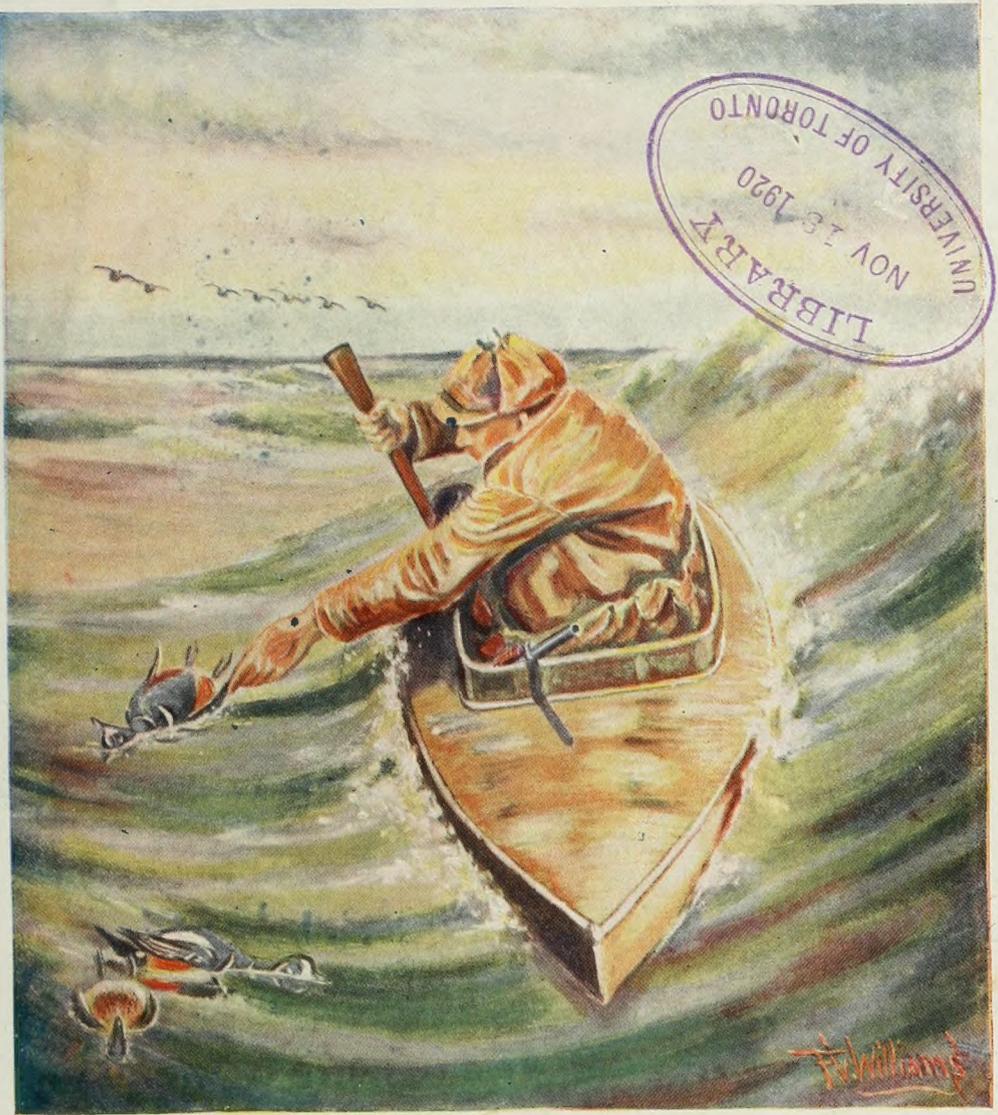


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OCTOBER 1920

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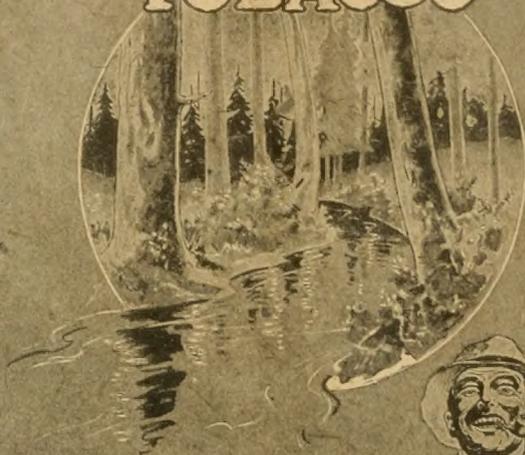
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Rod and Gun in Canada

Woodstock, Ontario, October, 1920

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ROD AND GUN IN CANADA

VOL. XXII.

WOODSTOCK, ONT., OCTOBER, 1920

No. 5



F. V. WILLIAMS



1

INTERESTING title but did you ever hear of it? No, well it's *some* lake. If you are a disbeliever all you will have to do is pack your duffle bag for

Toronto, from Toronto go north to Cochrane and from Cochrane go west to Collins. Now if you expect a taxi to be awaiting you at Collins or even an old fashioned stage you had better stay home. There are no steam heated hotels and no street cars running that you will notice, and be it remembered Collins is a 'flag stop.' The Canadian National Railways' big overland trains will obligingly stop

and deposit you and your baggage and also your dog—if you have one, at Collins, but if not they pass that small station in a swirl of snow that does not give the overland passenger a glimpse of the place.

We say the train would pass in a 'swirl of snow,' now this bit of information is gratuitously given as there was some four inches of snow on the ground when we were deposited at 5.35 a.m. on Oct. 30th, dog, baggage and all on the wee station platform, not even a policeman in sight, but then we have seen the streets of larger places than Collins barren of policemen at 5.35 a.m. However, it would be a very inappreciative person indeed who did not

welcome the attentions of Mr. A. M. McKinnon, the operator at Collins. That platform at the little station was a long way from being a warm place to contemplate your surroundings from, or even get your bearings, but once Mr. McKinnon got you inside the comfortable little station you forgot all your discomforts and are soon listening to his advice as to how to get down the track four miles to the 'landing' that leads off to Animickiwash Lake.

McKinnon advises us,—as soon as we see the smoke arising from the house just beyond the water tank—that the section foreman is about getting breakfast and if we go over there he will find the means of taking us to the nearest point on his line, or section. He does more than that, he gives us breakfast and after that is disposed of, our luggage and even the dog are taken down the line on the hand car, much to the disgust of his young husky dog, who follows along behind but stays with the trip nevertheless until the car stops.

Bidding the section foreman goodbye after he had given directions as to how we should find Ernest Naumann's place, we moved along down a trail that evidently had been used but once or twice since the snowfall; rabbit tracks, or tracks of the 'snow shoe, are everywhere, and here and there are tracks of partridge. The section foreman, and by the way we've misplaced his name; but we can't forget his courtesy, told us that Naumann's was about a mile over from the track and presently we arrived.

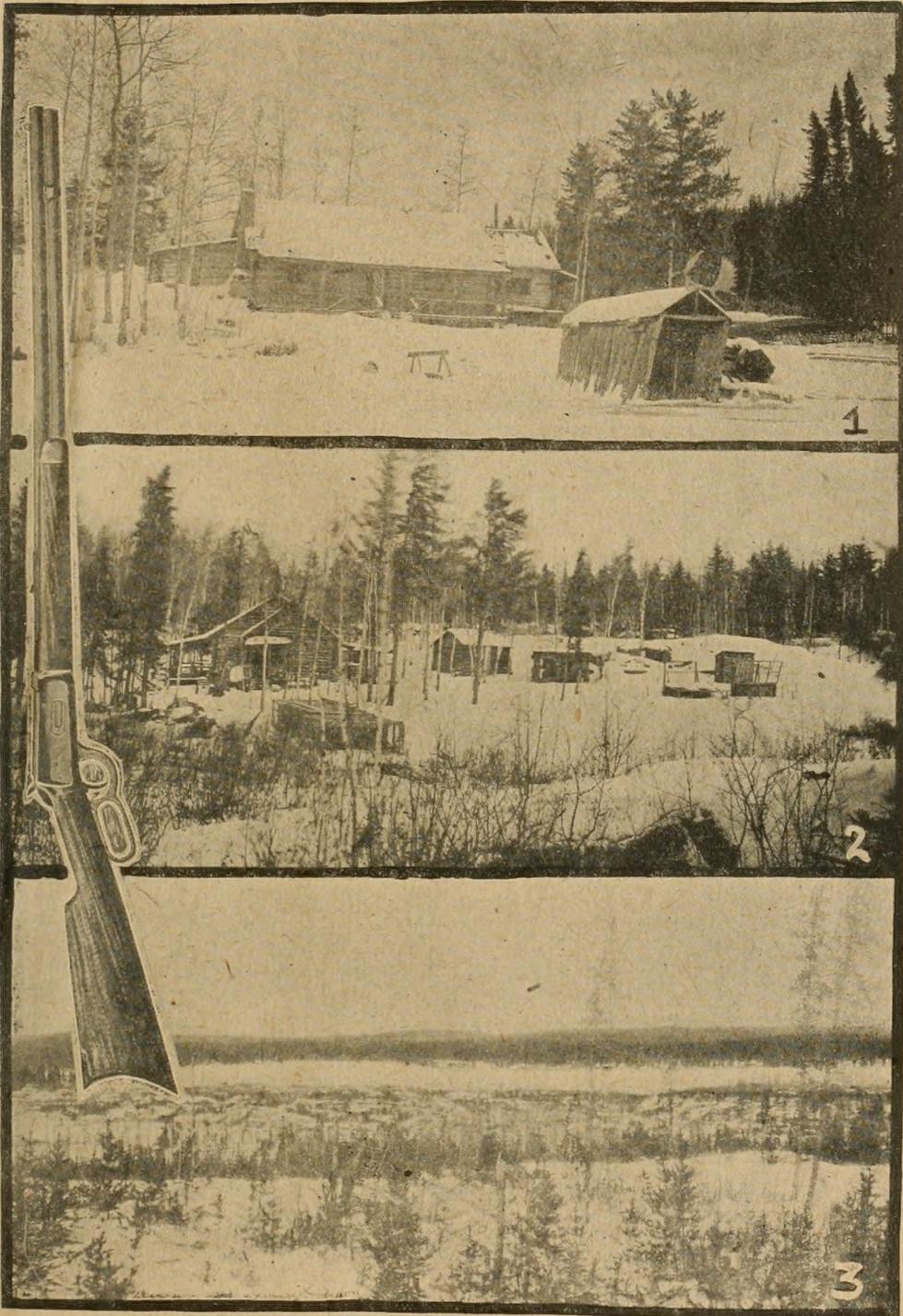
Emerging from the wood along the trail you come abruptly to a small clearing and over a shoulder of rock you see the roof of the house, two minutes more and we were inside a most comfortable log house, and being made to feel at home by the proprietor, Ernest Naumann, who was just getting ready to come to Collins to look for us.

We say a comfortable log house, would you not call it the same? A kitchen 12x14 with a heater and cooking range connected for heat in the extremely cold weather of mid-

winter. The water pumped right inside, no going out in the cold weather when you need a bucket of water. A bedroom of the same size, a dining room of proportions as generous also heated with a good sized stove and the big sitting room with an open fireplace, made of the native rock. Add to this a spare room and a store room and you have the house inside. Outside there is a verandah along the whole front with rustic trimmings. There is also a blacksmith shop, a keeper's lodge, a root house, and place for chickens, and a goodly space for garden, but we will touch this sparingly as we have not space here to describe more of the comfortable little place. Considering the country it's an A1 place for anyone to make his headquarters.

It was an hour's trip perhaps, to go back to the railway track with the toboggan via the frozen lake—and this on the 30th day of October,—oh yes it gets cool up there,—and get the luggage that was left behind when we started out to locate the camp, another half hour is spent in unpacking and getting out of your 'store' clothes into apparel that will 'stand the gaff.' By this time Ernest has dinner ready—notice it's dinner, not luncheon—and you sit down wondering how on earth he expects you to 'skin yourself' over the 'pile of grub' that he sits before you—that same pile of grub looks to be about the right size after you have been there a few days and tried conclusions with the ice walking, and tramping through the bush, etc. However the meal is soon finished and you start out, this first day, or half day will be merely a little walk to get used to your clothes, boots, etc. Just the same the guide takes you around and shows you where moose have been feeding, during the fall months: broken branches and small trees snapped off where they had fed around in the slashings. You can't help but kind of keep your eye 'peeled' for the real thing in moose.

However, there are other things, the guide has brought along a few traps and these are left at various small 'huts' made for the purpose, some of them have been baited and



1. Front view of camp. 2. Side view of camp. 3. A bit of moose country. The 'slashings' where they feed and the green timber beyond for shelter.

in a few there are tracks of weasel and mink, and at these places the traps are set to await their toll of fur and then after the traps are all visited there is a big 'slashing'. It lays between where you are and the lake and there is just a chance that there might be moose in there, so after arranging a system of 'whistle' signals you separate from your companion, and perhaps a half a mile apart you move forward in the direction of home, across open places, through swamps, through the tall timber, going carefully, slowly, and watching every likely looking thicket and clump of evergreens, for be it you or the other fellow, there's no shooting at "what looks like a moose." It's got to be moose or you don't shoot, see, and by the same token that's a good policy, the *only* one, to follow, whether you are shooting moose, deer, bear or swamp angels, be sure of what your shooting at before you let go at it.

But hunt as you will the Goddess of good luck is not smiling your way this day and as the long shadows of evening begin to creep out across the ice, you arrive at the edge of the frozen lake and you await your partner who is further up the lake and after his arrival you point your footsteps toward camp and the first day is over. You have arrived in the North Country and stretched your legs in the first preliminary ramble through the bush, and you have only seen, this far, one partridge and they are out of season this year of 1919.

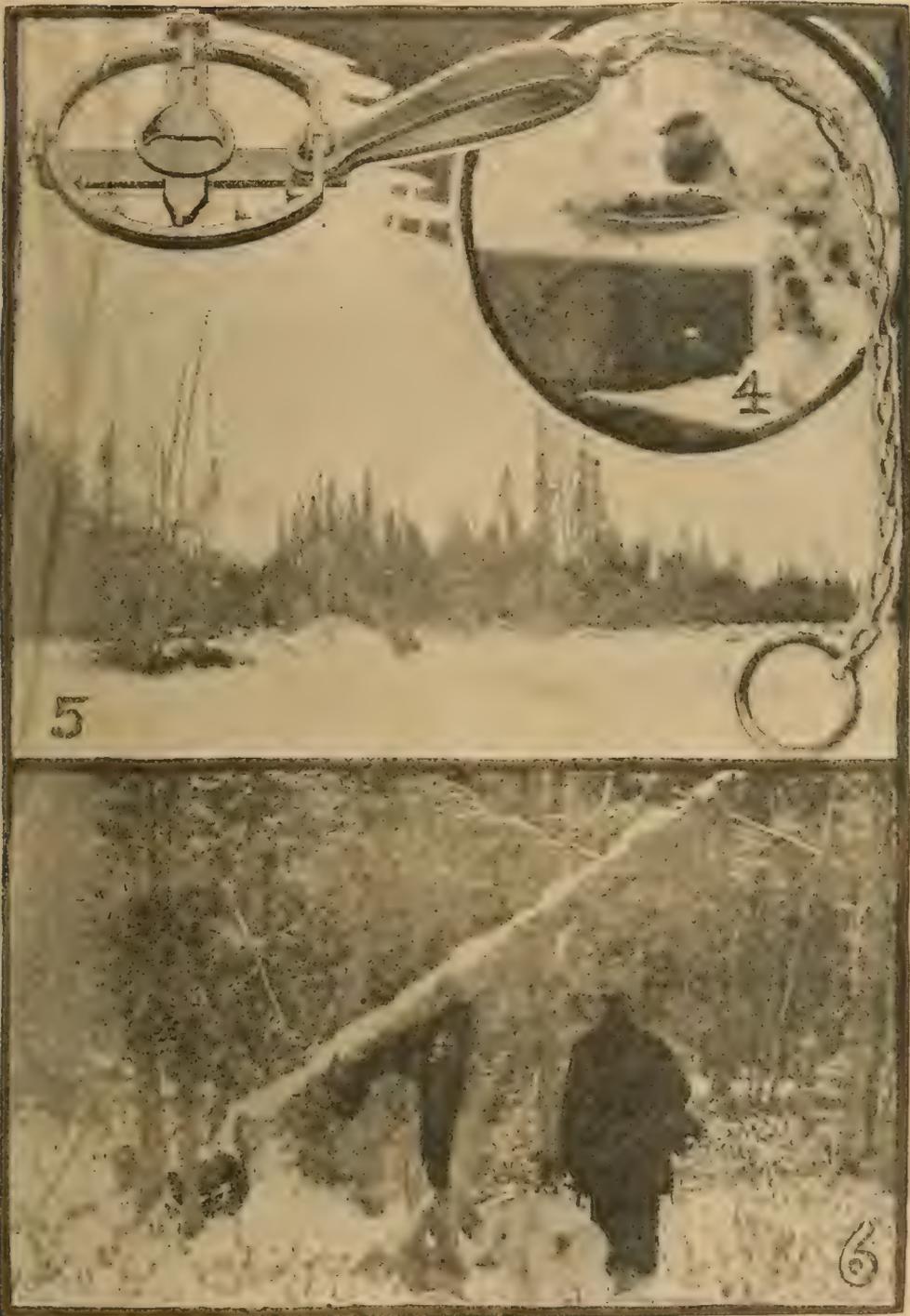
On a lake twelve miles in length there is considerable shoreline and you notice this particularly on lake Animickiwash, as the shore line runs out in a number of long points making a succession of deep bays; ice travel cuts the distance in half, but should parties have to follow the coastline of this lake they'd have a long way to travel to make the round trip.

For two days you follow the trap line, watching the trapper at work, getting photos wherever possible and all the time on the lookout for moose or deer and then on the third day your guide and yourself start after two deer, a buck and a doe that you

have seen tracks of. You hunt all day and take your lunch in the woods and then when you come home at near dark you discover that those two deer had circled back to within a half a mile of the home camp. There were tracks, you bet, and they were fresh, as sure as you're a foot high, been made a few hours before. Well it's too late to hunt, but the next morning you're off bright and early after those deer and you find where they had travelled all night and where they had 'bedded down' amongst a lot of old windfalls where they had resumed their journey. The tracks were so fresh that old Jack, your collie pal gets really excited over them—though he doesn't say a word—and they are headed for the extreme end of the point that juts into another lake. You are hunting on territory this morning, across the Canadian Government Railways' tracks from your camp to the South—and the water is open, you are *sure* of a shot and then the tracks swing down to the open water and you find other tracks *under* the water where your deer have waded out and then swam across to the opposite shore. It's too far to go 'round so you sit down and eat your rations, slop down some hot tea and then turn your face homewards 'Mowich' or moose you have not. Are you downhearted? Don't say you are at any rate; of all the poor miserable things on earth, don't be a *quitter*, it's the quitter that can never see sport in anything, in fact he's always got a grouch over something.

The days pass, there's so much to see and do. You want rabbits, there are tracks of them everywhere and the guide shows you how to snare them. He sets three snares and in the morning there are three rabbits there, and while it may not be a sportsman's way of hunting rabbit, pot-pie is a mighty fine dish and Brer Rabbit is a fellow who seldom travels in the day time so your snare is one of the sure ways of getting him.

Then one never to be forgotten day as you are coming home, along about dusk the guide exclaims, "Well I'll be—look there" and over there on



4. Moose-bird or Whisky-Jack eating meat set out on porch of cabin. 5. Beaver-house, note winter food supply showing above ice in foreground. 6. Moose hide hanging in woods near place where moose was killed, frozen as stiff as a board Nov. 2nd.



7. Weasel in trap. 8. One of the snares that was set at the edge of clearing at back of camp.
9. Setting a trap for mink or weasel.



10. Along the trap line. 11. The shelter camp ready for business. 12. As it was the first day. Note Moose hide, blankets and cot, the black bundle at left of photo.

the hillside a half mile away stands a bull moose, that looks like an elephant. It's too dark to hunt that moose however. In the first place you are in a bad place to travel from, you would have to make a detour of a mile or more to get within decent rifle range as it is nearly dark and you're five miles from home, you give it up and hustle home to prepare for the morrow.

The next morning, bright and early you are on the job. You arrive at the foot of the hill where you saw the moose yesterday and you make your way over windfalls and burnt timber and finally arrive at the place. No! You never saw such tracks in the snow before. Leave it to his 'Nibs' the bull moose to leave a track that will keep you interested as long as that track is in sight. All day you hunt, the snow tells you how this fellow has travelled away off to the West and South, swinging over toward some green timber, now he has fallen in with a yearling (your companion judges this by the size of track) of his own kind and how they have wandered from this ridge to that and as it nears dusk you find them swinging back toward the green timber. Twice you have found beds where they have rested, but as it nears dark you realize you are mighty close. Where they broke through the shallow ice on the edge of this little sheltered pond, the water has not a particle of ice on it, and the big fellow's feet and legs have spattered water on the snow a dozen steps beyond where he broke through. Your partner tells you they are headed for a small island and if they go on there—there is only a few feet of water,—ice now,—separate it from the mainland. The rest will be easy, and as you go forward you watch every thicket and brush heap for fear you pass your quarry lying down, and then just as you feel *sure* you will have a crack at that big fellow, the guide, who is coming along opposite you, two hundred yards away to your left gives two low whistles, that is 'the come to me' whistle agreed on between yourselves. The expression on your partner's face

tells of something gone wrong and as you get close enough his language simply smells of 'brimstone,' those two moose have doubled on their tracks and gone back to the green timber that they had circled earlier in the day, judging by the direction of their tracks.

Well you're five miles from home and it's getting dark, there's a camp near by but it has neither roof nor blankets and it's back home you have to go; the one thing you have seen to shoot at to-day was a big 'Snow Shoe Hare.' If you could have hit him as he bounced away in front of you, there'd have been little left but fur as the soft nosed bullet you carry for moose is hardly right for rabbit.

Out on the ice you follow along behind the guide who carries a pole with a spike on the end to test the thin places, as some spots over the deep water are none too safe. The ice is thickening up however and even the tired guide has to smile at the way you 'sidestep' as the ice cracks as if giving way when you pass over it. It makes you a bit nervous but the chink, chink, of the ice spike on the end of the pole carried by the man in front of you, as he drives the pole twice into the same place to show you the thickness of the ice, quite two and a half or three inches where you thought it dangerous. This is new ice and it's tough.

However, you do sight a stretch of open water at last and you both have to take to the shore to get round it and by the time you've travelled a mile or so along the shore of this lake you appreciate the ice for travelling purposes. The shoreline is a mass of boulders, windfalls, down timber, and tangled brushwood. Great stuff to travel through and when at last you've passed the open water and it's safe to take to the ice again you feel as if you were able to make some headway again.

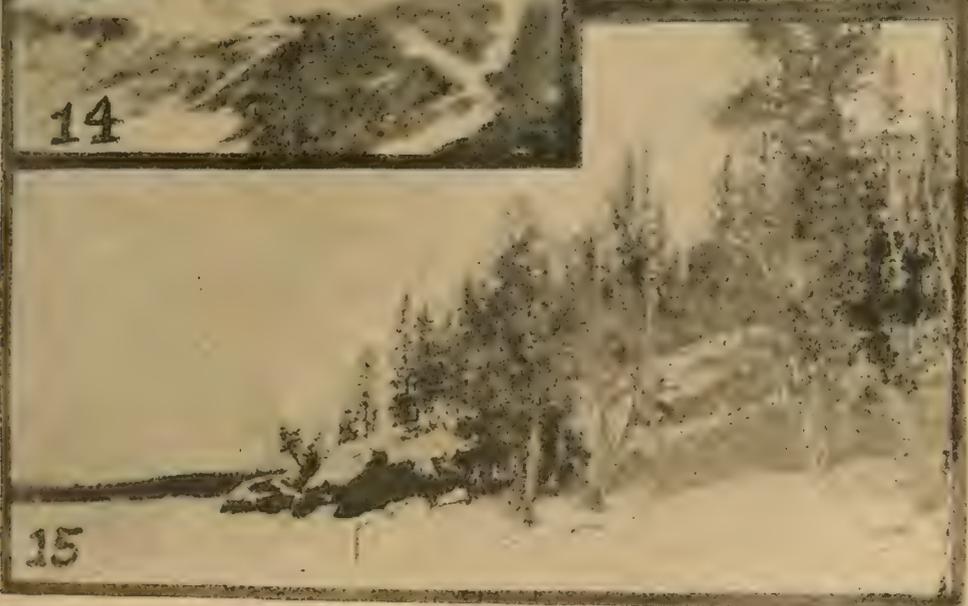
It is dark when you arrive home, but the fires are soon built and after a hot supper you are able to go to bed at peace with all the world, even if that particular moose did fool you. You know in your 'think box' that you've located their stamping ground



14



13



15

13: Coiling net and fish into tub for transportation to camp before freezing. 14. Sample whitefish.
 15. The shore line of Lake Animickiwash. Islands in the distance.

and it will be only a matter of time 'till you land your moose. However, this article deals with the lake and trapping and we will leave the killing of the moose for another story, as we are taking up quite a bit of space as it is; but man! man! if you ever go to Animickiwash and travel inland a bit you'll have so much to interest you that you'll think this short article but very briefly describes it.

The next day you and the guide spend in fixing up the 'Stop over Camp.' He puts on the roof while you 'chink' up the walls, the small stove is set up and a fire started and now you have a place to stay four miles from the main camp. It saves quite a walk when you are at this part of the lake hunting and it means you can start out fresh in the morning after those moose.

Then there are the fish, the guide sets a short piece of net under the ice over night and tells you to put two iron wash tubs on the toboggan when you start out to haul the net next day; you look to see if your partner is 'kidding' you, that net has been in the water but a mighty short time. There's no sign of devilment on your guide's face, however, so you put the tubs on as requested, whilst he is getting ready a new piece of line. You grab your camera and you are off to a spot in the lake not much more than a half mile from the houses. He hauls the net, you snap your pictures, not knowing that there was still 'steam' from the cold atmosphere on your lenses that spoils over two thirds of your photos—and you are amazed at the catch, those two tubs are filled to overflowing, White Fish, Jack Fish,—Pike, they are,—suckers, Pickerel,—Dore they are,—and what the guide calls Lawyers, Eel Pout is a more common name.

The net and fish freeze almost as fast as they come from the water so the whole outfit has to be taken into the house for unloading and it proves a two or three hours' job and you are in the land of dreams before Ernest has those fish all layed out in the snow.

Then there is the still starlight night that you and the old dog stop

up at the little camp up the lake all alone preparatory to going after that moose.

There is the incident of old Jack chasing a flying squirrel up a tree, when he stops some ten feet up you notice the blood dripping from one of his hind legs and upon investigating you discover that squirrel's limb has to be amputated cleanly at the joint and as there are no traps about, you wonder how it happened and looking back over his back tracks on the snow you can see tiny blood drops at every jump he has taken, and afterward you are sorry you didn't follow those tracks back a piece and see who or what it was that came so near capturing the little fellow.

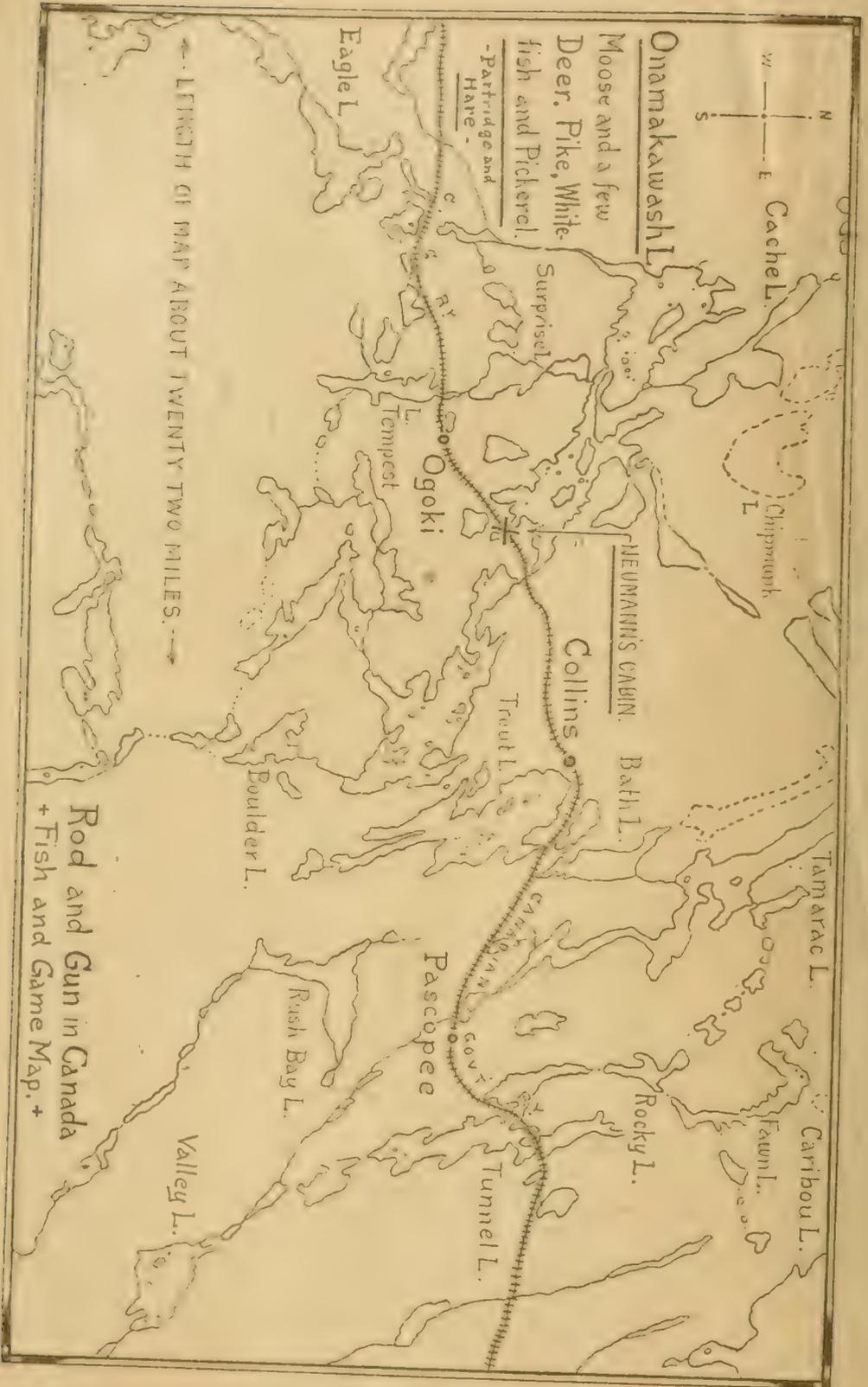
Then again there is that day that you go out in that snow storm with your guide to visit his traps and get pictures, the snow storm turns to rain and you have seven hours of that rain. You both get soaked and coming home against that wind and rain with an inch or two of slush and water on the ice, 'Oh Boy,' you sure have *some* appetite when you get out of those wet duds, and also although the day was so bad for photography, you manage to get a very fair picture of a weasel in one of the traps, and also on this day there are nine Whiskey-Jacks in as many different traps, much to the disgust of your friend, the trapper, who has his traps all to reset without a piece of fur in these nine traps.

The storm continues for another two days and you realize that back in town the work is accumulating and if another storm succeeds this, you may be late for that appointment, so reluctantly you give the word and pack up. Ernest takes you down to Collins on his railway velocipede and you await the Eastbound train which stops on signal and picks you up next morning and the trip is over. That wait at Collins would be monotonous only for the fact that Mr. and Mrs. McKinnon treat you to a dinner, a midnight lunch and some music. Their hearts are in the right place up there in the North Woods, take it from one who knows.

On the train next day you find



16. Setting trap for fox or fisher, note bait in tree. 17. Moose tracks in the snow. 18. The "automobile" that takes you four miles down the track to the station at Collins.



Rod and Gun in Canada
+ Fish and Game Map. +

three other moose hunters, A. E. Charles, Perrysburg, Ohio; A. R. Morrison, Grand Rapids, Ohio; and F. L. Charles of Cincinnati, Ohio. Two of these gentlemen had also gotten their moose, while the third had had a pocketful of hair from a moose's mane and told how he had shot a trifle too high or he would have had his also.

Well you roll into your berth that night feeling as if you had been to a real game country, and you know it a few days later when your quarter of moose arrives at the station. Ernest

having brought it out for you to the track, for when you shoot moose in that country up there, try and get one as close to the tracks—railroad tracks—as possible, otherwise you will have to sweat and swear a bit to get him out to transportation.

And before we put the 'finis' to this let us say that the Canadian National Railway leaves nothing to be desired in the way of service to you, Mr. Hunter, they try to please and they do and they also run through some game and fish country. If you don't believe us go and see.

The End of a Perfect Day

(In Camp)

A still summer night,
 A campfire bright,
 A hammock cosily hung,
 A whispering breeze,
 In the tall pine trees,
 And rest—when the day is done.

—Anne Macdonald.



Wild Animals I Have Been Mistaken For

GEORGE R. BELTON



I began when Otty Shane, with the unerring aim for which he was noted, bounced a stone off my head as I swam in the Bay and left a scar that only the thinning of the

thatch has saved from its extreme visibility. He "tuk me fer a mush-rat", a tribute to the original texture of my hair. I might add that any ability to frame up an excuse which I may since have displayed at times of need began when my mother asked me how I got that mark.

Since then I have been taken for the following animals; Bear; Deer, Moose, Black Squirrel, Badger, Wolf, and some others that I cannot recall right off the bat but will likely think of as I write this story, one thing bringing up another—the only way to write about hunting, just as hunting itself happens. I hate these evidently framed up and carefully plotted stories; I can't write one myself, anyway.

I have been shot at, stoned, clubbed, dogged, hunted by a posse, lassoed, and several other things tried upon me by persons who insisted that I was that supposed enemy of all mankind called "a wild animal."

And I am still able to sit up and take nourishment and take it like a wild animal, they say, yet; and still feel at times more akin to the wild animals than to the tame ones, man included. I have stood still in the woods till the little furry creatures and feathered friends forgot their fear and lit close to me—once a squirrel ran up my leg and jumped from my shoulder to a nearby tree, evidently either taking me for a stump or thinking I had been let into the game, that it was playing with several companions, whatever it was. And once I met a big fat black bear who looked me over somewhat superciliously, but finally as if I was probably one of the wild kindred

with rather a friendly look; or at least an acceptance of me as something neither dangerous nor deserving attack. I have been rejected of men at times; but I am proud to say that I have also been at times accepted of the creatures of the woods and fields. I am proud of both facts, as a matter of actual truth.

When I was first taken for a bear I was only a lad of ten or so. Bill Barnett had "seen a bear" in the brush back of the school and all the Nimrods of the village were priming their old guns for the hunt. I did not know about the trouble, nor the heroic steps that were being taken to prevent the women and children of the village from being "et", and wandered out on some of my own affairs right into the thick of the hunt. And for over half an hour I was stealthily trailed and ambushed by one detachment of the hunters who were almost ready to really kill me when they found that the "bear-tracks" they had so cunningly followed were made by my bare feet. If another party had been following me they would likely have ended my somewhat chequered career right there and then, for the best shot amongst them put a bullet through a small black stump on the edge of the clearing two hundred yards from where he stood. And the bullet incidentally ricocheted through the window of a cottage occupied by an elderly maiden lady who fortunately had run over to our house to escape the danger of the wild beast in the woods.

When I was shot at for a deer is a story I don't like to tell for I do not get better of my recurring anger for a while after my mind dwells upon it, even yet. I was lost in the Riding Mountains with a friend and got out at dark onto Sandy Lake; finding our direction easily on the lake we were going north to a camp that was along the shore line, when suddenly there was a sharp whizz followed by a gun report on the shore. We both dropped

to the ice with a yell and from that position saw a flash on the shore, heard another whizz close over us followed by the gun report again, and on the shore could dimly make out something moving out onto the ice. Two pseudo hunters appeared through the gloom and "wondered if they had hit anyone; they had taken us for a deer but when we yelled they knew it must be a man and as we dropped thought mebbe we was hurt." The good old man who was with me (he is dead and in Heaven now, if there are any trees and grass there) calmed me from bloodshed but I never saw either of those yaps again without longing for the good old days when you could tell people what you thought of them with a hatchet. And like a festering sore the memory of that freezing night when I nearly met death, or worse in suffering, stays with me as a nightmare.

Why do all men and women too, want to kill a wild creature on sight? We can understand the hunter to some degree, but why do even children try to kill squirrels and other harmless creatures? It may be a survival from the time when they had to be killed; when man was on the defensive against all living things in order that he might live. I remember in harvest when as a lad I started after a squirrel with its pouches laden; the old farmer I was helping stopped me with "Let it alone; I used to kill them, but I do not now; I believe there is always plenty for them and for me too." There is some truth in that. In most well cultivated districts the wild creatures that are not definitely predatory add more to life than they take from it.

What is a wild animal anyway? Are the birds that prefer to build near human habitations, as robins do, really "wild"? Are they much wilder than the hens around the average farm that refuse to be handled by man or to approach nearer than the robins often come? Are the squirrels that live year after year in the old orchard any less domestic than some of the animals in the barnyard? Could not the system of the great parks be adopted to some extent

on the farms of Canada? At Banff the animals know man as a friend. Why not elsewhere?

But I digress, as the preacher says. I was talking about wild animals I have been mistaken for and now perhaps you think I am speaking for my kin. Maybe there is something in that. Some of us may have been wronged when we were not born real bears instead of the kind the stenographers call us when our backs are turned. But even that resemblance or any other that may exist between us and the wild animals, does not excuse the man who sees something moving in the bush and fires at it. And when the season again approaches when it is dangerous for a deer to look like a man in the bush, according to the record of fatalities, the game will go merrily on as before.

Sometimes I have advocated severe penalty for any man who shoots another while hunting. I learned better from a man whose son was thus shot by a fellow who admitted that he "took a chance" and shot at something moving in the bushes. I urged that at least seven years in prison should be the penalty for such work but the father was wiser than me.

"No" he said, "If that were the law, a man who feared he had shot another would run away at once and leave him to die. As it was the man who shot my son heard him groan and ran to him and carried him into camp. If he had feared prison he would have run off in panic and left my boy to freeze to death."

You see some of our wise ideas are not so wise when brought under survey of the practical man, thinking with the actual fact in view.

There is another sort of fellow that I have even less use for; the man who deliberately fools with a gun. I cannot say more than I wrote some fifteen or twenty years ago, and have seen bob up in print every year at the opening of the season.—If a man points an empty gun at you, knock him down. Don't be particular what you do it with, use anything handy. If there is

going to be an inquest let it be over him. More people are killed by empty guns than by loaded ones.

Prevention is better than cure in all cases. If you never point an empty gun at anyone, nor allow anyone to do it in your presence you will never figure as chief exhibit, or the accused, or even a witness at a coroner's inquest where the old excuse arises "didn't know it was loaded." If you are sure it is a wild beast before you shoot you will never kill anyone out hunting.

But what can we do about the other fellow, who persists in shooting at anything that moves? Too

drastic law will defeat itself as has been pointed out, but licensing the gun and the man, and holding the owner responsible for any damage done, would make for more caution. Perhaps proper education along this line will be most effective. Talk about it, and unsparingly denounce the careless one whenever men are talking hunt or shooting.

And we need not shoot every wild thing we see. Get out sometime and feel what it is like to be hunted, if you have never been mistaken for a wild animal; it may arouse different feelings in you. And get acquainted with the wild things; they are worth knowing.

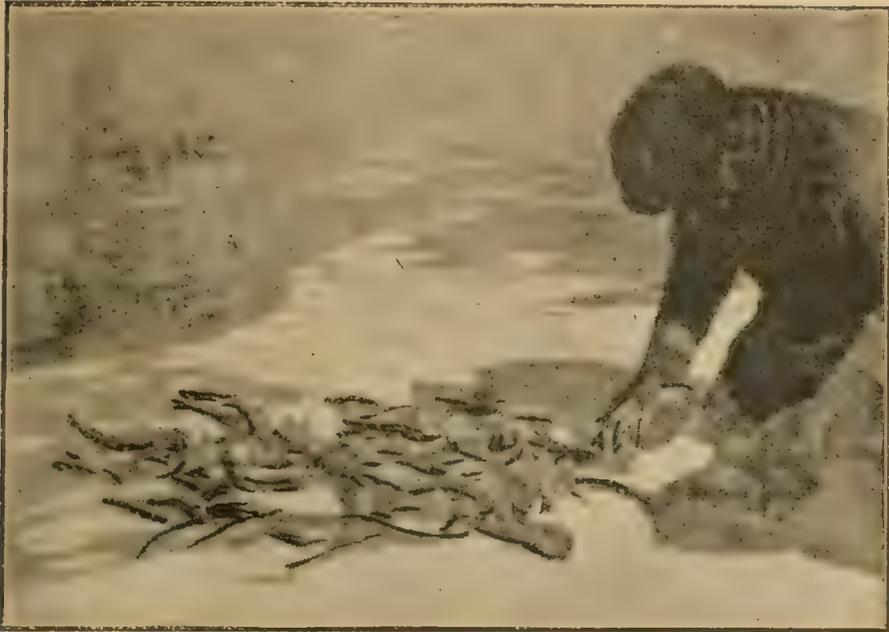
"Treasure Trove in Gaspé"

In "Treasure Trove in Gaspé and The Baie des Chaleurs" by Margaret Grant MacWhirter can be found a charming collection of legends of forest and sea, mountain and valley, sympathetically told, and presented in interesting form, well illustrated with actual photographs. Northern New Brunswick and Gaspé abound in historical and legendary interest and Mrs. MacWhirter has embodied

her stories in the form of a journey during which the reader meets the descendants of the pioneers of the preceding generation, hears tales of treasure trove by land and sea and of pioneer days, and finds much to charm and admire. This book will be found of interest—not only on account of its value in presenting Canadian legends, but for its tales of the brave, hardy race of the pioneers of Gaspé and northern New Brunswick.



Speckled beauties, caught near Cochrane, Ontario.
Left to right, Norman Montgomery, J. G. Yates, Vern S. Bell



Laddie bagging the smelt:

Midnight Fishing in Nova Scotia

BONNYCASTLE DALE



If you want to taste of the finest ocean fish that swims, go a-smelting," Zebedee told us.

The smelt had been in the harbor for sometime in under the ice, but no one

here bothered with them as all the men were getting their lobster traps ready for the season. We were busy every day trying, under very poor light conditions, to photograph the five to ten thousand Canada geese that were getting ready for their migration up to the breeding grounds of the interior of Labrador, and the coasts and islands of the Gulf of St. Lawrence. We also knew that in the harbours to the south of us the men were fishing through the ice, with four hooks on a line, and catching great numbers of smelt. Then the salt water ice got too soft and squasy to try to fish on, and the heavy rains made the fresh water streams muddy

and the harbour water was instantly dirtied, so it was almost April Fool's Day before we were ready to go for smelt.

"What are you fixing?" I asked Laddie, as he was busily mending a hand net, one we use for landing bass (and many a one it has landed in good old Ontario.)

"Getting ready for to-night. We are going netting smelt in the stream at 'The Head'."

So, after the sun had set Laddie was off with just a longhandled net and a big bag slung over his shoulder, but with long rubber boots on as this dark hour fishing sometimes means a wetting.

The shades of night were darkening the rapid stream when Laddie got there. The white foam of the hill-fed brook was whirling away out to sea—like great spooky footballs, and the roar of the mimic river was in the air. He was all alone in his glory, as none of the fishermen's lads had arrived yet; although the warm sun

of the day tempering the water and making smelting conditions good, should have tempted them.

Now the Lad knew as much about smelt catching as he did about flying-fish hunting, but he saw one single smelt swimming and he dipped down in the brown water—that is the regular color of these Nova Scotia brooks, for weeks at a time we have

rock where the stream narrowed a bit so that the spawning fish would have to pass closely—both tide and stream were just slack now; the best time to net—and he landed a half dozen to dozen each time the little net swept down stream. He dipped as deep as he could right along the bottom as these wee semi-whitefish are timid swift things.



Catching smelt. Laddie caught half a dozen that time.

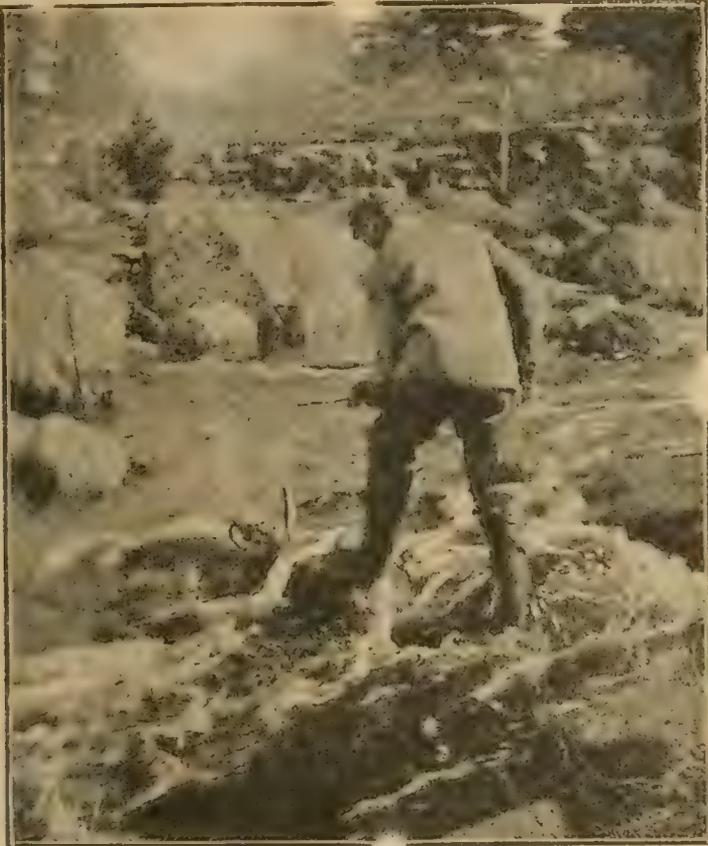
drunk water so brown that you could hardly tell whether we had put the tea in or not. Now he noticed in the dusky looking water a few fish passing over a white stone, then he saw a few break—making just a ripple on the water, and he dipped up-against the current and landed one smelt. Again he tried dipping upstream and he landed two, then he leaped onto a

Now the other youngsters arrived and soon big herring lifting hoop nets—nets twice as big as Laddie's—were dipping them out. The little silvery fish lay in rows upon the old stage coach road from Halifax to Yarmouth which passes over the mouth of the creek. It seems odd to us to take of spawning fish but this is the only way the Maritime

people can get smelts, alewives, yes even the herring are spawning when they come into the harbour.

Three boys with splashing dipnets soon took out enough for themselves and their friends. Laddie was satisfied with about a hundred, and a hundred fills a common water bucket. Lithe, shapely things of about six to eight inches long and no thicker

into the old bag and came homeward through the spruces and firs—chatting loudly and merrily with his young friends—ahead of him the surf roared on the bar and “Little Hope” sent out its warning beams. I would much rather be here on the cold firm road waiting for the merry sounding voices to approach than be with the two men who tend that light—with



One smelt dropped through the net.

than the big fresh water chub—not as deep bellied as those false herring—the alewives—which you catch in Lake Ontario or see dying in summer on the surface of the lake.

Laddie knelt on the old dark road, it was almost midnight now, and I wondered what had become of the boy; and while the stream roared out its nightly song and a wee owl asked who it was “who! who!!” he picked up his scattered fish and threw them

the island under them almost scooped out by the terrible storm of last November. How anxiously we watch after each storm for those welcome beams of revolving light. (I tell you my dear readers the storms and tempests of this bleak coast, and the consequent tragedies and loss of those we hold dear has sent us to bed many a night with sad hearts when the great Atlantic was on a rampage.)

Well—next day Laddie was busy

giving fish away—none too easy in a country where any man can net them out, but very few are taken in comparison with the billions which each year seek this east coast of America to spawn.

Not only on this shore do we find smelt. The fresh water lakes of New York State harbour it and they are also found from the St. Lawrence to the head of Lake Superior.

Once when Laddie and I were eating our dinner on a far northern fiord of the Pacific, an Indian family came wandering down to the shore and immediately set about constructing a rude weir of branches, weeds and stones across the tiny mountain sea running stream. We had firmly refused to eat any of our evening meal on account of the terrible stench of the rancid—aye! putrid whale oil they were soaking their biscuits in—we were right across from a whaling station, where they reduce the hundred ton monster to oil and guano and canned meat, and these Indians had managed to get hold of a carcass of a stranded whale; too old and too strong for use at the station, and they rendered out many a five gallon (coal oil) tin full.—These five gallon cans are as current as money on the coast. We have used them as stoves, pots, partitions, boat patches, plates and pans, and we have even seen a whole shanty built of them—yes even to the stovepipes. As soon as the squat dirty looking family poured out what looked at first to us as Maple Syrup?(How I wish I had acted on Laddie's suggestion, to buy some)—as soon I say as they uncorked that tin we moved off languidly—as if in search of other scenes, and it was a lifesaving relief to catch the ozone laden ocean breeze in our nostrils once more.

We went to the other side of the dam and took a few, yes I must admit it, shirts full of smelt. We were travelling light, and we bitterly regretted having to tie a nice new khaki shirt on an old alder hoop. Such a waste of shirt! Now, from another angle, I view it in an altogether different light, and I fairly hesitated before I

typed the word. But as we used kelp bulbs for cups and big pecten shells for plates, and a sliver of Douglass fir for a fork—yes! We had our big pocket knives—and they were the only weapon we carried in this densely forested country—that shows you how much to believe of many of the tales of American animals attacking man!

Well! We ate of those Pacific smelt with as much gusto—whatever that is—as we did of these Atlantic ones we saved three dozen here for ourselves—there is no more delicious eating fish that swims. Odd thing about it too, there is no slime upon the body, and the bones are so slight and transparent and withal so firmly attached to the backbone, that they come out intact with the backbone and the firm flesh!!!—There I must stop this or I will have your mouths watering. They are not a large fish, about the size of the brook trout you take from the inland streams, from four to the full adult length of ten inches. The flesh is white while the brook trout in this country is almost terracotta. And then there is less oil in this fish than any we have cooked of ocean fish which run into fresh water to spawn.

I know on the west coast of America they market several hundred thousand pounds and it brings a good price too in the big cities. On this coast in Canada alone we market over a million dollars worth a year. Some of them are used as bait also.

They look very much like the "eulachon" or "candle fish" of the Pacific but the difference! Oh! the difference. You may go down and catch a big dipnet full of candle fish and you have a netfull that looks very much like a netfull of smelt—but just cook them once if you want a panfull of oil. Why all we had to do around our camp on the Pacific was nail a few up on every stake we could make and, if the pesky crows did not steal them while we were out photographing the salmon run; why we had just as many nice wee torches each night as we had fish, for after a few days of drying they will light up just like a wick.

What long fine sharp teeth these shining smelt have and how full and fat the big females are beside the little males, the number of spawnladen females is about one in five, as we only found spawn in four of our retained catch.

I was obliged to reproduce the scene in sunlight to get a set of pictures for you, as flash light is so unsatisfactory—and so hard to carry in our field work in all the provinces.

One very odd sight during a big run of smelt, is when a big flock of herring gulls spies the commotion in the water the mighty school make; they whip and toss the surface like a miniature windstorm—then the big greybacked gulls cry and whimper and alight on the surface with upheld fanning wings and dip down as far as their long necks will allow them. The frightened school of smelt dive down as far as they can until the very packing of the large numbers lift them towards the surface—instantly the loud outcry of the gulls ceases and every yellow bill is filled with a smelt and the fish, alive and wriggling, are crowded down.

This harbour of Port Joli contains about one hundred harbour seal. All the winter long these big sleek mammals must have hard work getting enough food, for all the lobsters have crawled away out into the open sea and are comfortably hidden under the heaped up masses of rocks the glacial age deposited all along and off this coast. The crabs are buried in the mud. The eels are buried in the mouths of the streams which empty into the harbour. The Tommy cod still hover off the mouths of brooks

and creeks but they are too far in for the seal to swim to at all times. The cunners and flatfish may give them some food—but it is when the myriads of smelt pass in to spawn that the seal find rations swimming right past their sunning rocks, on which they never sun in the winter time, choosing a nice cold drifting cake of ice. Don't



A "mess" of smelt.

be afraid that the few million smelt we humans, and the big human-faced looking seals, take will ever diminish the smelt. Their far off sea haunts preserve them—as the big codfish and the haddock and halibut, cusk and pollock are so much more valuable as foodfishes for the market that these little "baitfish" are not closely netted or pursued.





F. V. WILLIAMS



Partner and I—were having a whale of a time. It was raining and blowing a half gale, no weather for either shooting or tramping so we had eaten and slept, and tidied up our equipment, in fact put everything in ship shape order against the time when the elements chose to let us out. And about this time partner discovered a small tree, about twenty five yards from the front door of the cabin. Now this small elder was probably $1\frac{1}{2}$ inches wide through the trunk, hardly a tree, more of a bush I argued, nevertheless partner insisted that the large scar on the bark—where some one had chipped the bark off in trying their pocket knife evidently—was too small a mark for me to connect with if I were to try it with the little 22 we had along.

I disagreed again, stating that I could hit that spot six out of six shots, result, I had the first chance and hit the bullseye three times out of six.

Then partner tried six shots and landed four in the light spot as against my three, and the fun was on.

Now our little cabin was perched

up on a fifteen foot bank above the lake and as there was a good long mile of open water behind our target we imagined there'd never be any one out 'forninst us' on the water with half a gale of wind blowing, but when we were about finished with our target practice I happened to glance out over the tumbling waters of the lake and was dumbfounded to see a man in some sort of craft disappear in the trough of a sea.

The crest of the following wave appeared and just then for an instant only could be seen what looked like a shooting punt, but the hull was almost instantly lost in the spray. Only the man's upright figure was to be seen and the movement of his arms as he propelled the little craft forward in spite of the wind and sea running. Truth to tell his boat was so low in the water that the wind had very little chance to get hold of it, the sea alone apparently was the only thing he had to contend with, and judging from the headway he was making it bothered him but little.

Partner got the glasses and we took turn about watching him until he disappeared around the nearest point.

It was two weeks later and we had planned having one more good long shore hunt before breaking camp for

home, in the hope of getting a few ducks to take back to the City with us.

My pal went South, and I took the North route along the shore, both were good places, good feeding grounds for duck, as there were numerous little inlets and coves and two or three small streams—outlets of small lakes that were ideal spots in the early hours for black-duck, teal, widgeon and bluebill. And the wind when we started out was blowing alongshore from about W. N. W. a good retrieving breeze for any fowl that one might drop in the sea.

As I travelled northward, this wind began to veer around to the North and by the time the first small pond was reached it was at least N. E.

It was just breaking daylight and after about twenty minutes manoeuvring about I found a good location, a tiny isthmus connecting a small island with the main shore, and here I had very good sport, getting ten shots and eight ducks, and as that was about all I cared to carry on my homeward trip I started that way.

Emerging from the thicket surrounding the lake I almost ran into another gunner, coming from the direction of the shore. He greeted me with a broad grin and a cheerful "Good mornin" and although he had no ducks he seemed pleased at my success as I displayed five bluebill, two mallards and one widgeon for his inspection.

"Pretty good sport eh!" he remarked, and upon my inquiring if he had not had any luck he smiled again and remarked, "Oh I've just started out, this wind is swinging round to the East and before another three or four hours there'll be dozens of ducks in here for shelter, for unless my 'dope' is all wrong we're goin' to have a hum-dinger of a breeze."

"Stranger around these parts?" he queried.

I informed him I felt like an old resident or wished I was at least, but that we were staying at a cabin about three miles down the shore and would be leaving in about another twenty-four hours for the City. We talked about ducks, weather, guns,

etc., in fact had quite a chat and when I had left him he called to me and I turned to see what he wanted, he strolled leisurely back to where I stood and remarked. "Say! you're goin' back to the City and why don't you go down and try to get a pair o' them 'Lords and Ladies' to take with you." He saw I was guessing at what he was talking about and asked if I had ever seen a 'Lord'?

I told him I had not. "Well then I've got no big rush on this mornin' and you come with me and I'll show you the purtiest duck we have about here. There's always a few feedin' round down by the outlet.

After travelling a half mile we moved out on the sea shore at a point where there were numerous large boulders strewn about.

"Now then,"—my guide instructed—"I'll stop here, the outlet runs down here alongside these rocks as you can see, you creep around there to leeward and if I'm not mistaken you'll see Lords and Ladies, when I hear you shoot I'll come."

It was the work of perhaps ten minutes to follow his instructions and peering up over the boulder in front of me I saw away out by the point two smallish ducks bobbing about in the surf and then there suddenly popped into view a third, and fourth, and fifth, until there were seven of them. They were diving and feeding about forty yards away.

Five minutes later they were all under in their diving operations and I swung up into shooting position, as they came up I got the first one, and the second. Two fresh shells and as the last two ducks left the water I let go and although I felt sure I should have dropped my bird they both bolted away off shore.

And the wind, I had clean forgotten it. There were my 'Lords and Ladies' out there in the water and steadily drifting off shore, and gradually approaching the white caps which marked the tide rips and rough water. I was startled by hearing a voice gleefully exclaim 'Well you got em,' almost at my elbow. I turned to look into the delighted face of my new acquaintance, as he stood with



"Looking out on the coast from the beach, holding about on the surf."

his pump gun in one hand and pointed to the fast disappearing ducks with the other.

"Got them did you say?" It looks to me as if I'd lost them and I'd rather not have shot those ducks than to have shot them and had them go adrift," for truth to tell I'd forgotten about that wind driving off shore as here in the shelter of the rocks one could hardly realize how strong it was blowing.

"Don't you worry about those ducks, you sit right here and I'll have 'em for you in no time."

And he turned and clambered away out of sight to the north among the broken rocks.

Possibly I had been waiting ten minutes when I turned my head at the noise of oars and there gliding offshore was my friend, sitting in a low shooting punt with some sort of a covering over the cockpit. He went off shore fast enough and as I saw him go I was almost sorry I had not let the ducks go. That was mighty rough water out there and speaking for myself I would never ever have ventured into that tide rip in anything smaller than a dinghy or dory. It did not look safe to say the least.

The little boat went steadily enough till it struck the first tide rip, then the bow went in the air up,

up, and then the bow dropped and the stern flew up and as quickly dropped out of sight.

Now and then I saw the boat tossing around out there and going farther and farther off shore and then I lost sight of it altogether for a half hour. At the end of that time glancing up shore I was surprised to see the boat inside the rip and in smooth water making a landing on a smooth piece of sandy beach about a half mile from where I sat, needless to say I hustled over there to talk things over, sure enough the boatman had the ducks and he explained 'one was only wounded and he had to chase him for a long distance before he captured him.' "Lords and Ladies" they looked the part, and my new friend volunteered the information that he guessed the right name of them was the Harlequin duck. Admiration for the birds was divided in admiration of the little craft and its fearless owner. The boat was a specially constructed shooting punt with an extra heavy turpaulin covering the entire cockpit and a lacing for the boatman's waist. Once seated in the boat and the lacing fastened about your waist you could as the owner said "Go anywhere within reason in that boat" and I believed him after seeing his demonstration.

New Brunswick Tourist, Game and Resources Association Hold Annual Meeting

June 16 and 17th were the dates of this year's annual meeting, of the All New Brunswick Tourist, Game and Resources Association. The meeting which was ably presided over by Hon. Charles H. LaBillois, was held in the Inch Arran Hotel at Dalhousie. Much business of great importance was transacted including the merging of the All New Brunswick Tourist, Game Resources Association with the New Brunswick Tourist Association under the name of the New Brunswick Tourist and Resources Association. In the matter of fish and game protection it was decided to co-operate with the Department of Lands and Mines, under whose control the Fish and

Game Department is held; also it was suggested that educational propaganda be issued by the Department.

Manitoba Law Protects Hunters

Section 4 of the 1920 Manitoba Laws states: Every person hunting any of the animals mentioned in Section 3 (big game) shall wear a complete outer suit and cap of some white material, and any person neglecting or refusing so to do shall be liable on summary conviction to a fine of not more than fifty dollars and not less than ten dollars.

The Editor's Moose.



THE EDITOR



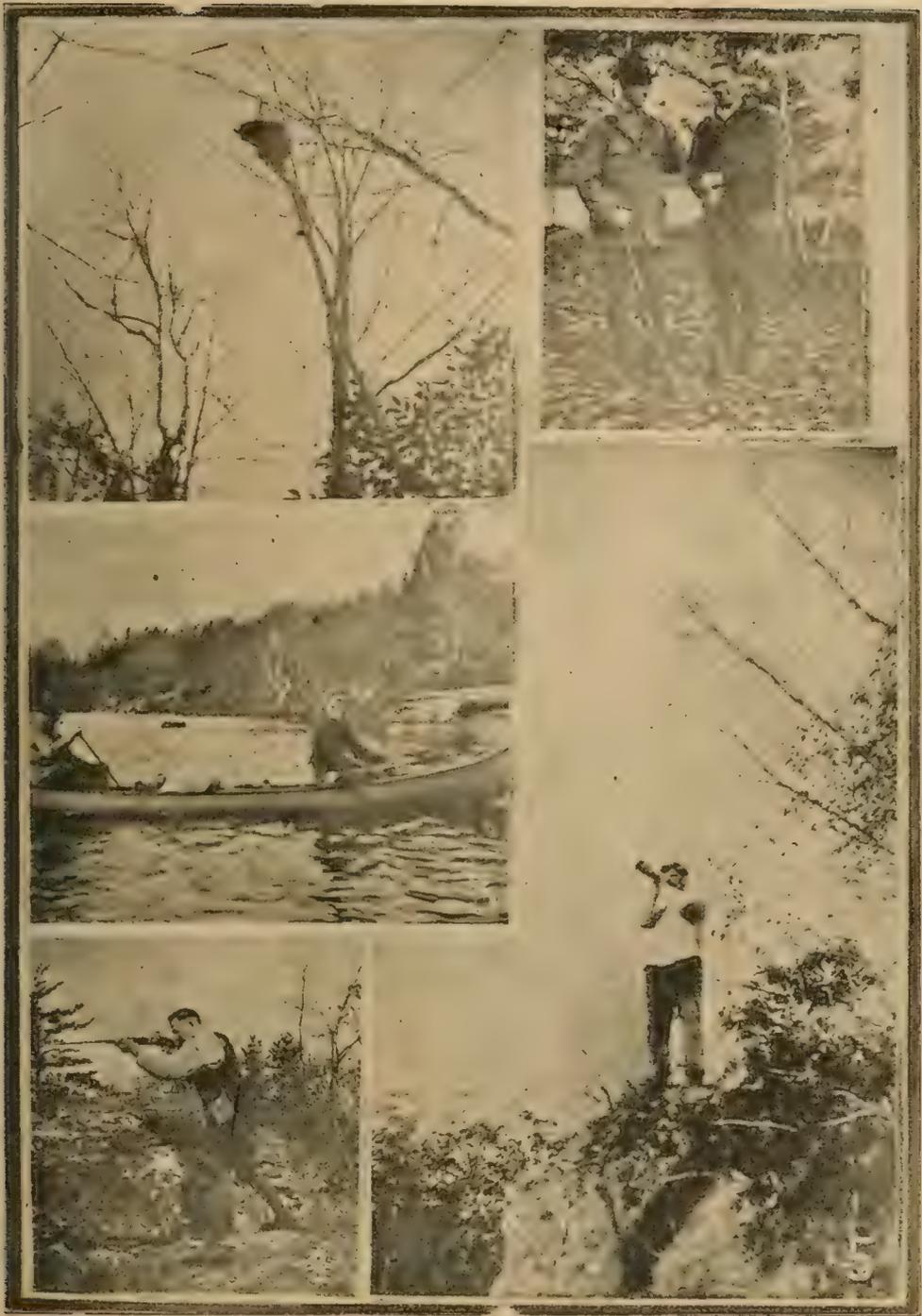
TAKE the train to Bridgewater and tell Harry Edwards that you are going to my camp at Rossignol"—That was the sentence in a letter of final instructions that I perused from time to time enroute from the midway of one of Ontario's larger exhibitions to the runway of Nova Scotia's farfamed moose haunts. It all started with an invitation from Phil Moore to visit his hunting lodge on Lake Rossignol in Nova Scotia. While the main object was just plain visit, there was the possibility of getting a moose. I attended the trapshooting tournament at Toronto Exhibition and watched the scatter gun experts break 99 out of 100 and sometimes 100 straight "clays", then I read several thrilling accounts of "How We Got Our Moose" and then as a final measure to ensure success I took the .303 out into the famed hills of Zorra, near Woodstock and scared the countryside with salvoes of Soft Point and Steel Jacket.

The trip to Halifax was made on the Canadian National Railway and although the official courtesy was very good when en training it increas-

ed as the journey went on, the climax coming with the Harry Edwards mentioned in the letter. He took the lone travelling man in hand at Bridgewater and from there to Caledonia there was not one dull moment. Although as conductor of the Bridgewater train, he is away from Caledonia most of his time, he is still the big man in his home town. The night I arrived they postponed a big social evening from 8 o'clock till after ten so that Harry Edwards could act as Chairman.

At Caledonia which is the jumping-off place for Lake Rossignol, I met two old timers who told some exciting tales of the previous few weeks in the bush when the 'calling' season was at its best. When I told them of my hopes of getting one of the big fellows they told me the odds were against me as they subsequently proved to be, owing to the fact that the calling season was over and that everything was so dry that it would be impossible to still-hunt. However as moose were only a minor consideration I was not greatly disappointed.

The morning of the eighteenth of October saw the writer with his rifle and sleeping bag piled high on a "buckboard" Ford enroute for Phil Moore's Camp at Lowe's Landing on



1. A "porky" up aloft. 2. *Field and Stream* and *Rod and Gun*. 3. Starting from the main camp. 4. At high noon. 5. An early morning call.

Lake Rossignol. Although we failed to find the road which had dropped out of sight, we enjoyed the trip which

is unexcelled for beauty from a sportman's view point. Imagine if you can, passing through a perpetual

bower of green, yellow, red and gold with a woodcock or partridge rising every few yards. Our imagination had pictured the camp as the usual hunter's cabin but how sadly it had failed was seen when our genial host ushered us into a splendid hunting lodge complete with fireplace, bath, running water, in fact everything



The lay of the land.

but electric light. The old sleeping bag was shoved to one side and real beds were used each night we were in camp. The camp cook could give many a chef pointers on the fine art of making tasty dishes and as he said he cooked "by guess and by gosh".

I always understood that being a good liar was a necessary feature in the make up of a good guide but this trip proved this supposition incorrect as Ors. Croft was one good guide but he invariably told the truth. Although one night when we were camped away up on the north east arm of the lake he told me to take my boots in to camp as he lost three pair the previous week by the bears chewing them up. The country around Lake Rossignol is fairly rough; it starts at the shore with a rough rise of rocky barren or sometimes flowage, after a short distance it goes down onto a bog and finally one encounters a strip of dense swamp. The barren land is covered with light hardwood which grows among the huge glacial age boulders and rocks.

The first thing each morning Ors.

would take the axe and his birch bark moose call and softly lead the way through the dead ferns and undergrowth to the edge of a likely looking bog. He called morning after morning in the most seductive manner but without success. The third morning I picked up the call and after many instructions from Ors. who was steeped in the ways of the wilds and on speaking terms with the moose, I called. Whether it was beginner's luck or the fact that I was so deadly in earnest will be never known. However, after a few moments a hoarse "Woof, Woof" came back to us from a barren about two miles leeward. Ors. quickly took charge of the two man expedition. Up to this time we had just still hunted as noiselessly as possible but at that I was always breaking underbrush or making a noise on the rocks or in the water of the swamp. "He'll not come near us but we should be able to come up on him if we are quiet", said Ors. and off we went to the left. After three hours steady plugging through bog, swamp and barren we came up on some new "workings" as Ors. calls the broken twigs and foot marks. We crept slowly along with increased care and suddenly I saw a huge black form running silently through some thick hardwood undergrowth. It was my first moose. With an exclamation to attract the guide's attention I threw the .303 to my shoulder and got in two shots and incidentally two misses. Ors. very kindly explained that it was an almost impossible shot as we had been making too much noise and Mister Moose had heard us for a long time and had only delayed his leave taking long enough to have a look.

We saw plenty of bear and deer tracks also a number of cow moose with their calves during the week's stay on the Lake. Previous to the week I landed and during the calling season every hunter took out his moose from Moore's Camp.

Although I was unfortunate in only being able to spend a few days and then at the worst time in the season I had a splendid trip.



GUNS & AMMUNITION

Peep Sights for Bolt Actions

VAN ALLEN LYMAN

THE peep sight is unquestionably the sight the sportsman of to-day is turning to, but locating a peep sight on a bolt action rifle has always been something of a problem.

The lever action has long had the peep on the tang as a matter of course and later a type of receiver peep sight was adapted to the lever action arms, but for a long time the bolt action rifle was minus a good peep sight simply because there seemed to be no practical place to mount it. It could not go on the tang as this would interfere with the backward motion of the bolt, and owing to the shape of the receiver no ordinary type of sight could well be mounted there.

However, the value of a good peep on a bolt action rifle was understood and not a few peeps for bolt actions were privately made by gunsmiths and individual gun cranks. They proved good and the Lyman people eventually brought out peep sights adapted to bolt guns, as did other makers both in the States and abroad. As a result we find that peeps for bolt action rifles (omitting any consideration of a peep aperture in a barrel sight, which is practically useless for quick work or poor light) resolve themselves into three general classes.

First, that of the Lyman receiver peep sight, of which the well known Lyman No. 48 is the highest development, and a splendid sight it is by the way. All peeps of this type have a base fastened by screws to the side of the receiver. Sliding in this base is an arm which projects over the receiver bridge and on which the peep aperture is mounted. In the Lyman No. 48 there is a micrometer adjustment for both elevation and windage.

As this sight is an accessory to a rifle it is necessary to drill and tap screw holes in the receiver for it, a simple job to a good gunsmith. A considerably stronger job of attaching could be done were the sight base fastened to the receiver by electric or ox-acetylene



welding or by brazing. This however, would take very skillful workmanship and special apparatus and the regular screw attachment has always proved sufficient so far.

In a desire to get the peep closer to the eye so that it might be more quickly caught and so that it might be used in poorer light experi-

ments were made in mounting the peep on the cocking piece or rear end of the firing pin. This puts the peep very close to the eye which is desirable, and, it will be noted there is no danger of being struck in the eye with the peep as the gun recoils, for the sight necessarily moves forward a certain distance when the weapon is fired.

The illustration shows the Lyman No. 103 mounted in this manner on a Springfield. This sight is capable of very accurate and close adjustment both vertically and laterally. The old reliable Lyman No. 1A can also be mounted in the same manner and at a rather lower cost but it is not capable of the sideways adjustment. The Newton peep sight is an

eating and these theoretical objections cannot detract from the very practical fact that actual hunting experience in the field in the hands of many has shown that peep sights mounted in this position are thoroughly practical. The first and second objections as to shakiness and wear are taken care of in a very practical way by private gun-smiths and in the Newton rifles by bevelling the sear and the notch in the cocking piece so that the inclination is for it to always tend to rotate as far as possible in one direction (there is no actual rotation, just tendency to do so) thus necessarily always coming to the same place and bringing the sight to the same position.

It has long been a question, however, as to



extremely compact sight as it is designed to take the place of the firing pin nut.

Theoretically there are objections to a sight mounted on a firing pin. First; as it is mounted on a moving part and moving parts are subject to wear the sight may lose its adjustment through wear of the parts. Second, the firing pin and necessarily the sight attached may not come to the same place each time owing to looseness or to the bolt being incompletely closed, causing the sight to be canted slightly out of line. Third, a sight attached here adds just so much additional weight to the firing pin tending to make it more sluggish in action when firing the cartridge.

However, the test of a pudding is in the

whether this refinement is always essential. Colonel Townsend Whelen called the writer's attention to his (Colonel Whelen's) favourite hunting rifle, a sporting Springfield which has a Lyman peep sight attached to the cocking piece. Careful tests with it at different times have shown that it is always accurate and has never changed its sighting in the least. The parts are not beveled as just described but have been left square, just as the arm came from the arsenal. As the trigger is drawn back any looseness or slack is taken up and the parts always draw down into exactly the same position. To help settle a much rooted question will some of the shooting fraternity who have experimented along these lines report whether, in their observation, this is invariably

the case. Colonel Whelen's rifles, by the way, are beautifully made and finely finished and withal practical to the last degree are treasures that would delight the heart of any gun crank.

In the writer's opinion the most generally satisfactory peep sight for a bolt action gun is the receiver sight. While the sight mounted on the firing pin is optically a better proposition, it is somewhat more liable to injury and if the sight does not come to the same position each time when the gun is closed the shooting will be inaccurate. If one has a firing pin sight which he suspicions is not coming to the same place each time the matter can be very easily checked up by putting on the gun barrel an intermediate sight of the straight bar with a U notch type. Such a sight can be made of cardboard or tin and attached midway between the regular sights in any convenient way. Line it up with the other sights and then work the bolt a few times. If the rear sight does not come to exactly the same position each time, it will be at once apparent. Where the rear sight is rigidly attached to a non-moving part, as in the receiver sight there is, of course, no

possibility of its getting out of alignment through wear or sight difference in position of the bolt parts.

The Lyman No. 48 receiver peep sight costs, in the United States, \$12.00 with an additional charge of \$2.50 for mounting if the arm be sent to the Lyman factory for the work. Certain other types of Lyman receiver peeps cost less. The old reliable Lyman No. 1A of type suitable for mounting on the cocking piece of a Springfield costs \$5.00 plus charge of \$2.50 for mounting it on the cocking piece at the Lyman factory, quite a nice piece of work, by the way. The Lyman No. 1A permits elevation but no windage and if windage adjustment is desired it is necessary to get the Lyman No. 103 at a cost of \$9.00 plus \$3.00 mounting charge, \$12.00 in all.

We find great strength and simplicity in the familiar peep sight of the Model 1917 U.S. Rifle in which the receiver has been especially designed to accommodate this type of sight. This, however, is a strictly military sight and has adjustments for ranges far beyond that at which hunting is usually done.

Here's That Old .38-40 Again

JOHN LYNN

ASHLEY HAINES in April *Rod and Gun* takes seven or eight pages to tell how he just loves his old 38-40 rifle as a deer killer. Before submitting the following knockout I want to go on record that his story is appreciated. I sat down and read it through, and enjoyed it all, even while knowing he was putting something over on us all. Would that other writers should write as well. Come again, old friend.

And now, for the sake of argument, let me put on a stern look and proceed to tell this 38-40 and 30-30 man where he gets off in a modern world where better calibres are available. Don't miss the question I am going to ask him at the end.

We all know what sort of rifle, or gun, or load should be used to shoot hogs on butchering day. A 22 Long Rifle, rim fire cartridge is too powerful. A 22 short is about right. If we use a 32-40 or 38-40 it is proper to pull out the bullets and spill two thirds or more of the powder in preparation for this shooting purpose. Some people even use a shotgun by taking out all the shot and using only wads, or leaving in only about two grains of shot.

Why is a light load best for this hog shooting purpose?

Answer: because a heavy load penetrates too far, and tears too much meat.

Why do these apparently poor calibres (from hunting standpoint) prove too deadly and efficient on hogs?

Answer: because we get up close to a hog before firing, and *never* fire when the hog is moving fast. Much hog shooting is done with a rest. Result; brain penetrated.

Now Mr. Haines is a good shot. He in fact is a dead shot, who hits his game in vital places when it is running with more certainty and ease than a less skillful hunter hits it in a vital place when it is standing still "looking pleasant for the occasion." So is Charley Barker, of New Brunswick, the same kind of a good shot. His story is told as follows by Col. Townsend Whelen, as may be reprinted from *Arms and the Man*.

The .22 As An All-Around Rifle

Lt.-Col. Townsend Whelen

Charlie Barker blew into my camp in a whirl of snow one blustery day in November with a pack of traps on his back and his .22 Remington repeater over his shoulder. Just at that moment I spied a weasel running along a log and called

Charlie's attention to it. "I want that son-of-a-gun," he said. "He's a three-dollar bill to me. Someone squeak like a mouse." I squeaked, and the weasel stopped, and Charlie shot him. The .22 bullet had not spoiled the pelt a particle. Any other rifle would have blown him to pieces. "I don't want any other rifle on the trap line," said Charlie. "This old .22 Remington is plenty good enough for me. It is superbly accurate and will kill anything I want." "How about when you want big game for meat?" I asked. "Why, I can get meat while I am on the line with the .22 without taking time for a regular meat hunt," Barker said. "I have killed considerably over forty deer with this little rifle, and two moose as well. The deer I shot through the heart. One moose was shot through the heart, and one behind the ear. Any moose shot through the heart with a .22 will stop dead in his tracks. Deer shot through the heart will sometimes run a hundred yards, but they are your meat every time. Last year I shot about sixty beaver with this little gun, and beaver skins are selling at from thirty to forty dollars apiece. This little rifle is just the ticket for me, because it will kill all the big game I want for meat and it will kill all small game without hurting the skins so that the dealer will give me top prices for them. I have a big 9-m.m. Mannlicher at home, but I never carry it; but you bet your boots this little Remington goes along every time."

Now, Charlie Barker is considered by all who know him well as the best woodsman and hunter in all of New Brunswick. He has been a celebrated and successful guide for twenty-five years. Last year he made \$7,000 on the trap line. He is the kind of a man who almost invariably kills deer in their beds before they are aware of the presence of a man. He can trail man or beast in summer at a rate that will make a city man hump himself to keep up, and he is absolutely truthful and does not exaggerate. What he says about the .22 calibre is worth very serious consideration. Here you have a rifle which is accurate enough for the work of the most expert target shot and which is the most inexpensive of all to purchase and to shoot. It does not require an elaborate rifle range for its use, and the ammunition can be carried in large quantities. The report does not scare game. Now, it seems that with this rifle you can kill any American game, always provided that you are a real rifleman and do your own part correctly. The kind

of marksmanship exhibited by Charlie Barker on game when in the woods with me was identical with that shown by a real expert at the National Matches. Without such skill that will invariably direct the little bullet to an absolutely vital spot, the .22 can hardly be called a sportsman's weapon for hunting. It wounds too much game and causes too much needless suffering.

The reader will note a marked similarity between two passages in Mr. Haines' April *Rod and Gun Story*, and Col. Whelen's *Arms and the Man Story*. Let me quote Haines' passage for the benefit of those readers who do not have it by them at this time.

"But I very much prefer to slide through the brush as noiselessly as a moccassioned ghost on tip toe over a field newly plowed and broadcasted to thistle-down; catch my deer unaware and stick that bullet (any type provided it isn't of the fly-to-pieces kind) in the desired spot and if it happens to be nothing better than of the 30-30 class I shall expect venison for supper."

Charley Barker gets through the timber and brush swiftly and silently, and so does Mr. Haines. The only difference is that Haines packs along a cannon of a 38-40 or 30-30, while Barker daintily carries a 22 rim fire. Why does Haines use so much useless power? If he sneaks up to a deer and shoots it as he would a hog on butchering day, he certainly doesn't need anything more than a 22 rim fire.

Seriously, if the ordinary hunter wants to avoid confusion as to the real value and usefulness of the 44-10, 38-40 and 30-30 class of rifles, and the 32-20, 25 rim fire and 22 rim fire as well, in the hunting field where deer are to be killed, let him understand that they are all right for shots where you are certain of planting bullets in vital spots, as you would in hog shooting.

The reason why better and more powerful calibres are best for the average hunter in average hunting conditions is because the bullets can not always be located as precisely as desired. No real hunter that I know of wants to pack along a crowbar of a rifle, weighing 8 pounds or so when loaded, and three or four pounds of ammunition besides, just for the sake of the elevation of spirit its possession gives him. All the men I know would gladly change to a featherweight, if they could be assured of it doing the work that their conditions of shooting enforce. They would no more use a 30-06, a 280 Ross, a 45-70 for deer shooting than for hog shooting if they

could always get up close to the deer and always be reasonably sure of hitting a vital spot.

On the contrary, twentieth century game laws, made necessary by advancing tide of man's penetration into the wilds, fixes the time of hunting to cover a few brief days only, over the most of North America. Often there is no tracking snow to help. Over much of the hunting country timber has been cut and brush takes its place. It is under these conditions that we must hunt now; not under conditions of thirty years ago.

In dry weather, I can assure Mr. Haines, his own or Charley Barker's disembodied spirit could not move ten feet an hour in brush of the kind I am accustomed to do my hunting along, without making enough noise to awaken and chase away a deer sleeping a quarter of a mile from the spot—whether the spirit wore moccasins or went barefooted. Many others, in Canada and farther south, inevitably must hunt under similar conditions.

All hunters except the favored few (favored by possession of extreme skill like that of Mr. Haines and by reason of living or hunting where chances to see many deer are numerous) must make the most of *every* opportunity to shoot deer, or they not only will fail to have venison for supper, but will go deerless out of the woods and back to their civilized work, to wait a whole year for another opportunity. If they see a deer they know is a buck, and there is any chance of getting it by fast shooting or long range shooting as well as by short-range, standing shooting, they are justified in taking that chance—or rather, are not justified in passing up the chance. A 22 rim fire is not powerful enough to depend on under these conditions, nor yet is a 38-40 or a 30-30. These

calibers too often merely *wound* deer hit unfavorably, when identically the same hits with more suitable rifles (more suitable because more powerful) would kill the game.

And now that we have finished this talk of ghosts, disembodied spirits and hog shooting, let me talk a little about modern big game shooting as "she actually is." I believe I'll ask Mr. Haines a couple of questions while about it.

Mr. Haines, does a bear take any more killing to make it stay dead than a deer—and if so would you from choice use a more powerful rifle for bear than for deer? Wouldn't you regard yourself as a bear *wounder* rather than a bear killer, if you used your 38-40 for bear hunting? Remember, you are to take the average choice secured at bear, under average conditions.

And Mr. Haines, please tell us how many deer you have *passed up*—you having already mentioned indirectly something about how many you have *killed*. Include in the number passed up those you have wounded and not secured, those you missed, and those you saw but did not shoot at because you regarded your chance of hitting them in a vital spot as not certain enough. And, also, please, tell us what proportion or percentage of all these seen you have succeeded in killing.

To the average hunter I merely commend this percentage figure, together with the figure showing total number of deer Mr. Haines has seen. How many years do you think it will take to *merely to see*, at any and all ranges, even the number that Mr. Haines has *killed*?

We've got to take his leavings, in a way of looking at it, and in order to do so profitably, we require more efficient tools.

The .22 Short Outdoors

C. S. LANDIS

THE .22 short is not a very formidable looking cartridge, but it gets results because it gives unlimited practice at minimum cost. It takes practice to get results, in any game from poker to rifle shooting. If you don't believe it, tackle an experienced man at either game and the chances are that you will be compelled to agree that—experience is the best teacher. A few shots are "born", but most of them admit that they have gained most of their skill by experience.

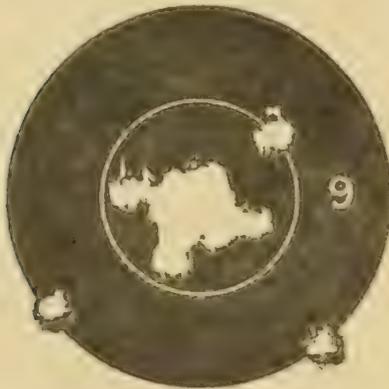
Small bore rifle shooting is one of the few

remaining sports where a man of moderate means can enjoy himself without feeling that he is unduly robbing the family bank. Long range work, which for this calibre means from 50 to 200 yards, with a Special .22 long rifle caliber target rifle equipped with peep or telescopic sights, is a splendid game. The trouble is that everyone is not equipped with a rifle of this description to enable them to enjoy it, and some do not feel like buying a special gun for target shooting. A .22 caliber rifle that is not bored for the long rifle cart-

ridge, or is not fitted with good target sights is not likely to shine very highly at these longer ranges.

Because most of us use rifles made for hunting, many of which are bored for the short cartridge, is no reason why we cannot have plenty of sport at those ranges at which the weapon we have is accurate. A 40 or 50 yard range will provide almost as much pleasure as a longer one and is a great deal easier to find. The short will do very well up to 40 or 50 yds. outdoors under ordinary conditions. It is not quite equal to the long rifle but still good enough to keep most fellows very well occupied.

Experience has proven that the .22 short will give average scores at 40 yards that compare very well with the long rifle at 50 yards. Anyone, therefore, who has a rifle chambered for the short cartridge, should practice at 40 yards on the regulation 50 yard target. He will have just as much fun at less



10 shots at 40 yards with .22 short.

cost, and yet have a very fair method of comparison in judging his scores with those made by other marksmen. The scores that he will make at this range will be sufficiently high to keep him from being discouraged, while if he undertakes to shoot the short at from 50 to 100 yards, the scores will be of such a character that he will be likely to lose interest. This will show that—because one lacks a rifle that is chambered for the long rifle cartridge, is no reason why the outdoor game must be left to some one, more fortunate, to enjoy.

Thousands of hunters look on target shooting at paper targets, as a waste of ammunition in so far as acquiring skill in game shooting is concerned. That is a badly mistaken idea. Small bore target shooting teaches two things, thoroughly—holding, and centering the group

on the target. It teaches these two fundamentals as no amount of game shooting will ever teach them and besides it gives an exact check on the accuracy of rifle and cartridge that can not be obtained in any other way. The .22 short will teach these fundamentals as well as the long rifle, if we keep within the accurate range of the smaller cartridge. If this range is exceeded we will have both high and low shots and the rifleman will soon become discouraged.

I recently spent several Saturday afternoons trying the .22 short at 40 yards to satisfy myself that a new pair of shooting glasses were properly fitted. The scores were sufficiently regular to indicate that our standard shotgun testing range was a good one to standardize for the use of the .22 short outdoors. Forty yards is also about the limit to which the short can be used on game without holding over or raising the rear sight.

The scores for one afternoon's shooting at a 1" bullseye at 40 yards, using a Winchester musket chambered for the short cartridge, fitted with plain receiver peep and bar front sights, were—96, 96, 94, 94, 97, 97, 96. These were very fair comparisons with what I would expect to get with the same type of outfit, rifle and sights, using the long rifle cartridge on the 1" bullseye at 50 yards.

Occasional high and low 8's showed that 40 yards was about as far as that lot of ammunition was accurate. A sample target is reproduced that gives a good idea of the normal grouping of the short cartridge at 40 yards. It shows the small normal group that is easily contained in the bullseye and the usual flyers that are also more or less typical of the long rifle at 50 yards, but more so at 100 yards. The .22 short is of course more influenced by wind than the long rifle and the windage allowance necessary at 40 yards will be more nearly the 100 yard than the 50 yard allowance for the long rifle.

Some years ago I saw a score of 9 shots out of 10 placed in a 2" bullseye at 75 yards by a Stevens. 414 using the short cartridge, but extended experiments proved this to be a freak score. The 75 to 100 yards groups averaged from 4 to 8" high by only 2 or 3" wide, showing that the cartridge was no longer giving even velocities at these ranges.

The season is here when the small bore rifle should be in use. There are a thousand and one things, all perfectly legitimate marks, that seem to be made for the one purpose of being hit by a .22 bullet. Stones in a plowed field, chunks of lime sticking out of the dirt,

buttonwood balls, occasional woodchucks and red squirrel, crows, harmful varieties of hawks and other similar objects all help to make up a day's target shooting. They all help to keep a fellow's eye in, until the deer season drags around and besides it beats all

how a day in the woods adds to the joy in life.

Don't overlook the .22 short. It has helped make a man out of many a weak kid, and will help make a real shot out of you if you will only give it the chance.

Moose and Moose Guns in Nova Scotia

A. D. FRASER

THE history of the game and of the game-migrations of an almost isolated peninsula must needs be one of unusual interest. Such indeed is true in the case of the Province of Nova Scotia—a projection of land which, although bulking largely on the eastern sea-board of the Dominion, is nevertheless joined with the mainland by an isthmus not over twenty miles in breadth. The territory serves, therefore, as a sort of terrestrial pocket, into which the wild creatures have, as it were, been thrust from time to time by the hand of nature. Within this wallet they have experienced certain restraints of movement imposed on them by their environment, without being at the same time subjected to the restrictions peculiar to an insular habitation.

When the province first became peopled to any great extent—during the course of the eighteenth century—the two great branches of the deer family native to this part of the continent, the caribou and the moose—or “moose deer” as he is called up to comparatively recent times—were to be found plentifully but not, apparently, superabundantly distributed throughout the forests of the peninsula. From the very beginning these animals are to be looked on as the game animals, *par excellence*, of the colonists, often providing them with meat for the entire year, while their skins served as sleigh robes and house rugs.

The history of the caribou, however, is a comparatively brief one. Unlike the moose, this type of deer travels in large herds and refuses to have dealings with civilization in any of its manifestations. Accordingly, wherever a settlement springs up, the caribou disappears, retiring to more remote and undisturbed sections of the forest, shunning as it were the contaminating presence of man. Hence, the Nova Scotia caribou became early diminished in numbers; by the middle of the nineteenth century they were few indeed; and shortly afterwards we find them dis-

appearing almost entirely. The cause was almost certainly not that of destruction at the hand of man, for the “moose deer” was obviously sought after by the hunters with much greater zeal, but rather was owing to the retirement of the animals across the connecting isthmus, to join the herds of New Brunswick. It is true that a few of the caribou also retreated across the Strait of Canso into the Island of Cape Breton, where their descendants still survive in small bands in the most remote districts of the island. Here they have for many years been carefully protected by the law, but the character of the creatures themselves cannot, unfortunately, be changed, and the encroachments of ever-advancing civilization must needs ere long witness the wiping out of this shy denizen of the wastes.

But with the moose the case is altogether different. A roving animal, but wandering alone or in pairs, or at most in small bands, he does not require the great extent of territory necessary for the caribou to wander over in the course of his migrations, but is, as a rule, able to accommodate himself to a tract comprising but a few square miles of forest. To communicate with more distant preserves, he is willing to even cross cultivated fields; and I have in my own experience known a moose to investigate uninhabited dwellings. So little, relatively, does he fear the hand-work of man.

Notwithstanding, it is with surprise that we read in the annals of mid-Victorian sportsmen that early in the nineteenth century the moose disappeared almost, if not entirely, from the province. What the reason for the disappearance was it is difficult to conjecture; the animals were certainly not exterminated at that time by the relatively few settlers. So far as I am aware, no attempt has ever been made to ascertain the truth of the matter. An epidemic of disease or a wholesale migration would, I think, alone account for it; and there may be a kernel of truth in

the Indian legend which represents the moose as taking to the sea, after the manner of whales. Perhaps this is but a poetical version of a general migration across the neck of land into New Brunswick. However, about the year 1830 the animals appeared once more in undiminished numbers; and since that time the history of the moose in Nova Scotia has been undisturbed by any great events, except such as have been marked by more or less notable changes in the provincial game laws.

Such laws were, it is hardly an exaggeration to say, that moose, male and female, were hunted at any convenient season of the year, particularly in the winter time in the deep snow. Dogs, snares, and pitfalls were indiscriminately employed, and it says much for the nature of the country as well as for the extreme vitality of the species, that the moose were not entirely exterminated. At length, some twelve or fifteen years ago, legislation was obtained which has put the continuation of wild life, in general throughout the province on a reasonably secure foundation, and has secured for the moose what appears, up to the present time at least, to be an adequate means of protection. According to the present laws, the female is protected at all times, while the adult male may be hunted in the months of October and November only. Dogs and snares are rightly ruled out of the field entirely. A somewhat high license-fee is demanded of non-residents—who from the very nature of the case must have less concern for the preservation of game than the resident—and the "bag" is limited to one moose per individual each year. Still another enactment makes it an offence for a member of a hunting party who has fired at (whether successfully or otherwise) a moose which is subsequently secured by another member of the party—for such an one to again hunt moose during that season. Such animals as are killed must immediately be removed from the woods, to preclude the possibility of the meat being wasted, and a report of the matter, in the form of an affidavit executed before a Justice of the Peace, must be forwarded to a Game Commissioner. Properly speaking, no restrictions—I think rightly—are placed on the sale of the meat. A fair-sized animal weighs, when dressed, from 600 to 800 pounds, though some are much heavier, and all this meat would be difficult to utilize were a restriction to be placed on an open market. It goes without saying that no meat may be disposed of

without the seller first complying with the provisions of the law. Under this system, the moose in Nova Scotia has rather more than held his own in point of numbers, and it is curious to find that the animal is much more evenly distributed over the province than was the case a generation ago. Reports of an annual kill of about 1200 bulls are made to the chief Game Commissioner, and in all probability a failure to report frequently occurs in "back-settlements," where the whole carcass of the moose is usually salted down by the hunter for the winter use of the family. It would not indeed be surprising to learn that as many as 2000 moose fall annually before the rifle of the sportsman.

It would call for the space of a volume, and no small one at that, to present an account of all the "moose-guns" employed by the huntsmen of the province, together with some discussion of the virtues and their defects of these. We must, therefore, confine our notices to the arms of the country districts, for after all it is the countryman and backwoodsman who is the most successful hunter, his opportunities for success being infinitely more than those of the city-dweller, who as a rule is able to explore the greenwood not oftener than once or twice in the year. In the armouries of the latter class of sportsmen all varieties of rifles are to be numbered. Winchesters, Marlins, and Savages, of various calibres are to be seen; the Lee-Enfield and the Ross are popular; while Newtons, Mannlichers, Hollands, Jeffreys; and B. S. A.'s are not unknown. It must be confessed, however, that the high velocity rifle is as yet little used, and its merits almost unknown to the great majority of local sportsmen. According to some very reliable information which I recently gleaned from gun dealers in the province, the preference among city men still seems to be, for moose hunting purposes, the .405 Winchester, the .401 Winchester Self-Loading rifle, and the time-honoured .45-70 calibre.

But in the more remote of the rural districts, where almost every man procures his moose as regularly as the year goes round, the rifles which we see hanging on the kitchen wall are with few exceptions representative of obsolete types; and are shown by examination to have been, in past generations, the form of service rifle in use by the armies of several European Powers. Thrown on the market at a very low rate, they seem to have

nearly all fallen, ultimately, into the hands of farmers, lumbermen, and backwoodsmen. Of these arms, what is perhaps the most popular is at the same time the most antiquated. I refer to the famous old Snider, single-shot rifle, which was first adopted by the English War Office in the year 1867. More properly speaking, the weapon was a modification of the old muzzle-loading Enfield, which was converted into the so-called Snider by the adaption of a hinged-block mechanism, which was coming into popularity at the time. Four years later, however, the Snider was superseded by the much more efficient Martini-Henry. To one who is familiar with the cartridge of the Snider it seems amazing how there could have ever been reports of "Wounded" in the casualty lists of the time. It is seldom that a moose, immense as his vitality is, requires a second shot to bring him to the ground. The 480 grain bullet, with calibre of .577 in. is of great penetration and shocking-power on animal tissues, while the hemorrhage alone produced by its passage is usually sufficient to cause a speedy death. In fact, at short ranges its lethal power must fall little short of that of the notorious .577 cordite, tiger-gun. On the other hand, there is no denying the defects of the Snider rifle itself. It is exceedingly clumsy and heavy, with a very slight drop in the stock, a desperate trigger-pull, and a cruel recoil. Owing to its very awkward, hinged-block system, a period of from 15 to 30 seconds is of necessity occupied in the loading and reloading of the arm. Still, by their fruits ye shall know them; the Snider has accounted for many thousands of Nova Scotian moose.

Another favourite frequently met with is the Vetterli rifle, an arm with which the forces of Switzerland were equipped some time during the 'eighties, to be discarded in, I think, the year 1900. The rifle was presently, to be purchased in this country for \$3.50, and its moderate price enabled the writer to make his first investment in a firearm. Uncouth as the Vetterli is, I still have a high regard for its many excellent qualities. The rifle is long and heavy, and is, like the military arms contemporary with it, equipped with a long tubular magazine, which in the case of the Vetterli is filled from a hole in the side of the receiver. A curious feature is here to be observed; about half the length of the last cartridge in the magazine is always in full view, and it frequently projects into thin air to an alarming degree. The rifle, furthermore, lacks a safety device, and

although the bolt carries a double firing-pin, as in the new Savage .22 cal., miss-fires were of very frequent occurrence. On the other hand, the sights of the gun are very good considering its antiquity, and the shock of discharge is accompanied by only a slight recoil, owing alike to the weight of the weapon and to the low rate of velocity at which its projectile is launched. The bore is 10.5 mm. and the bullet weight 310 grains; hence, the Vetterli, while inferior to the Snider in killing power, is, when properly handled, a thing to be carefully shunned—speaking from the point of view of the moose.

A third great favourite in rural districts, and also to some extent in the cities, is one which a spirit of loyalty makes me almost blush to mention; I speak, however, of the German 11 mm. Mauser rifle, an arm against which I have never heard a word of complaint uttered by a Nova Scotian—however, heartily he may hate its manufacturer. The ballistics of the cartridge recall those of the well-known .45-70-405. That is to say, the bore of the Mauser is approximately .43 in. as compared with .45 in.; 77 grains of black powder propel the Mauser bullet, as against 70 grains for the American cartridge; the bullet of the Mauser, moreover, is 30 grains lighter than its competitor's. From this comparison it is evident that the muzzle energy and velocity of the German article must be somewhat greater than that of the American, just how much greater I am unable to determine definitely, as no statement of the Mauser's exterior ballistics is available to me. But, as is well known, the m.v. of the .45-70 is about 1320 f.s. and its energy approximately 1560 ft. lbs. From the above it is easy to conjecture that the m.v. of the Mauser is not far from 1500 f.s., while its energy cannot fall far short of a ton. The inference is obvious. The .45-70 is an excellent moose gun; hence, the Mauser is somewhat better.

This type of Mauser, which is known as the model of '81, was the first military repeating rifle to make its appearance, being supplied to the Prussian forces for the first time in 1884. Like the Vetterli, it carries a tubular magazine, but, unlike the latter, it possesses, after the manner of most bolt-action rifles, a double trigger-pull. An unpleasant feature is the severe recoil, which is greatly accentuated in the shorter, or carbine, model with a 20 inch barrel. The "flip" of the barrel of the latter type makes many a user gun-shy, temporarily, if not for life.

Such then are the three brands of rifles which in Nova Scotia have accounted in all probability for more big game than all other makes combined. Quite manifestly the hunters who carry them every autumn are men of the robust type who fear neither the

burden of a nine or ten pound weapon nor the hearty "kick" which its discharge occasions. To see such men a "featherweight" arm possessing "almost no recoil" would be a superfluous luxury to be scorned. May their breed long flourish!

Queries and Answers

Speeding up the .25-35.

Editor, Guns and Ammunition Dept.

I have a Winchester, Model '94 .25-35 rifle. Could I load shells for this rifle using regular 117 grain soft point bullet, to obtain 2200 f.s. without excessive chamber pressure? This has been done with the .30-30, so why not for the .25-35?

Could I load shells for this rifle with 100 grain soft point bullet to obtain 2350 f.s. Would this cartridge be reasonably accurate? How would it's trajectory at 500 yards compare with the regular 2000 f. s. 117 grain cartridge?

Can a person make his own bullets with a nickel jacket and soft point? If not, then how can a person make hand cast bullets for high power rifles as the Ideal Manufacturing Company claims you can?

What is the velocity in f.s. of the .280 Ross, using the 150 grain bullet?

A. L. Dunne,

Madawaska, Ontario.

Reply:—

You can speed up your .25-35 Winchester to obtain 2300 f.s. by using 26.4 grains of Hercules No. 300 and the 117 grain bullet. Du Pont No. 16 and 18 also could be used for the purpose of obtaining higher velocity. The 101 grain Remington bullet could be used for obtaining still higher velocities, but you could not use this bullet in the magazine safely, which would limit you to two shots—one in the magazine and one in the barrel. The trouble is, that you have difficulty in obtaining these 101 grain bullets at the present time.

It is possible to make your own metal cased bullets with a nickel jacket and soft point,

provided that you have the swages and the cupro nickel jackets; but, the trouble is—to get them. The Bond Mfg. Co. of Wilmington, Delaware, is placing swages of this kind on the market and they will probably be ready for shipment by the time this is in print.

The .280 Ross cartridge, loaded with the 150 grain bullet usually gives velocities of 2700 to 2800 f. s. when factory loaded. Higher velocities can be obtained, but the factory cartridges usually do not give them. I have never been in favor of these extremely high velocities and I believe that you lose more in accuracy than you gain in trajectory, in a majority of cases. According to practically all reports, when you pass 2800 f. s. velocity, nearly all rifle cartridges show a falling off in accuracy.

Editor.

The Peter's .25 Auto Cartridge.

Editor, Guns and Ammunition Dept.

Please tell me where Peter's .25 Caliber Auto cartridges may be purchased and give the price?

J. W. S.

Toronto.

Reply:—

Write to the Peter's Cartridge Company, Cincinnati, Ohio, for this information as they will be able to give you the name of the nearest dealer who handles their make of .25 Auto Cartridges.

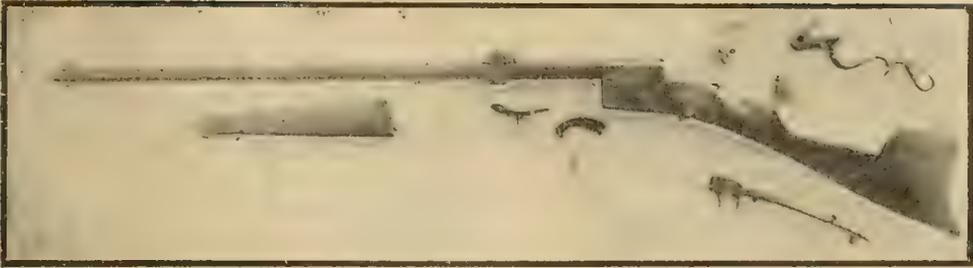
Editor.

What Make and Caliber of Rifle is This.

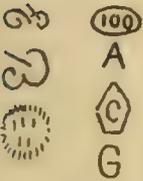
Editor, Guns and Ammunition Dept.

I am enclosing two snapshots of a rifle





EB



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THESE APPEAR ON-

THE LOCKS AND BARREL

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172/28

3508



C. G. H
. 7

These are the marks on the under side of the barrel. An editor is supposed to be able to do anything I believe, so here's a Chinese puzzle. This is how they appear to me.

.22 H.P. at the breech. A thirty-thirty shell will not go in but the .22 H.P. will. There is, so far as I can see, no caliber marked on the rifle. It weighs about ten pounds. All the springs, etc. are nickled and around the locks the gun is made with a mottled finish. There is not a screw in the parts and it can be taken apart in a few seconds. On the breech is printed in gilt letters "Original System A.Y.D.T." It is single shot and in new condition. Please tell if it is a saleable rifle. I believe it is a target rifle.

I take great interest in the letters on "what is the best rifle to use? I, of course, have my own opinions on the subject. I can usually make good with any of the .30-30 class and have done well with the .22 H.P. this year on deer but wouldn't take it for anything in the line of targets. I shot three deer with it this season and saw another killed by a friend. One was a six point. Don't you think a little practice with the rifle would help some people, this, of course, to be done before the hunting trip begins. I hunt fairly steady from September until March for deer and coyotes, etc., and always find myself a little weak at first although I do practice a little before going out.

My apologies for adding to your troubles and believe me

Yours truly,
Percy W. Hinks,
Kelowna, B. C.

Reply—I am not sure what make or caliber of rifle you have but it appears to be a Martini Action. As these were made by many manufacturers it is hard to tell you who made your rifle. Possibly one of our readers can give you a more definite description. I would say that several of the London makers like Greener make rifles something like this one and it is just possible that your rifle is one of the well known English makes.

Will someone of our readers try to tell us who made this rifle and give the caliber?

Editor.

I have. Will you please tell me if you know what make and caliber it is? The bore seems about 30-30 at the muzzle and about

Editor, Guns and Ammunition.

Will you give me some information on the following rifle which has come to my notice lately, but of which I know nothing? The rifle is a Lee Enfield Sporting Rifle manufactured by the B.S.A. people of England for the .303 British. What is the quality of material the barrel is made of? What do you know about the rifling and sights, the rear sight and bore? Does not the latter effect the shooting qualities? Is the bolt a reliable one? Is it not too light a gun for the calibre?

What do you think of .303 British Spitzer copper point bullets? What is their shooting ability on large game, also blunt point but copper jacket right over the point? Is the latter better for large game shooting than soft point lead?

What is the velocity and energy of the .303 British Spitzer and of the copper blunt bullets?

Could you answer the following? Last Fall while hunting I startled some deer. One deer seemed to get apart from the other two and started to snort like a wild horse. I could not get a chance to see whether it was a doe or a buck because it kept on running ahead and kept up its snorting for a long time while running off. Could you advise me whether this was a buck or a doe.

D M. Ponich,

Andrew, Alta.

Reply:—The B.S.A. No. 4 Fancy Sporting Rifle Chambered for the .303 British cartridge is a very reliable sporting rifle.

The high velocity cartridge known as the Mark VII has a muzzle velocity of 2150 foot seconds and a muzzle energy of 2317 foot pounds. The .303 British cartridge loaded with the 215 grain bullet has a muzzle velocity of 2000 foot seconds and a muzzle energy of 1776 foot pounds.

I am not able to tell you whether the deer you speak of was a doe or a buck. Possibly one of our readers would care to guess at it.

Editor.

The .33 Winchester.

Editor, Guns and Ammunition.

What do you think of the .33 Winchester for moose and deer? Is this rifle considered accurate? How would it compare with a .30-30 for same? Would it be good at five or six hundred yards? Would it make a fair target rifle?

Robert Oulton,

Neepawa, Manitoba.

Reply:—The .33 Winchester is a most excellent rifle for use on moose and deer. This cartridge has never been considered to be in the same class for accuracy with the .30-1906 but it is moderately accurate at 200 yards and is a splendid killing cartridge. It has a long, heavy, flat, pointed bullet and can be depended upon to show good penetration and a sufficient amount of laceration. This cartridge would not be a good one to choose for five or six hundred yard work because the accuracy at those ranges is not as good as we obtained from some other cartridges used in Winchester rifles and the trajectory is considerably higher than other cartridges that might be chosen. I would not say that it would make a very good target rifle but I believe that it is one of the most satisfactory big game rifles that the Winchester Company has made. In fact I would prefer it to any other calibre or model that they put out if the cartridge were only slightly more accurate.

The rifle balances beautifully, handles very fast and is of a weight that carries very nicely on the trail. In addition to this it is a beautiful looking weapon. I believe you would be very well satisfied with it for use on big game.

Editor.

The 9 M M Mauser.

Editor, Guns and Ammunition Dept.

Please give me the muzzle velocity, muzzle energy and trajectory of the 9 M M Mauser.

How does this cartridge compare with the .35 and .405 model 1895 Winchester?

J. E. Keays.

Reply:—

The 9 M M Mauser is loaded with a 280 grain soft point bullet which gives a muzzle velocity of 1850 f. s., a muzzle energy of 2128 ft. lbs. The 200 yards trajectory is 6-1 2 inches. The 300 yards trajectory is 16 inches. The .405 Winchester has a 300 grain bullet, 2204 f s muzzle velocity, with a muzzle energy of 3237 ft. lbs. From this we can see that it is more than 50 per cent more powerful than the 9 M M Mauser. The .35 Winchester shoots a 250 grain bullet, 2200 f.s. muzzle velocity, energy 2686 ft. lbs. It is 25 per cent more powerful than the 9 M M.

The 9 M M is a very satisfactory big game cartridge at medium range but its trajectory is somewhat higher than that of corresponding cartridges.

Editor.

The Model 1914 Savage.22.

Editor, Guns and Ammunition Dept.

Will you please give me your opinion of the Savage Model 1914, .22 caliber as compared to other makes? I am not sure whether it is to be had in the .22 W. R. F. calibre, but if so I will get the .22 W.R.F.

What do you think of this caliber compared to the ordinary .22 for every day pot hunting, target work, etc.?

Would the .22 N.R.A. cartridges be as accurate and long ranged as the .22 W.R.F.?
J.L. Gamble.

Reply:—

Model 1914 Savage is made for the 22 caliber long rifle cartridge. It is to be preferred to the .22 W.R.F. because it is about twice as accurate at 200 yards and is much cheaper.

The Model 1914 Savage is one of the best repeating rifles of this caliber on the market and you would have no need to fear that it would not be perfectly satisfactory. I am sure that you will be thoroughly satisfied with this weapon, for every other purpose than for the finest of small bore match shooting which requires a heavier weapon.

The 1914 Savage weighs about 5¾ pounds. I would suggest that you would use the .22 long rifle N.R.A. cartridge in it.

Editor.

A Lyman Sight on a Winchester.

Editor, Guns and Ammunition Dept.

I have a model '95 Winchester, 30-1906. Will you please tell me if I would have to send it away to have a receiver peep sight put on, or is the little screw on the left side up at the front of the receiver for that purpose.

J. C. Ross.

Reply:—

The best kind of sight to use on your 30-1906 caliber Model '95 Winchester would be the No. 38. A paper templet is furnished with this sight which will show you where to drill your holes in the left side of the receiver. Possibly the rifle you have has been tapped for this purpose, and if so—you are very fortunate.

Editor.

Cartridges for the .30-1906.

Editor, Guns and Ammunition Dept.

I have a Springfield rifle chambered for the 30-1906. What cartridges could safely be used, in using an auxiliary cartridge. Is there any danger of leading the barrel?

Francis Bannerman's Sons of New York City, list Springfield '06 ammunition at \$3.50 per one hundred. Do you know if this is all right and good for target shooting?

H. Fitch,

Hughton, Sask.

Reply:—

The cartridges that I saw in the window of Francis Bannerman's Sons, Broadway, New York and which were advertised for \$3.50 per hundred, were made during the war by one of the companies that made supplies for the Government.

These cartridges were loaded with 150 grain metal cased bullets. I have never used any of them, but suppose they are of the same grade as other war-time cartridges, which would mean that they could be used for target practice, but that they would not give the same results as would be secured from ammunition that was loaded for that purpose alone. As, you know, during the war, the main thing was to get a large supply of ammunition that was sufficiently accurate and reliable for use in battle,—a condition that is quite different from turning out a small quantity of match ammunition.

You can obtain an auxiliary chamber for use in the .30-1906 from the Marble people at Gladstone, Michigan. Specify a chamber that is suitable to shoot the proper size pistol cartridge.

Editor.

Pistol Notes.

Editor, Guns and Ammunition Dept.

I was talking to a man the other day who is a good pistol shot. He is an aviator and was in the U.S. army. He told me that he received his training in France under an old Frenchman, who was once an outlaw. He said he was not allowed to use his sights, at all, and has never used them. He was in a position to have all the ammunition that he needed and would often fire from 200 to 300 rounds per day. He advised me, in trying to learn to shoot, to use an extremely large target at a distance of about 25 feet and point my gun, not aim it. He said "Keep your eyes on the target, and off the gun."

What do you think of that advice? Is it good or bad? My gun is a S & W, .38 Special Model 1905 and the one used by my friend was a .45 Auto.

Can Du Pont No. 16, No. 20 or No.80 be measured successfully for the .38 Special and the .30-1906 with the Ideal measure.

I want to reload the .30-1906 for a Springfield and the .38 Special and don't like the prices on a pair of accurate scales. Could you load the .30-1906 and get any kind of results by measuring for full or reduced loads. Can Bullseye or Pistol Powder No. 3 be measured with an Ideal measure? Is a .45 auto a good gun for target work? How does the recoil compare with the recoil of the .38 special full factory load.

Philip B. Sharpe,

Reply:—

Your friend evidently was practicing pistol shooting for battle use. He had the right idea for that purpose, because what he wanted to do was to obtain great rapidity in firing with sufficient accuracy to enable him to place a large number of hits on a comparatively large mark at short range. He had the right method for doing it. However, his method would be a total failure at target shooting in which you must place your shots in the smallest possible mark in a comparatively great length of time.

The .45 automatic Colt is a quite accurate weapon, but is not quite as accurate as the .38 Smith and Wesson Special or the .38 Colt Officer's model. However, the average man can shoot it more accurately due to the shape of the grip.

You can obtain fairly good results in the .30-1906 and .38 Special cartridges by measuring your powder. Practically all factory cartridges are loaded with measured charges and they give good results but they do not give quite as accurate results as can be obtained by hand measured charges. Most Ideal measures will throw within $\frac{1}{2}$ to 1 grain of the required standard of the coarser powders like No. 20. They will do better than this with finer powders like No. 80 or Bullseye.

Editor.

The 9 M M as Compared to the .303 British and .256 Newton.

Editor, Guns and Ammunition Dept.,

Please tell me how the 9 M M Mauser compares with the Winchester .303 British, also the .256 Newton of the later models.

Is the trajectory as flat as the two above mentioned and does the bullet strike as powerful a blow? Would it be heavy enough for deer and bear? Where could I buy ammunition for same?

Which is the heavier rifle, the 7, 8 or 9 M M.? There seems to be a diversity of

opinion here about all of the guns mentioned.

R. W. M.

Ontario.

Reply:—

The 9 M M Mauser cartridge is not of the same class as the .303 British spitzer or the .256 Newton. The 9 M M shoots a 280 gr. bullet at 1850 f. f. muzzle velocity and with a corresponding muzzle energy of 2128 f. s.; it's 300 yards trajectory is 16". The .303 British shoots a 174 grain spitzer bullet at a muzzle velocity of 2150 f. s., and with a muzzle energy of 2320 f. s.; it's 300 yds. trajectory is 8". The .256 Newton shoots a 129 grain bullet and the average factory cartridges, giving a velocity of 2700 or 2800 f. s., which makes it correspond very closely to the .30-1906, 150 grain cartridge in ballistics and trajectory.

The 9 M M Mauser would be a splendid hunting rifle for use on big game at ranges not over about two hundred yards. The Mauser sporting rifles are very finely finished weapons and are very nice to use. This rifle would be plenty heavy enough for deer and bear. The ammunition for it could be obtained through the Remington Arms, U.M.C. Co., Inc., and very likely also from the Dominion Cartridge Co.

The 7 or 8 M M sporting rifle, generally uses the spitzer ammunition and the 8 M M is usually to be preferred while the 9 M M is more of the type of the .35 model 1895 Winchester or the .35 Remington automatic cartridges, although it is not exactly the same as either one of them. For shooting heavy game in brushy country, it is a very satisfactory cartridge to use. I suppose that you know, that the cartridge of the 9 M M has a somewhat heavier recoil than the smaller bore, high velocity cartridges.

Editor.

Various Questions.

Editor, Guns and Ammunition Dept.

Which is the better rifle—the Mauser or the Mannlicher?

What caliber would you prefer?

I am undecided whether to get the 7 M M, the 7.65 M M or the 8 M M. This rifle will be used as an extra to take along with a Springfield.

Which of the M M rifles is the most accurate?

What grade of Mobilubricant do you use for lubricating bullets?

What make and power telescope would

you recommend for spotting shots on the range?

What is the approximate cost of such a scope?

What kind of binoculars would you use for hunting? Cost?

Elwell C. Dyer.

Reply:—

Dear Sir:—

The Mauser rifle is usually considered to be one of the finest rifles. The bolt actions that have the magazine extended below the receiver are usually called Mannlichers, although both types are occasionally made with the opposite type of magazine.

I do not think there is very much difference in accuracy between the three calibers mentioned. I would prefer the 7.65 or 8 M M for big game hunting purposes.

I use the ordinary Mobilubricant, that is obtained in automobile accessory stores.

The Lord Bury telescope is a very good make, as also, is the Bardou. These are usually put out in in about 33 power and can be obtained from P. J. O'Hare, 33 Bruce St., Newark, N. J. A scope of this kind will cost you from thirty-five to sixty dollars, depending upon the grade and whether you can get it new or second-hand.

I would use a pair of 6 power binoculars for hunting. The cost might be most anything, depending upon the grade. Write to several of the largest dealers for their prices.

Editor.

An Automatic Mauser.

Editor, Guns and Ammunition Dept.

Lately I obtained a very fine automatic pistol complete with stock so that it can be used as a rifle. It has the same action as the Parabellum automatic but the barrel is much longer, being eleven inches long. It also has the rear sight graduated from 100 to 300 yards.

The caliber appears to be 7.65 M.M. Of course, this gun came from over the sea. Am I right in supposing that it is a Parabellum? It has the same markings on the barrel "D.W.M." Can you tell me the correct caliber of the same and can Abercrombie and Fitch or Bannerman of New York furnish me with the ammunition? Could this gun be repaired to handle the 9 M.M. Luger? Could Fred Adolph do this refitting and if so about what would it cost? If the present barrel should lose its accuracy could he put a new barrel on it? The barrel

contains a few small pits but these are not large and it looks O.K.

E. H. Cornoz,
Glenora Park, Brockville.

Reply:—

Your pistol very likely is a 7.63 M.M. Mauser in which case it would take a 7.63 Mauser cartridge which is made by the Winchester Repeating Arms Company. If this is not the correct caliber it will very likely take the 7.63 Luger which is made by the same company. There is a slight difference in these two cartridges.

I do not know whether Fred Adolph could do your work or not. The only way to find out would be to write to him. I would suggest that you leave the weapon alone until you are satisfied that it has lost its accuracy. A small number of pits would not be likely to affect it.

Editor.

The .33 Winchester.

Editor, Guns and Ammunition Dept.

In the May issue of *Rod and Gun* on page 141 Myron Bloomer wants to hear from men that have a Winchester .33 Model 1886. I have one of the above rifles and I am more than pleased with it. It is an ideal gun to my notion. It shoots right where you hold it.

The last deer that I shot was in Minnesota. I shot it through a lot of thick brush. There were fourteen hunters in the camp that season. They all laughed at me and my cannon. They all had smaller calibered rifles and the gun books gave their bullets a higher velocity than my .33. But the .33 was the only one that brought home a deer. Some of the hunters with their small calibers shot deer and followed them for miles and miles until they would lose them in a swamp, where they would die a slow death and their meat would be lost or make a fine meal for the wolves. That kind of a hunter is not a sportsman to my way of thinking, but is a menace to the deer family and a support to wolves, wild cats and such animals.

The deer that I got never got out of its tracks. The force of the large heavy bullet completely smashing the heavy back bone, pushed the deer over on its side and when I got to where the deer was it was dead.

I have shot alligators in Florida and they tell me that an alligator will carry off a lot of lead. But those that I shot stopped quick. One .33 bullet was all that was required for him.

I have never been able to try my .33 on a bear but I long to get a shot at a fair sized grizzly with a hard bullet. My father taught me to hunt with a single shot Winchester so I learned to make every shot count. If hunters will make their first shot a good one they will seldom need the second shot and furthermore a rifle was not made to be used as a machine gun and the hunting woods

are no place to scatter hot lead. There are apt to be other hunters around close by.

A hunter who will try his wits with the game and use a large bore, a .33 or larger according to the size of the game will bring all of the meat out of the woods. He is what I call a sportsman. I recommend the .33 Winchester very highly.

O. L. Sherman,

Jacksonville, Fla.



Canadian Natural History Photos

BONNYCASTLE DALE

She is alert just ready to creep off, with wing dragging to tempt me away from the nest.

Killdeer Plover, nest and eggs.
Photographed near Rice Lake, Ont.

Sportsmen Relish the 57 Varieties

Before you start on your next fishing or hunting expedition, go to your grocery store, lay in an adequate supply of the Heinz 57 Varieties, and avoid the risk of running short of the right things to eat while you are in the woods.

Heinz Oven Baked Beans have for years been relished by outdoor men. You will crave this delicious fare because of its fine flavor, great nourishment, and ease of digestion. You may order Heinz Baked Beans with tomato sauce and pork, with tomato sauce alone, with pork alone, or the baked red kidney beans with a savory sauce of their own. All are choicest beans, hand-sorted, and baked in real dry heat ovens to mealy sweetness.

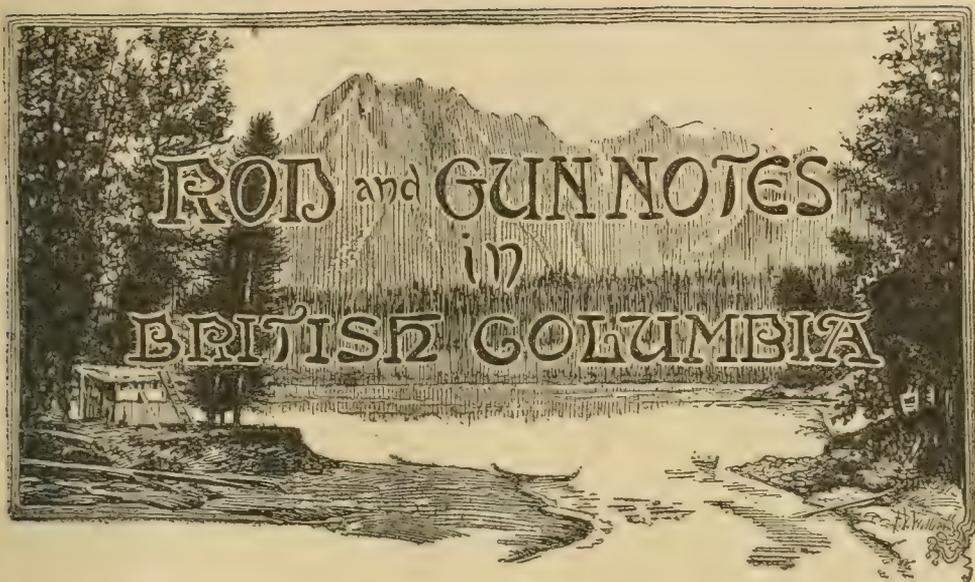
Heinz Ready Cooked Spaghetti is another favorite with woodsmen. It is prepared with delectable tomato sauce and a special cheese.

It is thoroughly cooked; ready to heat and serve. Prepared in the spotless Heinz kitchens in Pittsburgh, according to the favorite recipe of an eminent Italian chef, with some Heinz improvements.

Heinz pickles, Tomato Ketchup, Chili Sauce and India Relish are keenly gratifying in the woods. Heinz Peanut Butter is a delicious thing to have in camp. Heinz Apple Butter and Preserves should certainly be included. Heinz Vinegars, aged in wood, have a remarkable flavor and clasp one of the secrets of appetizing salads.

Heinz Cream Soups are made with rich, real cream and fresh vegetables. No better soups were ever put up in cans.

A case of Heinz foods will provide the right kind of a larder to work with when you get into the open and will add immensely to your enjoyment of meals in camp.



Pacific Salmon

WILLIAM BECK

UNTIL quite recently we recognized six varieties of salmon in British Columbia, the Sockeye, Blueback, Spring, Cohoe, Humpback and Chum, the order here given being according to their commercial value as canned fish.

The Government have now decreed however that the Blueback shall not be recognized as a distinct species, and both scientific and practical marking seems to settle the point definitely that the Government is right in its classification, and that the Blueback is an immature Cohoe.

As the Government has gone so far as to prevent the Blueback being sold as a distinct species it seems a pity that they do not go further and prohibit the taking of these fish altogether for commercial purposes.

There never can be justification whatever for taking immature fish, no matter what the species, and as the Cohoe is one of the best sporting fish we have on this Coast, it is an asset of too great a value to run the risk of depletion. The result of taking immature Halibut has been disastrous and I fear for the Cohoe.

Many thousands of these Bluebacks are taken in June and July every year, varying from half a pound to three or four pounds—all by trolling with a spoon, whereas if left to maturity three times the weight of fish would be the result.

The Sockeye is the most valuable of them all—commercially, to an angler it is not worth the proverbial "Tinker's Curse." I never heard of a Sockeye taking a bait in any shape or form. Yet it is a beautiful fish, green and silver, with a small head and perfectly shaped body, the flesh a vivid red, it was surely the most unfortunate oversight that Providence did not arrange for this fish to take a fly or a spoon. It is an easy first at the head of our canned salmon and is becoming as scarce and as valuable as gold. The long line of empty canneries at the mouth of the Fraser River is eloquent testimony to the far sightedness of our Government, and the ability of our canners to do things well.

With the very able help of our brethren on the United States side of the Gulf, we have made a thorough job of wiping out the Sockeye on the Fraser River. From numbers almost incredible barely ten years ago to the present condition shows how hard we work when we have a definite aim in view.

The Sockeye, like the Hump and the Dog salmon, spawns at maturity and then dies, but no other Salmon makes such a wonderful journey to reach its spawning ground.

The Nasa, the Skeena and the Fraser, our chief salmon rivers, are all swift, yet some of the Sockeye travel fully five hundred miles up the latter river before they spawn.

The young Sockeye as yearlings have to

make that journey back to the sea, and by the time they have accomplished that perilous trip they should be quite capable of looking after themselves.

The Humpback and the Dog salmon are like the Sockeye in this respect that they are non-sporting fish and have to be caught in nets or traps. These two species usually run in schools and the most productive method of capture is by purse seine nets, which surround the school of fish.

Both kinds are rather nice looking fish when caught in the salt water a few months before spawning time but on the spawning beds they are a horrible sight. Decay sets in as soon as they are ready to spawn and they become covered with white patches like lepers, fins and tails quickly rotting away.

The male Humpback develops a hump which looks a deformity, and the Dog salmon's mouthful of big teeth, would not disgrace a wolf.

The dead and dying fish present a sight which is not at all pleasant and the smell does nothing to add to your enjoyment.

While the Sockeye almost invariably spawns a long way from salt water the Humpback and the Dog Salmon frequently spawn in the brackish tidal waters at the mouth of a river. Only once have I seen one of the sporting varieties of Salmon do this and these were a few pairs of Cohoes. They were spawning in a backwater where there was hardly a trickle of fresh water entering. Dog salmon and these Cohoes were using the same reds, and yet I suppose the fry would hatch true to form.

While on the subject of these non-sporting Salmon, I may mention that of the three varieties to which this applies, the Humpback will under certain conditions take a bait. Very seldom indeed can they be taken in the salt water, but in the rivers they are more disposed to come after a spinning bait.

When fishing in Northern British Columbia last year, I occasionally got a dozen in a day on the Quinnimas River, usually fresh run females and Mr. Bryan Williams tells me that he has often taken them on a fly. Only when we have no other fish left however could I imagine anyone fishing for Humpbacks for either sport or the pot.

The pictures of B. C. Salmon usually shown in the magazines to indicate the large numbers of salmon in our rivers are almost invariably Dog Salmon or Humpbacks. These two varieties enter many of our small rivers in almost inconceivable quantities.

It is no exaggeration whatever to say that for two or three miles from the mouth of some of these rivers you cannot see the bed of the stream for fish. The sportsman however looks on such scenes with a cold and fishy eye. The only suitable place for these fish is in a can and they occupy spawning beds which might be usefully employed by Redsprings and Cohoes.

Fishing for Redsprings and Cohoes in British Columbia to-day provides one of the very few opportunities in this world for making a living under real sporting conditions.

All round Vancouver Island and in almost every inlet from Vancouver to the Naas, hundreds of boats of all descriptions troll for these fish from April to October. The Springs last until about July and the Cohoes follow.

This method of fishing possesses a fascination for those who follow it which is not surprising. It is a solitary game, and whether gas boat or row boat is used you seldom find more than one man to a boat.

The gas boats are fitted with two long poles which hang out, one on each side of the boat—two lines being suspended from each rod. Leads varying from one to eighteen pounds, according to the depth required, are used, with a three or four inch spoon at the end of about thirty yards of line.

This floating tackle shop will start at break of day and for hour after hour will hug the shore at an uniform pace about three miles an hour.

You see them everywhere in the North, white man, Jap and Siwash hugging their unending way, seeming never to move, but just sitting watching their lines.

There is no delicate playing of a fish caught under these conditions. The tackle is strong and whether it is ten pounds or seventy, the fish comes in, hand over hand; it is skull dragged into the boat, cracked on the head, and valued not on the fight it put up, but purely on its avoirdupois.

But even at that no form of commercial fishing attracts the men as does this trolling. Gill netting is monotonous and uninspiring. Seine netting is worse, but once a man sets out as a salmon troller it is very hard to get him away from it. The Indians particularly, who have naturally keen sporting blood in their veins, will unhesitatingly abandon their gill nets, even when making plenty of money, as soon as they hear the Cohoes are running. I don't blame them and I was pleased to find that the call of the blood was vastly more powerful to them than the desire

for money. In many respects the Northern Indian is as simple as a child and as long as his desire to put his individual wits against fish and wild animals overrides all other considerations so long will he have the respect of all sportsmen.

There is more sport in a row boat. The man in this fishes two lines, and anyone making the Northern journey in a steamer during the summer months will see these men, dressed probably in sou-wester and slicker, pulling their hardest against a heavy sea and tide rip.

It is no game for the weakling, and to handle a cockle shell boat in the wild waters of our Northern Coast, provides danger to the sport which probably constitutes its charm.

Again you may be crawling along in your gas boat between Rupert and the Nas, buffeted by wind and waves that threaten to engulf you and you beat round a headland into sheltered nook that fifty yards away didn't seem possible. You find three or four trollers in camp, their boats at anchor, washing out on the line, a cheerful fire and the men stretched out comfortably smoking. Prices are good and they haven't a care in the world. Cares turn up of course even in this delectable land. I remember a friend of mine who was trolling off Barclay Sound not long ago. The banks there where the Spring Salmon follow are a few

miles out from shore and he was fishing one hot day in April. Sport was poor and all the boats left the banks but himself. After dozing a little he looked over the side of the boat and subconsciously noticed a rock just under the boat. Almost instantly his consciousness told him that there could be no rock, and he took a good look at it. It was a big whale not more than two feet below the boat with its head right under him. He told me that he gazed right into one eye of that whale and no porcupine ever put up such a set of bristles as his hair felt like. He prayed as he had never prayed before, and unlike most prayers, his were effective, because the whale gradually moved from under the boat, just grazing the underside with its back.

Yet they say fishing is a fat man's game and has no thrills. Nearly all the trollers make a good living as prices during the past two seasons have been very high. Quite a lot of the men have ranches on the Islands and the mainland, and between the two occupations do pretty well.

Rumor has it that many men neglect their farms as soon as the fish begin to run and as usual, rumor is probably correct.

Ever since the world began I suppose, men dropped their work to go fishing, but think of a country where you go fishing and can make the excuse that it pays better than work.

Vanishing Fauna of the Fraser Valley

J. W. WINSON

SINCE the misty day when the first cave-man hurled a rock at a reptile, or drew his dinner from the original "dead-fall", man has been the greatest agent in Nature for the changing of environment of his fellow mammals.

Where he settles he will tolerate neither tooth nor claw that work against him. Wolf or wombat, lion or lynx, boar or badger, fisher or fox, all must depart or serve his will. Though gentle in his generation he is ruthless in history. Lion and bison flee before him to keep their liberty, horse and ox, cat and dog stay to become his slaves.

Viewed historically the moving panorama is picturesque, but it is seldom that one man in a generation can witness such a change in the faunal life as that which has come over the Lower Fraser Valley during the last twenty five years.

This ribbon of fertility came early under the cultivating stroke of axe and hoe; early, that is for British Columbia, which is not half-tamed yet. The first white child born in the Province is a hearty huntsman who is shooting ducks this fall over sloughs and ridges that knew no trails before his father trod them.

Hudson's Bay factors swept its banks for Indian furs but it was the hurried feet of feverish gold-seekers, their faces set for Cariboo, that sent a shudder of change through the wild things of the woods, then holding their own easily against the mild attacks of the natives.

Cougar and coyote took what they would of the black tailed deer; jack rabbits, wood-and musk rats with the grouse of the woods made hunting good for lynx or bob-cat.

Mink and fisher patrolled the shaded streams suffering no lack or hindrance.

Wood-mice, field mice, vole and mole were prey to weasel, hawk and owl, while bear were as plentiful as "the blackberries" on which they fed.

The rivers and streams were peopled with beaver whose memory now survives only in "dams" and creeks bearing their name. These were the principal mammals of thirty years ago; nothing very ferocious to the incoming settler, nothing peculiar to the district.

One peculiarity this valley has, owing to its geographical position. It lies just below the edge of the Boreal zone, its flora and fauna having many characteristics of the Transition belt as defined by scientists.

Many animals that hibernate during the winter, a little to the north are active the year round a little further south.

Here they do not seem to know what to do. The weasel will change its coat, but not for the snowy ermine robe of its northern brother, squirrels pretend to hide away for the cold season, but are about on every sunny or thawing day. Trappers to-day have no set dates when the fur is prime, some seasons being open and warm until nearly Christmas, in other years October may have the coldest weather.

But those who trap professionally must go over the foothills, the valley is only for the amateur and the boy, the bulk of whose bag is the innocuous muskrat. While there are ditches and sloughs this little cousin to the beaver will thrive. Clearings and trappings are reducing its numbers but the value of its pelt brought many hundred dollars into the valley last year. It has been a popular catch from the beginning, as its burrows would honey comb the banks and dykes of the settlers. With the steller jay and the skunk it was honored with a small bounty that still survives in the Masqui dyking district.

Twenty years ago cash was scarce in the little settlements. Money was only made once a year by them, when the surplus stock was sold in the Fall. One man is known to have made a cheap journey and an enviable reputation down the valley, by the possession of a five-dollar gold-piece which no one could change.

A pioneer tells of calling at a barn in the evening of the day for refreshment, when a neighbor, whose cow was dry, came over for a quart of milk. Obtaining the measured quantity he drew from his pocket a muskrat

tail and tendered payment. The milker produced the head of a jay, which he handed to the purchaser as change, and the transaction was complete! For the milk was valued at five cents per quart; when the municipal council sat at their monthly meeting ten cents would be paid for each rat tail brought to them and a bounty of five cents for the head of each jay. This was the penalty paid by the bird for robbing garden and orchard.

Skunk were plentiful, and in his lack of knowledge of natural life, the farmer through the council paid bounty for the destruction of one of his best friends. It would have been more to his advantage to fence his chickens securely and let the skunk have the run of the ranch and through the night much less vermin would have bothered his crops.

The Little Spotted Skunk, or Civet Cat is still caught in profitable numbers. Until five years ago, the bounty of twenty-five cents for the four feet of the skunk could also be had for those of the lesser civet cat.

In one respect—that great respect of odor—the smaller creature has equal potency with his larger brother. No one seems to have measured the difference in effect with any accuracy!

As the cold weather comes these sedate little fellows in lovely coat of black and white, come into the clearings for comfortable winter quarters. If undisturbed they occupy some hole under pen or woodshed and live at peace with all above their size, but should dog or cat dispute possession a sickly sympathy permeates the air for days.

Fisher have disappeared entirely. Three lovely coon skins were caught by one family last winter, but the find is of increasing rarity. There are no "coon-dogs" or nocturnal expeditions such as delight the heart of our duskie brethren in the southern States.

The cougar in an occasional year may shiver the twilight with a piercing scream, and make now and then a sensational hunt, but such an event is not even annual.

Several coyote were shot in the Sumas district two years ago, when the high-water flood of the Fraser caught them marooned on a cotton-wood ridge. Complaint of sheep-worrying by them usually results in the discovery and death—of some stray farm-dog.

The lynx has become a tradition, two or three bob-cats will be shot or trapped in a year over the whole valley. A black bear with two cubs crossed the road the other day in front of a motor car, the mother turning an enquiring gaze on this new monster that

has invaded the once quiet trails. Cranberry swamps within a dozen miles of New Westminster still furnish food and shelter enough for these big animals of little hurt. Recently one visited a farmer's beehives and made sad havoc of the honey-crop, and orchards on the bench lands are occasionally raided.

A visitor to a farmer hearing of this, and keen to get his bear so close to civilization, sat up two nights in the orchard with his rifle across his knees, and in the "dark hour before dawn" of the second vigil, shot his host's retriever! Except for such occasional sights or visitations, the larger wild-animal life has left this valley for ever.

The hills will hold their own for years to come, for only the near ones have been tracked by the hunter. To the East and the North are mountains and valleys known only to the prospector who travels with bent head and eyes fixed on the gravel, following creeks rather than tracks, interested in fur and feather only as far as his dinner and supper.

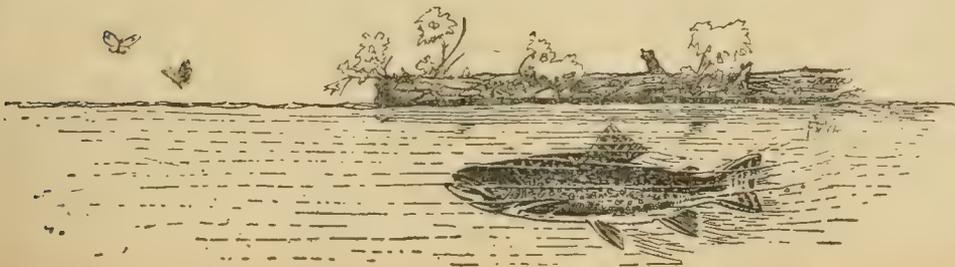
The warden in charge of the pheasant farm, checking the losses of game from predatory creatures makes his chief complaint against the cat—the "domestic" cat that multiplies unrestricted, whose surplus families, because it would be "cruel" to destroy them, are carried out in the woods to be "lost". There the survivors do damage untold, damage to wild-bird life as well as game, a greater menace to the feathered world than any other creature that walks.

On the bush-loving deer the change has had the least effect. They are free of the greater feline claws, but fall before the unseen bullet of the rifle. The clearing of the forest is restricting their area, but in the secluded woods they are as numerous as ever. On the borders of the wild bush they are frequently seen joining the cattle that have usurped their grazing ground.

Man is gradually extending his fences, levelling forests and clearing bush. Wild life, not only the four footed but birds and reptiles and even insects must make terms with him or disappear. The Douglassquirrel is driven further out or closer in. He must keep to the slowly vanishing wild wood or adapt himself to farm and orchard. Those that are doing this are becoming a new pest, for not only apples, but berried fruits are taken by them in annoying quantities. Birds' nests are found more easily by them as the insectivorous and seed-eating feathered friends of the farmers congregate round the homestead. Shooting squirrels is sport for youth with "twenty twos"—and must be encouraged in several areas where they have become a nuisance.

Mentally picturing the snarling, grunting, scolding retirement of the animals as they have left the valley through the years, the naturalist will be unprepared for the curious return of mink to the little streams last year. For many years the catch of the trappers had been growing smaller. Two years ago they were a rarity, but during the salmon run of the last season the ferocious little hunters suddenly reappeared. Half a dozen would be caught in one small creek and no one could account for their return. The most likely theory is that some particular trappers left their beats for the trenches, and in forgotten retreats secluded enough, mink were left to reproduce unmolested, and their numbers increased so that a migration over the creeks of the valley was necessary.

Of passing interest to the naturalist the invasion was particularly profitable to the trapper, who netting five dollars and more for each of the pelts, cared nothing how or whence they came if only they would continue to come.



Our Hunt Club

JAMES D. BRADLEY

THERE exists in the Township of North Easthope, Perth County, Ont., a farmers' organization that antedates the U. F. O. by a number of years, and that is the F. H. C. a Farmers' Hunt Club, that to-day has lost nothing of its youthful enthusiasm, and bids fair to continue its bucolic vigor for some time to come.

The Hunt Club had its origin in 1909 when the writer and Conrad Domer made their first visit to the Northern woods "on pleasure bent." They began their operations of stalking deer in the vicinity of Algonquin park, which were rather fruitless, so they pulled up stakes and set out for more fruitful fields. They had heard of Maple Island so they retraced their steps to Burk's Falls, took boat on the Maganetawan River to Ahmic Harbor and then set out for the North Pole. Here the game was more plentiful and both came out at the end of the hunting season with their quota of deer which at that time was two apiece.

On their return their success aroused the enthusiasm of their comrades in the vicinity, and a club was organized, officers elected, and preparations made for a visit the following year.

In 1910 the club made its first visit to the North. It consisted of the following members: Con. Domer, Jim Bradley, Alex Forrest, Jack Rutherford, Alex. McFarlane, Milt Fry, and Hen. Cook. They went to the grounds that had been visited the previous year by the two members Domer and Bradley and camped with a settler for the season, and so well pleased were they with their success, that before they left they gave an order to the settler with whom they boarded for the erection of a shack to be completed for them during the coming summer. This was on the site of an old lumber camp that had been abandoned some twenty five years before but where a fine well still existed, which has served the camp in good stead till the present time. This year the club engaged a guide in order that they might get the lay of the land. As the sport was new to them they were all affected with a touch of buck fever, but in spite of this hunter's disease they all got a deer and since that date have never had an attack of this peculiar disease so well known to the hunting fraternity.

The rifles carried by the club were as fol-

lows, Domer, a Remington trombone pump 32; Bradley, a Winchester carbine, 32; Rutherford, a Winchester 32 Cook, a Savage 303; Dempsey, a Winchester automatic 35; Fry, a Marlin 32; Forrest, a Winchester 38-55; McFarlane, a Savage 32-40.

On their arrival the following year they found the shack erected and ready for occupation. This was in 1911. It was a log construction with a rubberoid roofing, with sleeping berths fixed at one end of the building, one above the other. The furniture was of home manufacture. The hunters brought with them a stove, and cooking utensils, cups and saucers of grey granite. A fresh supply of grass each year furnishes the bed ticks, the bed clothes are brought in each year. This last hunting season, the writer on reaching the grounds found that a large can containing a gallon and a half of golden syrup had opened in transit and spread its contents over the bedding and other clothes that were packed in his trunk—a mess that with all its sweetness, is sufficient to make even a hunter lose his habitual good temper.

The following year the hunters made their usual visit to the hunting grounds and in addition to their quota of deer, captured a half grown cub which they brought safely home with them. The bear was kept for two years by Domer at Amulree and on Christmas day 1914 was shot and its flesh distributed among the members of the club while its skin was sold for \$25.00 and the proceeds turned into the club treasury.

When the war broke out the club devoted itself to patriotic efforts. They collected funds along the different concessions of the Township to purchase tobacco for the boys at the front, and put on also a number of concerts in connection with the Women's Institute which netted the latter organization a good sum. They also put a number of their mounted deer heads which were raffled and the proceeds turned over to the patriotic society.

In 1915 the club was prevented from taking their annual outing and also in 1918 when the flu was raging. Though the members of the club were inoculated against the disease yet Dr. Rutherford of Stratford advised against their going north and in consequence they gave up their trip.

This last season the party consisted of Bill

Makins, Jim Bradley, Alen Forrest, George Dempsey, Dave Milton, Jack Rutherford, Bill Smith and Hen. Cook. Though the hunters got their quota of deer they had the misfortune to lose their dogs Paul and Heck, two hounds that had gone to the hunting grounds for years and were well known to the various camps of hunters in the vicinity. It is no boast to say that no better pair of dogs ever ran in the Northern hunting fields. They seemed to know as well as the hunters that they were off for the chase. They never gave a howl from the time they were put into their box until they reached the grounds, there they knew also what was expected of them.

Once only have the members of the club encountered a moose, with all modesty they say that he is still a denizen of the Northern Forest.

One of the pleasant features of our hunting camp life is the appetite one develops in the Northern woods, no matter how prepared, the food seems to have peculiar relish, this with the good fellowship in the evenings around the comfortable fire, where no disagreeable word has ever been spoken and where the stories of "how I missed him" and the other spacious yarns of the failure to bring down the big buck constitute a factor in the annual holiday.

Beaver Farming

The conservation of wild life on the continent and the domestic cultivation of wild animals for their furs has, of late, been receiving widespread attention and encouragement both on account of the high prices prevailing and because it tends to offset the natural depletion by trap, gun, and disease. The ceding of a thirty year grazing lease to the explorer Vilhjamur Stefannson on the southern portion of Baffin Island, to raise reindeer and cariboo, is an indication of this, while the formation of muskrat farms has been much advocated on account of the profitable nature of the industry, a prominent factor of which is the economic maintenance of such an enterprise.

Domesticating the Beaver.

The rapid decline of beaver throughout the continent and consistent high prices for the furs of these animals have drawn attention in their direction, and the feasibility of domesticating the beaver, or rather cultivating the animal in its wild state under domestic restraints, is receiving much consideration. A beaver ranch was established last fall on the ranch of H. Coles, a farmer of Milton, Prince Edward Island, his first pelts selling for from \$40 to \$60 apiece. The location for the ranch was an admirable one—the animals' natural haunt—with abundant flowing water and an ample provision of natural sustenance.

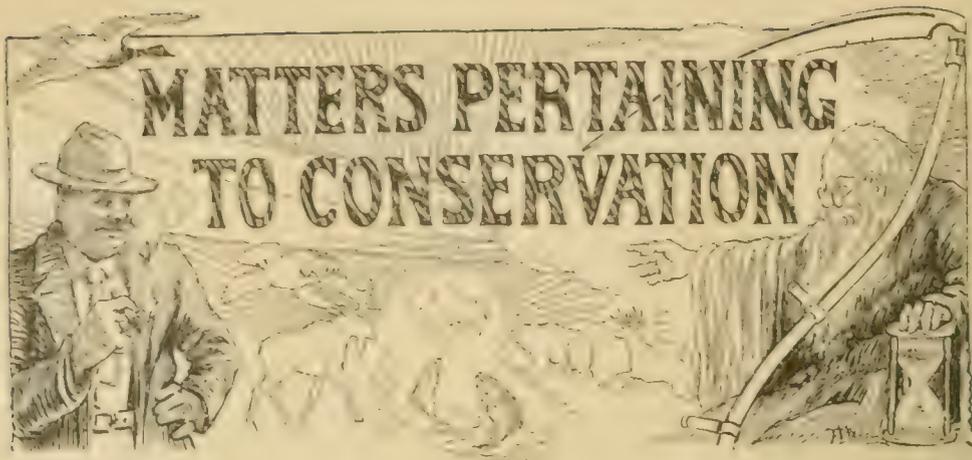
The busy little animals went right ahead with their dams; the special wire fencing used to enclose them and prevent possible migration did not apparently annoy them to any extent, and they continued to propagate and follow out their regular routine as if unhampered by the schemes of man.

Emblematic of Canada.

The beaver, which was early recognized as typically emblematic of Canada from its ubiquitousness, found a permanent memorial on the national insignia, and at one time was to be found in every part of the Dominion. It usually disappears with settlement, however, and statistics go to show that the supply of beaver in the wilds is rapidly diminishing, and that in a matter of twenty years will, unless conserved by the establishment of farms, have followed the buffalo into practical oblivion and extinction.

Beaver ranching is an industry which should receive every encouragement. The trapping of beaver has always been a profitable pursuit, while the high price of the fur, which will doubtless hold, is sufficient encouragement. Given a careful choice of location, a ranch is economic of operation and can be profitably run on lines of little expense, after the initial outlay.—*Agricultural and Industrial Progress In Canada.*





Some Diseases of Foxes

J. A. ALLEN, V. S., B. V. SC.

Animal Pathologist, Health of Animals Branch Department of Agriculture

Address delivered at Wild Life Conference, Montreal, February 19, 1920

THE health of Animals Branch, Department of Agriculture, undertook a survey of fox ranches during 1918 for the purpose of investigating some reports from Prince Edward Island concerning the high mortality among foxes from infectious diseases. This work was continued during the summer and autumn of 1919.

In view of the purpose of this discussion, I believe that it would be advantageous to attempt a general outline rather than elaborate upon only one or two phases of the problem. Therefore, the subject matter of this address is merely an outline of the observations made and the conclusions drawn during both visits. Some of the points discussed herein will need much further work for their elucidation, so that some of the statements made may require subsequent qualification when viewed in the light of fuller knowledge.

During my first visit to the Province, I experienced much difficulty in obtaining accurate information as to the location and prevalence of diseases, so on the second visit it was decided to submit the following questionnaire to fox breeders and others interested in the industry:

Fox Diseases Questionnaire:

1. (a) Are you having now or have you had at any time serious losses among foxes?

(b) Have the losses been chiefly confined to young animals? (c) Have any dogs or cats suffered from similar diseases in your locality?

2. Describe briefly the nature of the disease or diseases that occasioned these losses.

3. Are you willing to allow us to investigate the conditions on your ranch?

4. If necessary, may we conduct experiments on or in the vicinity of your ranch for the purpose of studying your difficulties?

5. (a) Do you make a practice of administering worm remedies and, if so, will you state what remedy you use? (b) Do you get good results from your treatment?

6. Will you agree to send to your office at Charlottetown, foxes that die on your ranch, in order that a post-mortem examination may be held? In each case a note should be sent with the carcass, giving your name and address, the date of death, and a brief history of the illness.

7. Give the approximate number of foxes on your ranch.

8. (a) On an average, how many pups are born on your ranch yearly? (b) How many of these live to maturity?

9. It is to be understood that experimental treatment conducted on any ranch will be

entirely at the owner's risk. Do you agree to this?

Signed.....
Ranch.....Address.....

Although we did not receive a reply from all the persons from whom information was sought, answers were obtained from nearly all representative fox breeders. There are still a number of men who operate with profound secrecy and, from these gentlemen, information could not be obtained. It is stated that, when such men have trouble,

temper and diarrhoea; 20 per cent to intestinal parasites; 13 per cent to meat poisoning; 6 per cent to big head; 8 per cent to losses at birth, insufficient milk secretion in the vixen and cannibalism, injury and other causes.

Forty three per cent of the ranchers from whom answers to question 1 (b) were received, reported that the losses were chiefly confined to animals under one year old. The answer to question 1 (c) brought the information that only two keepers had observed similar



they conceal it, fearing that it might have a disparaging effect not only on the fur market, but also on the prospective buyer of foundation stock. This is a very unfortunate attitude, since it hampers investigational work.

I might emphasize here that all information we receive concerning these matters is treated with strict confidence, and there is no cause for any anxiety. Again, other cases have come under our observation where the owners have withheld information until disease was so widely disseminated over their ranches that it was hopeless to attempt prophylactic measures.

Analysis of Data.

Thirty-three per cent of those who answered question No.1 (a), reported serious losses.

The combined losses may be tabulated as follows:—

The combined losses are as follows:—
25 per cent of all losses attributed to dis-

symptoms in cats and dogs kept on their ranches.

Mortality Among Foxes.

Question No. 8, relating to the wastage of fox life among foxes was very unsatisfactorily answered, and showed that either the ranchers did not wish to divulge the mortality among their animals or that they misinterpreted the question. In some cases no attempt was made to give definite information, while in other cases the information was so obscure that it was impossible to deduce any valid conclusions from it. In certain instances we were sure that the true mortality figures were not given to us, because we had personal knowledge of losses on some ranches which reported one hundred per cent efficiency in raising fox pups.

Sufficient data were furnished by representative fox-breeders to give at least an inkling of the mortality and a study of the figures furnished shows the average mortality to be approximately twenty per cent.

The value of the black fox fur crop of 1919—or rather the value of the pelts marketed that year—is estimated to be \$1,000,000. Therefore, the economic waste based upon the estimate of the average mortality, and the value of the pelts marketed, amounts to \$200,000.

Some curious remedies.

The empiricism of present day fox medical knowledge expounded by some caretakers reminds one of the early days when human and veterinary medicine was wrapped in mysticism. The hypothesis advanced by practical men to explain some of the maladies and conditions of foxes are almost as many as there are men in the business. It may be interesting to record some of these. Among the empiric methods, recommended and applied by foxmen, are the indiscriminate extraction of teeth for imaginary ailments; the introduction of a catheter into the trachea and blowing therein as a means of overcoming collapse; the oral administration of formaldehyde in the treatment of acute affections of the alimentary canal, and the feeding of a freshly killed chicken as a panacea for all fox evils. Good results are not expected unless the carcass is fed before its body heat is lost. As an explanation for that fur condition, known as rust, in which the fur takes on a brownish hue, it has been suggested by some men that this is due primarily to the feeding of red muscular tissue and, to avoid

the condition, the feeding of white meat is highly recommended.

Diagnosis Difficult.

The entire field of fox diseases is as yet hardly explored and there are no land-marks to guide us in making the rational diagnosis which is essential before we can apply either preventive or curative measures. It is only by extensive observation of the course of the various disorders and when death occurs, through the accurate recording of the gross microscopical pathological findings, that we shall ever be able to map out a reliable system of diagnosis of fox ailments. Even common disorders are very vague and are difficult to diagnose in their incipient stage because foxes do not seem to show manifestations, identical with those of other domesticated animals. A fox may die from acute gastritis without evincing pain, without assuming a characteristic attitude, or even without vomiting, which are prominent symptoms in either the dog or the cat. So far, diagnosis and the system of medication have been based upon pure analogy and cognizance has been taken of the apparent physical and psychic idiosyncrasies of the semi-domesticated fox.

Feeding of Foxes.

Since Dr. Hunter of the Biological Department, University of Toronto, was commissioned last summer by the Honorary Advisory Council for Scientific and Industrial Research to



Research laboratory at Charlottetown, supported by the Dominion Department of Agriculture, Health of Animals Branch.

study the problem of foods and feeding from the nutritional standpoint, I have given little attention to this matter and shall therefore confine my remarks chiefly to the relationship of food, principally meat, to the production of pathological processes.

Perhaps I may be permitted to give just a few of the observations which I made early in 1918, and which influenced me to suggest to fox-breeders that some scientific work should be conducted to determine a rational and standard method of feeding. It was pointed out then that feeding was on a very irrational basis because of the lack of such information, and that reliable laws of feeding had been established by experimental methods for other stock.

It was evident from my casual observation that, in many cases, no attempt was being made to feed a balanced ration. When there was an abundance of fish, the animals were almost entirely fed upon this food and, when meat was plentiful, this was fed almost exclusively over a varied period.

Gastro-Intestinal Lesions.

During our investigation, over seventy post-mortems of animals were held, and it can be definitely stated that at least 65 per cent of all cases examined showed gastro-intestinal lesions. Arguing from analogy, it would appear that the causes of infantile fox intestinal trouble closely simulate those that are responsible for such conditions in young human beings. It is fairly well established that irritant foods—principally germ-laden milk—are ordinarily the chief factor in the production of intestinal complaints in infants. We have reason to believe that the feeding of putrid meat bears a causative relationship to some types of intestinal disturbances, especially in young pups. We do not wish to convey the impression that putrid flesh is the sole or even the principal cause of intestinal complaints in foxes. We have further data which preclude such an unqualified conclusion for, in some such case we have discovered hook-worms and other parasites and specific intestinal distemper. One thing is clear, the alimentary system is unquestionably the most vulnerable part of the black fox's economy.

Meat Supply.

Horse meat is the principal flesh entering into the fox's dietary. Most of it is imported in boxes from Montreal in spring or early summer, placed in cold storage on its arrival in Prince Edward Island, and taken out as required. Some of this supply is rotten

before it reaches the cold storage, and it often comes from unknown and uncontrolled sources, so that it is not always possible to ascertain whether the animals were slaughtered or really died from disease. A recent inquiry into the source of some of this meat supply brought the information that it was very improperly and dangerously handled, that some of the meat condemned by the City meat inspectors, and treated with chemical substances by them so that it might not be used for human consumption, found its way into the Prince Edward Island supply and that decaying carcasses of a variety of animals were sometimes included in the shipment.

Sources of Meat Poisoning.

In order to show the dangers of such a supply, it is perhaps well to review briefly the chief sources of meat poisoning.

Meat poisoning may be the result of one or more of the following conditions:

(1) We have the organisms of such animal diseases as hæmorrhagic septicaemia, black-leg, malignant oedema, gas gangrene, anthrax, and suppurative and septic conditions that produce changes, in the living tissue in which they are growing, that render the flesh dangerous. (2) Meat may become contaminated with organisms of intestinal origin, such as *B. enteriditis*, *B. paratyphosus*, and the so-called hog cholera bacillus, which produce heat-resistant poisons and, if the contaminated flesh is not thoroughly cooked, the consumer may not only become poisoned but also infected. (3) The flesh from healthy animals may become contaminated during the course of its preparation with organisms that are capable of bringing about alterations in the tissue which render it toxic. Among the organisms incriminated are *B. proteus vulgaris*, *B. subtilis* and *B. coli*. Meat may also become contaminated with *B. botulinus*, which causes a true intoxication by the production of a toxin outside of the body.

Although there are certain problems of meat poisoning not fully understood, the conditions as outlined in the above statement are fairly well established as sources of poisoning in the human being but some modification, of course, may have to be made in a statement of the relationship of this problem to fox feeding. For example, it may be argued that foxes in their natural environment are accustomed to the ingestion of decomposed organic matter, but we must acknowledge that the black fox in captivity is the product of artificial conditions and that he is housed under conditions that tend to devitalize.

The argument that the black fox, especially the young, should be able to thrive on putrid food is not tenable. Our casual observations with reference to the resistance of the semi-domesticated black fox to disease processes would indicate that it bears about the same relationship to its wilder predecessors as a highly bred dog bears to the common mongrel. The patch or cross fox seems to occupy an intermediary stage, for it is much more resistant than the higher bred black fox.

All the dangerous meat does not come from outside points. The flesh of horses, sheep and cattle that die in the vicinity is often knowingly fed to foxes valued from \$300 to \$1200. Numerous instances are on record where the flesh of animals which suffered from generalized infection was fed and results in some cases have been disastrous.

Meat Poisoning in Foxes.

A number of reports of sudden deaths have been received, and the history and post-mortem findings have clearly pointed to meat poisoning. Several of these outbreaks have come under our personal attention. In one case sixteen animals died within ten hours after the ingestion of the suspected meat and all the deaths were traced to one box of horse meat. In another case deaths occurred only among animals that were getting raw meat. The young animals on this ranch were being fed only cooked meat and no cases occurred among them.

The symptoms observed in cases of so-called ptomaine poisoning were not typical. A few hours after the ingestion of the suspected food, the animal became inactive, and this inactivity gradually increased until the animal fell into a state of coma. In a few cases only was vomiting noticed.

The post-mortem notes were as follows: Stomach impacted with partly digested meat; acute nephritis, numerous inflamed areas in the mucous membrane of the stomach and intestines; mesenteric glands swollen and injected.

The importance of the fur-farming industry, the monetary gains therefrom, and the potential dangers of an uncontrolled meat supply, justify a more careful selection owing to comparative isolation of the Province, it is imperative that some co-operative system be devised so that horses could be brought to some central point, slaughtered there, and the flesh either fed fresh or canned so that the supply could be marketed in a preserved state.

Nature of Distemper.

Distemper is the greatest scourge of the canine race. The disease is known under a variety of names, according to the locality in which it was named. A few of these are catarrhal fever, sniffers, dog glanders, dog ill, canine plague, etc. In Germany it is known as "Staupe der hunde", in France as "Maladie des chiens." Canine distemperis the name usually applied on this continent.

The disease is said to have first originated in America and, about the middle of the eighteenth century, been carried to Spain and thence to other European countries. It is not clear whether it first flourished in France or England, but the consensus of qualified opinion is that the disease first reached France, and was subsequently carried to England. Whatever the history may be, it is now true that the disease has a world-wide distribution and is responsible for much wastage in canine life.

Distemper manifests itself in a variety of different forms. Text books usually refer to it as a catarrhal fever, in which any or all of the lining membranes of the body may become involved. The disease is contagious and peculiar to the dog and other members of the family *Canidae*, though guinea pigs and rabbits have a form of distemper that is closely related to, if not identical with, canine distemper. It is often compared with typhus fever in man and strangles in horses.

Although adult animals may become infected, distemper is essentially a young animal's disease, just as measles and whooping-cough are principally confined to children.

Symptoms of Distemper in Dogs.

For sake of comparison, it is well to outline the principal symptoms as observed in dogs. These vary according to the location of the infection. In some cases the respiratory system is chiefly involved, while in other cases the stomach and intestines are the main points of attack. The premonitory symptoms are rise in temperature, loss of appetite, loss of lustre in the coat, dullness, languor and preference for warmth.

These preliminary symptoms are followed, after a varying interval, by a catarrhal discharge from the nose and eyes. The lining of the eyelids (conjunctiva) becomes very red and inflamed. In severe cases the eye-ball may become involved. A small, rapidly spreading capacity may appear, which may result in the formation of an ulcer. The eyes are very sensitive to light. As noted before,

the symptoms may be chiefly confined to the respiratory tract. In these cases breathing becomes accelerated and there is a painful cough, depending upon the extent of the bronchial or pulmonary affection. The pulse becomes rapid and the temperature much elevated. When the bowels are the chief point of attack there is a violent, persistent diarrhoea and the evacuation consists of liquid matter containing blood-stained mucus. Very often there is a simultaneous jaundice, which manifests itself by a typical yellowish discoloration of eyes, gums and lips. In many instances in distemper there appears a pustular eruption of the skin, especially inside the thighs, on the chest and along the abdomen. These pustules exude a thin blood-stained fluid which forms crusts. The acute symptoms of distemper are very often followed by paralysis of the limbs.

Distemper in Foxes.

The preliminary symptoms described in dog distemper are not always noted in fox distemper. This is probably due to the high nervous temperament of the fox and, although it may feel sick during the onset of the disease, it does not betray any external manifestation in the presence of observers. Indeed this is true of other fox ailments for, in many cases, the illness is not observed until the animal has become so exhausted that it can not stand and until the temperature has become quite subnormal. According to our experience, the preliminary symptoms in distemper are not characteristic and the only indication of disorder that may be noted is the disinclination to feed.

The first symptoms that may be evident are running from the eyes, looseness of the bowels and perhaps a slight cough. Moreover, if the point of the nose is carefully watched, one will observe a watery nasal discharge, which drips off in beads. As in dog distemper, respiratory symptoms may predominate and, if the lungs are involved, there is accelerated abdominal breathing. It is our common experience that the fox is more prone to the intestinal form of the disorder, in which there is a persistent evacuation of a liquid, blood-stained mucoid discharge. In the acute form the temperature was found to vary from 104 F to 107 F and, in fatal cases, the temperature gradually decreased a few hours before death until it became sub-normal. A marked symptom was the rapid emaciation of the affected animal. We found that a redness of the skin inside of the flanks was a fairly constant

symptom, but in no case did we observe the formation of typical pustules as seen in dog distemper. If the general symptoms of the disease persisted for more than two or three weeks, death was apt to be preceded by paralysis of the hind quarters.

Cause of Distemper.

Before the contagious nature of distemper was recognized, it was attributed by various



(1) Fox distemper. Showing catarrhal discharge from eye.

writers to chill, imperfect nutrition, deficiency of mineral salts, etc. Jenner was among the first to place it in the category of infectious diseases. Up to the time of Jenner's work, distemper was not distinguished from rabies but he clearly showed the difference between these two diseases as early as 1809.

Since Jenner's time, there have been numerous attempts to discover the germ of the disease and the results obtained by the many investigators are very contradictory. Microorganisms of all shapes and forms have been



(2) Fox distemper.

discovered and described. Indeed, there have been nearly as many different germs found as there have been investigators.

It is hardly the purpose of this discussion to go into a minute critique of these early attempts. Suffice it is to say that present day authorities are divided into two camps: First, those that claim that the disease is due to an ultra microscopic germ, i. e., a germ so small that it cannot be seen with the best microscope and that can freely pass through the pores of a filter; second, those that attribute the disease to the presence of an organism known as the *Bacillus bronchisepticus*, described independently by Ferry in America and by McGowan in England.

Carre was the chief exponent of the filterable form and its relationship to distemper, and his conclusion was based upon the result of some experiments, in which he passed the serous discharges through a filter and found that the filtrate was still capable of causing the disease. Ferry contends that he has never been able to confirm Carre's work and claims that the organism described by him and others is indisputably the true cause of distemper, although numerous other organisms may be found. These he considers as secondary invaders to which he attributes some of the symptoms of the disease.

Furthermore, Ferry claims to have satisfied most of the scientific standards for judging whether a germ is the true cause of a disease. He reports that he has succeeded in recovering the germ from a large percentage of typical cases, that he has transmitted the disease by inoculating healthy animals with the germ, that by blood tests he has demonstrated the specificity of the organism and that, by the use of vaccines prepared from the

organisms, he has produced immunity against infection.

Ferry has presented a great deal of evidence to support his contention and, indeed, it is difficult on bacteriological grounds to dispute his claims. The serious antagonism has come from clinicians who are divided as to the efficacy of prophylactic and curative vaccines.

Cause of Fox Distemper.

Most of our efforts so far have been directed towards controlling the disease by sanitary measures and acquainting ourselves with the clinical manifestations. We have, however, made some preliminary tests to establish the infectious nature of the disease and to identify the organisms concerned. We are not in a position to give a detailed report of our unfinished work but we can say that fox distemper has been successfully transmitted to kittens and that we have recovered organisms that appear to be similar or identical to the bacillus described by Ferry. A great deal of comparative work will have to be done before we can say with any degree of assurance that we are dealing with the same organism. This work is being carried on at present and our results and conclusions will form the subject matter of a subsequent report.

Mortality in Fox Distemper.

We have the complete records of the mortality of six outbreaks, involving in all 453 animals. A study of these records shows very much the same result as is seen in dog distemper inasmuch as the greater number of fatalities is among animals under one year old. The following statement shows the relative mortality in young and adult animals: The percentage of deaths among the infected young animals in each outbreak varied from

76.6 per cent to 12.5 per cent. In this latter case the disease was diagnosed before it got an opportunity to spread and its dissemination was prevented by methods to be explained later. Averaging the figures, we find that 50 per cent of all infected foxes under one year old succumbed to the disease. The resistance of the older animals against the disease is shown by the fact that the death rate varied from 20 per cent to 5 per cent, the average for the combined losses in all outbreaks being 15 per cent.

Differential Diagnosis

The novice is apt to confound some of the more common diseases involving the eyes or bowels with distemper. We wish to emphasize that all eye or bowel symptoms are not attributable to distemper infection.

Conjunctivitis (inflammation of the lining membrane of the eye) sometimes appears as a primary condition in a mild infectious form.

The purulent discharge is somewhat similar to that seen in distemper, for which it may be readily mistaken. Its chief significance is that it temporarily disfigures the animal and fox-men dislike it for that reason. Conjunctivitis is more prevalent in late summer and autumn and it sometimes reappears year after year in the same animal.

The chief symptom of conjunctivitis is, of course, a free-flowing discharge which mats the eyelids. These are reddened and slightly thickened and the fur around them is removed as a result of the animal's rubbing the affected eye along the wire or ground in an attempt to relieve the irritation. The soil and dirt picked up in this way mixes with the purulent material and becomes caked around the lids. In a few cases under observation, the cornea showed a slight cloudiness, but in no case was ulceration found. The affected animal

does not show any systemic disorder, the temperature is usually normal, nor does one notice the speedy emaciation usually prescribed for eye affections.

Diarrhoea, too, may be a primary condition, and its occurrence is so common that some practical fox-men regard it as a normal condition of the young fox, even when the evacuation consists of blood-stained mucus. This disease, certainly when bloody mucus is present, should be regarded with greater concern, for it is indicative of the presence of some irritant which may result in the production of a fatal inflammation of the bowels. Indeed, it very often is an actual indication of enteritis, which is a serious condition.

The causes to which diarrhoea and enteritis are ascribed are many but, in the case of foxes, we are of the opinion that putrid horse or other flesh and worms are the chief factors.

It is sometimes very difficult to distinguish between ordinary diarrhoea or catarrhal inflammation of the bowels and intestinal distemper, but, in most cases, there are no respiratory symptoms, the eyes are not involved and, while the animal may become unthrifty in appearance, it does not become emaciated so quickly. Treatment should be placed in the hands of a competent veterinarian, as the medication may depend upon the general condition of the animal.

Control of Distemper.

The early recognition of the disease is the greatest factor in controlling an outbreak. If the first one or two animals that contract the disease are quickly segregated, the pens thoroughly disinfected and sanitary measures taken to prevent the spread of the disease to other pens, the cases can be kept down to a minimum.

We have had personal experience of the



(3) For distemper: Same subject as No. 2 taken at later stage of the disease. Note paralysis of hind-quarters.

efficacy of such control when it is rigorously enforced. In one outbreak, we confined the infection to animals in two adjoining pens. Only eight animals out of 171 contracted the disease and only one died. In this case, just as soon as the disease was diagnosed, the affected animals and all those in the immediate vicinity were quarantined separately in pens situated at the extreme end of the ranch. A special attendant was furnished for the sick and exposed animals. He was supplied with rubber boots and a rubber gown, which he disinfected in a strong creolin solution after each visit to the contagious ward. Separate feeding utensils were supplied for each fox and these were frequently boiled. The attendants' hands were thoroughly disinfected by immersion in lysol. The path leading from the infected area was covered with lime. Strangers and employees of the ranch were prohibited from approaching the infected area. The pens in which the disease first occurred were thoroughly disinfected with creolin, were locked and kept locked for two months after the outbreak.

It has been our experience that fox-keepers do not recognize the seriousness of the disease until nearly every animal in the ranch becomes infected, when it is too late to attempt prophylaxis. Naturally, it was in such cases that high mortality was experienced. All ranches should be provided with a hospital in which all suspected cases should be confined. It is much better to err on the safe side and remove all sickly animals irrespective whether the condition is infectious or not.

Serums and Vaccines.

The clinical reports in the treatment of dog distemper are very contradictory. Some practitioners of wide experience claim that so far no reliable agent has been produced, while other men report excellent results from the use of vaccines and serums manufactured from the *Bacillus bronchisepticus* and other germs commonly found in cases of distemper. It is difficult to form any valid conclusion from these varied reports. I cannot do better than quote Ferry, who has done considerable investigational work to determine the value of vaccines made from his organisms: "Forty dogs were used in all; nine were immunized with live cultures while fourteen were saved as controls. All of these dogs were exposed to at least three dogs suffering with typical symptoms of the disease, including the respiratory, abdominal and nervous types. Eight of the controls died while all in the same room and exposed to each other, so there

was plenty of opportunity to contract the disease from each other, had they been susceptible."

It may be interesting to state briefly the rationale of vaccine and serum therapy. It is the common experience in a number of infectious diseases that an individual seldom has the same disease twice. The presence of the organism in the body and its activity therein have produced some change that has brought about this resistance, which is called "acquired immunity". Now if the organisms of a disease could be introduced into the body in such an altered form or in such numbers, that they would be obtained as in an actual attack of the disease. That is the basis of modern vaccine therapy though, of course, there are many modifications employed to bring about this general result. In the example just noted the individual manufactures his own antibodies or neutralizing substances.

But the individual may not be able to respond to such stimulation; he may be weakened or, if he is already infected, he may have enough to fight the germs and their products that are at work in his body. In such instances if we could get the antibodies against the disease already manufactured, it would be a simple matter to transfer them to the affected individual. And that is what is done in serum therapy. An animal, usually a horse, is inoculated at varying intervals with gradual increasing quantities of the organism, against which a serum is desired, and the body tissue of the animal responds and produces an anti-substance. The blood of the immunized animal, with its antibody content, can be obtained and prepared in such a manner that it may be injected into the body of an ailing animal. In this case, the individual does not produce its own anti-substance; it is produced in the body of another animal and merely transferred.

Both serum and vaccine therapy have been employed in distemper with, as already mentioned, seemingly good results in some cases and very indifferent results in other cases. Much confirmatory work will have to be done before the efficacy of these remedies, both for preventive and curative purposes, can be learned.

We have used commercial canine vaccine in only two outbreaks of fox distemper. In the first outbreak, all of the 85 animals on the ranch were affected when the outbreak was brought to our attention. All of the animals were inoculated irrespective of age or the

degree of symptoms. Forty per cent of the young animals and five per cent of the older animals succumbed to the disease. In the second outbreak, which is the one we detected early and for the control of which sanitary measures were adopted, all the exposed animals were vaccinated and eight only contracted a mild attack of the disease. It is impossible to draw any valid conclusion from these few observations; the only comment that seems justifiable at this stage is that we should expect better results from a vaccine prepared from organisms secured from foxes suffering from distemper. The manufacture of such a vaccine and experiments to establish its value, in the prevention and treatment of fox distemper, are some of the problems to which we shall devote our attention.

Big Head and its Symptoms.

'Big Head' is the name given by practical fox ranchers to a disease which is characterized by a marked oedema of the tissue of the head and sometimes of the neck. It is also a disease of young animals and occurs most frequently during the teething period. Although it is primarily a dental infection, the manifestation in foxes for some reason or other is not identical with that observed in other animals. A peculiarity of the disease is that little or no pus is produced, which perhaps explains why it is so fatal, since this absence of pus may be taken as an indication of lack of resistance against ordinary pus-producing germs. According to our observations the disease is confined to pups between the age of three and three and one-half months—the time at which they are shedding their milk teeth. The mortality is very high, being 70 per cent of all the cases brought to our attention.

The chief symptom noted is the enlargement of the head, which in some cases, becomes twice the normal size. The lips and tissue of the inside of the mouth are much swollen and if the tissue is pressed with the finger nail, the impression remains for a long time. The swelling of these parts may become so large that the animal cannot close its mouth. A rusty-coloured fluid runs continuously from the eyes and nose. The eyelids become so swollen that the animal cannot keep its eyes open. The conjunctiva (lining membrane of the eye) becomes filled with fluid which causes a bladder-like protrusion.

Causes of Big Head.

The post-mortem examination of a case of big head reveals signs of a general acute infection. The kidneys and glands show

haemorrhagic areas and, if the swollen tissue is cut into with a knife, oedematous fluid oozes from the part. We have sufficient evidence to show that the primary cause of death is septicaemia (blood poisoning), for a few drops of the heart's blood taken immediately after death from typical cases and injected into the abdominal cavity of rabbits causes death within sixteen hours and, when the blood is submitted to bacteriological tests we can demonstrate the presence of micrococc (small round germs), which are usually associated with blood-poisoning in other animals. We have also evidence to show that young foxes are more susceptible to local infection by this germ than are some of the small experimental animals, including kittens, for these animals are able to respond to such an infection and can prevent its dissemination over the body. Death does not occur in these animals unless the germ is introduced into the blood circulation.

Portal of Infection.

In nearly every case we found that the primary point of infection was in the vicinity of either the upper or lower third premolar tooth. There was usually a track between that tooth and the outside of the bone forming the tooth cavity, but the tooth cavity itself was seldom involved. If a probe was introduced into this track or fistula, when the upper side of the jaw was affected, it could be pushed up almost to the eye cavity.

The peculiar anatomical structure of this tooth may serve as a predisposing cause. In shape it resembles a horseshoe. The two prongs forming the roots are of course embedded in the tooth cavity, and the cutting surface of the tooth is not much thicker than the roots. At from three to three and one-half months, the gum does not reach the base of the cutting surface, and this leaves an arch through which a small probe or tooth pick can be pushed. The opening thus formed allows the entrance of germs taken into the mouth with food and dirt and is therefore a nidus for infection.

The same disease has been accidentally produced in older animals as the result of cutting off the crowns of the canine teeth to prevent the animals from killing each other. In this case the infection gained entrance through the tooth canal. It is interesting to note that some of the animals of this ranch had been vaccinated with a mixed canine distemper vaccine and not one animal amongst the vaccinated animals developed the disease. This gives a hint as to the manner in which the

disease should be attacked if it becomes more prevalent. What has been previously recorded concerning the production of pus is also applicable to these cases, since all the cases, in which oedema was the outstanding symptom, died in from three to six days.

Treatment of Big Head.

The medicinal and surgical treatment of big head has not been successful in our hands. In one outbreak only three animals recovered out of total of seventeen affected. Our treatment consisting in the removal of the teeth in the vicinity of the fistula and syringing out of the cavity with an antiseptic solution, applying stimulating liniments and antiphogistine to the swollen parts, scarification of the oedematous tissue and the oral and subcutaneous administration of general stimulants.

Parasites Found in Foxes.

So far all the intestinal worms found in Prince Edward Island foxes belong to the class known as *Nematodes* (round worms) and all are varieties of two families, namely, *Ascaridae* and *Strongylidae*. As in the case of other animals, the ascarids are the more common.

The presence of intestinal parasites in foxes has given considerable trouble to ranchers and, in the early days before they began the systematic treatment with vermifuges, much of the infantile mortality was directly attributable to the large round worms which were so frequently found in the intestines.

Indeed, verminous infestation was so prevalent and the animals infested so early in life, that many practical fox ranchers argued that the young fox was born with worms.

Despite the fact that the systematic administration of commercial worm remedies has reduced the mortality, the worm problem is still a real one for, in many cases, we have found the presence of worms in carcasses brought to us for post-mortem examination, even though the animals had been previously treated with worm medicine. The proprietary vermifuges used by fox caretakers are said to be very effective, although our observations lead us to suspect that they are not always efficacious. Perhaps the estimation of the value of some of these remedies is based upon their efficiency in the removal of larger ascarids for, up to the present, no attention has been given to the smaller hook-worms. Indeed, fox men seldom see these hook-worms while conducting their casual post-mortem examinations. We believe that the hook-worms are even more dangerous than the

ascarids, because they are capable of causing more injury to the delicate intestinal lining.

Up to the present we have merely concerned ourselves with the classification of intestinal parasites and we have not attempted detailed investigational work into the value of the remedies which might be employed for expelling fox worms. We are now outlining a series of experiments to determine with accuracy the efficiency of worm remedies for foxes.

We have found three distinct species of ascarids in the fox:

Ascarids of the Fox.

- 1: *Belascaris marginata*.
2. *Toxascaris limbata*.
3. *Belascaris cati*.

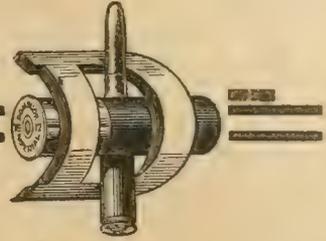
All of these species are commonly found in both the dog and cat. *Belascaris marginata* is the largest of these three worms, all of which are remarkable for having projections or wings on either side of the head. The wings of this species are long, narrow and semilanceolate. Its colour is white and its length varies from 5 to 10 cm. in the male and from 9 to 19 cm. in the female. Its most usual habitat is the intestine.

Toxascaris limbata is also found in the intestine of the fox. It can be distinguished from *B. Marginata* by its pinkish color, by its size, which varies from 4 to 6 cm. in the male and from 6 to 10 cm. in the female, also by its eggs, which are thick and glossy, whereas those of *B. Marginata* are pitted all over.

The symptoms of ascaridiosis are more noticeable in the young fox; the animal does not thrive well and, in many cases, becomes stunted. The abdomen is distended, a condition usually described as "pot bellied". There may be evidence of disordered digestion, such as irregular appetite, colic, diarrhoea and constipation. Infested young foxes are very prone to convulsions.

Sanitary Control.

Worms are so prevalent among foxes that it is advisable to assume that all foxes have worms; certainly all ranch bred foxes are exposed to infestation. In confinement, indeed, the fox or any other animal has a greater chance of becoming infested with parasites and infected with disease germs because of the intimate association with one another and one another's secretions. The life history of these worms clearly indicates the way in which we should attack the problem. Manifestly, we should strive to prevent, as far as possible, the eggs from gaining entrance into the animal's intestines. We must recognize



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that the eggs are contained in the faeces and that they may become disseminated over the entire ground.

Disinfection with ordinary chemical substances has its limitations especially when they are sprinkled on porous soil like that in Prince Edward Island. Perhaps a more satisfactory method could be devised, such as some kind of torch with which the ground could be scorched; such an apparatus has been described by Stiles of the U.S. Dept. of Agriculture in Bull. No. 35 of the Bureau of Animal Industry.

Treatment of Ascarids.

From time to time various drugs have been employed for the removal of round worms, among which are santonin, arca nut and turpentine. Santonin, particularly, has been advocated for the treatment of ascarids in dogs, but detailed experimental work, especially that of Hall, has shown that santonin, as usually administered to dogs, is not nearly as efficacious as formerly supposed. Oil of chenopodium is the remedy now recommended and it is said to have a very high efficiency. The dosage for dogs is approximately 0.1 gram for each 2 lbs. of body weight. This is followed by 30 grams of castor oil. Chenopodium must be administered with caution; the drug must be pure and it should be purchased from a reliable chemist.

Hook-worm Infestation.

Different varieties of hook-worm are found in man and such animals as dogs, cattle, swine and seals. In man, this worm produces a very important disease, known as hook-worm disease, also as ground itch anaemia, in which disordered. In America, the parasites are more prevalent in the South and a large proportion of the people in some localities become infested.

During our post-mortem examinations on foxes, in 1918 and 1919, we found hook-worms in a surprisingly large number of our cases, even in animals that had been treated with the common commercial worm remedies. The species observed was found to be identical with or closely related to *Uncinaria polaris* (Loos), which had been previously found in *Vulpes lagopus* in Washington, D.C.

This parasite measures about $\frac{1}{4}$ inch in length and is equipped with a cup-shaped mouth with cutting plates. This fastening apparatus wounds the lining of the small intestine and the worm lives upon the blood which it draws therefrom. The microscope reveals in the tail of the male worm an umbrella-shaped expansion, made up of rods or rays,

which serves the purpose. The female has a straight narrow tail.

As far as we know the life history of *Uncinaria polaris* has not been fully worked out and this is another problem to which my chief, Dr. Hadwen, and I shall devote our attention. It is very probable that this worm passes through the same developmental states as, and gains entrance to its host like, the other species which are related to it. In case of the worm that infests human beings, the adult lives in the small intestines. The male and female mate in the intestine and the female deposits numerous eggs which do not develop into larvae until they are expelled from the host. When the eggs reach the external world, larvae are hatched which go through some development before they again invade the animal economy. Stiles, the authority on these parasites states that infestation may occur in two different ways: first, the immature worm may find its way through the mouth—formerly this was thought to be the only mode of infestation; secondly, the worm may penetrate the skin and find its way into the blood, reaching the heart and lungs. From the lungs it passes down the oesophagus and ultimately arrives in the small intestine, where it becomes adult.

Treatment of Hook-worm.

The following are the classic remedies used in the treatment of hook worm disease in dogs.

1. Herman's Green Mixture.

Etherized extract of male fern.....	4 gram
Etherized extract of male fern.....	4 grams
Chloroform.....	3
Castor oil.....	40

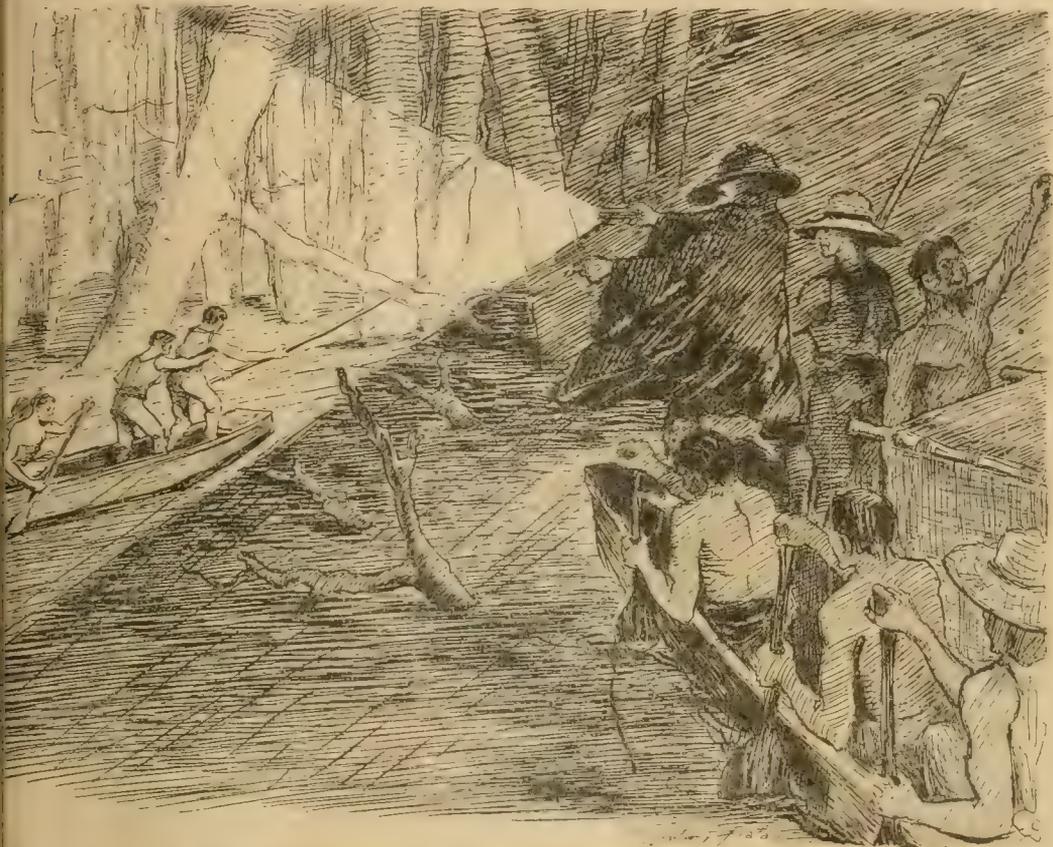
This is divided into three equal doses and all are administered within one hour on an empty stomach.

2. Thymol Treatment.

For a large dog, 6 grams of thymol is divided into 3 doses and administered in the morning, afternoon and night. This is followed by a saline purgative.

3. Oil of Chenopodium Treatment.

Quite recently oil of chenopodium has come into great repute in the treatment of hook-worms. Hall, who has done considerable accurate investigational work, claims that the drug has a remarkable efficiency. If this drug can be applied in the treatment of foxes, it should prove of great value, since it is also effective in expelling the commoner ascarids. Some authorities claim that it should be combined with chloroform. With reference to the dosage and method of administration,



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the instructions given above under the head of "Treatment of Ascarids" should be followed.

Summary of Fox Diseases.

The disorders that have occasioned the greatest losses among foxes are distemper, infantile diarrhoea; parasitic invasion of the stomach and intestines, meat-poisoning and big head. This statement is without reference to the serious losses at and before birth, which, for lack of definite data, cannot rightly be included under the head of disease, though in all probability these will be found to be due to nutritional disorders.

I share the belief of representative breeders that one of the chief problems of the present and future lies in the control of distemper. Historical facts, the disastrous effects commonly observed in outbreaks in kennels of pure-bred dogs, and my personal observation during my investigations lead me to conclude that fox distemper is a grave potential danger to the fox-farming industry. In Greenland and Iceland where many dogs are kept for transportation purposes, the disease has been so disastrous since 1859 as nearly to exterminate the canine species. Nearly all European countries, too, have experienced great losses from distemper. The dangers of fox distemper can only be safeguarded by the adoption of some official inspection and the passage of some legislation which will tend to make the individual responsible to the whole. The laws laid down by preventive medicines as to sanitation and isolation must be observed, especially if the traffic in foxes is continued.

So far the disease has been kept fairly well in check, perhaps by good luck. It is not widespread throughout the province and now is the time to institute proper precautionary measures.

Speaking generally, outside of comparatively few outbreaks, disease has not occasioned alarming losses, when the newness of the industry and other factors are taken into consideration. The taking of an animal from the wilds and semi-domesticating it in so few years is an achievement of which the pioneer and even the fox farmer of to-day may be proud. I fancy that, if we had the historical facts pertaining to the early ventures in domestication of other servants of man, we would find that the wastage was much greater than that experienced in fox raising.

Acknowledgments.

I wish to take this opportunity of expressing my sincere thanks to all the fox ranchers of P. E. I., these gentlemen have treated me with great kindness and consideration throughout my stay in the province. My thanks are also due to Dr. S. Hadlen, Chief Pathologist, Health of Animals branch, and to his assistant, Miss Cramp, for classifying the parasites which I have collected. I appreciate the assistance which I have received from the Fox Breeders' Association, Fox Caretakers' Association, and from Dr. Pethick, whose practical guidance has been very helpful.



Geo. H. Dixon and his moose, shot 19th Nov., 1919, near Bridgetown, N.S.

Successful Moose Hunters

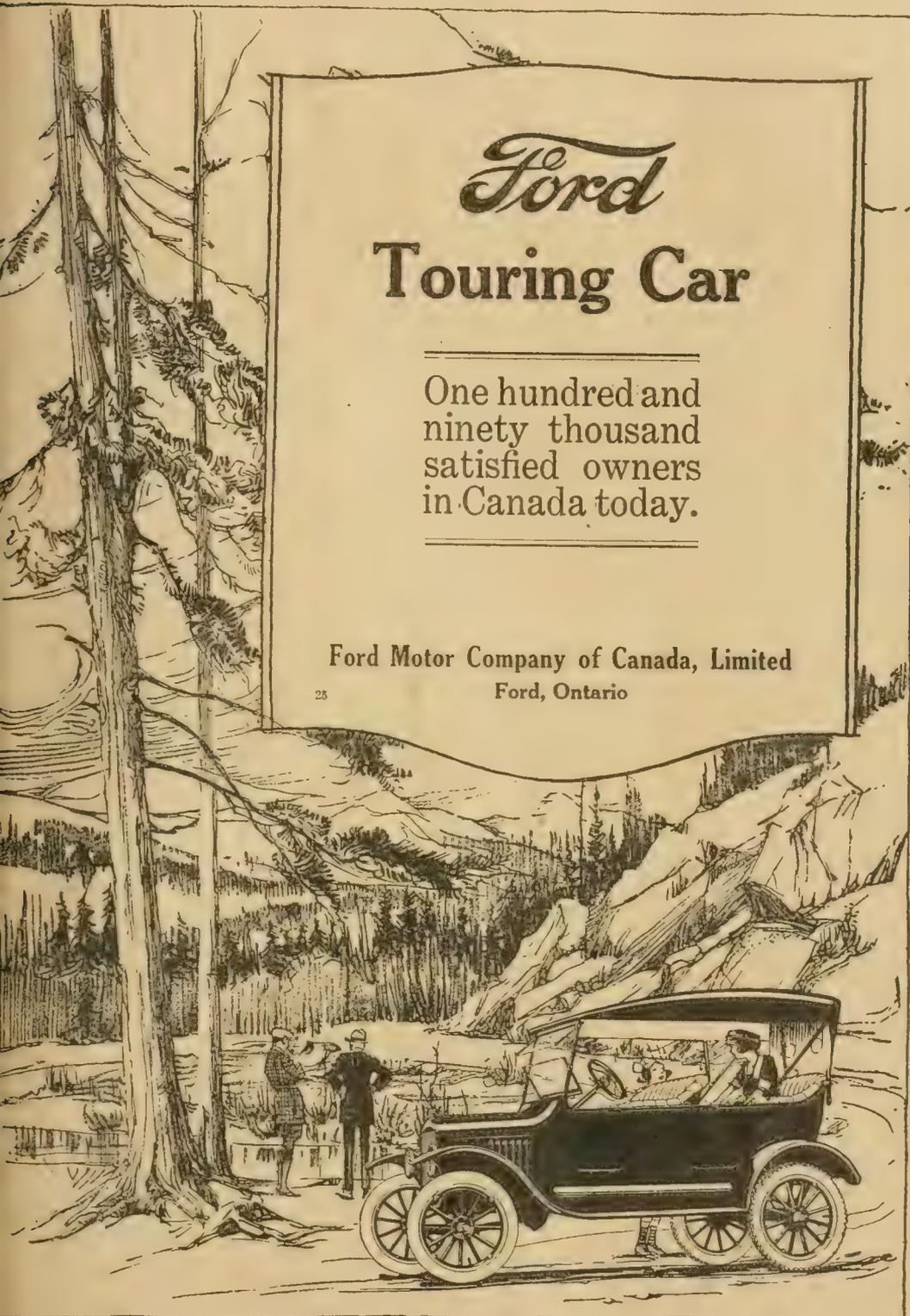
Mr. G. H. Dixon, Bridgetown, N.S., with Manley Brooks, Dalhousie, N.S., as Guide, holds the distinction of having shot on the 19th November 1919., one of the most handsome moose ever seen in this vicinity. It was totally black with the exception of some light from the knee and gambles down. It dressed very heavy and had a nice set of antlers. Some very fine moose have been taken in this section.

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The Wall-Eyed Pike

A Comprehensive Survey of the Life and Habits of this Important Game Fish; How, When, and Where to Catch Him; and Other Points of Interest.

ROBERT PAGE LINCOLN

AS a game fish it is doubtful if the wall-eyed pike has been given a fair show. In fact it is a subject that has not been carefully dealt with, or if dealt with has not attained for the fish the eminence it should possess as one of the most desirable finny ones that inhabit our waters north and south. The reason for this is principally that other game fishes, including the trouts, have received more attention than they should, which has been to the quiet elimination of this member of the perch family—one of the largest members of the various perch species to be found in the world. No doubt hundreds of exceedingly fine specimens of this large perch are annually taken in our waters without the anglers in question knowing what sort of a fish they have taken; at least the average fisherman will state that he has captured a pickerel or a pike, mistaking the fish in question for one of the pike family. And, too, the method of taking this beautiful fish has mainly been by the use of heavy tackle, often the hand-line. Captured in this manner it is no wonder that the wall-eyed perch (or wall-eyed "pike," as it is misnamed) has been thought lightly of; but taken on light tackle one changes his opinion of this fish and the amount of genuine joy it will bring to the angler. Probably in the future this fish will be lifted very much higher in the estimation of the piscatorial brotherhood. One thing is certain. He is deserving of all the honor one can accord him, and it is my object in this article to carefully treat of his life and habits that many of the readers of this 'script will be set right in regard to him. Personally I have a great respect for the wall-eyed perch; both as regards his desirability as an introduction into new waters, also as a game fish to be taken on light tackle, while as a food fish it is excellent, white and flaky. Indeed, in the Great Lakes region the wall-eyed perch is one of the most important of the food fishes, something that is not known to the rank and file.

Classification:—The wall-eyed perch belongs to the perch family, *Percidae*, of which there are almost a hundred species throughout the world, the most important ones being

found on the North American continent, these two being the wall-eyed perch, or "pike," (*Sitizostedion vitreum*) and the yellow, or banded perch (*Perca flavescens*) known to every boy who has ever dangled a hook at the end of a line in our Middle West and Northern waters. The wall-eyed perch, however, should not be confused with another perch found in the Great Lakes and Canadian waters in general which is popularly called the Sauger (*Sitizostedion canadense*). This fish is smaller than the wall-eyed perch, as a rule, and it is not nearly so well shaped, whereas the wall-eyed perch are almost symmetrical and are beautiful to look upon. In common with so many of our fishes the wall-eyed perch has been given a host of names, some of them travelling far and others being local. This has only served to add to the confusion as it to its place and identification. Some of the names that the wall-eyed perch is known by is: Glass-Eyed Perch, Pike-Perch, Salmon, Sauger Pike, Salmon Pike and others. As a rule it is mistaken for a pickerel or a pike merely because that misleading term of Wall-eyed "Pike" has been attached to it. The wall-eyed perch does not belong to the pike family; it belongs to the perch family, the order of spiny rayed fishes.

Identification:—Because the wall-eyed perch is so generally mistaken for a pike or a pickerel it is interesting to note the difference between the two, this difference being great indeed and a glance should tell the least observant man which is one and which is the other. In the first place all the pikes (Great Northern Pike, Muscallonge, and Pickerel) have bodies that are always covered with a slippery slime; in fact they are dripping with it. (The reason of this slime on the pikes by the way is to protect the body from the inroads of fungus diseases.) The wall-eyed perch has no slime on its body. Its flesh is protected by very tightly set scales, and the surface of the body, (same being true with any of the perches) is rough, very rough, to the touch. Thus by merely running your hand over the body of a wall-eyed perch you should be able to tell which is one and which

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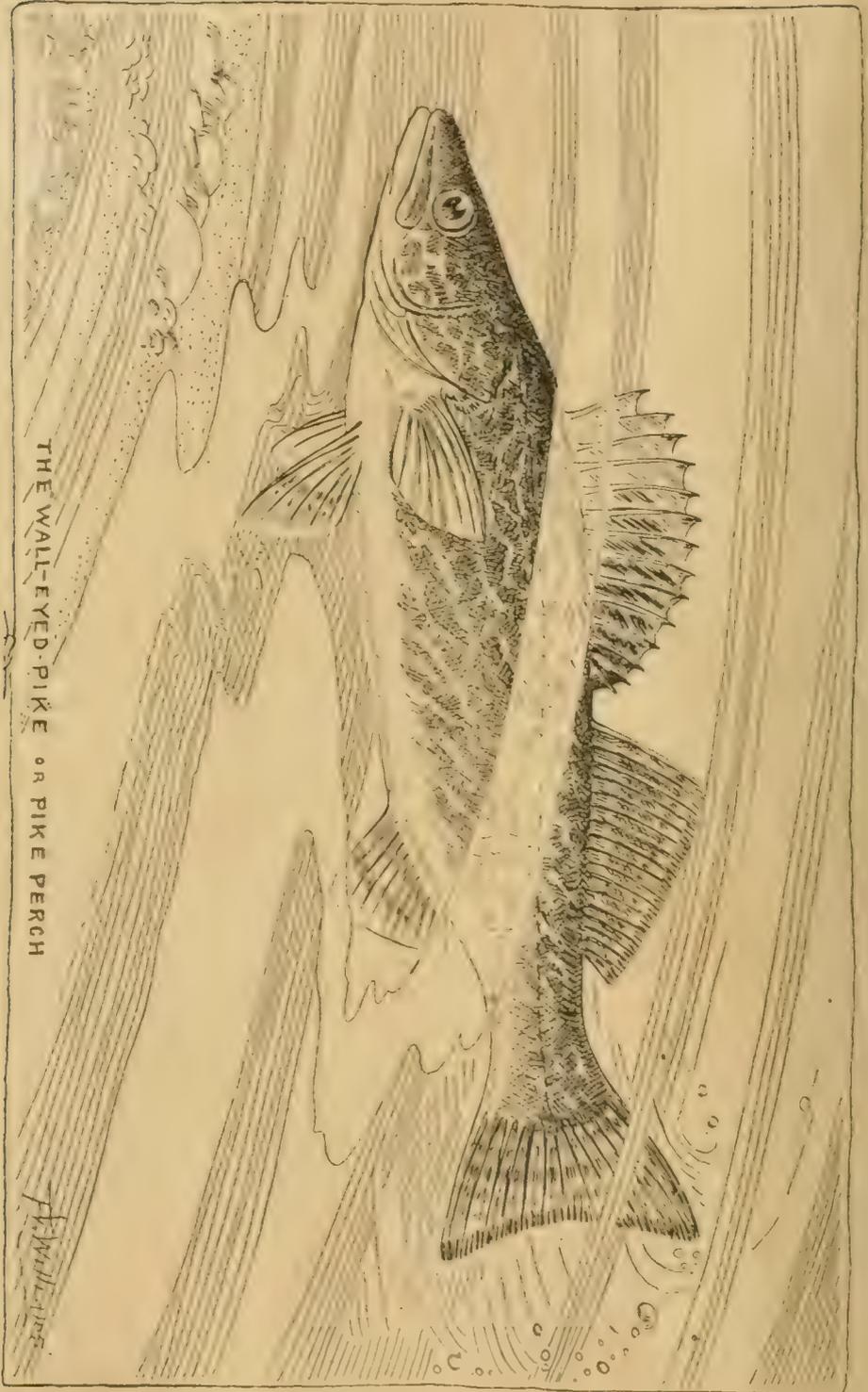
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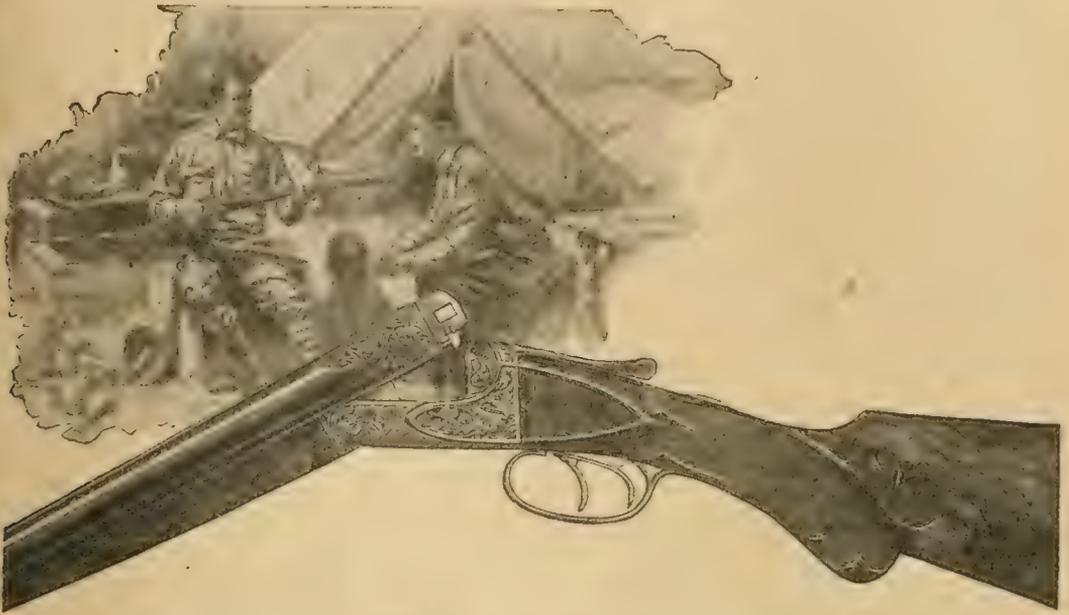
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is the other. Probably the wall-eyed perch got its name "pike" from the fact that it has somewhat the shape of a pike. Then, too, the wall-eyed perch has two dorsal or back fins whereas the pikes have only one, that one being set rather far back on the back, very near to the tail. The forward back fin of the wall-eyed perch is set with sharp rays, or spines, another means to instant identification. On another score, too, the wall-eyed perch may be told from other fishes by the fact that after capture its eyes turn white, as though stone-frozen. No other fish has eyes that do this. I can tell a wall-eyed perch a half block away merely by the white eyes. It is this turning white of the eyes that has no doubt given this fish the designation, "wall-eyed."

Weight:—A writer in speaking of the weight of the wall-eyed pike has said that, "the average size of the fish is seven and eight pounds." This is assuredly lifting the average into the high places. Personally, I would not state it in as broad terms as this. The average wall-eyed perch that you capture would be two or three pounds. I would say three or four pounds, with an occasional one thrown in weighing five or six pounds. In the St. Lawrence River and waters bordering on the Great Lakes, in Canada, it is said that the wall-eyed "pike," or perch, has been captured weighing up to, and even exceeding thirty pounds. I do not remember, ever having heard of such a big wall-eye taken, either in net or on the hook, but undoubtedly there was a time, before the waters were so well fished that this species could be taken in this weight. I believe that the largest wall-eyed perch taken and listed in a recent big fish contest weighed fifteen pounds.

Range:—The favorite home of the wall-eyed pike is the Great Lakes region and the streams and lakes in close proximity of it. It is not found to any great extent West of the Mississippi River in the United States, although in the North it is found as far West as the Province of Manitoba, and north as far as Hudson Bay. It is found in the Eastern States of the United States and in the Provinces of Quebec and Ontario, both in the streams and the lakes. Some rivers and lakes have immense numbers of them and especially in the rivers, the swift-flowing streams does the wall-eye give the angler an excellent inning, with all the rips and curves of a true game fish; for it should be remembered that the wall-eyed perch is a game fish. There is no doubt as to that. In the United

States the wall-eye holds out in abundance in the Ohio Drainage System. Writes Mr. Ben C. Robinson who is familiar with this fish in that part of the continent and the wall-eyed perch in special:

"Most surely the wall-eyed perch is not of the Sauger Perch species, as it attains a weight which alone marks it conclusively as not belonging to that species. Furthermore, I can state that the formation of the fish denies its relationship to the Sauger. The Sauger perch is a slim and ill-shaped fish in comparison with the wall-eye. Whereas the fish taken from the streams of the Central States, from the Ohio Drainage System is a well-formed fish. In most cases an adult fish in good shape is heavy of girth, solidly constructed, with spineous dorsal fin, the other soft like that of a bass, well shaped tail marked with small yellow oblong spots and with a color of yellowish olive. The belly is silver. This is what has unquestionably caused the local anglers to class it as a salmon. And then the gleam of the hooked fish in clear water gives one the impression that it is entirely silver in hue. The head is shaped in close harmony with the pike, being rather flat and long, the under jaw coming well over the upper and the large, wall-eye set at a good distance on the side of the head. The inside of the mouth is armed with bands of sharp, long teeth, the front teeth of the lower jaw hooking back at a sharp angle. The top of the head is of a dark, olive green and bronze color, without scales. The gill covers are not scaled excepting the lower strip which is noticeably scaled and the cheeks are entirely unscaled. There are five rays in the branchiostegals, which is of a salmon and silver hue. The underside of the head is a delicate pink color. The mouth of the fish comes directly under the line of the back part of the eye. The eye is usually large in this species. The eye of a four and one half pound fish measures approximately three fourths of an inch in diameter, and is of a full grey and brown color with a line of golden light separating the pupil. The pupil is jet black and large. This is one of the most conclusive evidences of the fish being classed as a wall-eye, as there is no other species of the pikes or pike-perches that compares in this respect to the fish under discussion."

The above description of the wall-eyed pike in the region south of the Great Lakes goes well as a description of the wall-eyed pike or perch in all territory. But it should be remembered that there is apt to be drastic color

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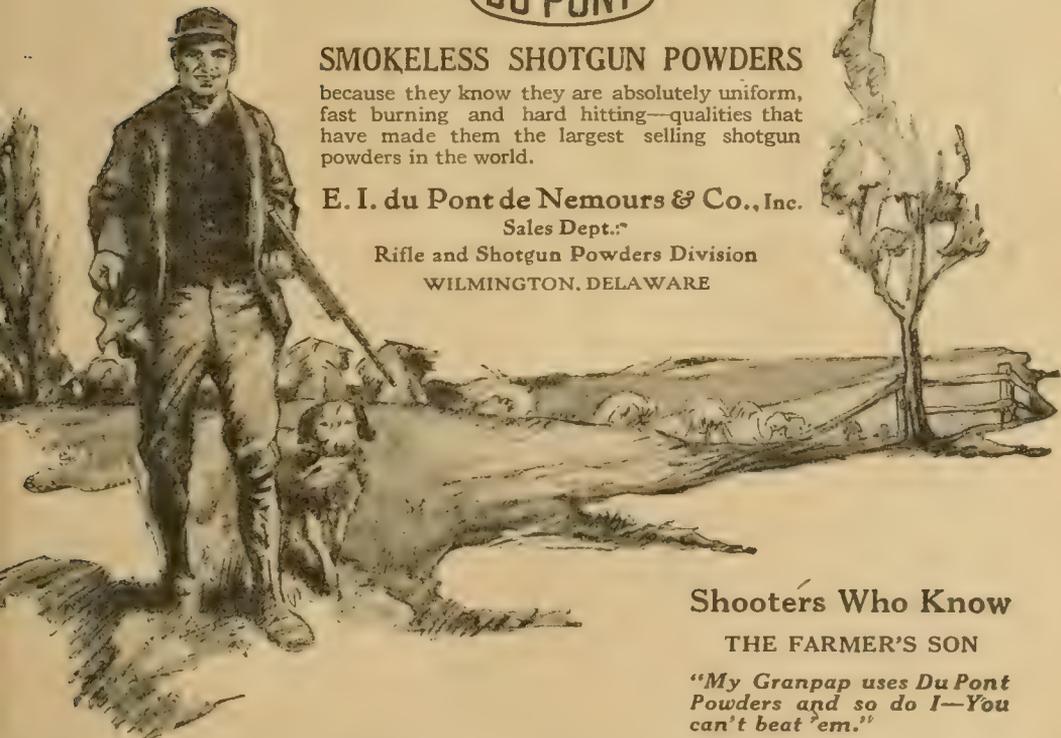
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changes depending upon the region the fish is found in, the variety of the food it consumes and many other influences. In some waters one variety of food will produce rich colors in a fish while in another place the same specie (the wall-eye for instance) will be found in a washed-out silvery color that will surprise one who has taken the same variety of fish in waters where they have been excellently colored. For instance I have caught the common yellow or banded perch (*Perca flavescens*) in northern waters on which the bands around the body have been almost black while the coloration in between was greenish-bronze. In other waters I have caught them with the bands barely showing, the whole body being light green. Fish exceedingly light in coloration are generally taken from waters that easily warm out. The fish is then sluggish, and the lack of a desirable circulation impedes the production of colors in the pigment cells. In colder waters where the fish is more active the circulatory system and the action on the pigment cells is more pronounced, hence the beautiful coloration. The coloration on the speckled brook trout (*Salvelinus fontinalis*) is an example of what cold water and a certain food will do in the production of brilliant pigments.

Habits:—Unlike other fishes which move along singly or in pairs the wall-eyed pike, or perch, is a school fish, and by that I mean that the species runs in schools. This is especially true in the wall-eyed pike found in the lakes. The schools have their feeding grounds and course up and down in their quest for food. It is for this reason that in the summer and the autumn you will find them moving up and down along the sandbars in lakes and it is therefore that when you catch one wall-eye you can feel sure of getting more of them if you can keep in touch with the school as it moves around. But once miss the school and you will have no more fishing that day, unless, of course, you can locate the van-guard somewhere else. The wall-eyed perch is a voracious feeder on young fishes and he takes them as they come along. In a word he will feed as long as the feeding is good; and that means that he is more or less of a glutton; in fact if you open up the stomach of the species you are as liable as not to find some fingerlings of the wall-eyed species in its stomach. The wall-eyed perch is an unscrupulous cannibal. He fathers his off-spring and then some fine day makes food of them if they ever get in his way. The wall-eye does not swim high up in the water for the simple reason that he is more or

less of a bottom-feeder. Therefore in the lakes if you will have success in taking them you must go down for them, very nearly to the bottom in some cases.

The Wall-Eye a Night Prowler:—It will be news to many anglers that the wall-eye is nocturnal in its habits, if not to a great extent then certainly to some extent. Most of the fishing for this delightful game fish has been done during the daylight hours, when, as a matter of fact, the time to try for them also is during the twilight, dusk and into the night. The wall-eyed pike can be taken in shallow water from dusk to at least ten o'clock night. It is then that an all white artificial minnow played down well under the surface is sure to bring some likely results. In fact the white artificial minnow is always a good one to use in wall-eyed pike fishing.

Best Season for Fishing the Wall-Eye:—The wall-eyed pike, or perch, spawns sometime in the spring, depending of course upon the temperature of the water. If the season of chilly weather is long-drawn-out then the spawning may not take place until in May or June. As a rule, however, the wall-eyed perch are early spawners. In Canadian territory I suspect that they are through spawning by the fifteenth of June, while in regions south of the Great Lakes they should be through spawning in the month of May. Being a fish inclined to live in waters that have a pebbly bottom the wall-eyes seek out rocky or pebbly shallows in the lakes and stream where they void their eggs. As previously stated after they have reared their young they like as not fall upon their off-spring and make a meal of them whenever the opportunity permits. Perhaps there is no fish so voracious after the spawning is over than this fish. They feed enormously, and it is at this time, right after spawning that the fishing for them is of the very best. In the lakes you will find them in July and August in the deep waters, in the deep pools and along the sandbars. But the season of all seasons for the wall-eye is in September and October; in fact I have taken them on the hook way up into the month of December when the snow was flying. To miss fishing for the wall-eyed perch in the autumnal season is surely to miss some of the best fishing you can think of. And, too, it is during this season when they are the sprightliest, actually fighting with a vim at the end of the line.

The Wall-Eye of the Stream:—Like the small mouth bass the wall-eyed pike, or perch, are found not only in the lakes but also in the



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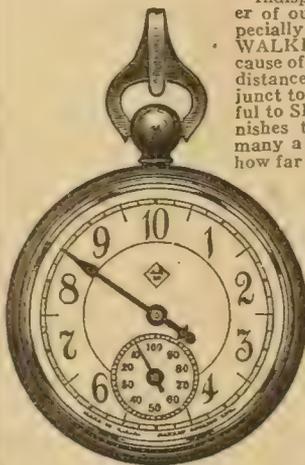
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streams. The wall-eyed perch of the stream is a born fighter and he has vigor and rush behind him which is quite different from his lake-bred brother. The best wall-eyed pike fishing I have ever enjoyed has been in the Upper Mississippi Valley waters, the streams there holding great numbers of them. There they are found (as they are when they are at home in any stream) off of the rivers sand-bars, rifts of sand and off the down-stream end of islands, the islands forming breakwaters, and in this stiller water they like to keep themselves away now and then from the turbulent rush of the river. Cast therefore off of either end of the downstream part of the island and like as not you will be well rewarded for your trouble. Ideal wall-eyed pike grounds are found in such waters where a stream flows through the centre of a lake in its course. Off of either side of the decided current in this lake the fishing is always good. I know one such stream flowing through a lake where I was able at any time to accumulate all the *vitreums* I had use for. In rivers, too, you will find them in the big pools below falls, and baylike indentations away from the main rush of the river. At all times it is a good idea to get the lure down deep enough.

Fishing Methods:—In the lakes where the wall-eyes are generally feeding close to the bottom the one method of catching them is by means of either a live lure or an artificial lure trolled through the water. As a rule a twelve pound test bait casting line is the one to use, but for trolling purposes a hard-braided line is to be preferred over the soft-braided one. The soft braid is best for use in casting. However, a sixteen pound test line is not too heavy of caliber for trolling. A short trace or gimp leader of about a foot is by no means out-of-place. It is well to have a short leader remembering always that you are liable to run into a pike while trolling for the wall-eyes, and since they so often over-strike and so come in contact with the line with their teeth, thus sawing it off, it is best to guard against this by the inclusion of a short length of leader. A gimp leader is usually one of very fine brass wires that come ready wound together to make a whole. This is not to say that it is almost the pike and muscallonge you have to guard against in this respect because it should be remembered that the wall-eyed perch also have sharp teeth and this is especially true of large members of this specie. Large wall-eyes often over-strike. If they do and their teeth saw away on the line as you play them you like as not will

lose a good fish due to frayed line. The short leader, however, protects you on that score. In trolling you can use your bait casting rod, unless, of course, you have a special trolling rod. There are special trolling tips that can be placed on a bait casting rod to make it more fitted for the work at hand and if such are to be had they are helps of course. Remember to go down deep for the wall-eyed pike, or perch, and to do this you are forced to let out about seventy five, even one hundred feet of line. The line will often have to be on a rather steep angle before you reach the desired depths. The pikes (Pike, Pickerel and Muscallonge) often strike the lure with vim enough to seize the rod out of your hands. The wall-eyed perch on the other hand merely seize the lure with a pronounced tug, but of course it depends upon the fish and its environment. I have known stream wall-eyes to take the lure with a vigor only equalled by a pike in the autumn.

No doubt there is a time to strike and a time not to strike a fish that is testing out your bait when you are trolling deep down. I mean by this: You may set the hook before you should, when you first feel the tug at the line; in which case you more than likely but seize the lure and hook out of the mouth of the finny one. There is a difference here, of course. The above refers to the live bait; but when you are using an artificial minnow, spoon-hook or other inanimate baits, set the hook the moment the fish seizes it. But in the case of a live lure one often misses a good fish by striking too soon. I have often found this to be the case in my deep fishing both for the basses and the wall-eyes. No doubt when you feel the tug the perch has merely taken the bait in his mouth and one must wait a trifle till he has sampled it before setting the hook. Writes Mr. Ben C. Robinson, one of the few who has ever written on wall-eyed "pike" fishing:

"The wall-eyed perch is a sporty bait taker. He does not hesitate once he makes up his mind to feed. The first run is sometimes of considerable length if it happens to be in open, shallow feeding water. But in his haunts where there is plenty of shelters the first run will be considerably shortened. There is a wide range of difference in the methods employed by various anglers after this fish, in the way of playing a strike previous to the actual snubbing of the fish, or the setting of the hook in the fishes jaw or gullet. I have always used the short casting rod. But there are some old-timers at the

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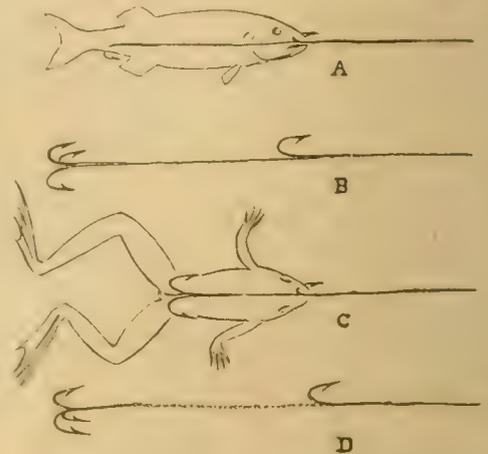
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game who will use nothing else than a rod of good length, light bamboo or steel casting rod. With the casting rod I have always found the best method to play a rise is that of feeding the fish from the open reel as soon as the first run of line attests to his having taken the lure (live bait), and giving him his way until the first run is over and he goes to the bottom to find a sheltered place where he might gorge the bait. At the following run I tauten, and at the feel of the fish with the bait gorged I strike hard with my forearm. This method is good in fairly open water or where there are no treacherous drifts. There is another way which I believe is preferable, if one has a rod of more length and weight. Give only a very little line at the first run, and then follow the run with the rod tip for the first circle and hold the fish with a steady tip, much the same as a bass is worked. The fish will be felt at all times and it is an easy matter to keep in connection with him. When the bait is swallowed the fish will denote the fact by several short, sharp tugs, or a series of steady pulls. Then is the time to snub him deep. I have seen old anglers, devotees of the long rod with quite some weight, who would strike their fish and bring it to the surface as soon as is practicable without straining a fragile hold in the action. They do this so as to get an idea what sort of a grip the hook has on the fish. A wall-eye can be distinguished from a pike or musky by his habit of heading a course down stream as soon as hooked. This is most invariably the case."

Live Lures for the Wall-Eyes:—Of the live lures that are used in the capture of this greater perch the silvery shiners and chubs of the stream may be said to be *par excellence*; a lure in fact that is of a wall-eye's own preference and selection. The length of the minnow should be at least three inches and those over that are so much the better for the "work" at hand. The minnow should be placed on the hook in the double-hook manner—that is to say, one hook connected to another hook by means of a wire. A glimpse at the illustration will show you how this is done. The back hook has a wire attached to it. This wire is then laid to the shank of the front hook and bound on with silk thread, well waxed. A white bellied frog is perhaps one of the best wall-eyed perch lures that you can use. I say this even though I am much against the use of frogs for bait in any variety of fishing. However, the frog need not be alive on the hook. A dead frog is equally as good as the live frog. Wherever the fishermen

have gotten the idea that a frog need be alive on the hook I do not know. When it is reeled or trolled in the water this puts animation enough in its legs (that wavy motion) to quite suffice. A medium-sized frog of the white bellied sort makes an ideal wall-eye lure. A good rig for this frog is a single hook in front; a wire to that connecting with a small gang in back; this gang being one ready made; the hooks being of the Number 4 or 6 size. The front hook, a single one is hooked in at the mouth, affixing both lips, while the small gang is hooked in at the crotch of the frog. The result is an almost certain capture the moment the fish makes its first run. I



(A) Shows the double-hook and how the minnow is hooked on.

(B) Shows a gang attached to a wire, the wire connected to a front hook.

(C) Shows the medium-sized frog and how it is hooked into the frog, the single hook at the lips, the gang at the crotch. An almost certain way of catching the fish at the first run.

(D) Shows the same gang with a small chain attached to it, the single hook. This is a rig I have used successfully.

do not exactly, believe in having the fish swallow the lure as Mr. Robinson states, and the back gang of hooks eliminates this worry.

Inanimate Lures:—I prefer the spoon hook of the Number 5 size with the flutings, or ridges, on its sides. These flutings throw the rays a greater distance in the water, and where one is trolling deep it can be seen that this is really a necessary thing. On all counts, for any kind of trolling, I recommend the fluted spoons. Gangs masked in buck-hair and attached to a Number 5 spoon makes for another good lure. A large red ibis fly, weighed, so that it will sink, with a spinner ahead of it also makes a good casting lure. Artificial minnows with green backs and white under-sides are good, but the all-white arti-



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ficial seems to be preferred. In all cases sinkers must be attached near the lure on the line to properly sink it. The way to do in trolling for the wall-eyed perch is thus: When you have made a capture (when fishing for this fish in its lake haunts) instantly bring him in, and then heading the boat around go over the place you caught that fish, for where that fish was taken that happens to be the location, like as not, of the school. If you can get your lure down before the school passes you can get another on the moment. If there are two men in a boat of course two lines with lures on can be put out and usually the fish are taken simultaneously for whatever may be said against the wall eyed pike, it strikes hot and fast.

The Wall-Eyed Pike on the Fly:—Charles Frederick Holder wrote as follows about taking the wall-eyed pike on the fly in the St. Lawrence River:

"Bill had promised me a wall-eyed pike on a fly and one evening when we were rowing along the north side of Westminster, not far from the Canadian shore, he backed the skiff up to a rocky point where there was deep water with a perceptible current and I began to cast. I was using an eight-ounce, ten-foot split bamboo rod and one of Clerk's famous St. Patrick flies which I dropped a foot from the cliff and allowed to drift dry fashion, then cast again around in a circle until the fly sank, allowing it to go down a few feet. It was just at dusk, the very hour for the big nocturnal perch, and I had just lifted my tip when something struck *bang!* I was not expecting such luck, for I had been trying for this fish for days in different parts of the river. At first I thought the steady strain was suggestive of a pickerel, but when thirty feet of line had been forced from the reel the fish began a peculiar jerking or hammering on the line which kept my rod nodding. It was

some moments before I could stop the fish, as it had made for deep water, and taken us out into the stream, but when I reeled it to the surface *how it tugged and pulled* shooting from side to side in gallant fashion, its glassy eyes flashing, altogether a game fish of goodly parts!"

Like most fish the wall-eyed pike is rarely fished for by the average person with light tackle, let alone flies. I have captured a number of fine specimens of this species on the Upper Mississippi River waters, off of the sandbars and island "tips," playing the fly (a single one is used) deep, which is done by nipping on a couple lead buck-shot on the leader right back of the fly. This will take the feathery lure down to the bottom rovers. Use practically the same flies that you do for the small-mouthed bass. I have caught wall-eyed pike on the following flies tied to Number 1 hooks: Professor, Seth Green, Ferguson, Yellow Sally and the Silver Doctor. To make a fly more attractive for this fish wrap on an all-silver tinsel body on the flies you use. Like the small-mouthed bass remember that the fish takes the fly not for a fly, but probably for a minnow, hence an all-silver body gives more glitter than one merely ribbed with silver tinsel. But get the flies down deep; very nearly to the bottom. Then work the fly with twitches of the rod hand to assure them that animated crawl in the water that yields the appearance of life to a fly.

The Wall-Eyed Pike in Late Autumn:—I have purposely set this article aside for printing in this, the October Number because I am constrained to state that October, November and December are wall-eyed pike months. Indeed I have caught this lusty fish when the snow was flying and the line was stiff with ice. Go after them in late autumn!!!



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Reader, did you ever stop to consider that it is not looks which make the real man? Nor is it necessarily a large man who wields the most power in his community. However,

whether big or small, young or elderly, we invariably find that vigorous, manly manhood stands behind all of the world's greatest achievements and successes. In this respect, I give it as my honest opinion, based upon over 30 years' experience, that no man need lose hope of himself restoring his full manly power, if he but be willing to make a fair, square effort, and will lead a decent, manly life, free from excesses and free from dissipation. My free book gives you all the desired information. According to my belief, lost manly strength is no real organic disease in itself, and, for that reason, should easily respond to any mode of treatment which puts new vital force into the weakened nerves and blood.

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Dominion Rifle Association Matches at Ottawa

J. W. SMITH

THE annual matches of the Dominion Rifle Association were held at the Rockliffe ranges, near Ottawa, Aug. 16th to 21st. inclusive, and were favored with splendid weather throughout. The actual shooting conditions were also good, although the mirage was occasionally bothersome, and, on Wednesday and Thursday, a fresh fish-tail" wind, blowing almost straight up the range, needed careful watching. The entries numbered about 280, and were rather disappointing to the officials, but it is confidently expected that the attendance will improve next year, when the militia regiments have been properly re-organized, and certain matters remedied in connection with improved equipment and more liberal transportation concessions. In any case, the shoot was a success from the standpoint of the competitors, and, with one exception described in the next paragraph, there were few complaints.

Competitors were met with a most unpleasant surprise at the 500 yard range, when the targets first appeared at 8.30 on Monday morning. At first, they were hardly discernible in the morning mist, but a closer inspection revealed the fact that the upper half of the targets was a dark slate color, matching and mingling nicely with the background, so as to seem quite naturally a part of it. Only the lower half was clearly visible, being light sand in color, and the black upper half of the bull's-eye, supposed to be the aiming point, was quite invisible to the naked eye and over open sights. Of course, when the sun came around, shining directly on the front of the targets, the aiming point could be seen fairly well, but the shoot was spoilt for some marksmen whose sight requires a well defined mark to aim at. Strong protests were made, and targets of regulation light sand and cream color appeared at the 300 yard range on Wednesday, and at all ranges on Thursday. The D. R. A. officials disclaimed all responsibility on the ground that they had used the paper as supplied by the Militia Department.

At the annual "kickers" meeting on Tuesday evening, the N. R. A. matches at Bisley came in for some hard knocks from men who had reason to know what they were talking about. Apart from the fact that the prize lists at Bisley are very limited,

the expenses of the trip are so excessive, that members of the team, who are not too well-off financially, are hard pressed to meet these expenses, and the experience leaves them in considerable debt. This should unquestionably be corrected, so that every member can be assured against personal financial loss. Not only transportation, but also salary and a bonus should be paid to every member of the team in order that he may keep up with his obligations to a degree in keeping with his self-respect, and creditable to the country he represents. It was even suggested that Canada should discontinue to send a team, devoting the money thus saved to the support of the D. R. A. matches at Ottawa. This, however, was not generally endorsed, and the feeling was that the Government should grant more financial support in return for the splendid advertising which the country undoubtedly secures with the presence of a Canadian team at Bisley every year. Certainly, the prospects of this trip, which is every true rifleman's ambition, should not be marred by the spectre of finances.

There was, of course, considerable discussion and diversity of opinion concerning the short Lee-Enfield rifle, and its properties as a target weapon. A few, noticeably the successful ones, stated that the rifle was all right, and, fitted with aperture rear sight and properly bedded, would shoot almost as accurately as the Ross. The majority, however, who drew their rifles from their regiments after a cursory examination of the barrel, pull of trigger, etc., were not quite so optimistic. It is a fact that these rifles, drawn from militia regimental stores, were manufactured under war conditions, implying the production of a weapon in the least possible time, regardless of the finerpoints of workmanship and adjustment. The writer's experience, and it is the experience of many others, is that the rifle will not hold the elevation properly, and a raise in elevation of from 50 to 100 yards is necessary during every series of 7 or 10 shots. The reason for this was not definitely established, but was probably due to improper bedding, or, possibly, nickelling at or near the muzzle, which was quite frequent.

If a rifle has not been properly assembled and adjusted, it certainly cannot be expected



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to meet with the stringent requirements of accuracy necessary in competitive target-shooting. Only experts understand these finer adjustments, and the possession of a well-assembled weapon, or one specially manufactured and tested by the B. S. A., gives its owner an advantage which should not exist. The worst feature of the failure of the ordinary regimental rifle to hold the elevation was its inconsistency in that respect, and it had quite a playful habit of suddenly throwing a shot down to an outer, greatly to the chagrin of the "man behind." A raise of 50 yards or so would correct the elevation, showing that the drop was not due to a false sight, but to some inexplicable idiosyncrasy of the rifle.

Reference was made in the first paragraph of this article to "improved equipment," by which was meant, more specifically the adoption of an aperture rear sight attached to the rear of the breech. There are some difficulties in the way of this improvement. If the D. R. A. sanctioned the use of such sights without the co-operation of the militia department, it would be necessary for every rifleman to provide himself, and the cost would be anywhere from 15 to 20 dollars—another damper to the enthusiasm, of the young shot, and old-timers too. Possibly the M. D. will co-operate however, and place a certain number of properly equipped rifles at the disposal of each militia regiment.

The open sights had confidently been expected to favor "young eyes," but the opposite proved the case, and the marksman of experience, who realized the importance of keeping his foresight at a uniform position in the U of the back-sight with every shot, and with his greater knowledge of judging conditions, had the advantage over the young shot. Whatever arrangements are made in the matter of sights next year, it is to be hoped that the improved equipment will be obtainable from regimental stores similarly to the rifle itself. The conditions of the sport of rifle-shooting should, and must, be that any militiaman at all, be he private or colonel, poor or rich, can go to his regiment and draw a rifle which will be equipped and adjusted to a degree of accuracy which will enable him to compete on absolute terms of fairness with all other competitors. Any other conditions would tend to reduce the sport of rifle-shooting to a rich man's game, with the advantage going to the owner of the best and most expensive outfit, a state of affairs which must be avoided at all costs.

Taking everything into consideration, the standard of marksmanship at the matches was wonderfully good. It was rather noticeable, however, that quite a number of riflemen who are known and proven good shots failed quite signally in almost every match, which rather bears out the argument that some of the rifles are not all they should be for accurate target work. The score of 215 out of a possible 230 in the Governor-General's Match was splendid shooting, and both Lieutenant J. A. Steele of Guelph, and Major G. Mortimer of Ottawa, are to be congratulated on their fine work. The shoot-off was won by the former marksman. Mr. Frank Morris made 214 in this match, but, being a civilian was barred from the first 4 prizes. Mr. Morris had the remarkable feat of 22 consecutive bull's-eyes to his credit, scored in extra series, and the City of Ottawa Match which he won with the loss of only 2 points. Apart from the single events the feature of the meet was, of course, the consistently good shooting of Sgt. W. A. Hawkins of the 48th Highlanders, Toronto. Our hats are off to Hawkins in capturing both aggregates at Ottawa after performing a similar feat the previous week at Toronto. No matter what the conditions were, one could always count on Hawkins being at or near the head of the list of prize-winners in most of the events.

Looking over the list of the first thirty names on the Bisley Aggregate it is quite certain that Canada will be very efficiently represented at the N. R. A. Matches next year. Most of the names are familiar to rifle enthusiasts, with the exception of a sprinkling of tyros. Some "tyros" were only technically so, having been in the game for 3 or 4 years, without the opportunity of proving their real class. At the presentation of prizes on Saturday afternoon, speeches were most optimistic in tone, and the officials declared that everything would be done to make the sport of rifle-shooting as attractive as possible, with due regard to the feeling and sentiment of riflemen in general. Given the impetus of improved equipment, and transportation concessions, it is certain that interest in the game will liven up, so that the attendance at the D. R. A. Matches will gradually resume its pre-war proportions. Even if the rifle is not all it should be for accuracy, such competitors, who found it out, will have a wonderful pastime for the approaching winter evenings, looking over score-books, and figuring out how they could have made the Bisley team, how they could



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have won a match, or how much more money they would have won, if only they had not put those bull's-eyes on another man's target, or if those outers and magpies had only been bulls! Anyway, everybody had a good time, and a splendid holiday, and all are looking forward to a bigger and better meet next year.

Leading scores are:—

Tyro Match. 500 yards, 7 rounds.

1. Pte. W. D. Gault, 38th Batt.....	34
2. Pte. J. H. Allen, R.C.O.C.....	34
3. Maj. J. Jeffrey, R.M.C.....	33
4. Sgt. Maj. F. J. Coldham, R.E.....	33
5. Pte. W. Halliburton, R.A.C.....	33
6. Pte. F. W. Box, 38th Batt.....	32
7. Lieut. F. A. Annand, 103rd Regt.....	32
8. Sgt. E. E. Stevenson, R.C.A.....	32
9. C. S.-Maj. W. B. Hill, Cam. H.....	32
10. Pte. R. Oldfield, 110th Regt.....	31
11. Sgt.-Maj. S. G. Mayer, C.P.A.P.C.....	31
12. Sgt. F. Smith, 14th Regt.....	31

MacDougall Match. 200 & 600 yards, 7 rounds at each range.

1. Pte. A. Wilson, 38th Batt.....	67
2. Capt. F. R. Martin, C.E.F.....	66
3. Sgt. L. B. McCallum, Cam. H.....	65
4. Lieut. E. Francis, C.E.F.....	65
5. Bug.-Sgt. R. William, Q.O.R.....	65
6. Pte. A. H. Caplin, 103rd Regt.....	65
7. Pte. W. J. Irvan, G.G.F.G.....	64
8. Pte. C. Myers, G.G.F.G.....	64
9. C. S.-Maj. F. J. Goodhouse, G.G.F.G.....	64
10. Sgt. W. A. Hawkins, 48th High.....	64
11. Sgt. H. J. White, R.G.....	64
12. Mr. J. S. Blusford, F.R.A.....	64
13. R.S.-Maj. L. J. Read, C.M.S.C.....	64
14. Maj. J. Jeffrey, R.M.C.....	64
15. Sgt. B. Clarke, R.G.....	64
16. Capt. C. B. Crowe, 30th Regt.....	64
17. Maj. R. M. Blair, 72nd. Regt.....	64

Harold L. Borden Match. 200 yards, 10 rounds in 2 minutes.

1. Maj. J. Jeffrey, R.M.C.....	47
2. Sgt. P. Lunn, 103rd Regt.....	45
3. Capt. J. H. Vincent, 91st Regt.....	45
4. Pte. G. Milligan, Q.O.R.....	45
5. Sgt. W. Dow, Q.O.R.....	44
6. Sgt. T. A. Laman, 6th Regt.....	44
7. Sgt. A. Middleton, R.E.....	44
8. Gr. W. E. Tingman, R.G.C.A.....	44
9. Q.-M. Sgt. W. Davidson, 48th H.....	44
10. Pte. A. W. Whitehead, 38th Batt.....	43
11. Q.M.S. Instr. J. Trainor, R.C.R.....	43
12. Capt. T. G. Margetts, R.L.....	43
13. Lieut. W. L. Dymond, C.S. of M.....	43
14. Capt. F. R. Martin, 103rd Regt.....	43
15. Mr. A. W. Street, A. & N. Vets.....	43
16. Sgt. W. A. Hawkins, 48th H.....	43
17. S.-Sgt. W. Parks, R.C.O.C.....	43

Team Prizes (6 men)

1. 103rd Calgary Rgt.....	238
2. Queen's Own Rifles, Toronto.....	221
3. 38th Battalion, Ottawa.....	221
4. 48th Highlanders, Toronto.....	223

Tilton Competition. (Judging Distance).

1. Maj. M. E. Sutherland, Pictou H.....	19
2. Maj. R. M. Blair, 72nd. Rgt.....	19
3. Mr. A. W. Street, A. & N. Vets.....	18
4. Pte. F. G. Pilkey, 110th Regt.....	17
5. C.S.-Maj. G. Brooks, Q.O.R.....	16

The Walker Match. 300 & 600 yards, 7 rounds at each range.

1. Maj. R. M. Blair, 72nd Rgt.....	66
2. Sgt. A. Lucas, Q.O.R.....	66
3. Pte. A. Wilson, 38th Batt.....	65
4. Sgt.-Maj. W. H. Ward, 16th Rgt.....	64
5. Mr. A. Dickenson, V.R.A.....	64
6. Capt. C. B. Crowe, 30th Rgt.....	64
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9. Sgt. G. Emslie, 48th H.....	63
10. Capt. F. R. Martin, 103rd Rgt.....	63

11. Lieut. J. A. Steele, C.A.S.C.....	63
12. Lieut. S. A. Annand, 103rd Regt.....	63
13. Lieut. E. Francis, C.E.F.....	63
14. Pte. G. Milligan, Q.O.R.....	63

Teams.

1. Queen's Own Rifles, Toronto.....	348
2. 48th Highlanders, Toronto.....	346
3. Royal Grenadiers, Toronto.....	347
4. Winnipeg Rifles.....	347

The Banker's Match. 200 & 600 yards, 10 rounds at each range.

1. Sgt. W. A. Hawkins, 49th H.....	96
2. Sgt. G. Emslie, 48th H.....	95
3. Capt. W. E. Swaine, P.M.G.B.....	94
4. Pte. C. H. Tyers, G.G.F.G.....	94
5. Sgt. R. W. Chamberlain, 103rd Regt.....	94
6. Maj. F. Richardson, 16th Regt.....	94
7. Sgt. G. W. Russell, G.G.F.G.....	94
8. Capt. F. R. Martin, 103rd Regt.....	94
9. Lt.-Col. W. O. Morris, C.E.F.....	94
10. Sgt. P. Lunn, 103rd Regt.....	94
11. Lieut. J. B. Powers, 67th Regt.....	90
12. Sgt. A. Lucas, Q.O.R.....	90
13. Pte. E. Johndro, 10th Regt.....	90
14. Maj. G. Mortimer, G.G.F.G.....	90
15. Lt.-Col. J. F. Keen, R.E.....	90
16. Pte. F. N. Allen, W.O.R.....	90

The Barlow Challenge Cup. 200 & 500 yards, 10 rounds at each range. Open to teams of four officers.

1. Calgary Rifle Association.....	354
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1. Cadet L. H. Minter, 91th.....	86
2. Cadet LT.-Col. Sawyer, K.C.I.....	83
3. Cadet LT. Sharon, 91th.....	82
4. Cadet H. L. Peverill, H.S.C.....	80

The Macdonald Brier Match. 300 & 600 yards, 10 rounds at each range.

1. Lieut. J. O. Nix, Cam. High.....	95
2. Sgt. W. Lennox, 48th H.....	94
3. Lt.-Col. W. O. Morris, C.E.F.....	93
4. Capt. E. J. Kaufman, Oxf. R.....	94
5. Sgt. P. Lunn, 103rd Rgt.....	92
6. Pte. H. Whitehorn R.E.....	92
7. Sgt. A. Middleton, R.G.....	92
8. Sgt. W. A. Hawkins, 48th H.....	92
9. Capt. J. Shum, R.H.C.....	91
10. Lieut. E. Francis, C.E.F.....	91
11. Lieut. S. Annand, 103rd Rgt.....	91
12. Maj. F. Richardson, 16th H.....	91

Teams (8 men).

1. Calgary Rifle Association.....	677
2. 48th Highlanders, Toronto.....	670
3. Royal Grenadiers, Toronto.....	665
4. Governor-General's Foot Guards.....	661
5. Guelph Rifle Association.....	658

City of Ottawa Match, 300 & 500 yards, 10 rounds at each range.

1. Mr. F. H. Morris, C.R.A.....	98
2. Sgt. S. Dawson, G.G.F.G.....	95
3. Sgt. J. G. Cole, 28th Regt.....	95
4. Pte. E. Johndro, 19th Rgt.....	94
5. Sgt. T. Angear, 103rd Rgt.....	94
6. Maj. F. Richardson, 16th Rgt.....	93
7. Sgt. P. Lunn, 103rd Rgt.....	93
8. Brig.-Gen. J. Duff Stuart, R.O.....	92
9. Sgt. A. Middleton, R.E.....	92
10. Capt. W. C. Butler, W.O.R.....	92
11. Mr. McKenna, O.R.R.A.....	92
12. Capt. W. Drysdale, R.M.R.....	92

Teams (8 men).

1. British Columbia R.A.....	706
2. Governor-General's Foot Guards.....	706



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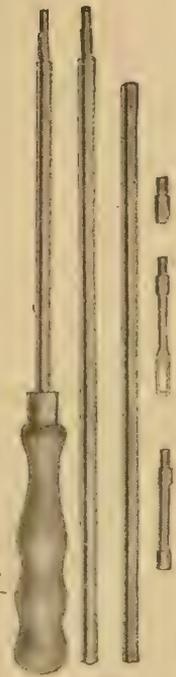
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1	Ontario.....	874
2	Alberta.....	844
3	Nova Scotia.....	844
4	British Columbia.....	842
5	Quebec.....	838

The Governor-General's Match. 1st Stage 200, 500, & 600 yards, 7 rounds at each range. 2nd. Stage, 10 rounds at 300 yards, 15 rounds at 600 yards.

1	*Lieut. J. A. Steele, C.A.S.C.....	217
2	Maj. G. Mortimer, G.G.F.G.....	217
3	Sgt. W. A. Hawkins, 48th H.....	211
4	Sgt. G. Emslie, 48th H.....	208
5	Mr. F. H. Morris, C.R.A.....	214
6	Sgt. J. Forbes, 103rd Rgt.....	208
7	Lieut. H. W. Patterson, O.R.R.A.....	207
8	Lt.-Col. W. O. Morris, C.E.F.....	207
9	Sgt. J. G. Coles, 28th Sask.....	206
10	Mr. E. Shillingford, G.R.A.....	208
11	Pte. W. J. Irvine, G.G.F.G.....	206
12	Brig.-Gen. J. Duff Stuart, R.O.....	206
13	Pte. A. Wilson, 38th Batt.....	205
14	Lieut. J. O. Nix, Cam. High.....	204
15	Capt. C. B. Crooke, 29th Rgt.....	204
16	Gr. W. E. Tingman, C.R.G.A.....	203
17	C. S.-Maj. G. Brooks, Q.O.R.....	203
18	Maj. R. M. Blair, 72nd Rgt.....	203
19	Capt. H. M. Marsden, W.I.I.....	203
20	Sgt. S. Dawson, G.G.F.G.....	202
21	Bug.-Sgt. R. Williams, Q.O.R.....	202
22	Sgt. A. Middleton, R.E.....	202

Gordon Highlanders Trophy Teams of 6 men taken from first stage of Governor-General's Match.

1.	Governor-General's Foot Guards.....	728
2.	103rd Calgary Rgt.....	707
3.	Royal Grenadiers, Toronto.....	705
4.	38th Battalion, Ottawa.....	703

Transvaal Cup, Awarded to the South African veteran with highest score in 1st stage of Governor-General's Match:

1	M.-Sgt. W. J. Booker, Q.O.R.....	41
---	----------------------------------	----

Kirkpatrick Cup. Teams of 6 men. Aggregate scores in MacDougall, Bankers' and Walker Matches.

1.	British Columbia R.A.....	1238
2.	48th Highlanders, Toronto.....	1220

Revolver Aggregate.

1.	Sgt. J. P. White, Q.O.R.....	168
2.	Mr. F. H. Morris, C.R.A.....	165

Grand Aggregate. Scores in MacDougall, Walker, Bankers', Macdonald Brier, 1st Stage Governor-General's & City of Ottawa Matches. Possible 515 points.

1.	*Sgt. W. A. Hawkins, 48th H.....	499
2.	?Maj. F. Richardson, 16th Rgt.....	496
3.	?Lt.-Col. W. O. Morris, C.E.F.....	494
4.	Pte. A. Wilson, 38th Batt.....	493

* (N.R.A. Medal)
? (D.R.A. Medal)

5.	Mr. F. Morris, C.R.A.....	491
6.	Maj. G. Mortimer, G.G.F.G.....	489
7.	Maj. R. M. Blair, 72nd Rgt.....	489
8.	Sgt. P. Lunn, 103rd Rgt.....	489
9.	Lieut. J. A. Steele, C.A.S.C.....	487
10.	Lieut. L. O. Nix, Cam. High.....	487
11.	Pte. C. H. Tyers, G.G.F.G.....	483
12.	Lieut. E. Francis, C.E.F.....	483
13.	Capt. F. Martin, 103rd Rgt.....	481
14.	Capt. C. Crowe, 30th Rgt.....	481
15.	Sgt. G. Emslie, 48th H.....	480
16.	Sgt. T. Angear, 103rd Rgt.....	480

The Coates Team Match. 500 & 600 yards, 10 rounds at each range, Teams of 6 men.

1.	103rd Rgt, Calgary.....	547
2.	Governor-General's Foot Guards.....	524
3.	38th Battalion, Ottawa.....	522
4.	16th Canadian Scottish.....	517
5.	Pictou Highlanders.....	512

Bisley Aggregate. Scores in Grand Aggregate with 2nd stage of Governor-General's added.

1	Sgt. W. A. Hawkins, 48th H.....	611
2	Lieut.-Col. W. O. Morris, C.E.F.....	606
3	Lieut. J. A. Steele, C.A.S.C.....	603
4	Pte. A. Wilson, 38th Batt.....	603
5	Maj. Geo. Mortimer, G.G.F.G.....	603
6	Maj. R. M. Blair, 72nd Rgt.....	601
7	Maj. F. Richardson, 16th Rgt.....	601
8	Lieut. J. O. Nix, Cam. High.....	600
9	Sgt. G. M. Emslie, 48th H.....	598
10	Capt. F. M. Martin, 103rd Rgt.....	594
11	Sgt. P. Lunn, 103rd Rgt.....	594
12	Capt. C. Crowe, 30th Rgt.....	588 1/2
13	Lieut. E. Francis, C.E.F.....	587
14	Sgt. T. Angear, 103rd Rgt.....	583
15	Sgt. J. T. Steele, 30th Rgt.....	582
16	Pt. C. H. Tyers, G.G.F.G.....	580
17	Sgt. W. Lennox, 48th H.....	579
18	Lieut. H. W. Patterson, O.R.R.A.....	578
19	Gr. W. E. Tingman, R.C.G.A.....	578 1/2
20	S.-Sgt. H. R. Roberts, R.G.....	578
21	Pte. W. J. Irvine, G.G.F.G.....	577
22	S. I. B. McCallum, C. & R.R.....	576
23	Sgt. J. G. Coles, 28th Rgt.....	576
24	Sgt. S. Dawson, G.G.F.G.....	575
25	Pte. A. H. Caplin, 6th Rgt.....	573
26	Lieut. S. A. Annand, 103rd Rgt.....	572
27	Capt. W. E. Swaine, C.M.G.C.....	572
28	Pte. F. N. Allen, W.O.R.....	571
29	Sgt. A. Lucas, Q.O.R.....	570
30	Lieut.-Col. J. F. Keene, R.E.....	570
31	Sgt. M. H. Lee, W.O.R.....	570
32	Sgt. G. W. Russell, G.G.F.G.....	570

Extra Series Aggregate Match.

1.	Lt.-Col. W. O. Morris, C.E.F.....	171
2.	Mr. F. H. Morris, C.R.A.....	170
3.	Capt. G. Martin, 103rd Rgt.....	170
4.	Maj. F. Mortimer, G.G.F.G.....	169
5.	Sgt.-Maj. F. J. Goodhouse, G.G.F.G.....	168
6.	Sgt. H. J. White, R.G.....	165

The Sherwood. 500 yards, 5 rounds in 15 seconds, fixed bayonets, no slings, entries unlimited.

1.	Capt. F. Martin, 103rd Rgt.....	24
2.	Pte. F. N. Allen, W.O.R.....	23
3.	Capt. W. C. Butler, W.O.R.....	23

The Gibson. 500 yards, 5 rounds in 10 seconds, entries unlimited.

1	Lt.-Col. W. O. Morris, C.E.F.....	48
2	Capt. R. Cross, 38th Batt.....	25
3	Sgt. T. Layman, 6th Rgt.....	25
4	Sgt. G. Russell, G.G.F.G.....	25



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M. U. Bates, Editor of "Along the Trap Line"

Rod and Gun has been fortunate enough to secure the services of Mr. M. U. Bates of Metagama, Ontario, as editor of "Along the Trap Line", which department will run in the magazine from October until March. Subscribers who have been on our list for some time are familiar with



M. U. BATES
Editor "Along the Trap Line" and all around
good sportsman.

and look forward to this department for the valuable information it contains. New subscribers will find it an interesting department and contributions and inquiries from all are welcomed. Mr. Bates is a real Canadian, and "has it bad," according to his own statement. He was born in Bateson, N. S.—we do not know if he was named after the town, or the town after him. He has had a large and interesting experience in trapping for over ten years, having trapped all the fur bearers in his part of Canada; that is, mink, fox, rat, beaver, fisher, lynx, otter, weasel, and other small animals such as skunk, groundhog. He has trophies galore as evidence of his prowess in

big game hunting. Mr. Bates is prepared to answer queries from anyone desiring information, also to give expert advice on the selection of traps, canoes, sleds, guns, etc., having an array of the best and knowing what is most serviceable to the prospective trapper, camper, etc., going in for the first time.

He has been at his present address for eleven years, formerly being agent and operator for the Canadian Pacific Ry. Company there — now on account of his additional interests, operator only. He is interested in dogs, owning a kennel of hunting dogs—Airedales. Mr. Bates claims for his hobbies, dogs, guns and books; his religion, Free Thinker and Individualist—"brought up with a prayer book in one hand and a Bible in the other, but never really *believed* in God until I hit the tall timbers." But Mr. Bates' activities include literary work. He has composed lyrics, some of which were produced some years ago. Since being up north his attention has turned to study along philosophical lines and comparative literatures—German, French, Spanish, the classical languages—Latin, Greek translations; and the English and Italian—both of which he has studied in the original. Therefore, in addition to being a trapper, we may put Mr. Bates down as a Canadian litterateur, author, composer and sporting journalist—and last, and by himself considered best of all, founder of the famous Hudson Bay strain of big game hunting Airedales.

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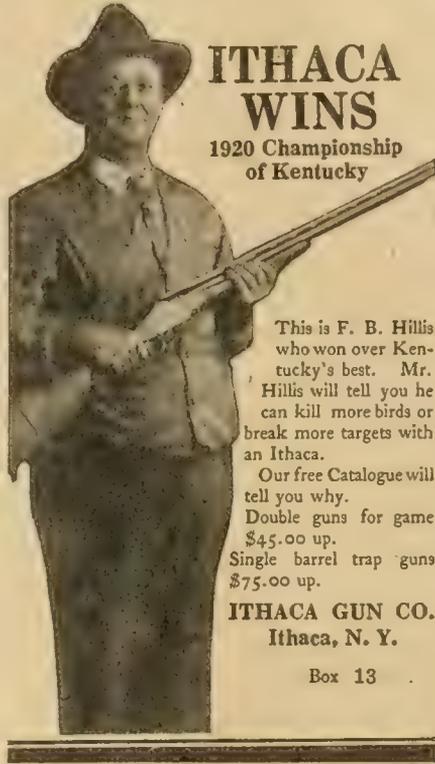
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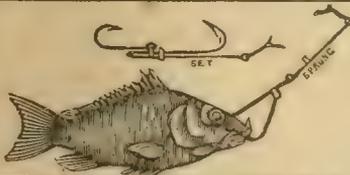
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ALONG THE TRAP LINE



EDITED BY
M. U. BATES

A Dead Fall

M. U. BATES

IN response to several inquiries, I am submitting this month an illustrated description of a good deadfall. The styles of deadfalls in most common use by northern trappers are the "figure four" and the two-piece-trigger fall as described in this article. I have used the latter extensively in fisher trapping, and upon inquiry learn that it is the one most commonly used by all the Indian, as well as most of the professional trappers in these parts. The beginner need not hesitate about using this style of trap, as it is in every way as efficient as, and certainly a great deal more easy to set and arrange than the more complicated "figure four."

The illustration shown will be intelligible to most trappers, amateur and professional alike, but for those who may not be familiar with these old stand-bys of the trap line I give the following explanations:—

1 (fig. 1) is the pole upon which the trigger upright rests, and is called the "choke stick;" 2 is the "fall;" 3, the "trigger upright;" 4, the "bait trigger;" 5, 6, 7, 8, are the "guide sticks" guiding the fall into proper place over choke, and 9, 10 are two "check sticks," keeping the "fall" from turning and springing accidentally, and at the same time preventing a captured animal from rolling it, thereby greatly aiding a possible escape.

For mink, etc. the upright should be about 6 or 7 inches long, and almost an inch thick; for fisher or other animals of that size, an inch or two longer and of about the same thickness. The bait trigger is generally about twice as long as the upright, and also of about the same size, but the trapper must use his own judgment to some extent here, as the size of his pen, also the formation of the floor of the pen—whether hilly or concave—will have some bearing upon this. The best material for both triggers is a piece of dry tamarac limb, but any other dry limb will answer the purpose. The pen should be about the same size and style as that used for an

ordinary steel trap set, enough space being required on inside of pen for proper working of the bait trigger. A piece of stick, two or three inches in diameter, placed over choke when setting or experimenting with trap may save smashed fingers.

The trap is simply made with a few old dry logs and stakes, the only place where any great care is required being in making the upright upon which the bait trigger rests. The success or failure of your trap depends almost entirely on this, and, as will be seen in the illustration, I have placed an arrow calling special attention to this one particular point.

The upright must be rounded on top—preferably *oblongly* rounded—so that weight of fall is not resting on a sharp pivot, but rather distributed evenly over whole length of oblongly rounded top; the *principle* of its easy working being analogous with that of an ordinary cradle or rocking-chair; if the rockers on a cradle were flat, it could not be rocked very easily; they, however, being rounded, or curved, even a very heavy cradle can be rocked by a very small person with comparative ease. That is the secret of this style, which is generally considered one of the best ones, of the old-time Indian deadfall.

Some trappers do not use any check sticks (9, 10) on their fall, and I have seen Indian falls without even the outside guide sticks, but where the trapper has time to make these it is much better to have them. One of the first fisher I trapped by this method might have escaped had it not been for one of these outside guide sticks. This fisher, which was somewhat trap shy, due, in all probability, to having had a steel trap or two spring under his feet at sometime in the past; would not approach near the regular doorway of the fall, but after manoeuvring around for some time trying to get at the bait, finally squeezed himself in between stakes 7 and 8; and when the fall fell on him he was wedged securely between these two frozen stakes, one on

either side of him, the choke stick under him, and the heavily weighted fall crushing him from the top. Needless to say, when I

find a proper level on the choke, no matter to what elevation the latter may be raised in later winter due to deepening snow,

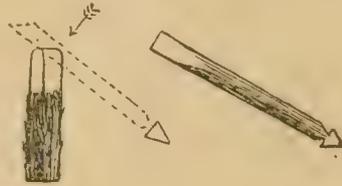
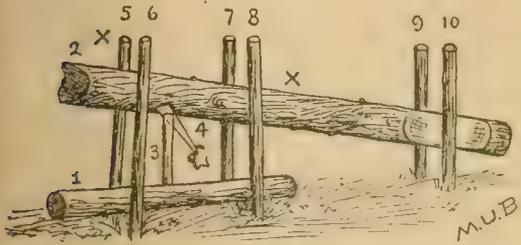


Fig. 2
Trigger upright

Fig. 3
Bait trigger

revisited traps a few days later he was a very dead fisher.

The snowfall being very great in the region where I have trapped for the past eight or ten years, I have employed the double check sticks as shown in cut. These give more freedom of action to the fall and allow it to

In the event of the fall log not being heavy enough in itself to kill the animal set for, an extra log or two may be laid carefully across it at right angles after setting, at the points marked X,X., but except in the case of very strong animals such as the fisher, etc., these will generally not be necessary.

Transmission of Furs by Mail

The game guardians of the various provinces, in their endeavours to control the illegal taking of furs and to collect reliable statistics of fur production, have been handicapped in the past because parcels containing furs have been accepted for transmission by mail without a permit being required. The 1920 edition of the Canadian Postal Guide (No 200), contains a regulation to the effect that furs, skins, plumage, etc., will not be accepted, even during the open season, unless the packages are plainly marked to show the actual nature of the contents and the name and address of the sender. During the close season, it will also be necessary for the sender to secure from the game warden a permit covering the shipment. The Deputy Postmaster General has directed the attention of each postmaster to these requirements.

Although the strict enforcement of this regulation should minimize illegal traffic, the regulation itself is not entirely satisfactory

to the Provincial authorities. In Nova Scotia, for instance, the law requires that no package should be shipped unless accompanied by a proper tag, whether during the close season or not.

At the recent Fur Industry and Wild Life Conference held in Montreal it was shown how exceedingly difficult it is to obtain reliable statistics of Canada's fur production. The suggestion was made that the Post Office Department should make a return of all furs accepted for transmission. If this were done, great assistance would be rendered in preparing the data on which to frame improvements in the laws relating to the taking and selling of fur-bearing animals—*Conservation*.

Editor's Note:—The new postal regulation mentioned above, covering shipment of furs by mail, will affect many out-of-town, and other small shippers of furs, and is reprinted herewith for their advice and information.

M. U. B.

Queries and Answers

DEAD FALLS.

Editor, Along the Trap Line.

Would you kindly give your opinion on how to build a dead fall, such as Indians make out of logs? The dead fall I make is not as

reliable as it should be. Quite a few trappers and hunters do not think much of the 250-3000. They never will see a better gun on the market. Give me the 250-3000 for long range, straight as a dollar, and hits good and

hard. Some say the bullet is too small. Take your time and one shot will do the business. Hitting a match at a 100 ft. is considered good shooting.

G. R. E.

Ans.—A sketch of a good deadfall, described in detail, is appearing in this Department this issue. Read the description carefully, noting particularly the points to which I have called particular attention. You do not mention the style of deadfall you use; if it is the "figure four," your upright upon which your fall rests is probably not nearly enough perpendicular,—the "4" being too wide,—causing the trap to spring too hard.

If it is the two piece trigger as shown in sketch, the trouble is probably with your upright not being properly rounded on top. Read the accompanying article carefully.

Re .250-3000 as a trap-line gun: Every gun built has points of particular excellence, and the "big brother" of the "Imp" has, as I know from actual experience, as many as any other.

M. U. B.

L. T. Chapleau, Ont.

If I were to attempt to describe here the several different methods of trapping the animals you name; viz., beaver, rat, marten, mink, and fox, it would require a good many pages of the magazine. Some of the large fur houses issue *gratis* instructive booklets on this subject; write John Hallam, Toronto, F. C. Taylor Fur Co., also Abraham Fur Co., both of St. Louis, Mo., or Triumph Trap Co., Oneida, N. Y. for a copy of one of their books, or, if you think the expense justified, send \$1.00 to W. J. Taylor, Ltd., Woodstock, Ont. for Science of Trapping. This book being more extensively written than the others, would of course be the best one for your purpose. The illustration under "Beaver Trapping" in this book, shows a sliding pole arrangement for drowning the captured beaver. This is sometimes difficult for the young trapper to manipulate properly, and I would suggest instead of the pole a piece of ordinary rope, stout enough to hold the beaver and long enough to reach out into deep water to drown him. A better arrangement yet would be a piece of strong wire—new hay wire would do well enough; fasten a piece of water-logged root or stick on one end of the wire, long enough to prevent the trap chain ring from slipping over it; throw root out into deep water to sink, and pass the free end of wire through the trap chain ring fastening it securely to a root

or stake driven into the ground near trap. When the beaver springs trap, the ring slips down easily over the wire into deep water, where it is stopped by the sunken root on end of the wire. With the weighted trap on his leg the beaver is soon drowned. The wire is to be preferred to the rope in that muskrats will sometimes cut the latter, resulting often in the loss of both trap and beaver.

There are numbers of different scent formulae recommended and the one you have copied, as it contains some of the principal ingredients used in most of them, is probably as good as any other.

Putting scent or bait under pan of trap might be all right for a snow, or even a land set, for fox or wolf. I have never heard of it being used for any other animal.

The No. 1 and 1½ Victor are both good for either mink or marten.

M. U. B.

WHERE TO TRAP

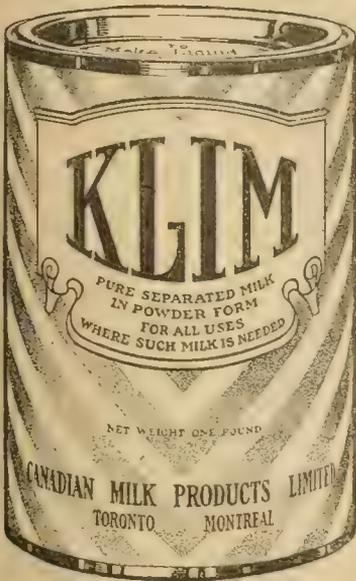
Editor, Along The Trap Line.

I am an interested reader of Rod and Gun and value the magazine very highly. I intend to go trapping, and, being an amateur, would like to ask a few questions. Where would be the best place to go for the first season? I would like to catch beaver, muskrat, mink, etc. and would like to know what traps would be advisable to take along. Where could I get a good book that pertains to trapping and what would one cost. What is a good trap line rifle. What does a trapping license cost for Northern Ontario. I would like to hear through *Rod and Gun*, some hints on the trapping business from some old-timers who really understand it.

W. BOWELL.

Toronto, Ont.

Ans.—I would not advise you to go into the trapping game too heavy the first winter, unless you had been on the ground a good deal during the summer and earlier fall and got a good line-up on conditions. If you propose a trip to Northern Ontario and cannot afford to do too much experimenting, I would suggest that you secure a position for the summer with some lumber company, or on one of the transcontinental railroads operating in these parts at whatever nature of work you would be adapted to. In this way you could get a good knowledge of the country also of the trapping conditions, and at the same time be making a good deal more than enough to cover your prospecting expenses; this, it



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whipping with an eggbeater or fork until the powder is dissolved. Keep the tin covered and in a dry place and the Klim will keep fresh and sweet to the last bit.

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seems to me, would be about the most practicable plan that you could follow.

For beaver use a No. 3 or 4 Victor, Hawley and Norton or Newhouse, or a No. 13 or 14 Oneida jump, both of which latter are good traps and are easier, for a beginner, to set and place. For muskrat use a No. 1 Victor, or other make of that number; for mink a No. 1½; fox a No. 2, or a No. 3 Oneida jump; fisher and lynx the same, although a good many professional trappers use the No. 1½ Newhouse exclusively for both lynx and fisher.

A good book covering your requirements would be *Science of Trapping*, which may be had from W. J. Taylor, Ltd., Woodstock, Ont., price \$1.00.

A good rifle for Northern Ontario would be the .30 or .32 Remington pump, or one of the .30 calibers in any other make, Winchester, Savage, or Marlin; my personal preference, however, being with the first two named.

For a resident of Ontario the trapping license for the part you name would be \$5.00; for a non-resident, \$50.00. If you trapped beaver or otter you would have to pay an additional \$5.00 for ten coupons to cover the number of skins allowed you,—one coupon going on each beaver skin, and two on each otter skin.

M. U. B.

FUR BEARERS NEAR JASPER.

The following communication received from the Chief Game Guardian at Edmonton, dealing with fur conditions in the vicinity of Jasper Park, Alta., will be of interest to trappers, and appears herewith:—

Replying to your enquiry of the 14th inst, I may advise you that in the vicinity of Jasper Park practically all species of fur bearing animals are found. A Non-resident's license in Alberta costs \$50.00 for the season, extending from November 1st to April 30th both dates inclusive.

BEN LAWTON,
Chief Game Guardian.

Rod and Gun in Canada,
Woodstock, Ontario.

TRAPPING COYOTES.

Editor, Along the Trap Line.

Would you please give me some good

methods for trapping coyotes? I would like methods for trapping in both winter and summer.

Yours truly,

LLEWELLYN MOSTYN.

Woolford, P. O., S. Alberta, Can.

Ans.—The coyote may be trapped with the same sets practically, as those used for wolf, but to give you a detailed description of the different methods here would require a good deal of space. Some good sets for these animals are given, with illustrations, in *Science of Trapping*, also in *Wolf and Coyote Trapping*, both of which books may be had from W. J. Taylor, Ltd., Woodstock, Ont., price \$1.00 each.

M. U. B.

KILLING TRAPPED ANIMALS.

Editor, Along the Trap Line.

I am a constant reader of *Rod and Gun* in Canada and find some very fine hints in it which are well worth knowing and would ask you to inform me of the proper way to kill trapped animals such as mink, racoon, etc. and oblige.

Yours truly,

F. S.

2182 2nd Ave., W.
Vancouver.

Ans.—Most trappers kill the animals named by a blow on the head or nose from a rounded club. By killing them with an axe or sharp edged stick there is more danger of breaking and damaging the skin.

M. U. B.

C. C. Bean, Mt. Orab, Ohio, likes Buckskin's article, but would like to have some good skunk and rat sets, also some good deadfalls and snares. He requests the addresses of the International Hunter and Trapper, also of North American Hunter and Trapper; could some reader kindly supply these?

M. U. B.

Jump Trapper.—Your letter duly received, also snaps which are very interesting and show that you have a true appreciation for the great out-o'-doors. Carry on!

M. U. B.





When the Brown Leaves Rustle

AUTUMN winds are on their way, swirling through the forest—brushing the bristling stubble-fields—challenging the strong-winged game-bird to a dash in the open.

Already the shrill note of the yellow-leg comes floating up from the marsh—the plaintive cry of the moor-hen is bidding goodnight to the sinking sun.

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THE VALUE OF THE COMPASS

ROBERT PAGE LINCOLN

HE was young and inexperienced; thought he knew all there was to be known about the woods and woodcraft, the ways and methods of the wild; thought he could reach his destination in safety even though he blundered off his path. He would not listen to a word in season delivered by an old woodsman and so followed his own conclusions, immature and valueless as they were. He went into the forest, certain that in due time, and at his leisure, he would find his way out, re-tracking, as it were. The near to fatal thing about it was that he had no compass in his possession, no means of learning where he was, should he become bewildered. In due time, when he had progressed far enough into the woods, he was ready to start back, but then found to his utter amazement and confusion that he had lost his bearings; that he had gone a-stray. The great woods lay all around him jeering his helplessness. Look where he would, and search how he might, not one particular could he ascertain by which he might be aided to locate his back trail which he had not blazed. With a blazed or broken-twig trail behind him, he would, no doubt, have found his way back at once, but this of course had failed to impress itself upon him when he went in. What followed has undoubtedly been enacted time and time again, in the history of men lost in the woods or the wilderness. He grew rattled; his brain became obsessed; he could reason nothing as the great flood of Fear roared down upon him.

He was in an utter puzzle and in this flustered condition grew wilder as the truth smote upon him. Result was an aimless wandering around—sometimes running blindly—running on and on, the brush tearing his body and face.

He could find nothing that showed signs of the presence of man. It was all bewildering; an impossible tangle. All night he lay breathless and wide awake, daring not to make a fire, supposing that it would attract wild animals, whose very fear and dread of men he had changed to mean the opposite, and had magnified and enlarged a hundred times over. He did not dare to shout for the same reason. Had he been cool-headed it would have been different but how many are there actually clear-thinking and cool under conditions of this sort. All give way, apparently, to an unreasoning fear, and imaginary horrors multiply to make each moment the agony of a lifetime. One reads of cool-headedness in books but we cannot escape the truth. We are all overcome by the same fear, only we may not go as far as the lad mentioned; we may compel ourselves to sit down and reason with ourselves, and smiling, think it over and take stock of surroundings.

In regard to the boy. He lived a hell for four days, but was finally found by a searching party. He was more dead than alive, and was bridging closely on insanity. His story is nothing exactly new. Every year brings with it a number of like misfortunes, some

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not being lucky enough to be freed from their plight. Entering the timber we should all be invested with a sense of knowledge and willingness to learn and take advice. The compass is a wonderful little thing; it is small as to size but mighty in importance. I wish I could write an essay extolling the worth of this fragile guide, but I am going to do the next best thing. I am going to write a few pages out of the book of experience, setting to paper some guides to help the man lost in the woods.

A knowledge of the wild is essential to anyone entering same even for a certain length of time. We should all know how to get out of the woods as freely as we went in. Therefore the need of the compass. A man should never enter the woods without one. The majority of us are just common, everyday people, brought up in civilization, to whom entrance into the wild is a matter of doubt and should we get lost we may not find out—unless we have that valuable compass in our possession, whose needle will tell so plainly the north and the south of things. Plainly, when a person has arrived at the unpleasing conclusion that he is lost, the first thing to do is to sit down and think it over and if fear crowds the brain then he must somehow overcome it and remain rooted to the spot where he is, or go back over ground he is absolutely certain he has covered. If one has a pipe with him he takes it out, lights up and enjoys a smoke while studying his surroundings. Most men entering the woods are observant. A glance over the back trail will bring forth pointers in the shape of trees, bushes, stumps, etc. All of these things are valuable. When one has cooled down the next thing he must do is to climb the highest tree near to him and take a survey of the country around. It may prove prolific of the most vital information. He may see in the distance a lake that he is acquainted with, or a trail of smoke from some camp-fire, or cabin, or even his own may be seen trailing into the air. Therefore he descends, and, if he has not blazed his way so far he blazes as he goes now. If no axe is had, then the hunting knife is used. If neither axe nor knife is had one breaks twigs and branches as he goes along aiming for the point he has marked down.

If you find yourself lost *toward dusk* make no forward progress that night, but settle down for the night, making a fire and so rest until morning. Make your supper from the game you have killed; but if you have no game do not despair, but stay at the place

where you first came to the realization that you were lost. Always carry matches with you in a water-proof case. In the absence of a case, keep matches in a well corked bottle which you carry in your pocket. This has proven a life-saver more than once, especially if one be lost in the woods in the winter. Always have matches scattered in various pockets of your clothes for reasons very evident.

People may get lost when half a mile from home and fail to get their bearings. Use the rifle only occasionally to shoot as a signal. Do not waste the ammunition, for you may need it, and when you do need it, under these conditions you may need it bad. Shout occasionally, too, to the top of your lungs—but only now and then. Save your energy; you may need that too. Your friends, (if you are with friends), will institute a searching party. Help them by being as cool-headed and reasonable as possible. Streams generally flow south, save in mountain country where they usually flow east or west. Follow a stream, for men live along streams. Trappers, in the north, and forest rangers generally situate themselves along streams. This may be a hint that is helpful. The sun rises in the east. Facing it in the morning, back of you will be west; you stretch out your arms straight from the shoulders to the left hand will be north; to the right will be south. Trees in winter-ravaged districts make for pointers where one can get his directions. The north side of some trees are conspicuous for the fact that the bark is thicker on that side, which is plainly Nature's plan of protecting the tree. Again bark on the north side of a tree is darker; on the southside it will be lighter in color, drier and harder. On the northside of some trees there will be found moss and mold. On the southside of trees, (ever-green trees) the oozing gum will be found to be yellowish in color while on the northside it is covered with dust, and is generally discolored. Nests of insects will almost always be found on the southside of trees in fall and winter. Branches on many trees are gnarled and twisted on the northside, and straight and youthful-appearing on the southside. Leaves are smaller, tougher, lighter in color with uniformly dark-hued veins on the south-side of some trees, and the direct opposite on the northside. Cedars generally bend toward the south; pines incline, (at the tip, at least,) to the north.

To deny the compass a place in the outfit is a mistake that may cause no end of



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trouble and discomfort, and, truly, if one is penetrating wild territory it's absence may be the cause of worry if not positive distress. A compass of some sort should be one of the first appliances one should add to his paraphernalia in making up the outfit. In the great number of compasses to be purchased the end of the needle that points North is blue, while the end that is directed to the South is silver in color. A fixed rule to remember, is, therefore, that the *blue* stands for *North*. To get out somewhere and find that you do not know what color represents North, whether the blue or the silver, has happened not once but thousands of times. One, at the start, (even upon purchasing a compass), should scratch on the bottom of the compass with a knife or some other sharp instrument the information that, *Blue stands for North*.

Compasses are made in many materials, some good, and some certainly indifferent; some cost perhaps ten dollars, and others ten cents. Either extreme should be avoided. Purchase your compass from the reliable, time-honoured manufacturers, no matter what style you buy. Compasses are made in both large and small sizes. Some prefer the regulation watch style, others want the compass small. It has been said that: "The size of the compass is not very important and a size from three-quarters to one and one half inches in diameter is plenty large enough for a sportsman's use. Timber estimators who have to run accurate, parallel lines generally use a compass with a needle from two and one half to three inches long, with raised and graduated dial, and with folding sights."

It is a good rule to follow in the woods to keep an eye on the compass at all times, for thus consulting this little instrument you will never err and stray from the trail, as many do. In one well known type of compass, which is open-faced, and which is pinned either to the coat or attached to the belt, one is always able to view it since it is always handy and in sight. Without trouble you may keep your eye on it, to tell, with a certainty, if you are deviating from your course. Such a compass is accurate; it is small, but it is durable and free from danger of being smashed; it is one and one eighth inches in diameter and may be had in two styles: one has the needle mounted on an agate, while the other one has a revolving dial. Both forms are recommendable. Many compasses are furnished in the watch-

case form, with a cover closing over the crystal; it is kept in the pocket, and, having a ring like a watch it may be connected to a chain, and worn like a watch to prevent losing it. A point to recognize in procuring a good compass is that the needle must be finely tempered and highly-magnetized so that it will shift sensitively, and very quickly. The poorer compasses do not work as well as they should and are often unreliable and inaccurate. Many of the open-face compasses and those that cover with a case are provided with what is known as a *stop*. Thus, when the compass is not in use you move this stop over and it locks the needle by shoving it up against the under-side of the crystal. I have a compass such as this, but I do not like the form, on account of the stop. When you move the stop over it leaves a hole, and through this aperture, dust and moisture can get in. The result is that an otherwise good compass is ruined, for the needle will rust. I figure that on account of this the needle falls off several points and is inaccurate. Mr. W. L. Marble, himself a compass manufacturer, has written some things about woods-travel and the compass that it would be not ill to append. I quote:

"If you intend to hunt in an unfamiliar territory where you are to depend upon your compass to get you out, a map showing the topography of the country is of a great benefit. These maps are compiled from field notes of the surveyors and indicate the location of streams, lakes, roads, mountain ranges, swamps, hills, etc. Locate your camp on the map. It will usually be on a stream, lake or road. If the general course of the road or the stream is east and west and you are to hunt north of it you will only have to run south to get back to your base line, or camp. If your course varies to the east or north it will be necessary to make the same distance west or south to get back to your starting point. A pedometer is of great value when hunting, as it shows one how far he has gone in the different directions. If you desire to lay a fairly accurate course and have both hands at liberty, hold your compass in both hands, at half arm's length from the body, with the elbows resting against your sides, so as to bring the compass in direct line with the center of your body. To settle the needle quickly tip the compass until the end of the needle touches the glass, thus checking the vibration. Repeat this quickly, two or three times, as the needle is passing the center of the arc it is making.

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R Street.

Syracuse, N.Y.

Then carefully level the box and as soon as the needle stops vibrating take a sight on some object in exact alignment with your course and as far ahead of you as you can see. Walk to it and repeat the operation. A little practice will enable you to run quite an accurate line. It is of extreme importance that you consult your compass often, otherwise you may swing so far from your course in going only a short distance that you will be inclined to doubt its accuracy. One of the very best woodsmen I ever knew made three complete circuits one cloudy afternoon in territory with which he was familiar; he did not consult his compass—so sure was he that he could keep a direct course to his destination. His confidence in his ability as an expert woodsman received a severe shock and he never afterward dared to rely on his sense of direction. Consult your compass often. Your confidence in the utility of the compass will increase rapidly as you become more familiar with it."

There are some who hold that the so-called luminous compasses are more than necessary; that, if you have a luminous compass you can see and get your directions in the dark, where you would be sadly inconvenienced with the ordinary compass.

What is a luminous compass? It is one where the North and South ends of the needle are treated with what is known as a radio-

active compound, which admits of the needle showing up plainly in the dark, and, without trouble, will set you right. I have not much use for this form of compass. The less night wandering one does, (at least in forsaken and alien territory), the better he is off. Also, I see no preference for the so-called floating dial compasses over the ordinary needle ones. What is the floating dial compass? One whose face turns around, the needle being attached underneath it. The arrow-head is plainly marked so that when the dial moves the arrow-head naturally always points North. These floating dial compasses may also be had in the radio-active, luminous form with the arrow-head shining in the dark. The majority of these shining compasses must be exposed to the sun during the day before the night you are going to use it. I see no gain in them over the ordinary compass. The sum total of one's conclusions is: the less moving around you do at night, the better. That's good common-sense advice!

The compass? It has saved thousands of lives, and has helped more than one woods-wanderer out of a perilous position. Within the haunts of man we are prone to look upon it as a trinket, a curiosity; we can never take it seriously; but when we are face to face with the unknown places it takes on a sudden importance, and is of endless fascination. The sensations of being lost are sometimes terrifying.

JUDGES WILL NEED THREE MONTHS TO DECIDE CONTEST.

Hundreds of thousands of replies were received in the \$10,000 prize contest recently conducted by the manufacturers of the Eveready Daylo, with the result that the contest department in New York was completely snowed under by the avalanche. It will take the judges, the art editors of Life, at least three months to study the returns and make their selection of the 101 prize winning answers that will receive the awards ranging from \$10 to \$3,000.

Replies bore postmarks from every province in Canada, every state in the U. S., as well as Alaska, Hawaii, France and England. Some of the contestants took the trouble to bring their answers to the New York Office, many telegraphed them, and one sent his in from midocean by wireless.

LETTER BOX

We have a letter for L. Q. V. of Lloydminster, who had an article in the July issue. Kindly forward present address.

Editor.

WOULD LIKE RECIPE

Editor, Rod and Gun In Canada.

I am desirous of learning how to make Hard Tack bread, and the ingredients used in its make.

Hard Tack in question is the size of a large plate, and about the thickness of a pan cake, very dark in color, and material is very coarse.

Awaiting this information by mail or through the Mail Bag, I remain,

Yours truly,

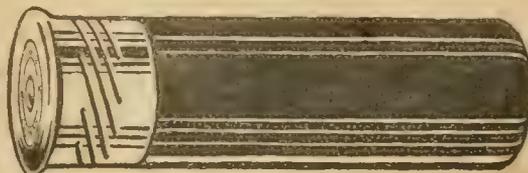
C.S. Mourrier.

Reply—We would be pleased to receive recipes in reply to Mr. Mourrier's query. The first batch of ordinary camp bread usually answers the description of hard tack.—Editor.

LET'S GO DUCK SHOOTING

The air is crisp, the ducks are flying and a few days in the open will make us fit for another siege of "grind." Certainly, we will secure our **DUCK DECOYS, RUBBER BOOTS**

Black Shells
Nitro Club Shells
In Game and
Trap Leads.



Remington
Winchester
Ithaca and
Other Shotguns

from **JOHN HALLAM, Limited, Toronto**, as we want reliable goods.



THAT REMINDS ME

that **HALLAM** also carries an immense line of Savage, Winchester, Remington and Stevens' Rifles, with just the ammunition we want for that trip after Deer and Moose, as well as **MACKINAW CLOTHING, CAMP STOVES, SHOEPACKS** and other hunting necessities.

I believe we had better order our outfit now, while stocks are large, as we don't want to be disappointed at the last minute:

WHILE WE ARE ABOUT IT

we had better order our **TRAPS**. The manufacturers say that there **WILL BE A SHORTAGE OF TRAPS THIS SEASON**, and I do not want to be caught without traps when furs are high. **HALLAM CARRIES IN STOCK THE LARGEST ASSORTMENT OF ANIMAL TRAPS IN AMERICA, VICTOR JUMP, NEWHOUSE, TWO TRIGGER, HIGH GRIP, TRIPLE CLUTCH** and other complete lines.

89 DIFFERENT NUMBERS OF TRAPS

from which to choose the kind that best meets my requirements, and

DON'T LET ME FORGET

to order my supply of **HALLAM'S ANIMAL BAIT, HALLAM'S MUSK-RAT BAIT** and **HALLAM'S TRAIL SCENT**, both in the paste and liquid form. They are unsurpassed in drawing animals to the trap, and I find that they largely increase my catch of fur, which means more money in my pocket.

I WANT HALLAM'S CATALOG.

96 pages and cover, **FALL 1920 EDITION**, as it is chuck full of articles I need, such as **Headlights, Camp Lamps, Marbles Specialties, Snowshoes, Skis, Toboggans, Fur Coats, Fur Sets** and 1001 other articles of interest to everybody. They send it **FREE FOR THE ASKING**, so I will **WRITE FOR IT AT ONCE** and address my letter as follows:—



John Hallam
Limited
968 Hallam Building, **TORONTO.**
THE LARGEST IN OUR LINE IN CANADA





The Advisory Committee of the Canadian Passenger Association at a meeting held in Montreal 15th. inst. decided that free transportation could not be issued to District Chairmen of the Northern Ontario Outfitters and Guides Association.

This ruling governs the conduct of all Canadian Railways.

It will be of interest to all Guides and Outfitters to learn that at the Canadian Passenger Association meeting held at Montreal on July 6th. the following recommendations were adopted.

"Cancellation of checking canoes is recommended. Canoes are now handled as excess baggage, and it is recommended that all canoes should be handled by express or freight.

Dr. R. J. Manion M.C. M.P. writes from Ottawa as follows:

"The tax on canoes is supposed to be only on pleasure craft and if charged on others, it must be refunded. Sir Harry Drayton alone can take care of this tax, but I shall be of any use I can to your organization."

District Chairman Lorne Fleming of Grant district has forwarded in eight new members, and has mapped out the different trapping grounds operated each winter by the white trappers who are all members of the Association. These trapping grounds cover his district along the Trans-Continental. Chairman Clarke of Hearst is following up the same plan and this enables each District Chairman to know where the different trappers are located, and they will not issue licenses to any one who may want to trespass on the other trapper's grounds.

A request has been made from a Winnipeg sportsman, asking our co-operation in assisting in the restocking of Red Deer Lake with black bass, and trout. This matter has been referred to Mr. Holst, District Chairman of Minaki, Ont. and further inform-

ation will be obtained on this matter later.

The largest speckled trout taken along the Trans-Continental to date this year weighed seven pounds. It was caught by E. G. Stacey of Tiffin, Ohio, on the Drowning river 65 miles north of Grant. It was caught at six o'clock in the morning on a small Hilderbrandt Spinner, and a five ounce Bristol rod.

Several sportsmen-tourists are anxious to obtain membership into the Association, and to date their applications have been accepted believing that such men will be an asset to such, and co-operate in the enforcement of the game and fisheries laws.

District Chairman F. E. Mathe of Long-Lac reports a very busy season with visiting sportsmen who are keen on fishing the Kenogami river down to Pine Lake, and some great catches have been reported.

District Chairman Frank Edwards of Savanne reports that he is receiving many inquiries from American sportsmen on the hunting conditions around Lac De Milles, and asks for further information regarding issuing licenses etc.

It is of interest to note that the Trans-Continental District Chairmen have struck a rate for outfitting sportsmen in their respective districts along uniform lines. Prices are as follows:

Head Guide, \$6.00 per day.

Others, \$5.00 per day.

Canoe, \$1.25 per day.

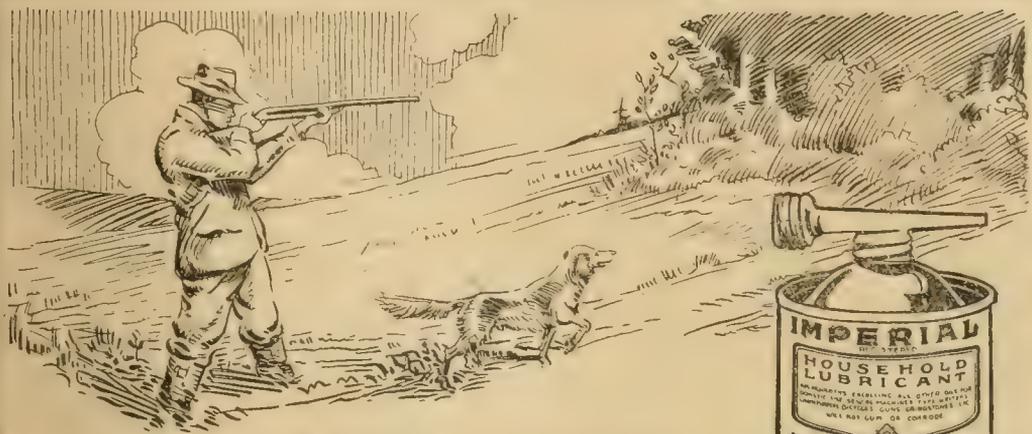
Tent, 75c per day.

Fly, 50c per day.

Camp-Outfit, \$1.50 per day for party two, price to increase according to size of party.

Blankets, 15 c per day per pair.

Transportation of guides, and rental and transportation of equipment to be paid by the sportsmen. Wages of guides from outfitting point until their return home.



A GOOD POINTER

Take a handy can of Imperial Household Lubricant with you. There's no better oil for keeping guns and equipment in "bang up" shape.

It's a pure, light mineral oil that cleans thoroughly and prevents rust. It will not gum or corrode and contains no free acid.

Comes in a convenient four-ounce oiler. Is easily applied without waste or muss.

You'll want Imperial Household Lubricant in the home, too. Just the thing for the phonograph, lawn-mower, typewriter, sewing machine, etc. Sold by Hardware and General Stores, everywhere.

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Power - Heat - Light - Lubrication



Dent's Condition Pills

A marvelous tonic for dogs that are all out of sorts, run down, thin and unthrifty with harsh staring coat, mated eyes and high colored urine. There is nothing to equal them for distemper, mange, eczema and debilitating diseases. You will notice the difference after a few doses. At druggists or by mail, fifty cents. The Den. Medicine Company, Toronto, Canada and Newburgh, N. Y. A practical treatise on dogs and their training, 160 pp. fully illustrated mailed for 10c to all customers.

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The Aristocrat of Tweed for Sporting Wear
Patterns and Prices on Application
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London Office: 648 Belfast Chambers, Regent St. W.
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Don't buy fish nets—You can knit them yourself at small cost. It's dead easy. Complete illustrated instructions, shuttle, mesh blocks and valuable fishing hints, for \$1.25 post paid. Further particulars if desired.

W. E. CLAYTON,
49 N. Main, Altoona, Kan.



A Dime brings Illustrated Trappers Guide It tells how. Giving the first time in print the treasured secrets of the wisest old trappers in this country it's worth dollars to you

TRAPPERS' SUPPLY CO.
BOX C - - - OAK PARK, ILL.

ANY TRAPPER who would like a copy of "STEEL TRAPS" will be sent one free in return for two new subscriptions to ROD AND GUN at \$1.50 each. Send for sample copies and subscription blanks.

ROD AND GUN IN CANADA
WOODSTOCK - - - - ONTARIO

Rental of twenty one foot canvas canoe \$2.00 per day.

W. S. Bruce formerly of Hornepayne has moved to Mud River on the north end of Lake Nipigon, and reports a busy season to date and solicits hunting parties for the fall.

The station nearest to his camps is Willett, one mile and a half west of Mud River crossing.

District Chairman T. Crowley of Patricia District has returned from a five week canoe cruise through his district, and reports that he counted over 200 moose and deer. He states that many foreigners are located all through that district, catching fur-bearing animals, without a license, and selling same into the Province of Manitoba thus depriving the Ontario Government of the royalties due on certain skins.

It is interesting and gratifying to note that he has been forwarded application papers as District Warden from the Department of Game and Fisheries, and we all trust that his appointment will be made shortly.

The Sportsman's Representative Department of the Canadian National Railways line on the North Division, reports that they receive on an average of ten inquiries per day from prospective hunters who desire to hunt in our fair land for Moose, Caribou and Deer. Although the season opens rather late in that region lying to the south, yet many will undergo the usual hardships in order to get a shot at a moose and to secure the meat.

District Chairman D. McCuaig of Schreiber has reported his catching the largest Speckled Trout of the season, thereby winning the trophy put up by the Times-Journal of Fort William.

J. J. Spillett of Oscar is back on the job again after completing his fox ranch on Rossport Island, Lake Superior; he has sent in several new members, and applies for more application forms.

We would call the attention to all members that in the next issue of our official publication we have news from the other District Chairmen not mentioned, as they are all going to forward reports on the doings of the Association in their respective districts.

One of the many items to be brought before the Association at its next regular meeting for open discussion is regarding a suggestion from District Chairman Grant Howe of Hornepayne, who suggests "That portion of territory lying between Kabinakagama river on the east, and the Kenogami river on the west, the Trans-Continental on the north and the height of land on the south, be set aside for a game preserve, and all Indians kept on the outside its boundaries except those capable of acting as guides and they be only admitted during the tourist and hunting season, when strict regulations may be maintained. Further that all fire arms be licensed throughout Northern Algoma, and all foreigners be denied the privilege of taking out this license, or any other license that in any way will endanger our Game, Fish, Fur or Forests. The fee for said licenses to be one dollar for shot gun of 12 gauge or smaller. Two dollars for 10 or 8 gauge shot guns, and one dollar for all small arms.

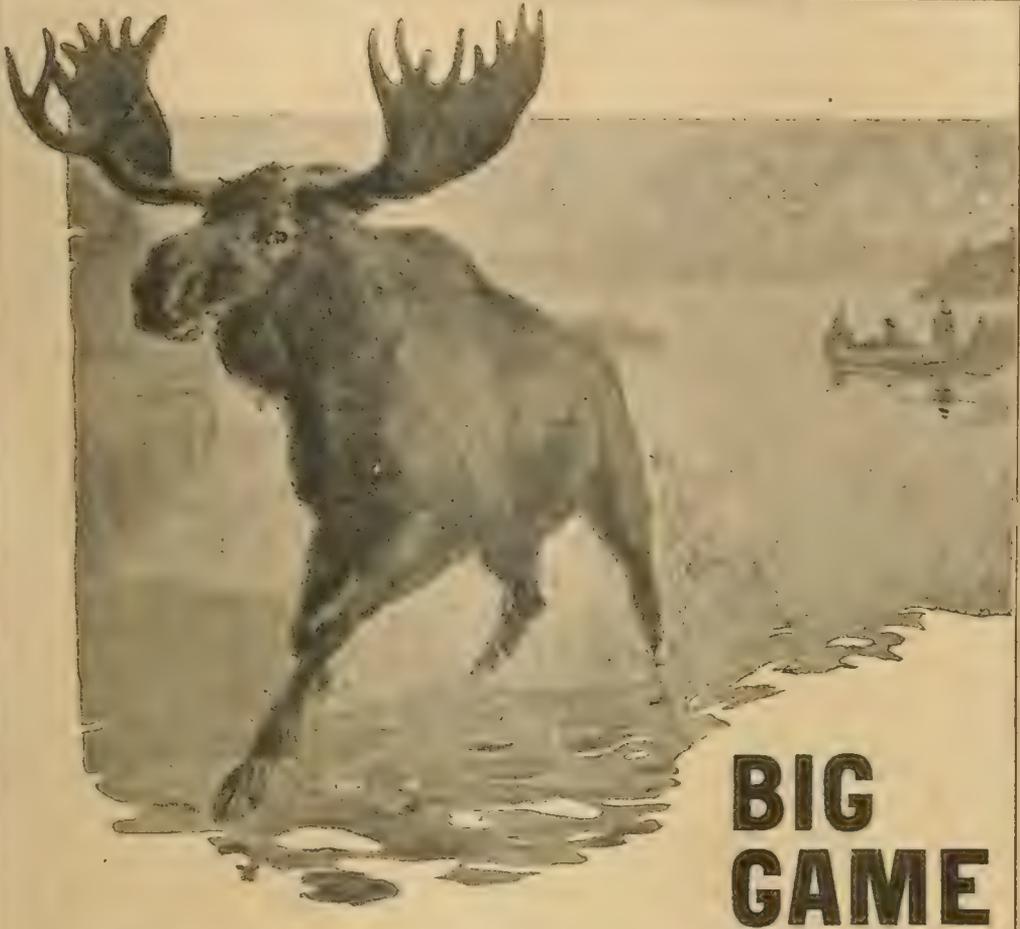
"A five dollar license for all dealers in fire arms and ammunition of any calibre or gauge.

"The District Chairmen of the Association to be appointed issuers of such licenses on a fair commission allowance to cover incidental expenses connected therewith."

Rod and Gun has submitted to the President a design suitable for the members' badges; it is of a very attractive design.. It was promptly endorsed and instructions were given to quote prices in one hundred lots.

Membership to date close to One Hundred and Fifty. Application forms can be obtained from the President, District Chairman, or General Secretary.





BIG GAME

Along the Canadian Pacific Railway

What about that hunt you have been promising yourself this Fall? Enjoy the exhilarating freedom of camp life in the unspoiled wilderness, amid the haunts of big game. A pair of giant antlers or other coveted trophy will make a fine appearance in your den at home. A record spread may be awaiting you.

The most attractive hunting and outdoor districts of Canada are conveniently reached by the Canadian Pacific Railway.

The range of sport offered is a wide one—moose, caribou, deer and black bear in Ontario, Quebec, New Brunswick or Nova Scotia, and mountain sheep, mountain goat, moose, caribou, deer, grizzly, brown and black bear in the Canadian Pacific Rockies (Alberta and British Columbia).

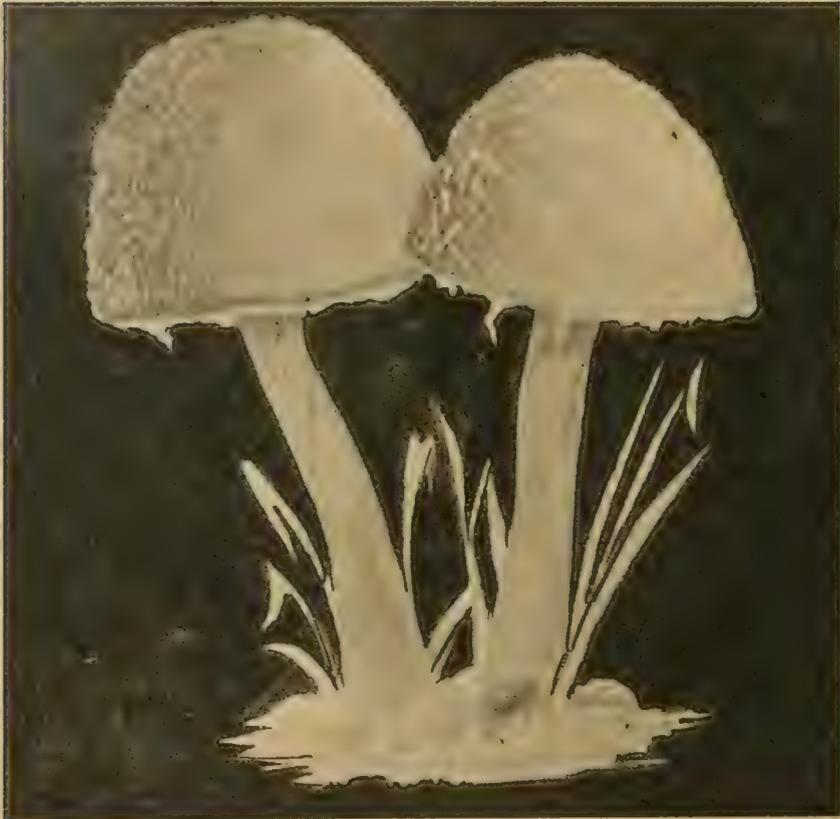
Owing to the heavy demand for guides, arrangements should be made early.

If information is desired about any particular locality, write or consult nearest Canadian Pacific Passenger Agent, or

A. O. SEYMOUR, General Tourist Agent,
Canadian Pacific Railway,
Montreal, Que.

Forms and Properties of Mushrooms

T. WARE



Hypoholoma appendiculatum (edible), natural size.

This is another species of the genus *Hypoholoma*. It also grows on old stumps and logs in late spring and in the summer months.

It differs from *Hsubuloratum* in not being found in such large tufts, they are generally more scattered two to three inches high and the cap two to two and three quarters broad and the stew about a quarter inch in thickness. The cap in old specimens is curved upward, in young plants it is oval or convex. In color it varies from brown to white with a tinge of ochre yellow.

It is very often cracked and split almost to the center in several places and at other times it will be cracked irregularly and deeply showing the white flesh.

The gills are attached to the stew in young plants but often free in old specimens. They are at first white then flesh colored and as the plants mature they become purplish brown.

The stew is white, smooth and hollow and the plant is very easily broken so must be handled carefully.



AS CRAZY AS A GOOSE

Or as wise as a crow—it doesn't matter to you if you are using Mason's decoys. The wisest duck is fooled by the natural size and color and life-like appearance of Mason's decoys. They are made for all species in several grades. If you are getting any—get the best. A post card brings our free catalogue.



MASON'S DECOY FACTORY

590 Milford Street and P. M. R. R.

Detroit, Mich.

NEWFOUNDLAND

A Country of Fish and Game.

A Paradise for the Camper and Angler.

Ideal Cance Trips

The country traversed by the Reid Newfoundland Company's system is exceedingly rich in all kinds of fish and game. All along the route of the Railway are streams famous for their SALMON and TROUT fishing. Also Caribou barrens. Americans who have been fishing and hunting in Newfoundland say there is no other country in the world in which so good fishing and hunting can be secured and with such ease as in Newfoundland. Information together with illustrated Booklet and Folder cheerfully forwarded upon application to F. E. PITTMAN, General Passenger Agt. Reid Newfoundland Company, ST. JOHN'S, NEWFOUNDLAND.

That Whiff of Fragrance

which never fails in its cheerful invitation to breakfast, comes more frequently, more invitingly, when it's

SEAL BRAND COFFEE

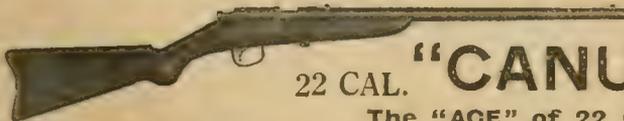
that is used. The famous Seal Brand flavour, fragrance and delicacy are sealed right into the Tin.

In 1/2, 1 and 2-lb tins. Never sold in bulk. Whole, ground, and Fine-ground, for Tricolators and ordinary percolators. At all good dealers.

"Perfect Coffee—Perfectly made" tells just how to make Coffee. It's free. WRITE for it.

CHASE & SANBORN, MONTREAL. 6

COOEY RIFLES



22 CAL. **"CANUCK"** MODEL

The "ACE" of 22 Calibre Rifles

MADE IN CANADA BY THE

H. W. COOEY MACHINE & ARMS CO., TORONTO, CAN.



Frank Troeh Breaks Canadian Long Run Record with 299

STARR MATTHEWS

Toronto, September 5—With the long run of 299 without a miss by Frank M. Troeh, of Vancouver, Wash., as its most sensational feature the fifth annual Canadian National Exhibition shoot was one of the most successful that the Toronto trapshooters ever staged. It was a wonderful event in many ways, but the small attendance, which averaged about 60 shooters over the four-day program, was very disappointing to the management.

This long run by Troeh set a new record for Canada for the laurels previously had been held by Frank S. Wright of Buffalo, who last year smashed 213 of the clay birds in succession at the Exhibition grounds.

However, there were other features besides the long run of the man from Washington, because he was not the high average winner. To E. F. Woodward, the veteran of Houston, Tex. went the lion's share of the glory of the tournament because he broke out 789 of 800 while Troeh was six targets behind.

The arrangement this year made it impossible for one man to win more than one medal at single targets but Forest W. McNear, also of Houston, Tex., had the

honor of grabbing two because he won a spectacular shoot-off in the doubles from his great rival, George Beattie, of Hamilton, Ont., and thereupon hangs another interesting tale of the traps.

McNear was a member of the American Olympic team and Beattie represented Canada in the same capacity. They met in a doubles event in England and tied for high honors. There was a shoot-off, a most spirited affair and Beattie landed the bacon, which was handed him in the form of a gold medal. Perhaps McNear figured he would get revenge when he came to Canada and perhaps Beattie knew that he had just that same hope, for it is known that George had no idea of shooting in the tournament, except at the doubles. Then, strange as it may seem, these experts again tied for top prize and there was another shoot-off, another spirited affair, and it was not until each had shot at forty targets that McNear was declared the winner by the scant margin of one bird. Old-timers said it was one of the best shoot-offs they ever witnessed.

Only one Canadian won an "Ex." medal, the fortunate man being Big Bill Barnes, the clever shot from Hamil-

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and have the largest choice in this
country, and our prices are the lowest.

We have all the popular makes and Calibers of Rifles.

We have the new 250 High Power Savage extra light Bolt Action Repeater.

We have the new 303 British LEE ENFIELD SPORTING RIFLE, made by the Birmingham Small Arms Co., England,—a real rifle—weighing exactly seven pounds: is a ten shot repeater of fine workmanship and great accuracy, taking both Military and Sporting Cartridges; big enough for the biggest game and so light and handy that it is a treat to carry it.

Winchester, Savage and Remington Arms

We have an immense stock.

Colts Revolvers and Automatic Pistols

lots of them in stock all the time. We have several 45 Caliber Automatics slightly second hand at bargain prices. You cannot beat a Colt.

Lots of Lyman Sights, Marbles' Sights, Hunting Knives, Axes, Compasses, Shot Guns, including L. C. Smith, Fox, Ithaca, Baker, Greener, etc.. from \$12.50 to \$600.00 each.

Also a full range of 22 Caliber Rifles and Ammunition in endless variety.

We will prepay charges on Fire Arms in Ontario.

You will always find us absolutely square.

CALL IF POSSIBLE OR WRITE US.

Lion Sporting Goods Co.

429 Yonge Street

Phone
Main 6517

TORONTO, ONT.

SECOND DAY

ton. He was compelled to reduce to dust 100 straight to put over the trick but he was equal to the emergency. The shooting was remarkably good, there being 77 straight runs of 50 or better, yet the targets were far from easy. A tricky wind on opening day furnished real sport and a strong head wind two days later sent the clay birds Heavenward in amazing fashion but the scattergun devotees simply would not be fooled. They snuffed the targets right off the top of the trap-houses. This was even true of the young women who shot—Mrs. Fred Etchen, of Coffeyville, Kas., and Miss Alice Doerken, of Paterson, N.J., who is regarded as one of the cleverest of the younger experts in the States.

The medal winners were:
First Hundred—E. F. Woodward, 100 X 100.
Second Hundred—Cad Erwin, Greensboro, Ala., 99 X 100.

Third Hundred—Frank M. Troch, 98 X 100
Fourth Hundred—R. H. Bungay, Ocean Park, Calif., 98 X 100.

Fifth Hundred—Frank S. Wright, 99 X 100.
Sixth Hundred—Forest W. McNeir, 99 X 100.

Seventh Hundred—William Barnes, 100 X 100.
Handicap Hundred—J. A. Blunt, Greensboro, Ala., 98 X 100.

Doubles Hundred—Forest W. McNeir, 90 X 100.
The scores:

FIRST DAY

	Shot at.	Score.
H. E. Woodward, Houston, Tex.	200	185
Mrs. Fred Etchen, Coffeyville, Kas.		144
R. W. Colbert, Stamford, Tex.		193
H. S. Lewis, Martinsville, Ind.		182
V. A. Rossbach, Spokane, Wash.		180
Rowland Day, London, Ont.		181
Fred Kerr, Crediton, Ont.		167
Ed. Doerken, Paterson, N.J.		188
Miss Alice Doerken, Paterson, N.J.		156
W. E. Beers, New Britain, Conn.		169
F. H. Huseman * Rochester, N.Y.		185
W. H. Gooderham, Toronto, Ont.		185
E. G. White, * Ottawa, Ont.		185
Norman R. Gooderham, Toronto, Ont.		180
C. N. Candee, Toronto, Ont.		185
E. F. Woodward, Houston, Tex.		199
J. D. Clay, Houston, Tex.		191
F. M. Troch, Vancouver, Wash.		191
Ben Anthony, Texarkana, Ark.		175
R. H. Bungay, Ocean Park, Calif.		192
F. H. Morris * Montreal, Que.		182
William Barnes, Hamilton, Ont.		181
James Payne, Tillsonburg, Ont.		182
Forrest W. Vance, Houston, Tex.		191
Sam G. Vance, Tillsonburg, Ont.		171
W. H. Miller, Buffalo, N.Y.		160
James McCausland, London, Ont.		137
J. Ebberts, Buffalo, N.Y.		141
Frank D. Kelsey, East Aurora, N.Y.		179
N. S. Braden, Hamilton, Ont.		
T. S. Evans, Columbus, Miss.		183
F. J. Hardy, Columbus, Miss.		180
E. J. Hardy, Columbus, Miss.		182
C. B. Hardy, Columbus, Miss.		154
H. A. Ray, Oakland, Calif.		186
E. P. Wright, Gananoque, Ont.		170
G. A. Simons, Niagara Falls, Ont.		138
W. W. Livingstone, Carlisle, Ont.		175
E. Corby, Falls View, Ont.	100	75
Robt. T. Watt, Toronto, Ont.		146
W. H. Woodrow, Toronto, Ont.		150
J. Blea, Toronto, Ont.		141
Wm. H. Joselin, Burch Cliffe, Ont.		173
H. E. Schoelfield, Oakville, Ont.		165
Joe. E. Jennings, Todmorden, Ont.		182
J. A. Blunt, Greensboro, Alta.		182
Cad Erwin, Greensboro, Ala.		190
Dr. A. W. Currie, New York, N.Y.		145
James Summerhays, Weston, Ont.		176
J. B. Fontaine, Phila, Pa.		176
Fred Etchen, Coffeyville, Kas.		185
J. W. Hart, Dresden, Ont.		159
J. W. Willey, Dansville, N.Y.		174
D. K. Dickinson, Kansas City, Mo.		183
E. Harris, Hamilton, Ont.		181
J. Hunter, Hamilton, Ont.		181
Hugh Lennox, Hamilton, Ont.		163
M. E. Fletcher, Hamilton, Ont.		185
Harvey Fletcher, Hamilton, Ont.		149
F. I. Fox, Toronto, Ont.	100	84
J. E. McCurdy, Sydney, N.S.	100	83
Dr. I. M. Lovitt, Yarmouth, N.S.	100	69
Court. H. Thomson, Hamilton, Ont.	100	87
W. H. Bradfield, Staffordville, Ont.	100	76
H. W. Burke, Markham, Ont.	100	84
J. G. S. Dey, Syracuse, N.Y.	100	81
W. C. Petty, Niagara Falls, Ont.	100	83

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Wm. Marshall, Galt, Ont.	168	
Harold Newlands, Galt, Ont.	183	
J. Passmore.	180	
R. D. Bell.	179	
Cad Erwin.	189	
George Beattie, Hamilton, Ont.	100	87
A. M. Barber, Hudson, O.	100	93
W. Hughes, Toronto, Ont.	100	92
E. R. Rolph, Toronto, Ont.	100	81
J. E. Van Cise, Youngstown, O.	100	75
F. I. Fox.	100	85

THIRD DAY

J. G. S. Dey.	178	
James McCausland.	160	131
R. W. Colbert.		191
H. S. Lewis.		187
V. A. Rossbach.		184
Rowland Day.		186
Fred Kerr.		189
Ed. Doerken.		189
Miss Alice Doerken.		164
W. E. Beers.		181
F. H. Huseman*.		194
W. H. Gooderham.		184
A. W. Barber.	100	95
Norman R. Gooderham.		192
C. N. Candee.		188
E. F. Woodward.		195
J. D. Clay.		193
Frank M. Troch.	200	200
H. E. Woodward.		187
R. H. Bungay.		191
F. H. Morris*.		185
William Barnes.		190
James Payne.		173
F. E. Healey, Toronto, Ont.		180
Sam G. Vance.		188
W. H. Miller.	100	91
F. W. McNeir.		198
J. Ebberts.		165
F. D. Kelsey.		191
H. A. Ray.		177
J. B. Fontaine.		192
Fred Etchen.		185
J. W. Hart.		1
P. H. Willey.		8
D. K. Dickinson.		188
E. Harris.		194
M. E. Fletcher.		184
Frank S. Wright.		196
Jacob Fries.		184

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1. Squad One on the third day. 2. Miss Alice Doerken and her father, Edward Doerken of Paterson, N. J.
 3. Irwin Lewis, Jr.; Waldo McNair, Jr. 4. Frank Wright, Buffalo; Frank Troch, Vancouver, Wash.; Fred
 Etchen, Coffeyville, Kas. 5. Miss Healy, Toronto; J. W. Hart of Dresden.



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Wm. Marshall.....		179
Harold Newlands.....		189
E. P. Wright.....		172
J. A. Blunt.....		180
Cad Erwin.....		185
Harry E. Payne, Tillsonburg, Ont.....	100	93
J. Passmore, Hensall, Ont.....	100	81
R. D. Bell.....		183
E. G. White *.....	100	91
Wm. R. Fenton, Toronto, Ont.....	100	92
Dr. Geo. G. Jordan, Toronto, Ont.....	100	86
Court Thomson.....	100	88
Geo. L. Vivian, Toronto, Ont.....	100	86
George Anstee.....	100	86
George Beattie.....	100	89
Wm. Joselin.....	100	86
R. T. Watt.....	100	75
Duncan B. Martin, Toronto, Ont.....		
Irvin Lewis, Martinsville, Ind.....	100	78
J. E. McCurdy.....	100	86
Dr. I. M. Lovitt.....	100	71
Waldo F. McNeir, Houston, Tex.....	80	36

FOURTH DAY

J. G. S. Dey.....		96
Mrs. Fred Etchen.....		73
R. W. Colbert.....		99
H. S. Lewis.....		98
V. A. Rossbach.....		96
Rowland Day.....		96
Fred Kerr.....		97
Ed Doerken.....		91
Miss Alice Doerken.....		81
W. T. Beers.....		33
F. H. Husman *.....		97
W. H. Gooderham.....		89
E. G. White *.....		98
Norman R. Gooderham.....		98
C. N. Candee.....		91
E. F. Woodward.....	100	
H. D. Clay.....		98
F. M. Troch.....		99
H. E. Woodward.....		91
R. H. Bungay.....		98
F. H. Morris *.....		98
William Barnes.....	100	
James Payne.....		91
J. Ebberts.....		82
Sam G. Vance.....		91
W. H. Miller.....		96
F. W. McNeir.....		97
H. E. Scholefield.....		90
F. D. Kelsey.....		97
S. S. Hopkins.....		91
J. B. Fontaine.....		97
Fred Etche.....		96
J. W. Hart.....		94
P. H. Willey.....		89
D. K. Dickinson.....		96
E. Harris.....		97
Frank S. Wright.....		98
E. P. Wright.....		86
Joe. E. Jennings.....		99
William Marshall.....		91
Harold Newlands.....		97
H. A. Ray.....		93
J. A. Blunt.....		95
Cad Erwin.....		96
Harry E. Payne.....		92
Geo. L. Vivian.....		88
W. H. Woodrow.....		86
R. D. Bell.....		92
F. E. Healey.....		91
Dan McNeil, Brantford, Ont.....		90
N. S. Braden.....		95
Irvin Lewis.....		82
E. P. W. Salisbury, Toronto, Ont.....		87
E. P. Mathewson, New York, N.Y.....		90

HANDICAP

20. E. F. Woodward.....		98
20. W. H. Gooderham.....		85
20. F. M. Troch.....		97
20. Harold Newlands.....		94
20. Frank S. Wright.....		91
19. R. H. Bungay.....		98
19. F. W. McNeir.....		97
19. J. D. Clay.....		91
19. Joe. E. Jennings.....		91
19. Herb Cooley.....		91
18. R. W. Colbert.....	60	52
18. Ed Doerken.....		91
18. Fred Etchen.....		96
18. Cad Erwin.....		91
19. W. E. Beers.....		86
18. William Barnes.....		97

18. E. Harris.....		90
18. C. N. Candee.....		96
18. N. R. Gooderham.....		92
18. D. K. Dickinson.....		97
19. J. B. Fontaine.....		96
19. Wm. Marshall.....		89
19. James Payne.....		86
19. J. W. Hart.....		92
19. Dan McNeil.....		85
18. Sam G. Vance.....		93
18. S. S. Hopkins.....		96
18. W. R. Fenton.....		88
18. George Anstee.....		93
18. Geo. G. Jordan.....		91
18. W. H. Miller.....		93
18. Geo. L. Vivian.....		85
18. Lloyd H. Ferrier.....		87
18. J. Hunter.....		91
17. Rowland Day.....		94
17. E. Wright.....		82
17. J. E. McCurdy.....		82
17. Court Thomson.....		87
16. William Hughes, Toronto, Ont.....		77
16. N. S. Braden.....		87
16. J. G. S. Dey.....		91
16. W. H. Woodrow.....		82
16. J. A. Blunt.....		98
16. H. A. Ray.....		96
16. Fred Kerr.....		92
16. H. E. Scholefield.....		77
16. V. A. Rossbach.....		91
16. E. R. Rolph.....		
20. F. M. Morris *.....		
20. E. G. White *.....		
16. Dr. I. M. Lovitt.....		
20. F. H. Husman *.....		

DOUBLES

E. F. Woodward.....		80
J. D. Clay.....		79
F. M. Troch.....		87
W. H. Gooderham.....		69
R. H. Bungay.....		81
F. H. Morris *.....		87
N. R. Gooderham.....		75
F. W. McNeir.....		90
Frank S. Wright.....		82
Sam G. Vance.....		83
J. B. Fontaine.....		69
Fred Etchen.....		89
Wm. Barnes.....		62
George Beattie.....		90
D. K. Dickinson.....		71
Joe. E. Jennings.....	50	31
C. N. Candee.....	50	35
James Payne.....	50	32
H. A. Ray.....	50	31
Wm. Marshall.....	50	36
Fred Kerr.....	50	16
F. I. Fox.....	50	32
SHOOT OFF:—		
McNeir—18—17.....		
Beattie—18—16.....		

HAMILTON GUN CLUB.

The regular shoot was held at the Hamilton Gun club on Saturday afternoon Sept. 4th, and although the attendance was somewhat small, some very creditable scores were made.

J. Hunter, W. Barnes and M. E. Fletcher all tied for first place in A class with a possible score and in the shoot off, Barnes succeeded in breaking them all again, while Hunter got 24 and Fletcher 22. H. Lennox and N. Long were next in line, each having missed one target only.

J. Moyer, who had just graduated from C class, was not satisfied with this, but put on the tidy score of 24 and won out in B class. Moyer deserves great credit, as he is practically a new shooter and is already making some of the "old" ones go the limit. W. W. Livingstone took second place with 22 and A. Glover broke 17.

In C class, Colin Smith was high man with 19 and H. Fletcher, J. Griffiths and F. Ellis, each had 17.

W. Barnes was high man for the day, getting 74 out of 75 and H. Lennox was next with 48 out of 50, and M. E. Fletcher was third with 70 out of 75.

	Sho. at	Broke.
E. Harris.....	75	69
J. Hunter.....	75	69
J. Moyer.....	75	68
W. Barnes.....	75	71
M. E. Fletcher.....	75	70
I. Smith.....	50	42
W. W. Livingstone.....	75	65
H. Fletcher.....	75	51

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C. Stout.....	75	53
J. Griffiths.....	75	46
N. Long.....	100	86
F. Ellis.....	50	32
A. Glover.....	75	55
C. Smith.....	100	73
J. W. Ashbury.....	25	14
M. Lennox.....	50	48
G. Stroud.....	75	67
H. Kretschman.....	100	72
J. J. Cline.....	50	45
H. Marshall.....	25	18

Some real classy trapshooting was witnessed at the Hamilton Gun club on Saturday afternoon, Sept. 11, when the 100-bird race was run off to decide the championship of the club.

W. Barnes left no doubt in the mind of any one as to his right to hold the coveted honor by going through the race without a miss. In the fore part of the afternoon the weather was all that could be desired, but for the last 25 birds a young gale was blowing, but they all looked the same to William, and he wound up with 100 straight. The old spirit of rivalry is still strong between the two veterans, and Geo. Beattie was only one bird behind at the finish, he having gone 74 straight after missing his 26th target.

C. Syer surprised the crowd by jumping into third place with the good score of 98, having put on a perfect score in the first and fourth events. E. H. Sturt and H. Lennox were both well up with 96, while E. Harris, with 95, and M. E. Fletcher, with 93, rounded out the bunch who broke over 90 per cent.

The scores follow:

	Shot at.	Broke.
M. E. Goodale.....	100	85
W. Barnes.....	100	100
George Beattie.....	100	99
John Hunter.....	100	89
I. Smith.....	100	90
J. Moyer.....	100	86
F. Ellis.....	75	51
J. C. Stout.....	100	74
H. Fletcher.....	100	72
J. Griffiths.....	100	84
E. Harris.....	100	95
M. E. Fletcher.....	100	93
W. W. Livingstone.....	100	90
A. Glover.....	100	89
George Stroud.....	100	87
A. E. Von Gunten.....	75	46
E. H. Sturt.....	100	96
Dr. Grooves.....	100	86
C. Syer.....	100	98
I. Gardiner.....	100	83

H. S. Spence.....	50	32
C. Smith.....	75	51
W. L. Smith.....	100	88
J. Gray.....	75	63
H. Lennox.....	100	96
A. D. Bates.....	25	16

American Trapshooting Association Notes

ED. BANKS

At the Canadian National Exhibition Tournament held in Toronto the beginning of this month, Frank Troch was credited with a straight run of 319 breaks. This, however, proves to have been a mistake, due to carrying over Troch's run from September 1 to the following day, when he ran the entire program of 200 targets without a skip. The run was carried over as 27 when it should have been seven, Troch having missed his 13th target in the last event in the afternoon of September 1. He thus started in on the morning of September 3 with an unfinished run of 207, to which he added 92 more, falling down again in the last event at 16 yards on his 13th target. His run, therefore, was plainly 299 instead of 319, but this seems to be the longest run made by any amateur this year, at any rate over Canadian traps.

It is worth while noting also that E. F. Woodward of Houston, Texas, who just about "broke 'em all" at that same shoot, is thirteenth on the list of averages with .9586 on 4475 targets shot at.

The official list of averages referred to above shows very plainly that registered tournaments are few and far between in the Dominion. Out of some 600 amateurs and over 100 professionals who have shot at 1500 registered targets up to August 31, only eleven Canadian amateurs and one professional show up in the preferred list:—

AMATEURS

Name	Address	Shot At	Broke	Aver.
W. Barnes	Hamilton, Ont.....	1570	1514	.9643
S. G. Vance	Tillsonburg, Ont.....	2685	2565	.9553
H. W. Cooney	Toronto, Ont.....	1720	1612	.9372
F. Kerr	Crediton, Ont.....	1590	1482	.9320
J. E. Jennings	Todmorden, Ont.....	1850	1723	.9313
H. Newlands	Galt, Ont.....	1520	1372	.9026
J. E. McCurdy	Sydney, N.S.....	2040	1771	.8681
F. E. Healey	Toronto, Ont.....	2500	2164	.8656
J. Vance	Tillsonburg, Ont.....	1670	1444	.8646
I. M. Lovitt	Yarmouth, N. S.....	1550	1263	.8148

The only professional in Canada to qualify is F. H. Morris of Montreal, Que., who shot at 2175, broke 2066, which gives him an average of 9498.

The Hungarian Partridge

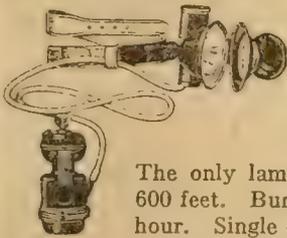
Editor, *Rod and Gun in Canada*

I notice an article in your August number written by A LOVER OF WILD LIFE, VICTORIA, B. C. This writer evidently is of the opinion that farmers should not put out poison for gophers, in order to protect the game birds. I might say that if the writer of the article mentioned would take particular notice he would find that poisoned grain is not responsible for any game birds worth speaking about. There is one bird that has been introduced into Alberta of late years that is responsible for more destruction to prairie chickens than the crow has ever been and that is the Hungarian Partridge. This

wicked little bird has been known to tear her own nest all to pieces when disturbed. She will attack a prairie chicken when hatching and will tear the nest of the larger bird to atoms. It has been seen to kill a young prairie chicken as if it were a mouse. There are all kinds of people that have never thought that the Hungarian Partridge would do any damage to other birds or their nests but this statement can be proved by people who are in close touch with the Partridge. The above mentioned bird has practically cleaned this district of prairie chickens and the poor old crow gets the blame.

George Johnson,

Claresholm, Alta.



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FOR SALE—Trained and untrained rabbit, deer and Fox hounds, only buyers need apply. Stamps, Herman Fischer, Box 73, Waterloo, Ont. 10-3T

Foxhound for sale. Guarantee him A1 in every way. A stayer on fox and first-class on deer. Good reason for selling. Price \$25.00. Photo, J. S. Ellis, Alliston, Ont. 10-1T

Two beautiful thoroughbred cocker bitches, (red), 3 mos. old. Only \$10.00 a piece. Rev. E. M. Rowland, Greensville, Ont. 10-1T

FOR SALE—A hound, used to hunting rabbits, Fox and Deer. Is especially good on Deer. Owner has no further use for him. Price, Fifteen Dollars. Leslie Kerns, Freeman, Ont. 10-1T

FOR SALE—Fox Terriers, a wirehaired bitch, body white and head tan, \$15. Also her pup, black and white \$10, very good ratlers. Dashhound bitch, 2½ years, partly trained on rabbits and very intelligent, color tan, \$20. J. St. Maurice, Rawdon, Que. 10-1T

FOR SALE—One trained deer hound, two years old, beautifully marked, tan and white, large, strong, and swift runner, \$30.00. Also four deer hound pups three months old, beauties, black and tan, from best strains of deer hounds, \$15.00 each. P. J. Dixon, Unionville, Ont. 10-1T

FOR SALE—or exchange for black male dog, registered red Bitch, soon due in season, very extra good brood bitch. J. Jones, 1313 Assumption St., Windsor. 10-1T

FOR SALE—Two six months old American Foxhound pups, also one three months, all well bred. W. C. Baldwin, Ottawa, Can. 10-1T

St. Catharines Hunt Club are offering for sale another litter of extra good Fox Hound Pups at \$5.00 each while they last. Also two grown dogs two and half years old. Apply, Chas. Taylor, Sec. St. Catharines Hunt Club, St. Catharines, Ont. 9-2T

FOR SALE—Two beagle pups, 5 months old, black, white, tan. They are two beauties with good ears and well marked. If interested, write Alex. Robinson, Meaford, Ont. 9-2T

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FOR SALE—Marine Engines, two cycle, two, three and four cylinder, also 2 cylinder 4 cycle. All new. Write for further particulars stating horse power required, to Box L. ROD AND GUN, Woodstock, Ont. TF

Row boat Outboard motors and others cheap; also reverse gears, rear starters, magnetos, etc. Send for list. Guarantee Motor Co., Hamilton, Canada. 10-TF

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FOR SALE—250-3000 Savage rifle in perfect condition. Sights, Ivory bead front, V. folding on barrel, Lyman peep on stock, also 150 expanding bullet smokeless cartridges. Price \$75.00. G. A. Myers, Westport Ont. 10-1T

FOR SALE—250-3000 Savage new, never used, \$65.00. Wanted—Winchester 1895, 30 cal. 1906. Automatic Pistol or Revolver about 45 cal. G. S. Conley, Westport, Ont. 10-1T

FOR SALE—250-3000 Savage Rifle, 1899 model, equipped with Marble Flexible Rear Peep and V-M-front peep, heavy leather take-down case for same, 100 rounds Remington ammunition, cleaning rod, sectional, etc. Rifle has fired 30 rounds, is in excellent shape. Immediate sale. Apply (Rev.) C. F. Christiansen, Denbigh, Ont. 10-1T

For Sale—Newton Springfield rifle .256 Newton cal., first class condition, barrel perfect. Leather sling, price \$65. Also 12 gauge L. C. Smith, hammerless, left full choke, right modified. Fine Damascus barrels. Perfect condition inside and out. Price with good leather case \$55. A. M. Perry, Veteran, Alberta. 10-1T

FOR SALE—High powered Savage sporting rifle. 250-3000, in perfect order. Price \$55.00. Apply box No. 15 Rod and Gun in Canada. 10-1T

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WANTED—Remington Model 14, high power, slide action or Remington Model 8 Autoloading or Savage 250-3000 rifle. Send full description and price. G. H. Mohr, 31 Carfrae Crescent, London, Ont. 10-1T

FOR SALE—Winchester Repeating shotgun, Model 1897, in good shape, having 30 inch full choke barrel, solid frame, 12 gauge. Andrew Langford, St. Marys, Ont., Can. 10-1T

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One Savage .303 solid frame, 26 in. barrel, factory sights, used three seasons. First class inside. Shows some wear on stock, but a fine shooting gun, \$25.00.

These guns have had the best of care and are in first class shape. Wm. Plato, R.R. #No. 2, St. Catharines, Ont. 10-1T

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WANTED—30 and 9MM Lugers, 25.20, 92 M Win. Carbine, 38 Auto Military Pistol A1 condition, 32 Auto Browning Pistol that needs some repairing. We have all classes of firearms for sale and do expert repairs to all firearms. Want some extra Luger magazines. W. H. Lowe, Gunsmith, New Liskeard, Ont. 10-1T

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August 31 to Sept. 3, 1920

In the Open Doubles Match at the Canadian National Exhibition, Mr. F. W. McNier, Houston, Texas, using the famous combination of Remington Pump Gun and Nitro Club Shells, defeated all comers.

Mr. Geo. Beattie, of Hamilton, and Mr. McNier were tied with a score of 90 out of 100. In the first shoot off they were again tied with 18 out of 20. In the second shoot off Mr. McNier won the event breaking 17 out of 20, Mr. Beattie scoring 16 out of 20. Both winner and runner-up used Nitro Club Shells.

Other Remington Triumphs!

Mr. Wm. Barnes, Hamilton, Ontario, made a perfect score of 100 straight, using Nitro Club Shells.

Mr. F. W. McNier, Houston, Texas, broke 99 out of 100, using the famous Remington Pump Gun and Nitro Club Speed Shells Combination.

Mr. R. H. Bungay, Ocean Park, California, broke 98 out of 100, using the famous Remington Pump Gun and Nitro Club Speed Shells.

Mr. Bungay was tied with two other contestants making the same score, and won in the shoot off by breaking 20 straight.

Other Long Runs Made with NITRO CLUB Speed Shells are

Wm. Barnes, Hamilton, Ontario.....	118 straight.
F. W. McNier, Houston, Texas, five long runs as follows:—66, 76, 77, 87, 101.	
R. H. Bungay, Ocean Park, California, five long runs as follows:—60, 61, 63, 80 and 81.	
R. W. Colbert, Stamford, Texas, two long runs as follows:—92 and 123.	
Ed. Doerkin, Patterson, N.J., had three long runs as follows:—52, 54 and 66.	
M. E. Fletcher, Hamilton, Ont.....	56 straight
N. R. Gooderham, Toronto, Ont.....	83 straight
J. B. Fontaine, Philadelphia.....	71 straight
Fred Etchin, Coffeyville, Kan.....	79 and 101 straight
V. A. Rossback, Spokane, Wash.....	57 straight
Fred Kerr, Crediton, Ontario.....	54 straight

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Remington UMC Pump Gun and Nitro Club Speed Shells

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A .22 Remington is not a "fair-weather" toy. It will bring to your boy 12 months of wholesome fun every year, with a fresh interest for every changing season. And it will bring, above all, that intimate touch with the great outdoors which counts so much in the progress toward Virile Manhood.

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