COLUMBIA

Buffalo, protected; Columbia or coast deer, game birds, opened by Order in Council; caribou, elk, moose, Sept. 1 to Dec. 31; deer (except Columbian or coast deer), mountain goat, Sept. 1 to Dec. 14; mountain sheep, Sept. 1 to Nov. 14; plover, Sept. 1 to Feb. 28. Bag limits: Deer, 3 per season; ducks, 250 per season; elk, 1 per season; moose, 2 per season (1 per season in Kootenay County); mountain goat, 3 per season; mountain sheep, 3 per season (not more than 2 of any one species; 1 per season in Kootenay County).

MANITOBA

Moose, deer, caribou, antelope, elk, Dec. 1 to Dec. 15; buffalo, protected; prairie chicken, grouse, partridge, Oct. 1 to Oct. 20; pheasant, quail, protected until 1920; upland plover, July 1 to Dec. 31; other plover, woodcock, snipe, sandpiper, Sept. 15 to Nov. 30; wild duck, Sept. 15 to Nov. 30. Bag limits: Deer, caribou, moose, antelope, elk, 1 per season; partridge, prairie chicken, grouse, 20 per day, 100 per year; ducks, 20 per day during last 15 days of September, 50 per day during remainder of open season. License: British subject domiciled in British territory, \$15; others, \$50.

NEW BRUNSWICK

Moose, caribou, deer, partridge, snipe, woodcock, Sept. 15 to Nov. 30; wild geese, brant, teal, wood duck, black duck, Sept. 1 to Dec. 1; shore, marsh or beach birds, August 15 to Dec. 31; sea gull, pheasants, protected. Bag limits: Ducks, geese, 20 per day; partridge, woodcock, 10 per day; 1 caribou, 1 moose, 2 deer per season. License: Resident, big game, \$3; non-resident (big game) \$50, (game birds) \$25. Non-residents must be accompanied by licensed guides.

NEWFOUNDLAND

(1913 laws)

Moose, elk, protected; caribou, Aug. 1 to Sept. 30 and Oct. 21 to Jan. 31; fox, Oct. 15 to March 15; ptarmigan, willow grouse, curlew, plover, snipe, Sept. 21 to Dec. 31; capercaillie, protected until 1917; trout, salmon, Jan. 16 to Sept. 15. Bag limits, 3 caribou per season.

NOVA SCOTIA

Bull moose, Sept. 16 to Nov. 15 (protected on Cape Breton Island); caribou, Sept. 16 to Oct. 15 in Victoria and Inverness counties (protected elsewhere); deer, protected until 1915; rabbits, hares, Oct. 1 to March 1; woodcock, Wilson snipe, wood duck, blue wing duck, Sept. 1 to March 1; teal, plover, curlew, sandpipers, yellowlegs, beach birds, August 15 to March 1; ruffed grouse, Oct. 1 to Nov. 1; pheasants, spruce partridge, protected. Bag limits: Moose, 1 per season; caribou, 1 per season; woodcock, 10 per day; ruffed grouse, 5 per day. License: Non-resident (general) \$30, (small game) \$15,

(fish) \$5; resident (to hunt caribou outside of own county), \$5. Non-residents must be accompanied by guides.

ONTARIO

Deer, Nov. 1 to Nov. 15; moose, caribou (south of main line C. P. R. from Mattawa to Port Arthur), Nov. 1 to Nov. 15; elsewhere, Oct. 16 to Nov. 15; grouse, quail, protected; fowl, partridge, Oct. 15 to Nov. 15; woodcock, Oct. 1 to Nov. 15; wild turkey, squirrel, Nov. 15 to Dec. 1; swan, geese, Sept. 15 to April 15; duck, water-fowl, snipe, plover, shore birds (north and west of main line C. P. R. between Montreal and Toronto, Toronto to Guelph and Guelph to Goderich), Sept. 1 to Dec. 15; elsewhere, Sept. 15 to Dec. 15; capercaillie, protected until 1915; hare, Oct. 1 to Dec. 15. Bag limits: Deer, moose, caribou, 1 per year; partridge, 10 per day; duck, 200 per season. License: Resident (deer), \$2; (all big game), \$5; non-resident, \$25 for small game, \$50 for big game.

PRINCE EDWARD ISLAND

(1913 laws)

Partridge, Oct. 15 to Nov. 15 (closed season every second year); teal, duck, shore and beach birds, Aug. 20 to Dec. 31; woodcock, snipe, Sept. 1 to Dec. 31; wild geese, Sept. 15 to May 9; brant, April 20 to Dec. 31; hare, rabbit, Nov. 1 to Jan. 31; curlew, plover, Aug. 1 to Dec. 31; trout, April 1 to Sept. 30. Bag limits, 12 birds of a kind per day; 2 salmon per day; 12 bass per day; 20 trout per day.

QUÉBEC

Divided into two zones: Zone 1 includes the entire province except that part of the counties of Chicoutimi and Saguenay to the east and north of Saguenay River; Zone 2 includes the area not covered by Zone 1.

Zone 1—Moose, deer, Sept. 1 to Dec. 31 (except in Ottawa, Labelle, Temiscaming and Pontiac counties, Oct. 1 to Nov. 31); caribou, Sept. 1 to Jan. 31; hares, Oct. 15 to Jan. 31; woodcock, snipe, plover, curlews, sandpiper, Sept. 1 to Jan. 31; birch or swamp partridges, Sept. 1 to Dec. 15; white partridge, Nov. 1 to Jan. 31; widgeon, teal, wild ducks (except sheldrakes, loons, gulls), Sept. 1 to Feb. 28.

Zone 2—Moose, deer, Sept. 1 to Dec. 31; caribou, Sept. 1 to Feb. 28; hares, Oct. 15 to Feb. 28; birch or swamp partridge, Sept. 15 to Jan. 31; white partridge, Nov. 15 to Feb. 28; woodcock, snipe, plover, curlews, sandpiper, Sept. 1 to Jan. 31; widgeon, teal, wild ducks (except sheldrakes, loons, gulls), Sept. 1 to Feb. 28.

Bag limits—Zone 1, 1 moose, 2 deer, 2 caribou; Zone 2, 1 moose, 2 deer, 4 caribou.

License—Hunting: Resident (for 1 moose) \$1, (2 caribou) \$1, (2 deer) \$1; non-resident, \$25; non-resident (but members of incorporated game clubs), \$10.

SASKATCHEWAN

Buffalo, antelope, protected; deer, caribou, moose, elk (north of Township 34), Nov. 15 to Nov. 30, protected elsewhere; ducks, geese, swans, rails, coots, snipe, plover, cur-

lew, cranes, Sept. 15 to Dec. 31; partridge, grouse, chicken, Sept. 15 to Nov. 15. Bag limits: Deer, caribou, moose, elk, 2 per year; partridge, grouse, chicken, 10 per day, total of 100; ducks, geese, swans, 50 per day, total of 250.

FEDERAL REGULATIONS FOR MIGRATORY GAME BIRDS

For the purposes of these regulations the following shall be considered migratory game birds:

- (a) Anatidæ or water-fowl, including brant, wild ducks, geese and swans.
- (b) Gruidæ or cranes, including little brown sand-hill and whooping cranes.
- (c) Rallidæ or rails, including coots, gallinules and sora or other rails.
- (d) Limicolæ or shore birds, including avocets, curlew, dowitchers, godwits, knots, oyster catchers, phalaropes, plover, sandpipers, snipe, stilts, surf birds, turnstones, willet, woodcock and yellowlegs.
- (e) Columbidæ or pigeons, including doves and wild pigeons.

CLOSED SEASONS AT NIGHT

A daily closed season on all migratory, game and insectivorous birds shall extend from sunset to sunrise.

CLOSED SEASONS ON CERTAIN GAME BIRDS

A closed season shall continue until Sept. 1, 1918, on the following migratory game birds: Bandtailed pigeons, little brown sand-hill and whooping cranes, swans, curlew and all shore birds except the black-breasted and golden plover, Wilson or jacksnipe, woodcock and the greater and lesser yellowlegs.

A closed season shall also continue until Sept. 1, 1918, on wood ducks in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Michigan, West Virginia and Wisconsin; on rails in California and Vermont; and on woodcock in Illinois and Missouri.

CLOSED SEASON ON CERTAIN NAVIGABLE RIVERS

A closed season shall continue between Jan. 1 and Oct. 31, both dates inclusive, of each year, on all migratory birds passing over or at rest on any of the waters of the main streams of the following navigable rivers, to wit: The Mississippi River, between New Orleans, La., and Minneapolis, Minn.; the Ohio River, between its mouth and Pittsburgh, Pa.; and the Missouri River, between its mouth and Bismarck, N. D.; and on the killing or capture of any of such birds on or over the shores of any of said rivers, or at any point within the limits aforesaid, from any boat, raft, or other device, floating or otherwise, in or on any such waters.

AMENDMENT TO REGULATION ON CERTAIN NAVIGABLE RIVERS

On and after January 1, 1915, a closed season shall continue between Jan. 1 and Dec. 31, both dates inclusive of each year, on all migratory birds passing over or at rest on any of the waters of the main streams of the following navigable rivers, to wit: the Mississippi River, between Minneapolis, Minnesota, and Memphis, Tennessee; the Missouri River, between Bismarck, North Dakota, and Nebraska City, Nebraska; and on the killing or capture of any such birds on or over the shores of any of said rivers, or at any point within the limits aforesaid, from any boat, raft, or other device, floating or otherwise, in or on any of such waters.

AMENDMENT TO REGULATION ON CERTAIN NAVIGABLE RIVERS SUSPENDED

Regulation relative to shooting on the Mississippi and Missouri rivers is suspended for the season of 1914, thus affecting hunting in certain sections of twelve States. The Advisory Board recommends that hunting on these rivers be permitted whenever the States prohibit the use of motorboats in hunting water-fowl. As this will require legislation by Illinois, Missouri, Nebraska, and one or two other States, the regulation is suspended this year, in order that the States may take action, if they so desire, at the next session of their respective legislatures, which meet in January, 1915:

The effect of one of these changes is to permit, on the Missouri and the upper waters of the Mississippi, the shooting of all migratory game birds for which there is an open season from October 1, 1914, to January 1, 1915. After the latter date the prohibition will be in force again.

ZONES

The following zones for the protection of migratory game and insectivorous birds are hereby established:

Zone No. 1, the breeding zone, comprising States lying wholly or in part north of latitude 40 degrees and the Ohio River, and including Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Nebraska, Colorado, Wyoming, Montana,

Idaho, Oregon and Washington—25 States.

Zone No. 2, the wintering zone, comprising States lying wholly or in part south of latitude 40 degrees and the Ohio River, and including Delaware, Maryland, the District of Columbia, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Kentucky, Missouri, Arkansas, Louisiana, Texas, Oklahoma, Kansas, New Mexico, Arizona, California, Nevada and Utah—23 States and the District of Columbia.

OPEN SEASONS IN ZONE NO. 1

Water-fowl, Sept. 1 to Dec. 15. Exceptions: Massachusetts and Rhode Island, Oct. 1 to Dec. 31; Connecticut, New York (including Long Island), Pennsylvania, Idaho, Oregon, Washington, Oct. 1 to Jan. 15; New Jersey, Nov. 1 to Jan. 31; Minnesota, North Dakota, South Dakota, Wisconsin, Sept. 8 to Nov. 30.

Rails, coots, gallinules—Sept. 1 to Nov. 30. Exceptions: Massachusetts and Rhode Island, August 1 to Nov. 30; New York (including Long Island), Sept. 16 to Nov. 30; Vermont and California, rails protected until Sept. 1, 1918.

Woodcock—Oct. 1 to Nov. 30. Exceptions: Maine and Vermont, Sept. 15 to Nov. 30; Massachusetts, Connecticut and New Jersey, Oct. 10 to Nov. 30; Rhode Island, Pennsylvania and Long Island, Oct. 15 to Nov. 30; Illinois and Missouri, protected until Sept. 1, 1918.

Shore Birds (including black-breasted and golden plover, jacksnipe or Wilson snipe, greater and lesser yellowlegs)—Sept. 1 to 15. Exceptions: Maine, Massachusetts and Long Island, August 1 to Dec. 15; Minnesota and North Dakota, Sept. 17 to Dec. 15; South Dakota, Sept. 10 to Dec. 15; New York (except Long Island) and Oregon, Sept. 16 to Dec. 15; New Hampshire and Wisconsin, Oct. 1 to Dec. 15.

OPEN SEASONS IN ZONE NO. 2

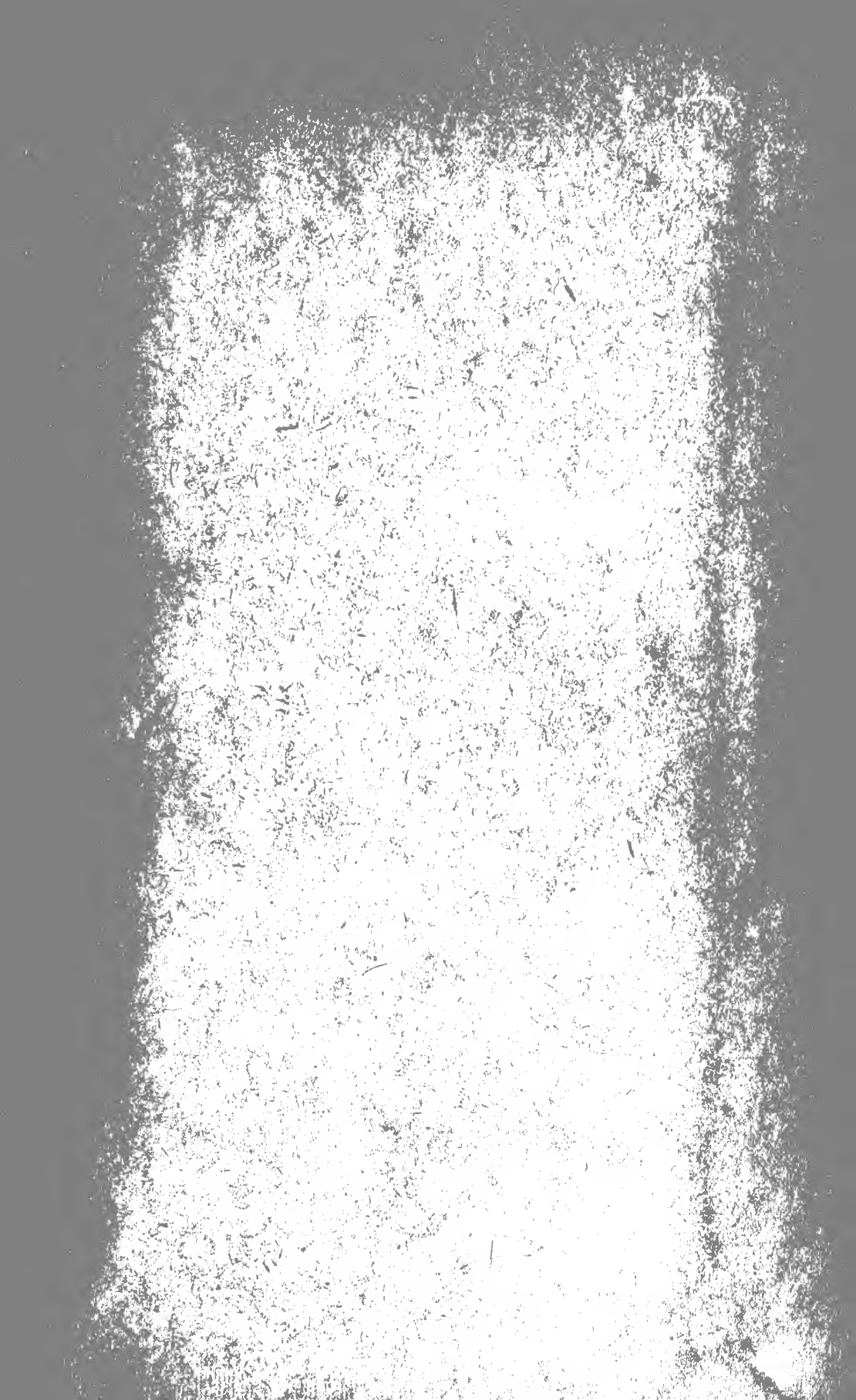
Water-Fowl—Oct. 1 to Jan. 15. Exceptions: Delaware, Maryland, District of Columbia, Virginia, North Carolina, Alabama, Mississippi, Louisiana, Nov. 1 to Jan. 31; Florida, Georgia, South Carolina, Nov. 21 to Feb. 15; Kansas, Missouri, Oklahoma, Sept. 16 to Jan. 31; Texas, Arizona, California, Oct. 16 to Jan. 31.

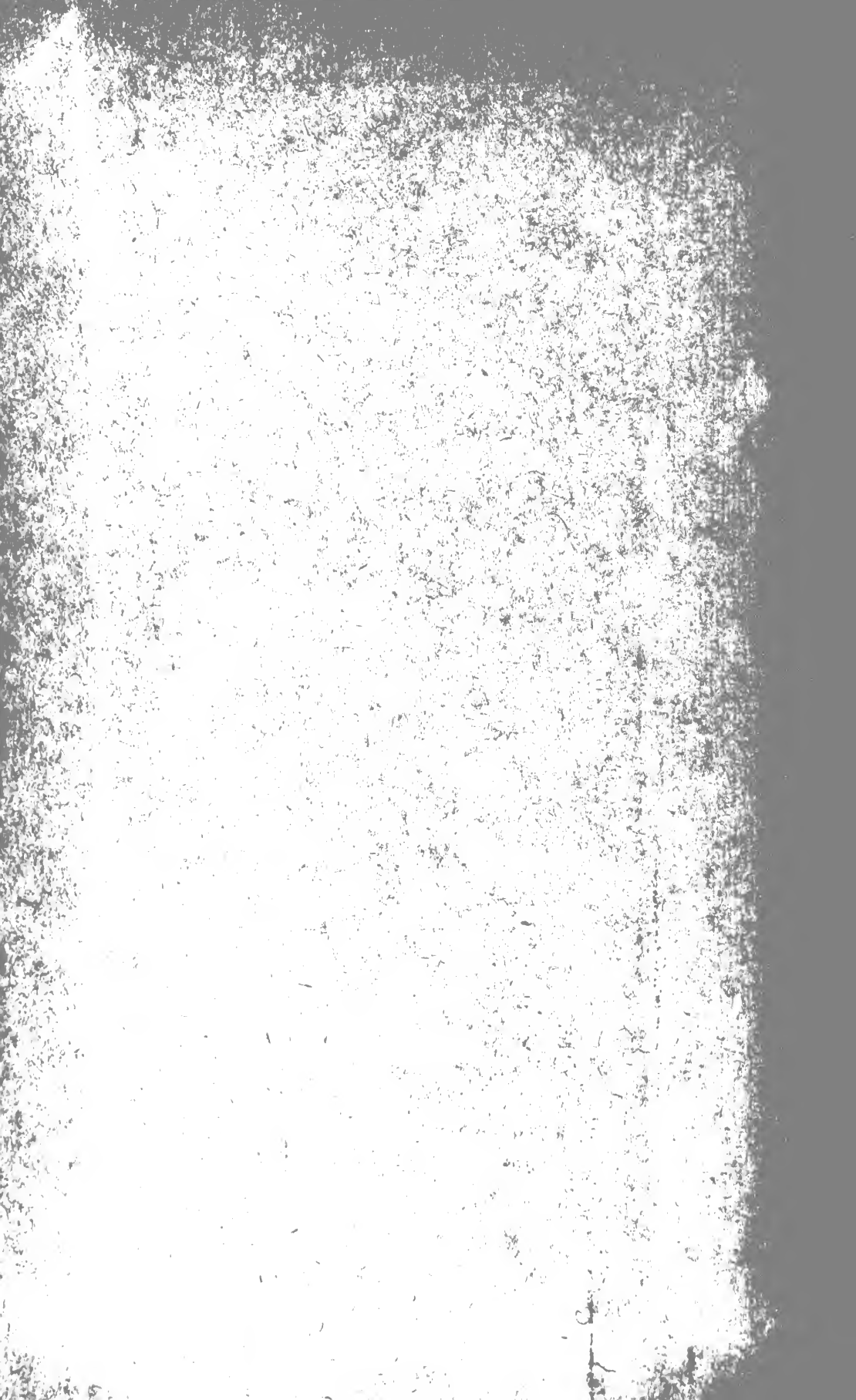
Rails, coots and gallinules—Sept. 1 to Nov. 30. Exceptions: Tennessee and Louisiana, Oct. 1 to Nov. 30; Arizona, Oct. 15 to Nov. 30.

Woodcock—Nov. 1 to Dec. 31. Exceptions: Louisiana, Nov. 15 to Dec. 31; Georgia, Dec. 1 to Dec. 31.

Shore Birds (including black-breasted and golden plover, jacksnipe, or Wilson snipe, and greater and lesser yellowlegs)—Sept. 1 to Dec. 15. Exceptions: Alabama, Nov. 1 to Dec. 15; Louisiana and Tennessee, Oct. 1 to Dec. 15; Arizona, Oct. 15 to Dec. 15; Utah, Oct. 1 to Dec. 15 on snipe, and plover and yellowlegs protected until Sept. 1, 1918.







TJETS UNIVERSITY BRARIES



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