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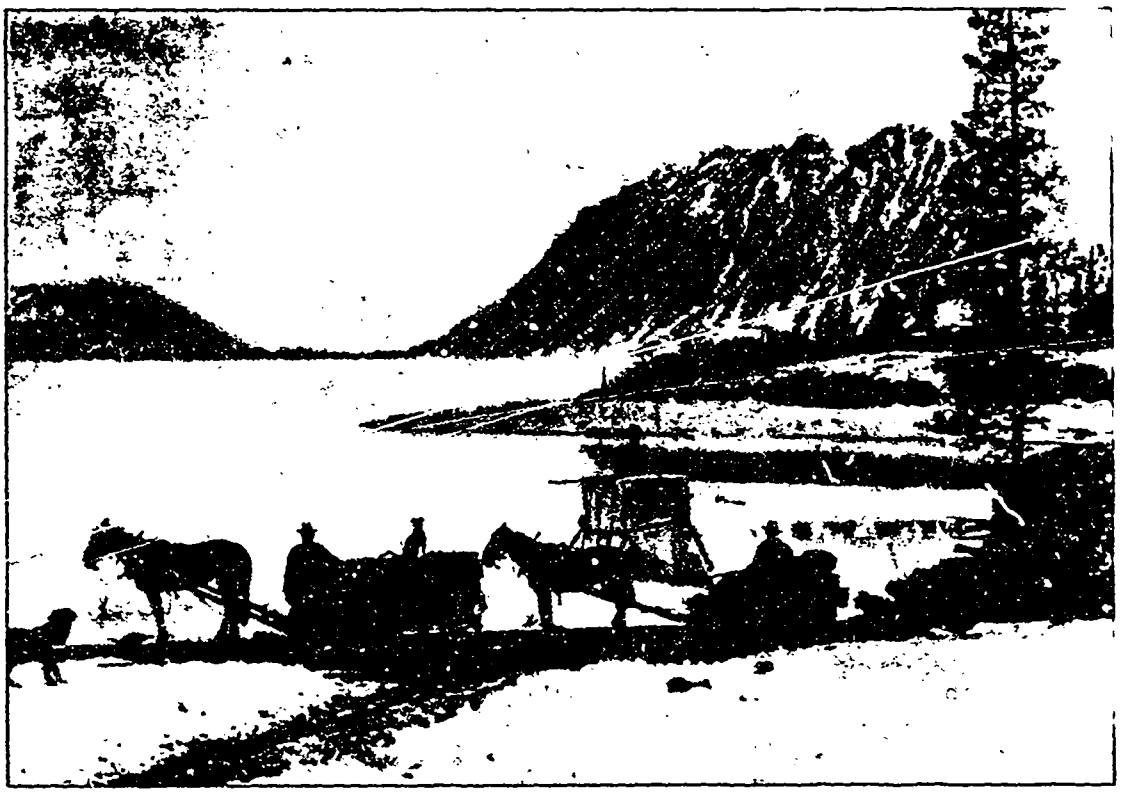
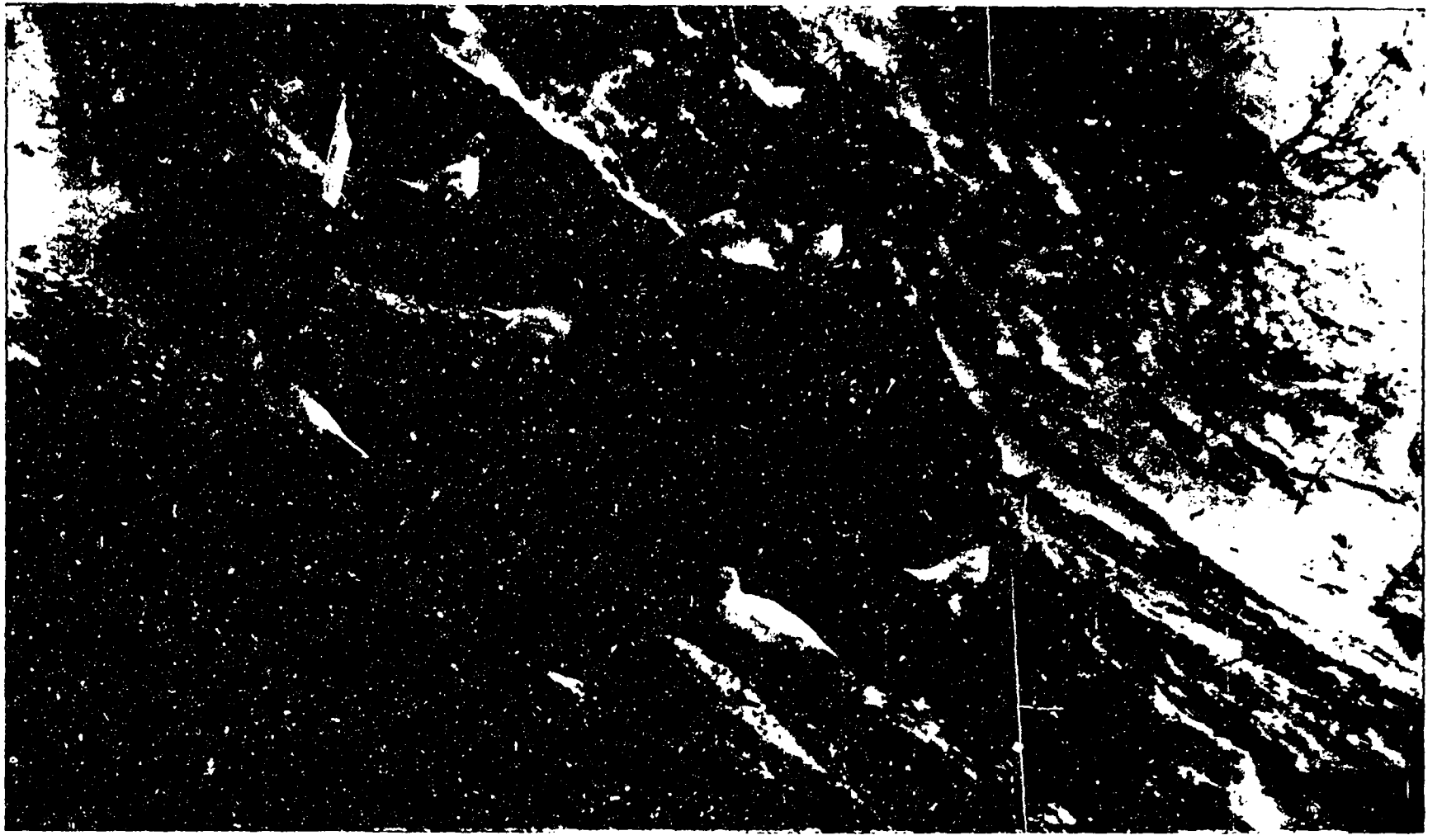
ROD AND GUN IN CANADA



Lake Atlin, B.C.

A MAGAZINE OF CANADIAN SPORT AND EXPLORATION



PTARMIGAN IN WINTER PLUMAGE.

This view was taken in the mountains of Northern British Columbia in almost 60° north latitude.

ROD AND GUN IN CANADA

VOL. IV. MONTREAL, JANUARY, 1903 No. 8

South of Abitibi.

BY "ENGINEER."

Having just returned from the most successful hunt after big game that I have ever made, perhaps a short description of a little known country may be welcome to the readers of ROD AND GUN.

Our party of three arrived in Montreal on August 29th. Here we purchased supplies and hunting equipment, and enjoyed ourselves extremely at the very comfortable Place Viger Hotel. A couple of days sufficed to finish our business in Montreal, and on the evening of the 31st we left by the St. Paul Limited for Mattawa, where we arrived early on the following morning. We went to the Hudson Bay Company's store and arranged for our entire outfit, with the exception of provisions we had brought with us or purchased in Montreal. From the H. B. C. we also obtained the canoes necessary for the trip, with the exception of one three fathoms long which was brought down to Klock's depot by our Abitibi guide. We had three thirteen foot canoes, and one eighteen foot, all birchbarks. A friend had already arranged for three guides and a cook, and I wish to take this opportunity of urging all those who go into the north woods, to take a cook in addition to their canoemen, this being an essential of a successful trip.

Next morning we began our journey into the far north. Two of the Mattawa guides, George Crawford and Joseph Clemow were with us, and at Timiskaming we were met by Charlie Moore, of Timagaming. The trip up the lake on the S.S. "Meteor" was a most delightful one, and I only regretted that I had not taken my wife with me, as she could have stayed on the steamer and made excursions back and forth during my absence in the woods. It is a most interesting country and I am sure a lady would enjoy it.

At North Timiscaming, which is the end of the steamer's run and of the lake, we were met by two waggons that Mr. Klock had placed at our disposal. We loaded our canoes and outfit on the waggons and started across the long portage to Klock's depot, sixteen miles away. Of course, we all had to walk, but we rather enjoyed the trip and arrived safely the same evening. We spent the night at the depot and had good accommodation. Here on September 3rd, Willie Ellison joined our party; he had just paddled down from Abitibi, and was thoroughly acquainted with the country north of the depot. In winter he hunts between Abitibi and Klocks. Jos. Clemow acted as cook, he was fairly well acquainted with the country as was also George Crawford. Moore knows the Timagaming region like a book, but had never been to Abitibi before.

On leaving the depot we only did a half day's paddling, for the wind was strong and the waves so high that we shipped water badly. In fact, the only possible objection to the Abitibi trip is

that great lakes have to be crossed, and one may be windbound occasionally, as the seas that get up are something frightful, these lakes being anywhere from six to thirty miles long. Next morning we were off again. On our trip up, the only shooting we had was at small game, such as ducks and partridge, the latter being abundant and furnishing plenty of fresh food whenever we tired of salt pork. On one lake we saw quantities of moose and deer, and were camped seven days there; but found we were too early, the moose and deer being still in the velvet. We, therefore, decided to make the trip to Abitibi and do our hunting later. Here we left the three small canoes, together with the cook and one guide, and with the two other guides and the eighteen foot canoe, the entire party started for Abitibi.

At Abitibi we were handsomely entertained by Mr. Skene, in charge of the Hudson Bay Company's post. Returning to our camp we picked up our other guide, the cook, and the outfit and started in to hunt in earnest. It did not take long to get three moose and a caribou. The moose heads were excellent and highly satisfactory to us all; the caribou not so good. We saw but three caribou. They are probably numerous, but hard to locate as the woods are thick. We saw a great number of moose and could easily have secured more heads, but we stopped hunting just as soon as we had each shot one. We returned by way of the White River.

Our largest head measured fifty-six inches and the smallest forty-eight inches, possessing twenty-three and sixteen points respectively. As I have said before, the trip was the best I have ever taken, the guides could not be beaten. They were gentlemanly, intelligent, excellent hunters and at the same time good servants. The cook was an artist, and a good hunter to boot. I am convinced that the best big game country is south of the height of land, and our guides, with the exception of the man from Abitibi, were convinced that the best big game country was within sixty miles of Mattawa and that it was not necessary to go so far north. I am glad, however, that we made the trip; it was a most enjoyable and satisfactory one and I should like to take it again.

Camping in Canada.

BY DAVID T. ABERCROMBIE.

(*Continued from the December issue.*)

COOKING RECIPES
(*For four persons*)

Coffee:—Have the coffee ground fine, place eight heaping dessert spoonfuls in a hot coffee pot, add two quarts of boiling water and set beside the fire for ten minutes. Never boil coffee.

Tea:—Place four heaping tea spoonfuls of tea in a hot pot, add two quarts of boiling water, set beside the fire for a few minutes. Never boil tea.

Chocolate:—Make a paste with one-quarter can of Peerless Cream and eight dessert spoonfuls of chocolate (Whitman's) and a little water; add two quarts of boiling water and sweeten to taste.

Biscuit:—Place two pints of flour in bread pan, add two heaping tea spoonfuls of baking powder, one level tea spoonful of salt, some cold pork fat the size of an egg and thoroughly mix while dry; add one quarter can of Peerless Cream and cold water enough to make as soft a dough as can be rolled on the bread board which has been previously sprinkled with flour. Roll about one-half inch thick and cut into convenient pieces with knife. Place in the greased pan, place the pan in the rack of baker before the fire. Bake until a fork inserted in a biscuit shows no dough when withdrawn.

Bread:—Make the same as biscuit only thin enough with cold water to pour into a pan and bake in the same manner. This will make two panfuls.

Oatmeal :—To two quarts of boiling water add one tea spoonful of salt, then add while stirring two cups of oatmeal and boil for ten minutes.

White Sauce :—Take a piece of butter the size of an egg, melt slowly in the fry pan and stir in thoroughly one heaping dessert spoonful of flour until perfectly smooth ; add one-half tea spoonful of salt, one quarter tea spoonful of pepper, a mixture of one-quarter can of Peerless Cream and one cup of hot water. Mix thoroughly while boiling. Serve with boiled fish.

Corn Bread :—Place one pint of flour and one pint of corn meal in the bread pan, add two heaping tea spoonfuls of baking powder, one level tea spoonful of salt, two dessert spoonfuls of dried egg, one teaspoonful of sugar, and cold pork fat the size of an egg. Mix thoughly while dry. Add one-quarter can of Peerless Cream and cold water enough to make a thick batter, stir until well mixed and pour into the greased pan ; place the pan in the rack of the baker and the baker before the fire. Bake until a fork inserted shows no dough when withdrawn. This makes two panfuls.

Griddle Cakes :—Place two pints of flour in bread pan, add two heaping tea spoonfuls of baking powder, one level tea spoonful of salt, two dessert spoonfuls of dried egg, and thoroughly mix dry. Add one quarter can of Peerless Cream and cold water enough to make a batter about the consistency of the Peerless Cream or until it pours from the mixing spoon a continuous stream. Be careful not to make the batter too thin. Fry in the fry pan kept greased with a piece of pork fat held on a fork.

Rice Griddle Cakes :—In the above receipt substitute one pint of cold boiled rice for one pint of flour and proceed as for griddle cakes. Cold boiled potatoes, oatmeal or hasty pudding may be used in the same manner. If convenient save water in which rice is boiled to make griddle cakes.

Boiled Rice :—Thoroughly wash and rinse one cup of rice in cold water, drain and place in at least two quarts of boiling water in an uncovered pot, add two tea spoonfuls of salt and boil hard from twelve to twenty minutes, or, adding water as it boils away until done. New rice boils more quickly than old, test by tasting. When done drain and set on the fire to dry. If convenient save the water for soup, stews or griddle cakes.

Hasty Pudding :—Add one-half tea spoonful of salt to one quart of boiling water, and stir in slowly one cup of corn meal. Boil ten minutes or until done, stirring constantly to prevent scorching.

Fried Mush :—Prepare as for hasty pudding. Pour into shallow pans and allow to cool ; cut into slices and fry in pork fat until brown. Oatmeal may be used in the same way.

Potatoes :—Soak the dried potatoes several hours, not less than two, taking as much as the hand can grasp for each person. Pour off the water, adding fresh boiling water and boil ten minutes ; repeat this, the third time putting in a tea spoonful of salt and boiling until done. Drain and let stand over the fire for a minute with cover removed, adding salt, pepper and butter to taste, and mash with a pestle (a piece of birch sapling makes a good one). While dried potatoes are somewhat troublesome to cook (three changes of water being necessary) this trouble is outweighed by the fact that their weight is one-twelfth that of fresh potatoes, they do not rot, and no amount of freezing will injure them.

Potato Cakes :—Prepare the potatoes as above. Mix in one-eighth can of Peerless Cream and one dessert spoonful of flour, pat into cakes, sprinkle with flour and fry in pork fat.

Lentils :—Wash one cup of lentils in cold water, drain and put in two quarts of boiling water. Add a level tea spoonful of salt. Boil one-half hour or until done, drain and serve with pepper, salt and butter to taste.

Baked Beans :—Wash two cups of beans and parboil until when placed on a fork or spoon and blown upon their skin suddenly splits, then drain, wash in cold water and drain. Cover the bottom of the bean pot about two inches deep with the beans, then place a piece of salt pork as big as a fist (about one pound) in the centre, and pour the rest of the beans around and over. Add one-half

tea spoonful of salt, one-quarter tea spoonful of pepper and one dessert spoonful of sugar, then cover with warm water; place a piece of thin cloth over the top and force on the lid. A hole has already been dug in the ground one foot deep and one foot in diameter in which a fire has been burning for several hours and stones made hot. Scrape out the ashes, coals and stones, put in the pot of prepared beans, pack and cover with the hot coals and stones and cover all with earth. Leave for eight or ten hours and in case of rain cover with bark. This is as delicious a dish as is known to woodsmen. A piece of venison added with the pork makes an acceptable variety.

Fruit :—Clear one pint of evaporated fruit and put it into two quarts of cold water; add half a cup of sugar and allow to simmer until done. Serve with a little spice. An iron or tin pot will discolor the fruit and spoil its flavor.

Julienne :—Julienne is a mixture of vegetables cut in strips and dried. It supplies the vegetable acids craved by the human system. It may be used as a plain vegetable in a soup or in a stew. For a vegetable soak a cup of Julienne an hour, drain and boil with two quarts of water and one level tea spoonful of salt until tender; drain and serve with plain seasoning or with white sauce.

Julienne Soup :—Boil in two quarts of water one cup of Julienne; add one-half tea spoonful of salt, and a scrap of pork for flavoring, add water as it boils away. In one and one-half hours add four Boullion Capsules and serve.

Stew :—Place one cup of Julienne in two quarts of boiling water, add one dessert spoonful of rice, one dessert spoonful of lentils, a pinch of onion and a half tea spoonful of salt; boil one-half hour, replacing water as it boils away, and add two pounds of venison, moose, rabbit, or of any meat or fowl: use marrow bones if possible and a little pork for seasoning, boil one hour and if desired thicken when done with a paste made of one dessert spoonful of flour and some of the liquor from the stew. A stew is cooked best by slowly boiling and there is less danger from scorching. When taking off the fire add four Bouillon Capsules.

Pot Roast :—Parboil Julienne and other vegetables the same as for a stew; add the meat, cover the pot as when baking beans and put it into a prepared bean hole and leave the same as baked beans. Season with pepper and mustard as desired.

Prepared Soup :—To two quarts of boiling water add one of the two soup squares previously broken and made into a paste with warm water and boil ten or fifteen minutes. These squares make a fine soup and are a change from the usual food of the woods,

Erbswurst :—To two quarts of boiling water add one-third of a package of erbswurst and boil ten to fifteen minutes. This is the celebrated pea meal sausage, the army ration, and is nearly a perfect food containing all the necessary elements except water, Use less water and when cold it can be cut in slices, dipped in flour and fried in pork fat.

Codfish Cakes :—To two pints of mashed potatoes add one-quarter cup of flour and one cup of shredded codfish the amount of codfish may be changed to suit taste. Thoroughly mix, make into cakes and fry in pork or bacon fat.

Creamed Codfish :—Prepare two pints of white sauce without salt; while it is boiling stir in one cup of shredded codfish. Serve on toasted biscuit or with mashed potatoes.

Boiled Fish .—Clean the fish and take off heads, tails and fins, place a small piece of pork inside each, pin in a towel loosely and boil in salted water. Four pounds of fish is sufficient and requires about fifteen minutes to boil. Remove the towel and serve with white sauce.

Broiled Fish :—Clean the fish and cut off heads, tails and fins. Open through both belly and back, dry and sprinkle with salt and pepper, lay them in the broiler; and place over the fire until hot and rub with a piece of bacon or pork, repeating until done.

Fried Fish :—Clean the fish and cut off heads, tails and fins. Open through both belly and back, cut out the back bone, dry, sprinkle with salt and pepper, cut into convenient pieces, roll in corn meal and fry in pork fat. Very small

fish need only be cleaned and may then be fried or broiled whole.

Broiled Meat :—Lay the cut slices of meat, three-quarters of an inch thick in the broiler and put over the hottest part of the fire for a few minutes until both sides are seared, then withdraw and cook slowly until taste is suited, rare, medium or well done. Salt and pepper while cooking and serve with a little butter.

Broiled Birds :—Clean by opening on the back, sprinkle with salt and pepper and lay in the broiler, place over a hot fire and when heated through rub with a piece of bacon or pork. Keep repeating this until done.

Pork :—Pork is used mostly for its fat and as a flavoring in soups, stews, etc. It should be washed in boiling water to remove salt and fried slowly in a pan.

Bacon :—Bacon can be either fried or broiled over a slow fire.

Gravy :—Melt a dessert spoonful of pork or bacon fat in the fry pan, rub in a dessert spoonful of flour until smooth and browned. Then add two cups of boiling water and a dash of pepper.

Boiled Fruit Pudding :—Make half the quantity of dough as given in the receipt for biscuit to which has been added one-half cup of sugar. Roll into a strip six inches wide, and double the thickness of pie crust, spread with fruit sauce, roll up and tie into a cloth, drop into boiling water and keep boiling thirty minutes. Remove the cloth and serve with brandy sauce.

Brandy Sauce :—Melt together a piece of butter half the size of an egg, one-half cup of sugar, then stir in until smooth a tea spoonful of flour and a pinch of salt. When perfectly smooth add two cups of boiling water; boil for five minutes, remove from the fire and add a dessert spoonful of brandy and dash of spice.

Fruit Pie :—Mix thoroughly while dry two cups of flour, an even tea spoonful of baking powder, a pinch of salt and a piece of pork fat twice the size of an egg; then stir in one cup of cold water. Roll very thin on the bread board previously sprinkled with flour, cover the bottom of the greased pan with part, fill with fruit sauce and cover with the remaining half. Put in the rack of the baker and bake before the fire.

Toasted Biscuit :—Left over biscuit cut open and slightly moistened, placed in the broiler and toasted over hot coals make a very acceptable dish.

Food Supply of Manitoba.

BY A. HENEAGE FINCH.

Since the "passing of the buffalo," it is supposed by many that the natural food supply of Manitoba is exhausted, but this is by no means the case. Along the streams, in the more inaccessible forests, but chiefly among the head waters of the rivers among the mountains, vast herds of elk and moose roam almost undisturbed. A few years ago the writer, along with four others, camped for two weeks on the margin of one of Manitoba's large forests and succeeded in loading up our sleigh with a round ton of game, this bag being composed of five magnificent elk and one mule deer. Between seventy-five and one hundred individual elk were seen by the company. These seem to be increasing, as the Indians are either too indolent or too poorly armed to capture them, and but few white hunters ever invade these wilds at such an inhospitable season, and fewer still are fortunate enough to make such a good "bag."

Among the "foot hills" and bluffy country between the prairie and the mountain forests "mule deer" literally swarm. As in the case of moose and elk, it requires considerable pluck and endurance to live under canvas and hunt these fleet and wary animals when the north wind blows and the thermometer registers 15° or 20° below Kalimazoo. But the game is well worth the candle.

Then, again, the mountain slopes are honeycombed with bear dens, and the watchful eye of Nimrod may detect the chimney of Bruin's "dug-out," when a

three or four-hundred-pounder with fur soft and brown as beaver will be his reward.

The marshes and ponds abound with wild fowl of all descriptions, wild ducks, chiefly mallards, that all around favorite, some widgeon, pintails, teal, butterball, spoon bill and others, while an occasional canvas-back and red-head make life worth living, in September and October. That wary king of game birds, the "sand hill crane," with his merry laugh, will draw a smile from the saddest heart.

Then, too, in spring and fall, *Anser canadensis* with his melodious *honk-a-wunk*, and the merrier *whink-whink* of *Anser polaris*, in their northern and southern passage, will test the patience and skill of the "Knight of the tapering tubes."

The prairies, fields and bluffs, especially in the newer districts, where most needed, are alive with chickens and ruffed-grouse. Snipe and plover also abound, but are considered "small potatoes." Hare and cotton-tail, too, are numerous, but fall into the same category.

The lakes and streams yield to the careful disciple of Walton a plentiful and toothsome supply of the finny tribe—from the mullet to the royal sturgeon—the only absentees being the angler's favorites, the greyling and the "speckled beauty."

The wild fruit supply is also abundant. First come the strawberries—the queen of wild fruits—closely followed by saskatoons and raspberries; later comes a bountiful crop of black currants, gooseberries, plums and wild grapes. No house in the land need go unsupplied with fruit all the year round from this native supply.

Almost every fall the plains, meadows and yards are dotted with mushrooms.

I speak not from hearsay. During the years we have lived in this new country our larder and cellar have been fully supplied with meat and fruit from these native sources alone.

On Still-Life Work.

BY HUBERT M'BEAN JOHNSTON.

In reading the photographic journals, one sees a great deal about the necessity of confining one's attention to a single branch of the art, "if he ever hopes to become an expert." Well, that is all true enough. But the majority are not really looking to become experts; they want only to make a pleasurable recreation out of it. Of course, if they are able to get some scientific information incidentally, they have no objection. Now, it seems to me, that all who find themselves in this predicament, can hardly do better than to take up the subject of still-life work. After one has practised on all the neighbours' cats and dogs, and wasted plates on all the babies in the immediate neighbourhood,—incidentally calling down on one's self the wrath of all the doting mothers,—it is a most excellent period in the photographic career to think of more serious work. The study of still life just fills the bill, and not only is it likely to prove highly interesting and instructive, but it requires no special outfit, and does away with the exertion that goes with long distance walks. The possibilities, in an artistic and decorative sense, are great.

One must look carefully to the grouping and lighting. Although it is quite possible to secure good results from a single specimen, unless good care is taken, the result is very likely to look like an advertisement from a seed merchant's catalogue. Yet, on the other hand, too many articles in the picture, some of them, perhaps, entirely incongruous and piled in anything but an artistic manner, will result in a photograph, which, as an illustration of a green-house, is a tremendous success, but which, as an artistic success from a purely pictorial or decorative standpoint, is simply appaling. First bear well in mind that the objects composing the picture should not only be as few as possible in order to correctly carry out

the idea, but must also be grouped to make an artistic and harmonious whole. Simplicity, however, does not necessarily mean that because the effect is natural and unstudied, no time has been spent on the work. The very best pictures are the result of any amount of care and study, no matter how careless they may look. As the late "grand old man" of photography, Mr. H. P. Robinson, used to put it, "the business of art is to conceal art."

Perhaps to the aspirant of honors in this particular branch of work, no better help could be suggested than a study of engravings of paintings by our well-known artists. There, as nowhere else, will the idea be impressed upon one, how interesting a picture may be produced with almost nothing.

Let us suppose, for instance, that we are going to photograph a bunch of daisies or roses in a tall bell-mouthed vase. The first difficulty will be met with in the focussing. Immediately you look at the subject on the ground glass, you are impressed with the idea that there is a certain depth to your subject that will make it extremely difficult to get a clear focus on all parts at once. Try it any way you will, there is no help for it. The only thing to do is to take the flowers and so place them that they are all on the one plane; notwithstanding the apparent impossibility of going this, so that the result is natural, once it is tried, it is astonishing to find how simple it is. A fan-shaped arrangement will give to a certain extent the effect of distance, if carefully handled. A piece of newspaper with printed matter upon it, attached to the flowers, will show the point on which to focus; but don't forget to remove it before making the exposure!

But passing over the flower question, which is really so well treated in several text-books on the subject as to require little additional, turn to the arrangement of miscellaneous objects. Remember it is essential that you obtain your effects with just as few elements as possible, and see also that they bear some relation to one another. I suppose that a photograph of a shaving brush might be correctly referred to as still life. And doubtless it might be highly suitable for use in a drug catalogue. But suppose you make the picture also include an open razor, a mug full of suds and a strop, all lying on a dressing table so that a corner of the mirror is showing; now you have something more than merely still life, you have a still-life picture. Or take, for instance, a picture of fruit. The photograph includes a few peaches, a bunch of grapes and a decanter of wine. Does it not convey to one the impression of a dainty little luncheon? There is no incongruity apparent; all these articles might be expected to be found together. Or take a photograph of a basket of grapes alone, overturned so that everything lies in an apparently confused heap on the table. Is there not an air of abandon and plentitude about it that gives it a certain interest? Something more attractive than if just one bunch were to be laid out on the table by itself. There are a hundred and one other different combinations of different articles that may be arranged so as to make similar interesting pictures. But care must be taken to make the picture tell a story and not be simply a facsimile of so many different things.

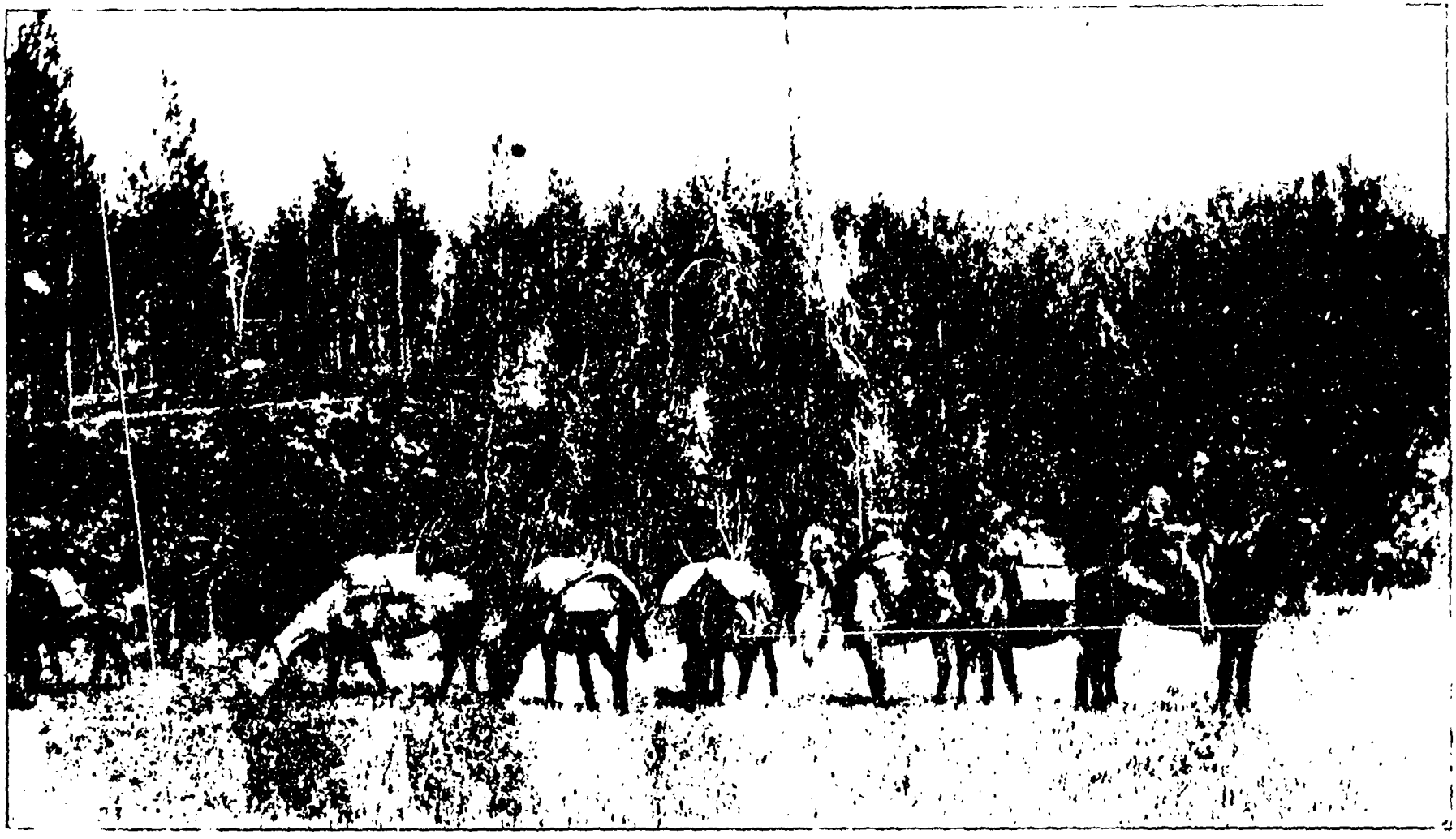
I read lately, in one of the photographic magazines, of a collection of photographs that exist at Harvard University's Mineralogical Museum, of snow crystals. These are the work of Mr. W. A. Bentley, of Nashville, Vt., and are, it is said, a record of all the New England snowstorms for the past quarter of a century. The crystals are said to be of every variety and range, all the way from frost on a window-pane to the effect of a snow-stricken forest of evergreens. The methods of producing them are so simple that any one who owns a camera and a microscope, can do the work. "Mr. Bentley recommends that the microscope should be fitted with a half-inch or two-thirds inch objective, of wide aperture and short axis; that the focussing apparatus be exceptionally quick and accurate; the diaphragm aperture of not more than one-sixteenth of an inch; the illumination, ordinary, uncondensed daylight; and the exposure (rapid plates being used) from forty seconds to five minutes. The chief difficulty to overcome, is to prevent the crystals from melting, and the whole

work must be done in a cold room with but one window from which to catch the flakes. A black card serves to collect the crystals as they fall, a bit of broom splint to place them on the glass side of the microscope, where they are pressed flat with a bit of feather; and the photographer must take special care not to warm the slide by breathing on it or by handling it with ungloved hands. The operation, in short, requires care, nicety, and patience, as well as apparatus."

In the photography of still life, the very best results are to be had by using plates of not less than seven by five in size. Such pictures are mostly wanted to be used for decorative purposes, and anything smaller than this would hardly amount to much for framing purposes. Moreover, when the picture is of a smaller size, the production is not so near the natural size of the objects photographed, and consequently is not so natural. In order that the full size of the object may be had, it is well if you are buying a new camera, to get one with a long bellows, so that you will be able to work with a subject very near to the lens. And this brings up the question of the lens itself. As we discovered in photographing flowers, it is difficult to get all the objects on one plane, it is even more difficult in the case of fruit, etc., unless everything is strung out in an ungainly line. You will find that an anistigmat will secure you the very best results, as it has more depth than the ordinary rectilinear. By using a lens of this type and stopping down fine, you will find that you get better definition than is possible with a lens of short focus and very large opening.

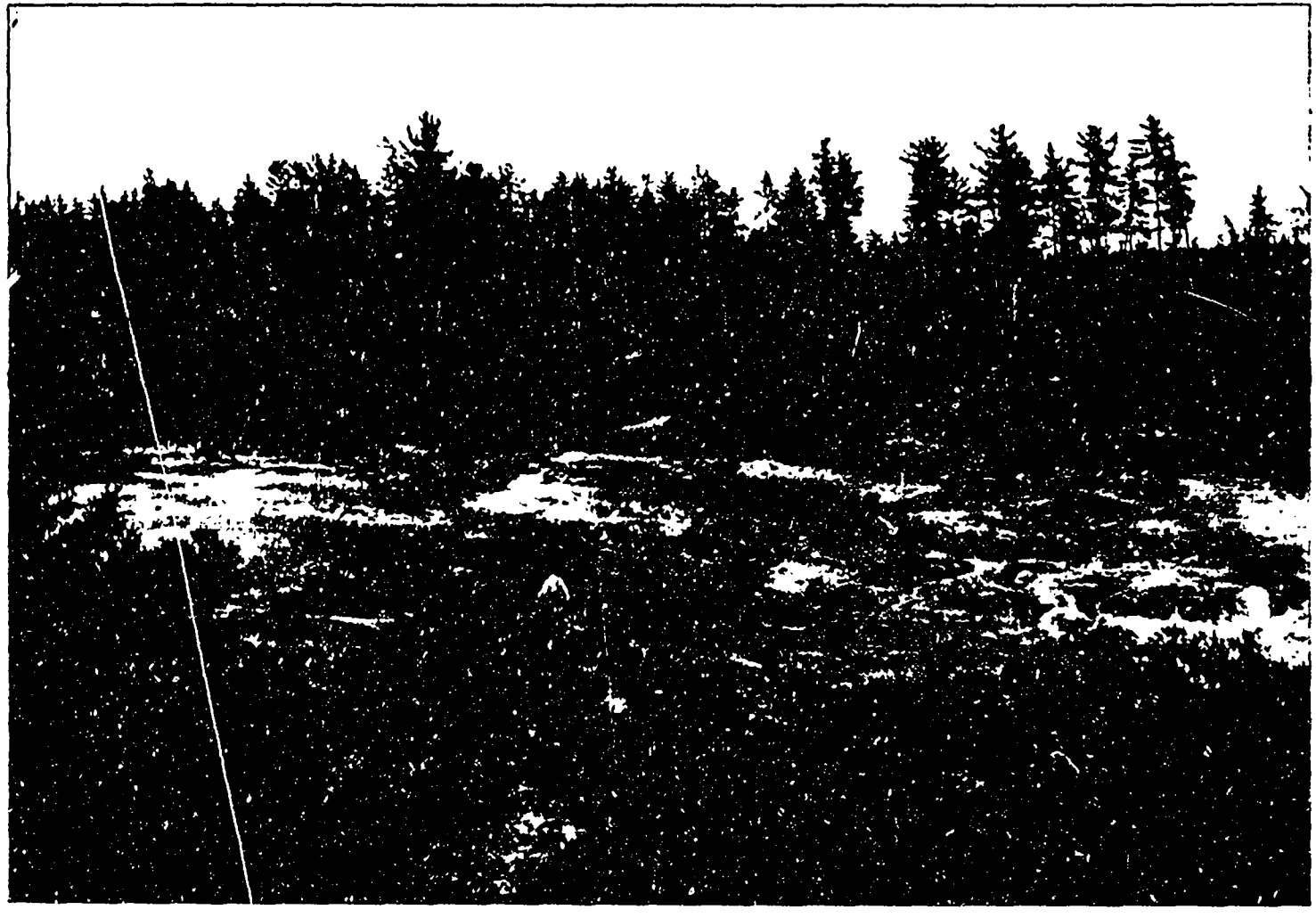
It think it goes without saying that one ought to use ortho-chromatic plates and a color screen. And then for bright objects, a backed or double coated plate that will do away with halation, is a tremendous advantage. You might not notice it, but it is surprising how much halation there is to be found in even a photograph of simply a white table napkin. Try it and see. You will then note how much better the grain of the linen shows up in the one than in the other. Or if the linen has any pattern woven in it, it will show up much more distinctly in a picture where ortho-chromatic plates with a backing have been used. This may seem to be a very simple point, and in a great many branches of the art it certainly would not amount to much; but in still-life photography, where the whole essence of the matter is correct reproduction of values, it assumes a value that is all out of proportion.

When one comes to make a still-life exposure, perhaps the point that is of the most importance is that of proper lighting. Here it is possible to make or mar the picture. To successfully give various formulæ is, however, almost impossible on account of the great diversity of conditions. One rule may be laid down though. It is this. Always try to secure a light that will best give the effect of roundness. That means that the bright side must not be given the full glare of the sunlight and that the dark side must not be in complete shadow, though there must be a considerable contrast between the two. Along with the impression of roundness may be considered the idea of relief. To a large extent, the standoutiveness of a subject is to be traced to the background. But again it would be impossible to prescribe any particular type of ground for it. Sometimes it is a soft shadow on a light ground that does it, while again it is to be had from the use of a coal black backing. Very largely it is a question to be decided from the subject and the possibilities in the way of lighting.



READY FOR THE TRAIL.

The packs are all on, the diamond hitch thrown, and the outfit on the point of starting.



ON THE FRENCH RIVER, ONT.

One of the numerous rapids intervening between Nipissing and Georgian Bay.

The Moose Season.

BY C. C. FARR.

Now that the open season for moose has come and gone, a retrospective summary of the results of this piece of legislation should not be out of place, that is, regarding the Timiskaming section of northern Ontario.

In the first place there has been much dissatisfaction expressed by those hunters whom I have seen, at the lateness of the time appointed for the sport, it being generally conceded that the discomforts and dangers attendant upon a trip at this time of year are almost prohibitive, except with a few robust enthusiasts.

Moose are not like the red deer which usually haunt the same localities season after season, but they are more nomadic and are here to-day and away to-morrow.

The etymological derivation of the word moose is from the Indian Bem-os, to walk. At least I imagine so, for the moose is indeed a walker, hence it entails a considerable amount of travelling to find him. But travelling in these northern latitudes during the end of October is not a very enviable occupation, and avoided even by the Indian as much as possible. But what is of all most exasperating is the fact that at this time of the year the moose have left the lakes and water-courses, and sought retirement in the almost inaccessible uplands, where to look for them is almost like looking for the proverbial needle in a haystack. The worst of it is that the hunter, who has paid his twenty-five dollars for a shot at a moose, independent of the cost of his trip, sees any quantity of tracks, but they are all about two or three weeks old, and it is almost a sheer impossibility to tell where the beasts that have made these tracks have gone to.

It is no use sitting like a fool in a canoe with gun in hand and shooting nothing, except, as sometimes happens, one of the party ; and as for disembarking with a view of wandering through the bush in a haphazard manner, in the hope of accidentally coming upon a moose, life is too short for such a game of chance, and the game itself hardly worth the candle.

If it were possible to make use of the "call," then there might be a chance of getting a shot, but the last amorous bull has retired into the fastness of the forest to recuperate, and eventually to allow his antlers to drop off in private and in peace, and, therefore, he would never even answer a call much less come forth from his lair at the sound.

The old tracks on the shore give no clue as to his whereabouts. He may be in the vicinity or he may be miles and miles away, for, as I said before, he is a traveller of no mean order and he travels straight. But what he makes for (he and his family) are spots where there is an abundance of his favourite food, the nutritious twigs of the hardwood, and when such a spot that suits his fancy is found, he does not wander much, but devotes his time to eating and sleeping, and growing fat. When the supply of food becomes a trifle scarce, and the swamps are frozen up, a move may be made and a fresh spot chosen, but unless he is disturbed by some outside agency he does not go far.

If the season were extended to the time when the snow is permanently on the ground, then there might be a chance of striking a track and a still hunt, but the way the thing now is, the time appointed for the slaying of moose is about the exact time when it is hardest to slay them, and, judging from the comments that I have heard, there are many men in future who will either keep their twenty-five dollars in their pockets, or spend it in buying a license from the Quebec authorities, so that even if the moose are not quite so plentiful, they will have a chance of seeing something more than ancient tracks, the sight of which is just pure irritation.

I speak from the sportsman's point of view, and if the object of the authorities

has been to preserve their moose from the men whose money they have taken, then I commend them, and say that they have done well.

I fancy that in spite of the large staff of forest rangers that infest the Timagamingue section, a number of moose are slain out of season, shot down and left to rot. At least I was told by the Indian Cheegie that he knew of two moose just on his own lands that were killed in the summer by "Keetchie Mokoman," Americans, and left where they fell.

If this is the case, then the only cure for it will be the long talked-of organization of guides into a licensed body, whose duty shall be to act as game wardens, ex officio, or in case of a danger of blackmail being levied by dishonest guides, the only alternative will be the prohibition of carrying firearms even by the guides themselves out of season.

My First Bighorn.

BY JAMES BREWSTER.

My ambition for some time had been to secure a large mountain sheep's head. I had shot several ewes and small rams, but had never been able to secure a trophy that was worth preserving, although I had worked hard. But I found in after years experience that it was not altogether hard work that accounted for sheep heads, but a knowledge of the habits and a bit of luck. On October 1st, 1891, with one saddle horse, a pack horse, and a sheep dog, I started on this particular trip, during which I secured my first bighorn.

The country I intended to visit lay almost due north of Banff Canadian National Park, about thirty miles. The first day I made about fifteen miles over a pretty rough pack trail. The next day being much better going, I made my camp early in the afternoon within a couple of miles of where I intended to hunt. I was up before daylight the next morning and cooked my breakfast over a small camp-fire, and then put up a lunch in case I might be out longer than I expected.

Just as it was coming daylight, I started in the direction of some grassy plateaus where I had seen sheep on several other occasions before.

At 7 o'clock I had gained a ridge overlooking a grassy side hill. At this point I intended to stay at least the best part of the morning, hoping that some sheep or goats might come out to feed. I had not waited long before I heard some stones rolling to the west and a little above me. I could not see what it was, but knew it must be either a sheep or a goat.

Presently I saw, about three hundred yards away, an old ewe and a lamb about six months old coming around a corner of the ridge I was on. My hopes fell. The wind was blowing almost straight toward them and I thought they would soon scent me and be off, but anyone who has hunted in the mountains knows how the wind acts. You might think a breeze was blowing straight for a particular point, and in about fifty feet change and blow almost at right angles. Anyway this seemed to be the case, for the ewe came walking along followed by several others. I watched them closely, but no big ram could be seen. I had not waited long when I heard a noise further up the mountain, and looking in that direction I saw just what I was waiting for, a monster ram, with as fine a pair of horns as I had ever seen before. He was too far away for me to reach with my rifle, which was only a ·44 calibre. I decided to wait until he came a little closer, as I was very anxious to make sure of him. He would take a few steps along and then nibble at the grass. One who has not experienced the sensation cannot imagine what it is to lay in wait for a large animal to work close enough to get a shot at, and you expecting every minute for him to start in the opposite direction. Fortune

seemed in my favor. Something startled them. They either scented me and miscalculated my direction, or something behind frightened them, for the ram threw his head and ran down to the other sheep, then they all came racing almost straight in the direction I was concealed. I let them come until they were about one hundred yards from me. Then I raised my rifle over the rocks I was hiding behind.

The movement was very slight, but it was noticed by the ram who was in the lead. He stopped almost instantly. I knew this was my chance. I glanced along the barrel, and fired. The whole herd wheeled and started to run at full speed up the mountain. I had time to fire another shot before they disappeared around the corner of the ridge.

I pulled the collar of my sheep dog, who was getting pretty excited by this time, and let him go in pursuit of them. He bounded off as fast as he could run, and by the time I had reached the place where I had seen the sheep last, the dog had overhauled the bunch and singled out the ram, who was limping badly. The dog and the ram were now about three hundred yards from me. I was afraid to shoot for fear I would hit my dog who was worth more to me than the sheep was. The dog detained the ram so that in five or ten minutes I was within less than one hundred yards again. I took another shot and the ram dropped on his knees. The dog then pounced on his neck and succeeded in holding him down until I arrived and put the brute out of misery with my hunting knife.

I soon skinned and quartered him, and the next forenoon, with the aid of a pack-horse, I landed my first bighorn in camp.

The King's Guns.

Knowing the keenness that the King has always displayed for shooting, a visit to the royal gun room is indeed a pleasant experience for anyone with a spark of enthusiasm for guns and rifles. In endeavouring to convey some notion of the beauties of a collection which represents the weapons of a life's shooting it is difficult to know where to begin. Not very many steps from the game larder an entrance may be gained into a ground floor apartment, known as the lower gun room. Here the weapons are brought in after shooting, and the ample bench accommodation provides every facility for removing the traces of the day's work and getting them once more into good fettle. The gun room proper is, however, reached by a flight of stairs, says a writer in the London Field. It is in the upper gun room where the treasures are kept, and where, no doubt, many a guest at Sandringham finds the opportunity for spending a pleasant hour or two.

Like all other good sportsmen, his Majesty knows better than to retain possession of the guns which have been in constant use during the shooting season. He sends them to his gunmaker so that they may receive a thorough cleaning and general overhauling. The gun cupboards are by no means denuded of their contents in spite of the absence of a dozen or more at Mr. Purdey's. Probably among the most valued of the weapons bearing their own record of presentation is a double-barrelled hammer rifle by Purdy inscribed as a gift from the Queen, with the date December 24, 1867. Quite close to it is a gun which well deserves the special distinction of one day becoming a national possession. It is a 24-bore muzzle-loader by Westley Richards, and it is noteworthy as having been the first gun that the King ever possessed. More than this, it has since served as the medium for giving early instruction to several other members of the Royal family as they have reached the age of wisdom at which loaded firearms became permissible.

It would need a more systematic investigation than was necessary for our purpose to place the weapons available

for inspection in anything like order of date. We saw, for instance, a Purdey muzzle-loading rifle with the old two grooved channels for which a specially moulded bullet is adapted, reminding one of photographs of the planet Saturn with its encompassing rings. Then, again, we found a pair of hammer guns by Charles Lancaster, with his patent system of sliding fastening for the barrels. Next to this was a D. Egg flint-lock rifle with seven grooves, and inlaid with the royal arms. A pin-fire Westley Richards smooth-bore double shot gun comes next in order on our list, and following it a pair of Purdey 12-bore hammer guns inscribed "Albert Edward, Nov. 9, 1868," evidently a birthday gift. Then we come to two weapons whose makers' names are no longer so familiar as they may have been in the past. William Moore, who described his station in life on the top rib of a pair of hammer guns as maker to H.R.H. Prince Albert, carried on business in those days at 78 Edgware Road. George Smith, of 40 Davies Street, Berkeley Square, W., was responsible for a pin-fire rifle with five grooves. The barrel was of Damascus, and it was sighted up to 500 yards.

Turning from these examples, selected at random from the more ancient weapons, we may cast our eyes upon a double-barrel smooth-bore shot gun by Von Montagu of Ghent. It bears the inscription, "Given to his Royal Highness Prince of Wales by Leopold King of the Belgians, Aug. 13, 1852." The gun is a marvellous example of fancy carving and metal work. The comb of the stock is carved in the form of an eagle's head, which has been fashioned with a dexterity of touch and a vigor of style that show the workman to have been a true artist. On the face of the stock are other groups of a sporting kind in bas relief, and of an equally meritorious character. The silversmith was evidently put on his mettle to make an altogether exceptional trigger guard. His conception of a fancy way of expressing this necessary part was to form it as a greyhound with an appropriately lean length of body extended in the act of coursing. The outlines have been ingeniously adapted to make the necessary curvature for the accommodation of the trigger. The lock-plates are constructed in the form of silver geese, their extended necks, added to a certain amount of artistic licence, having provided the necessary outline. The hammers are chased and wrought into the shape of dogs' heads. Finally, the ramrod is held in place by silver rings, into which have been worked the figures of a fox and two swans. Altogether the weapon is of a kind that is never likely to be duplicated. We do not remember to have seen any exact representation of a weapon which is inscribed "Husqvarna Capefabrik." It is a double shot gun, the barrels of which are fixed solid with the body. The breech face is, however, hinge mounted on the system associated with Remington rifles, and the hammers have identically the same method of holding the breech in place after the pulling of the trigger.

Of highly ornate weapons there are just a few richly chased and ornamented guns and rifles, but, curiously enough, they do not bear the evidence of having been used to the extent that their makers in many instances no doubt intended, ornamentation having evidently been considered more suitable for the gun cupboard than for the pheasant covert or the deer forest. The weapons which show the greatest signs of genuine hard work are the least ornamented of all. The shot guns go in sets of three, and possess to a marked extent the characteristics that have made the name of Purdey famous. They handle and balance as only a carefully made shot gun can do, and to the expert it is evident that they have been specially built for driving.

It is unnecessary to enter into the minor details of adjustment that mark the guns made specially for his Majesty, for, like everybody else, he finds from experience that certain special details of construction suit him better than others. The most marked characteristic, for instance, is an exceedingly light pull on the right trigger, and it also lies a little further back than is consistent with ordinary practice. It may be added that his Majesty is evidently partial to the pistol stock, and that the left barrel is choked rather more than is usual for

driving. In addition to the ordinary shot barrels, one of the guns has been fitted with a pair of ball barrels for driven deer, which handle very comfortably. The rifles in current use include a double .303 and a double .450-.400 for high velocity Cordite ammunition. The former is a great favorite, but the latter is not in such great request, since his Majesty does not indulge in the class of shooting in which the special merits of such a powerful cartridge would be marked. As regards ammunition the King, like other sportsmen, is guided by the nature of the work to be done. At any rate, there is no gainsaying the fact that he is a convert to the 33-grain bulk nitro, and the charge of shot is the 1 1-16 oz. which is reckoned its appropriate counterpart. The size of shot which his Majesty used at the close of last season's shooting was No. 4, this being found the most effective for strong flying birds that remained to be thinned down.

A School of Forestry.*

The question of the establishment of a School of Forestry has been under discussion in the Province of Ontario for some time recently. And that such is the case is only the result of the evolution of conditions in connection with the lumbering industry which is taking place in the province. When the theory of management of timber lands was that the land should be cleared once for all and made use of for agricultural purposes, the practical part was comparatively simple. But this theory is now completely reversed, and the thinking portion of the public who appreciate at all the problems that face this industry have accepted the conclusion that it is to the advantage of the individual and the state that certain lands should be kept permanently in timber and managed with this end in view. And a further step has been taken to emphasize the interest of the state in this question by the setting apart of forest reserves, in which the sphere of control of the government is to be largely extended. Thus from both the public and the individual point of view the necessity for a more scientific (in the broad sense) management of timber lands is becoming more clearly apparent.

A consideration of the present conditions and the objects to be accomplished will be necessary to an appreciation of the qualifications required by the men who are to deal with them. And at the outset it may be promised that the work that has to be done must be practical, must be done under business conditions, or at least with business conditions kept in view. Theory must be made subordinate to practical considerations. The problems of each country are its own, and must be worked out by its own citizens. The light obtained from the experience of others is at best but a side light, and cannot be trusted to unreservedly.

The first object is the removal of the matured forest, and for this the laying out of roads, the improvement of streams and other works, which premise some engineering knowledge and skill, must be done. The cutting must be carried out so as to provide for the quickest and best reproduction of the tree or trees desired. This means that injury to the young growth must be avoided, that proper provision for reseeding should be made, that trees left standing should be able to maintain themselves, and that as far as possible the less valuable trees should be eliminated. For this purpose some knowledge of the growth and seeding of trees is necessary, as well as practical and business ability. The elimination of undesirable species is a difficulty, for the cutting out of the valuable trees only gives the former the greater opportunity to occupy the ground. The reproduction of the white pine in Ontario is made surer by the sweeping of the whole ground by fire than by the cutting out of the pine. The fighting of forest fires may be almost a science in itself, while at the same time a matter of practical moment. Insect and other destructive agencies in timber demand

* Contributed by the Officers of the Canadian Forestry Association.

study, although the means of combatting them in the large forests of low stumpage value existing in Canada are not easily applied. There is also the great deforested and rocky belt which presents an immense problem in reforestation. To this must be added the increasing of woodlands in old settled districts.

The scientific attainments required for a forester in Canada are not as great as in countries where a more elaborate system of management can be carried out. What is required is not a biologist, or a botanist, or an entomologist, but a forester. The knowledge of the expert may be called in when necessary, but the practical work is what is to be provided for. That a man should have the fullest theoretical and scientific knowledge will be, not a hindrance, but a help to him, if it does not blind him to the work he has to do, and the presence in the forest of young men who have their eyes open to being something more than cutters of trees, must mean an increasing knowledge of those processes of nature which enter into the solution of the forestry problem, and which will become more important as the system of management becomes increasingly intense. There seems to be no reason to doubt that the practical side of the question will be kept in view, for in any suggestions made as to the establishment of a School of Forestry there has been coupled with it a recommendation that provision should be made for practical work in connection therewith. The establishment of such a school, wherever it may be located, will be an important forward step, and if the management is wise and strong, there need be no reason to fear for the success of the experiment, or that the demands of the situation will not meet the provision thus made for it. There is already a School of Mining in Ontario, which has been successfully carried on for some years, and mining is not capable of becoming as exact a science as Forestry, while its importance to the community on the grounds of public revenue or in other respects is not nearly so great. Agriculture has its colleges and schools, and the results of their work fully justify their creation. That the Province of Ontario should establish a School of Forestry is, therefore, not only a step capable of the fullest justification, but is a fair, and perhaps it might even be said, a tardy necogni of the necessities of the great lumbering industry.

The Lumber Supply of the West.*

Under the heading, "Without Lumber no Settlers," the American Lumberman, in its issue of the 15th November last, calls attention to the large immigration from the United States to the Canadian West, and makes the statement that owing to car shortage or other causes many prospective settlers have been unable to obtain lumber for building, and have been compelled to return whence they came. The reports received by the Canadian immigration officials do not furnish any confirmation of such a statement, and evidently the view of the situation so expressed is largely foundationless, or at least greatly exaggerated, but still the article impresses a subject that is of the greatest importance. A large part of the West is a prairie country, practically treeless, and as a supply of lumber is a prime necessity for residence, it must be provided for if the development of the country is to be continued and if comfort and prosperity are to be secured to the settlers.

This is no new proposition. In the Annual Report of the Department of the Interior for the year 1875, the then Minister of the Interior, Hon. David Laird, said:—

"During my journey from Fort Garry to Qu'Appelle in the summer of 1874, nothing impressed itself upon my mind

* Contributed by the Officers of the Canadian Forestry Association.

more than the treelessness of a large portion of the country over which I passed. Day after day, as I crossed the wide extent of prairie utterly destitute of trees, the question presented itself: How is the settlement of these prairies possible if the settlers are without wood for fencing, building or fuel?"

At that time an attempt was made to meet the need by the passage of the Forest Tree Culture Claim Act, which provided for the grant of 160 acres of land on condition of planting thirty-two acres with forest trees within a period of six years. Under this Act 253 claims were taken up but only six sufficiently complied with the requirements to entitle them to patent. The failure was due partly to lack of knowledge of tree culture, partly to the slower returns from tree growing as compared with wheat growing, and partly from the lack of persistent effort on the part of the Government and the settlers. The problem has now again, however, been approached by the Government, but in a different way. Through the Forestry Branch of the Department of the Interior, it now undertakes to supply settlers with seed or cuttings and to give such expert advice and supervision as may be required to make the plantation a success. Application under this scheme from all parts of Manitoba and the Territories have reached over the thousand mark, and a sufficient supply of plant material has been assured, but to reap the full benefits of the scheme, extension is inevitable, and whatever increased expenditure is required will be fully justified by the necessities of the present situation and the greater demands which the development of settlement will occasion. The policy should be permanent, should have continuity, and the importance of the interests involved demand that there should be no looking backward until the desired ends have been assured.

But this is only one part of the question. The supply of sawn lumber cannot be provided for by farm wood lots and must be looked for elsewhere.

The figures in the last Annual Report of the Department of the Interior show that in the Province of Manitoba about 150,532,300 feet B.M. of lumber was disposed of in the year ending 30th June, 1901, of which 31,500,000 feet was obtained in the province; 90,000,000 feet came from Ontario (25,000,000 feet of which, however, was manufactured from saw logs brought in from the United States; and 16,000,000 feet from British Columbia. In the North-West Territories 13,500,000 feet was manufactured and sold, but there are no figures as to the quantities imported, although probably the largest import was from the Province of British Columbia. The population of Manitoba in that year was 254,947, and that of the North-West Territories 160,000. The Minister of the Interior speaking recently at Toronto estimated the present population of the Territories at 250,000, and stated that he would not be at all surprised if by the first day of July, 1905, there were about 750,000 people in Manitoba and the North-West Territories, and perhaps a million. If this anticipated increase of population takes place, the demand for lumber will be greatly increased, and therefore it is important to consider the sources of supply and their possibilities.

36,000,000 feet, manufactured or otherwise, are imported into Manitoba from the United States, but this quantity is decreasing and the production from the lake states has shown a steady decline for some years.

A large importation is from the Province of Ontario, and the very efficient system of forest protection which that Province is working out is a matter of interest and deserves the moral support of all those dependent on its supplies.

In the Province of Manitoba and in the Northwest Territories, the Dominion Government has undertaken the preservation of the timber supply in the first place by establishing forest reservations, such as the Riding Mountain, Turtle Mountain, Moose Mountain, Foothills and others, where the lands are not suitable for agriculture or control the sources of rivers and streams, and secondly by organizing a forest protection service which, at a small cost, has prevented any very serious loss of timber by fire since its inauguration two years ago.

In the Province of British Columbia, a well-forested Province, and the natural

source of supply for the prairie country, the Dominion Government controls what is commonly called the Railway Belt, being a strip twenty miles on each of the main line of the Canadian Pacific Railway, and has extended its fire ranging service, and it is here that the value of this service has been most strikingly exemplified. Not that the starting of fires has been absolutely prevented. Unlike the remainder of Canada, the Coast district has this year had a dry season, and therefore fires were quite as frequent as usual, but these fires were extinguished in their incipiency, and the loss from them was practically nil. Contrast this result with what occurred just across the international boundary.

In the State of Oregon, as reported in Forestry and Irrigation, an area of more than 170,000 acres was burned over, and 2,124,000,000 feet of standing timber killed. The total loss is estimated at $2,955,000, the timber being valued at $2,449,000, farm property at $315,000, and saw mills and manufactured forest products at $149,000. Two people perished in the flames, eighty-six families were left homeless, and two hundred other settlers suffered a partial loss of property.

In Washington, fires ran over 434,000 acres, sixteen lives were lost, one hundred and sixty settlers had their homes destroyed, and hundreds more suffered some loss of property. The total loss is estimated at $6,600,800, $607,000 being the value of farm property, and $5,751,800 the value of the timber. The quantity of Douglas fir destroyed is placed at 5,026,800 feet. Other fires in this State caused a loss of $2,256,300, bringing up the total loss for these two States to $12,767,100.

The expense of an efficient staff of five rangers would not begin to pay the interest on such a sum, and here is the conclusion of William T. Cox, of the United States Bureau of Forestry, who has made a special investigation of these fires, as to the possibilities of their prevention. Speaking of the fires in Oregon, he says:

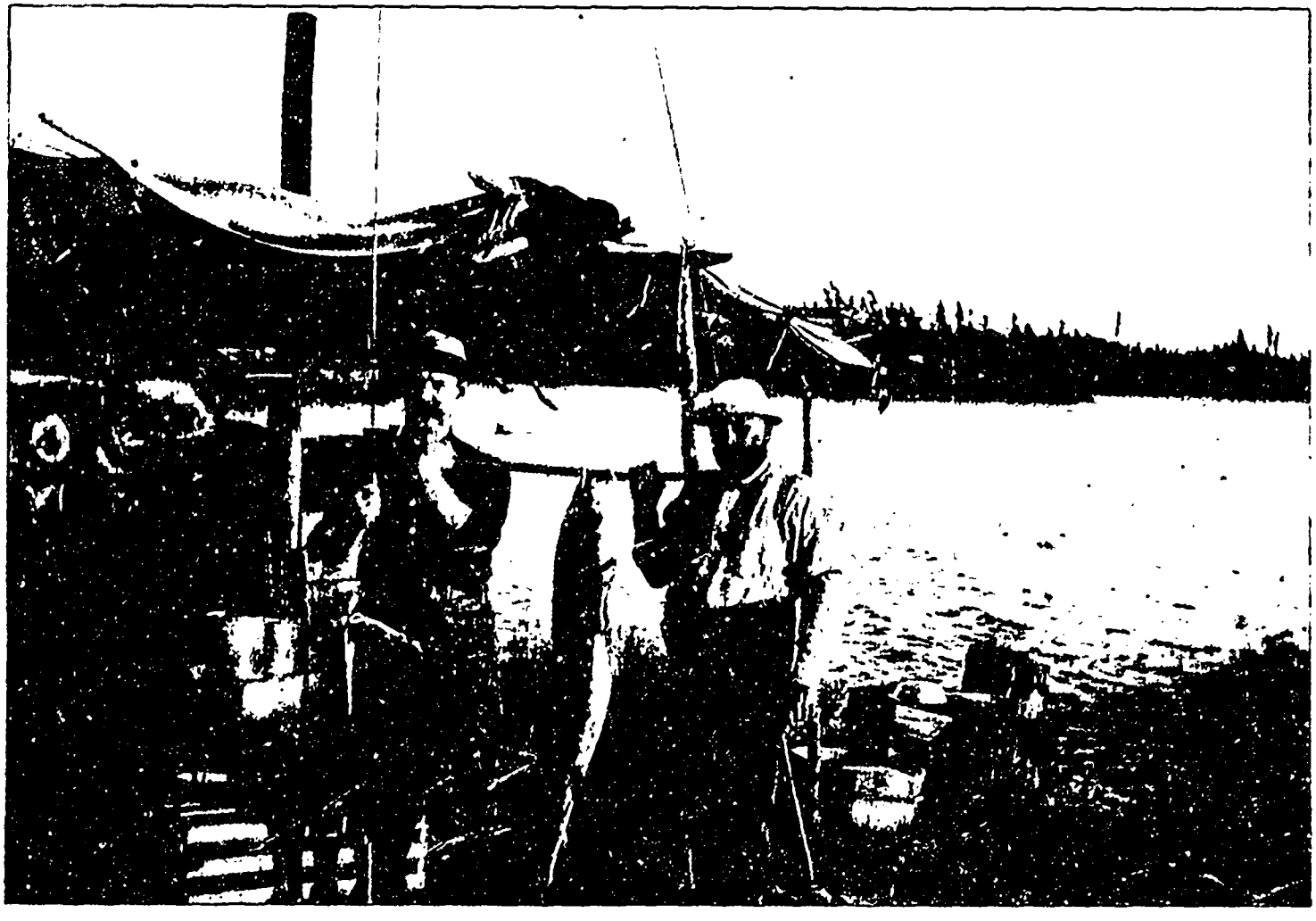
"Had timely measures been taken, I feel satisfied that all of these fires could have been extinguished before becoming serious, and had there been rangers in these localities, it is doubtful if any fires would have occurred, barring, of course, such accidental ones as that set by the locomotive.

"Commendable work has been done by the Government rangers in the forest reserves, and the obsence of serious fires in them should serve as an object lesson to the States of Oregon and Washington."

In view of these facts, can anyone doubt the wisdom of the policy of guarding the forests upon which the Western prairies are dependent for their timber supply? In the face of the calamities worked by forest fires to our neighbours to the sonth of the International boundary, should not all citizens interested in the development of the West and of Canada unite to urge that the forward policy already undertaken should be developed to the full needs of the situation and carried out with that persistence and thoroughness which alone will ensure its success?

A 35-POUND MASCALONGE.

This fish was taken last summer by a New York angler in the French River.



A ROYAL STURGEON.

Not often is a fish weighing 50 lbs. taken on an 8 oz. rod, as was the case in this instance. The struggle lasted over an hour.

Salmon and Trout.

BY ST. CROIX.

Having just finished a delightful book with a title as above, I propose to discuss its contents in ROD AND GUN. This is one of a series of books edited by Caspar Whitney, which will go to make up the American Sportsman's Library, of which three volumes have already been published, while seven others are promised. As a rule I consider books of this sort somewhat of a disappointment, as the best works with which I am familiar, have almost always been written by sportsmen who had given many years of their lives to their favorite diversions, and had at length written out of the very fulness of the knowledge that was in them and not at the bidding of some editor-in-chief. In other words, the two classes of book stand in the same relation to one another that the individual aim of the hunter does to the old-fashioned volley of the soldier.

But the volume before me was mainly written by one of the best anglers this continent has yet produced. The late Dean Sage, whose untimely death at his fishing camp on the Restigouche last summer was so widely deplored, wrote the history of the Atlantic salmon, which occupies the first 130 pages of the book. This is by long odds the best description of our Canadian salmon fishing that has yet been written, as might be expected, seeing the pen that wrote it. A few pages, good enough in their way, though not going into the subject very deeply, have been contributed by Messrs. Townsend and Smith on the Pacific salmons, and Wm. C. Harris occupies the remaining chapters in describing what he calls the "trouts" of America. Mr. Harris has been a prolific writer, but he hardly gives one the impression of being a practical fisherman, and consequently what he has written falls far below that part of the work which was contributed by Dean Sage.

Certain questions have been discussed by salmon anglers with great vigor for the past two or three generations, and it does not seem as if any final answer to them has yet been given, so one turns naturally to those parts of Mr. Sages' writings which discuss these moot points, as the ideas of so practical an angler must carry great weight. The question of a rod is a highly important one, some men preferring a limber Castle Connell and others a stiff Scotch rod, these being the extremes. Mr. Sage ordered a rod sixteen feet in length from Farlow, of London, in 1887, and found it an excellent one, but his favorite was a greenheart, by Forrest & Son, of Kelso, Scotland, fifteen feet long, that he used for twenty-five seasons, and with which he killed a great many heavy fish. Of it he says: "It has been varnished a few times and some of the whippings about the joints have been renewed; but it is as good as ever, including the two tips, neither of which have been broken." Further on he says: "I think a good fifteen foot Forrest rod equal to any I have seen. The American split bamboo rods have great power and are light and delightful implements to handle, but many of them have been found subject to a dry rot near the joints, which develops generally after one or two season's use, when the rod will sometimes break at an ordinary cast without the least previous sign of weakness. This general tendency, which perhaps may be prevented by great care of the rods, has made them unpopular here (Restigouche), and in spite of their many advantages they are not very much used. It is rather strange that trout rods made of the same material, and by the same makers, are as durable as any other rods. As between jointed and spliced rods, it is hard to decide, though probably the jointed one would carry the preference. I believe, however, that a spliced rod is more even in its cast than a jointed one, from having no part of it, as ferrules, stiff and immovable. For the same reason the jointed rod would be more likely to break at the joints or any

of the different sections than would a spliced one. Perhaps, however, in actual work the annoyance in putting up and taking down more than counterbalances the slighter advantages I have named in the spliced rod."

So thoroughly do I agree with Mr. Sage's preference for the greenheart, that on no account would I trust to spliced bamboo for my season's salmon fishing. Some years ago I had an opportunity to compare the casting power of a 16½ foot Castle Connell, spliced rod, which cost me, I think, $6, in the west of Ireland, with that of a $75 split bamboo, by a New York maker, whose reputation is second to none. The cheap, insignificant greenheart simply smothered the other rod. It cast farther, picked up the line more cleanly and killed fish in less time.

With regard to flies. Mr. Sage was of the opinion that a Jock Scott (should it not be Jock O' Scott's?) Silver Doctor, and Fairy, in three different sizes, would be sufficient for any book, but as he sapiently observes, few anglers would have sufficient self-control to start forth with so small a choice of flies, and the general practice is to take very many more than can possibly be needed, to be either lost, given away or moth eaten.

Mr. Sage was a thoughtful man and a keen observer and this article on the Atlantic salmon is really the pith and kernel of his life's experience as a fisherman.

Messrs. Townsend and Smith have, unless I am mistaken, written considerable upon the various species of salmon found in the Pacific and, consequently, their paper is quite trustworthy, so far as its facts go, but it seems to me they missed an opportunity when they neglected to occupy a few more pages with some good descriptions of actual fishing on the coast.

Salmon and Trout, is published by the Macmillan Company of London and New York.

Adaptation in Fishes.

BY PROF. EDWARD E. PRINCE, D.C.F.

Fishes are frequently classed as fresh-water species and marine species, but there are many which occupy a kind of neutral position, and have the habit of spending part of their time in fresh water and part in the sea. The salmon, sea-trout, smelt, striped bass, sturgeon, shad, &c., are familiar examples, many of them being anadromous, and ascending into fresh water for spawning purposes, while a few are catadromous, like the eel, and deposit their spawn in the sea. The power of adaptation implied in this change of environment is most remarkable, and appears, in many instances at least, to be acquired during the life of the individual. Thus, a newly-hatched salmon soon dies if placed in sea-water, and the eggs of that species are also fatally affected by the same treatment; yet later in life the salmon lives indifferently in salt water and in river water. Further, many species, which normally migrate, have lost the habit, and, like the land-locked salmon, smelt, flounder, or herring, may pass their days without ever tasting salt water. Some curious instances of extreme changes of habitat in certain mollusks are on record, as, for instance, the bed of cockles (*Cardium edule*) which was described before the Wernerian Society in Edinburgh in 1825 as existing in a Yorkshire peat moss forty miles from the sea. These shell-fish lived in a sandy channel, communicating with the river Tees, and were precisely like those distributed over the vast beds, eight or ten square miles in extent, at the estuary of that river. To the taste, however, they were distinctly less salt in flavor. A Mr. Brand, more than a hundred years earlier, had described, in an account of the Orkney Isles, a bed of cockles in the fields a mile from the sea. They were in a deep furrow to which salt water might have had access during an exceptional storm. Specimens of the sea-whelk

(*Buccinum undatum*) have been found in a fresh-water lake on the island of Yell, a mile and a half from the sea, and as the apex or tip was fractured it was thought that sea-birds or crows had carried them to their new location. Yet, the shell being somewhat thinner in texture, and more distinctly banded, it seems more probable that they had lived for a long period in their fresh-water environment, and thus differed from the marine forms.

Oysters, as is well known, flourish in brackish water, and can endure transference to water almost destitute of salinity; but they do not appear to breed or maintain a healthy state, they merely fatten and increase in size.

Many fishes in the same way are unfavorably affected if prevented from performing their usual migrations from or to salt water. Dr. Barfurth discovered that the ovaries become diseased, and the eggs degenerate in fishes which are prevented from normally migrating. The same observer has recorded the fact that the ill-effects reappear in the following season, the eggs and brood of the fish, permitted after confinement to ascend to the spawning grounds, being very inferior and clearly affected detrimentally. The eminent Scottish authority, Professor W. C. McIntosh, some years ago described flounders that became egg-bound and swollen while confined in salt-water tanks; and ultimately they sickened and died.

The results, in all cases, are not so unfavorable. Sir J. G. Maitland kept some sea-salmon fry from March, 1881, when they were hatched, until 1884, and took the eggs and milt, so that he secured young salmon fry of small parent fish (smolts) which had never been to sea. Dr. Francis Day has told us that some of the young brood had attained a length of 5½ inches in 1886. The retention of sea-salmon in fresh water is found usually to retard their growth, and in one of the earliest experiments (at Lier, in Norway) the weight reached in five years was under two pounds, less than one-tenth of that normally reached by migratory salmon. Sea-salmon planted in Lake Huron prior to 1883 were reported by the late Mr. Wilmot to be smaller than those found along the coast. The ouananiche of Lake St. John, P.Q., like their land-locked congeners in Lake Onawa and other waters in Maine, and the Chamcook Lakes in New Brunswick, are smaller than sea-salmon. In many cases access to the sea is possible; but if from some geological or other natural cause the fish were originally prevented from descending to the sea, but catadromous habit appears not to have been resumed, partly no doubt owing to the abundance of food in their fresh-water habitat. Land-locked smelt are very often abundant in waters containing land-locked salmon, and they afford an amble supply of food. Pacific salmon exhibit the same phenomenon, of which Kennerley's salmon is an example; but the spring salmon artificially land-locked in California in 1875 or earlier, bred and their progeny reached a weight of eight or ten pounds, though on account of scarcity of food, another series were found in nine years to barely reach a weight of two pounds. The spring salmon or quinnat is a large species ranging from 15 to 50 or 60 pounds or even more. The salmon retained at Tadousac, and in certain small lakes adjacent to to the Restigouche proved to be stunted, and weighed less than a quarter the weight normally reached at the age of the specimens referred to. The adaptability of smelt (*Osmerus mordax*) has long been known. Nearly seventy years ago Col. Meynell acclimatised smelt and bred them in a small sheet of water, and quite a number of lakes in New Brunswick, Lake Utopia and others contain land-locked smelt.

Only one or two members of the cod family (*Gadidæ*) are indigenous to fresh water. All the rest are marine, the fresh water species being the cusk or burbot, often called ling or lawyer. Th. tom-cod (*Microgadus*), while it prefers saline or brackish water, can survive in a fresh-water environment, and occurs in abundance in Lake St. Peter, below Montreal. An allied form, the silver hake (*Merluccius bilinearis*) is recorded as abundant in Darling's Lake, near Rothesay, N.B., attracted from the sea by the ascending schools of gaspereaux, which are their favourite food. In the Baltic Sea, the true cod, as well

as the haddock, pollock, and other gadois, occur, but each only one-quarter of the size which these fishes attain in the sea. In the Bras d'Or Lakes cod are stated to be large (sometimes 56 or 85 pounds (but the head is of disproportionate size, as though they were not well fed. They are caught through the ice at Whycocomagh, far inland and in water of low salinity.

Of the herring tribe at least five species come up into fresh water annually, and some have become land-locked like the gaspereaux or alewives (*Pomolobuspseudharengus*) of Lake Ontario and Lakes Cayuga and Seneca (N. Y. State) and other inland waters. They are often erroneously called shad or menhaden, and they die in immense numbers in early summer owing to some unfavourable circumstance connected, doubtless, with their non sea-going habit. True sea-herring are not known to be land-locked in Canada; but in Iceland and in the Baltic a fresh-water variety occurs. Some of the Baltic herring were kept for a long period in tanks by Professor McIntosh in Scotland, the water supplied to them being perfectly fresh. They were somewhat stunted.

Many fish when permanently shut off from the sea improve in size and table qualities. Dr. J. C. Mitchell, an authority on the fishes of Egypt, affirms that three species of mullet reached a large size and were of finer flavor after retention in fresh water than those in salt or brackish water. In Florida red fish (*Pagrus*) confined in a fresh-water lake were found 38 pounds in weight, and improved in delicacy of flavour, while numerous other marine species survived the change, but some sharks and sting-rays succumbed, owing, it is surmised, to the winter cold of 1885. The shark tribe are essentially marine, and ill-able to adapt themselves to non-marine surroundings. I know of one record only of a marine species found far from the ocean, viz., a questionable instance of a dogfish, which was stated to have followed the salmon schools for a distance of 1,500 miles from the Pacific shore. The fish was recorded to have been killed up the Bruno River, Nevada, by the wheel of a waggon crossing a ford. There are, it is true, some fresh-water sharks, like *Carcharias gangetica* in the Ganges, and Senegal saw-fish, also Indian and South American rays (*Narcine*, *Torpedo*, &c.) Certain whales also are non-marine, such as the small *Platanista gangetica* in the Ganges, and *Inia* and *Pontoporia*, belonging to the Grampus and Porpoise family, and found in the Amazon and other South American rivers. The white beluga ascends the St. Lawrence for 150 miles, and goes up the Saguenay river for some distance.

The carps, of which our suckers and mullets are examples, are credited with much plasticity. The German carp can not only endure but survive changes of a remarkable character, living in mud and existing far from lakes or streams for a long period. Certain suckers can endure alkaline and other chemical impurities, and an extraordinary high temperature. In that wonderful volcanic geyser area, the Yellowstone Park, Professor Jordan found suckers and chubs in water of 85 degrees F. and 88 degrees F. and young trout in a temperature of about 75 degrees F.

The catfish and bull-heads are notoriously tenacious of life. Thoreau, indeed, said that *Ameiurus nebulosus* opens and shuts its mouth for half an hour after its head has been cut off; but there are only one or two questionable instances of their surviving removal from favorable surroundings. More experiments are, however, desirable. If, as Bloch stated, the delicate grayling (*Thymallus*) can flourish in brackish water, contrary to Sir Humphrey Davy's dictum that salmon and trout will do so, but the fastidious grayling cannot do so, it is possible that the variety of fishes capable of acclimatisation in saline, alkaline or other waters may be considerable. The sticklebacks, while normally frequenting fresh water, except *G spinachia*, flourish in brackish water, and in shore pools reached by high tides. The marine flat-fishes, the flounder, &c., are found up rivers far from the sea, while the striped bass has been successfully retained for years in fresh water, but the climax is reached in that paradoxical fish, the blenny of Ceylon and the Celebes, which habitually live on damp rocks, leaping from one to the

other, and shunning the water to avoid being drowned! *Periophthalmus*, as it is called on account of its projecting eyes, leaps, when pursued, like a frog, and, as Dr. Günther says, seems to "prefer escaping in that way to swimming beneath the surface."

The plasticity and adaptability of various fishes to new surroundings is not only a matter of peculiar biological interest, it is of eminent practical importance. Hence the brief sketch which I have prepared has been amplified and in a somewhat detailed form will appear as a special report in the forthcoming Blue Book of the Fisheries Department to be laid before Parliament at the approaching session. The subject is one needing fuller investigation. If barren waters remote from the sea, and unfavorable, from conditions of temperature, alkalinity, and the like, for indigenous inland species, can be stocked with fine species of fish, marine or brackish in their habitat, the possibility of conferring immense benefit upon the public becomes plainly apparent. From our present fragmentary knowledge it may be surmised that no small number of species have such powers of endurance as to facilitate the work of acclimatization.

In Days That Are Past.

BY "SNIPE."

About the Fall of 1871 I took my gun, and as almost a complete stranger in Canadian woods, and certainly never having seen a partridge in this country, I wandered off with my spaniel towards the north of Peterboro' town. My dog knew more about the bush than I did, and had been taught to tree partridges, did not chase hares and squirrels, and was altogether a most desirable companion. I was getting over a snake fence, and my dog had just passed though it, when from the top rail, off went the first partridge I had heard or seen, and up on to a bough of a neighbouring tree underneath, which my dog barked heartily with his eyes on the bird. I would not take a sitting shot, and when the bird flew off on the other side of the tree, I could not see it, but the dog knew enough to follow it to another tree and there barked until I approached. There was not so much foliage at this place, and I had a fair shot, and was soon examining my first Canadian partridge.

I shot several more that day, and once a right and left. I came across red, black and grey squirrels, the latter new to me. There were also lots of hares. I passed over a farm of a very kind farmer, of the name of Collins, who gave me some nice apples and offered me other refreshments. I left him with regret, and at the bottom of one of his fields where he had been making a drain, I came across more woodcock than I had ever seen before, and what sport I had! I had never seen an American woodcock previously, but I found them then, as often afterwards, unequalled for sport with the gun, although when snipe take to the bush, I consider them harder to hit. Mr. Collins was rather surprised to see me so pleased because I had killed such a lot of his little birds and had no idea of their value.

Whilst we were talking a flock of geese flew close over our heads on the way to the river. I saw them coming and heard them too, but in those days of muzzle loaders I had no time to change my No. 8 shot for a heavier charge, so they honked away to their hearts content and were soon out of sight.

Shortly after this excursion, when it was found that partridges were so plentiful in the woods all around the town, a small 22 cal. rifle was carried instead of a shot gun, and after the dog had treed the birds, a ball through their head soon brought them to the game bag, and many a good day's fun I used to have killing

lots of birds without a gun. One evening when returning over the Mud Lake Railway, then a disused line overgrown with thistles, etc., I saw flock after flock of wild pigeons resting on the branches of a dead pine near the track; they stayed only a short time and made room for others. I crept along the far side of the bank and got into a "cow ketcher" hole facing the tree, and from this advantageous point, unseen by the birds, I fired away at them all my cartridges and was glad to pick up from under the tree enough dead birds to make a large bundle and afterwards many good pies.

I believe a few partridges are still to be found here. A law that prohibits the selling of them for a term is not sufficient. Let no one shoot them nor eat them for a time, and they will rapidly increase. As long as $1.25 a brace is paid right and left for them, and presents of them are allowed, the birds will be killed to supply a secret demand, and they will still find (in barrels) purchasers in the States. The protection for them at present is no better than that for some ducks in Quebec, from 1st to 15th September. The law allows the open killing of varieties and consequently they are all shot, blacks included. Let no ducks at all be shot before the 15th September, no half and half measures. Do away with spring shooting. No sportsman will shoot then.

Stop the shooting of our wild fowl by thousands when the winter takes them to Mexico. The little we can do here in the way of preservation is as nothing when you read of fortunes being made there by their wholesale destruction by electric discharges to supply a large demand at $1 a dozen.

Slaughter of Deer.

BY SAMUEL GIBB.

The wholesale slaughter of game by the Chilcotin Indians, is a subject that ROD AND GUN should take up and endeavour to put a stop to. If permitted to continue it will mean the entire disappearance and destruction of all game in this section of the province. For years West Lillooet has been noted as a sportsman's paradise, but hunters have told me of late that they had travelled for days over ground traversed by the Chilcotin Indians without seeing a sign of deer or mountain sheep, all shot down. The Chilcotin Indians come over generally in the month of May and range from Cadwallader creek on Bridge river, to the Gang ranch. They travel in separate bands, numbering 30 to 40 in each, and they will kill every animal they come across, irrespective of sex or age. Their mode of hunting is to encircle a large track of land and drive all the game to a particular place, where they slaughter them at short range. From May till the beginning of October these bands of Indians live entirely on game, with whatever wild roots they may gather on the mountains. They dry all the meat, after their daily wants are supplied, and pack it back to Chilcotin. Indians from this part who have seen their deserted camps, describe them as being mountains of bones, veritable Golgothas. Since the Chilcotin Indians have started hunting in this section game has rapidly decreased. Take a low estimate of 150 Indians living on deer and mountain sheep chiefly for five months annually, not to take into account the amount of dried meat they pack home for their winter consumption, each Indian would kill eight animals monthly, which would mean about six thousand every season. If this slaughter is permitted to continue, deer and sheep in this section will be soon entirely exterminated, and if the Indian Department will not do its duty, our provincial government must take the matter in hand and settle it.

The Butternut.*

Who does not remember the stained fingers that were a necessary accompaniment of the butternut season, that deep brown which resisted all the ordinary cleansing processes and which could only be washed away by time? But what mattered stained hands and fingers when, by the persuasive knocking of a stone, with a rock or a fence rail as a resting place, the sweet kernel of the butternut could be induced to emerge from the protective habitation provided by nature, to tempt the appetite and please the palate of the young gourmands who were familiar with the location of all the best trees in the neighborhood. And it may be that, in the same way as Charles Lambe's Chinaman discovered the virtues of roast pig by licking the fingers that had come in contact with one of these animals which had been accidentally roasted by the burning of his dwelling, that the method of dyeing cloth which was practised by the early settlers was discovered. The butternut color was a brownish yellow, somewhat like a dark khaki. It was, however, the inner bark, which has much the same properties as the husks of the nuts, which was mainly used for this purpose.

The bark is an important part of this tree, and is responsible for the two specific names used to designate it in scientific classification. This cousin of the walnut is known as *Juglans cinerea*, the name *cinerea* referring to the grey or *ashen* color of its bark. Michaux preferred for it the specific name of *cathartica*, as a decoction of the bark was used in primitive days as a cathartic. This bark was evidently a powerful curative, for it was considered that to apply it on the back of the neck was a sure cure for toothache or inflammation of the eyes.

The butternut was also called oil nut, from the oily character of its fruit. The nuts, like those of the walnut, were used as pickles, being picked when half mature, placed in boiling water to take off the down, and then pickled in vinegar. The mature nuts are often stored for winter consumption, and it was quite a usual form of entertainment for boy guests who dropped in on a winter's evening to bring out the butternuts or walnuts to be cracked and eaten. How many memories of the old fire-place, with its cheerful glow and the flickering shadows dancing over floor and walls; the merry evening gathering, the pleasant story, the happy laughter; what recollections, brightened with the halo which the passing years have shed, and sweet with the painful sweetness of scenes that can never be recalled, spring up in the mind as we search back through the days that are gone, to pick up the dropped threads and reconstruct the picture of those homes which have been the foundation and stepping-stone of Canada's greatness, and whose simple but strong influence has been a power in moulding the careers of many of her distinguished sons!

This tree is known also as white walnut. In outward appearance it much resembles the black walnut, but the stems of the leaves are covered with clammy hairs and the nuts are elongated instead of obicular in shape. The straggling appearance which older trees assume when growing in the open is well illustrated by the characteristic photograph which is reproduced with this article. The wood is much whiter and lighter than that of the black walnut, and is used to a large extent in cabinet work and interior finishing. It takes stain well, and may be colored so as to resemble very closely the black walnut.

Sugar is sometimes made from the sap of the butternut, like maple sugar, but whether it is a very satisfactory product we have no information.

* Contributed by the Officers of the Canadian Forestry Association.

Our Medicine Bag.

We invite the particular attention of our readers to the article on The Moose Season, by Mr. C. C. Farr, one of the soundest authorities we have upon the subject. Mr. Farr makes out a strong case in favor of a more rational hunting season; we trust that the authorities will eventually see things in the same light as our correspondent does.

Arrangements are now being made for the Annual Meeting of the Canadian Forestry Association, which will be held in Ottawa, on the first Thursday in March, 1903. Papers have already been promised by Mr. J. S. Dennis, of Regina, who has had an extended experience in irrigation work in the West, and who will deal mainly with the effect of Forestry in its relation to irrigation, and by Mr. W. T. Macoun, Horticulturist at the Central Experimental Farm, who has done considerable experimentation with the growth of forest trees at the Farm. It is expected also that some account of the Laurentide Park, in the Province of Quebec, will be given by Mr. W. I. C. Hall, of the Department of Lands and Forests. Other papers are being arranged for, and full announcement will be made at a later date.

We had the pleasure of a call recently from Mr. J. R. Anderson, Deputy Minister of Agricultural for the Province of British Columbia. Mr. Anderson has taken a great interest in the subject of forest preservation, and has done much to call attention to the subject in his own province.

Those of our readers who combine a love of natural history with a desire to use the camera, should procure a copy of "Among the Water Fowl," by Mr. Job, published by the Copp Clark Co., Toronto. Mr. Job has made a special study of the waterfowl and his book is intensely interesting because all its material was obtained at first hand. Although he has some very beautiful pictures of birds and bird life, he seems to have procured them with a very modest outfit; this is his description of it:— In case my own experience may be of any encouragement, let me say that all the pictures in this book were taken with an ordinary 4 x 5 focusing camera, rapid rectilinear lense and bellows of twelve-inch draw, that cost me lest than $20.00. I consider the 4x5 size just right for field work. Equipped with such a camera and any good make of rapid plate, with a little careful study and practice of photographic method, following out some such plans afield as are described in this and other volumes, with a real love for the birds and nature, there is no reason why anyone may not succeed better than I have done."

We consider that Mr. Job is overmodest, and most of us would be very glad could we duplicate his work, much less try to excel it.

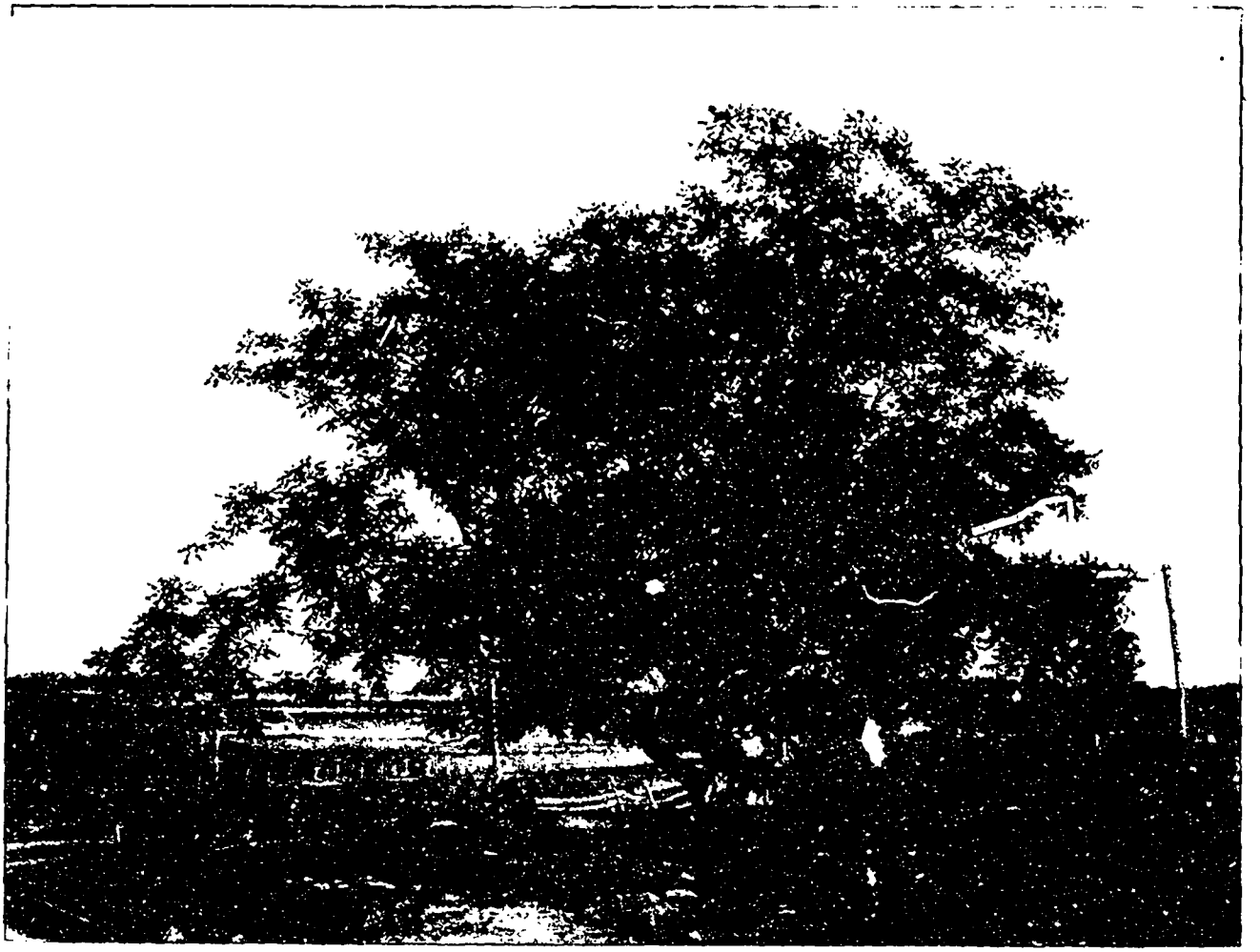
Some of the writer's experience was gained on the plains of North Dakota, where the avifauna is practically the same as it is in our own Northwest, while many of his expeditions took him to the lower St. Lawrence, and even to those glorious collecting grounds, the Magdalen Islands.

So great was Mr. Job's enthusiasm, that he actually visited the islands and promontaries of the Atlantic coast in the depth of winter, and like some other bird lovers found the ocean at its best and grandest in winter.

"The experience of the summer of 1902 has clearly demonstrated the great value of organized supervision of the forests on our public domain, and particularly of the protective forests of our Western mountain districts. According to recent reports of Forest Inspector E. T. Allen, while the forests of the unprotected public lands of Colorado were on fire in many places, the reserves of that state suffered but little damage. Similarly, the mountain forests in nearly every part of Wyoming were visited by severe fires. Much the same condition was noted in Montana, where the sun was darkened for days by the smoke

A POLICE POST IN THE NORTH.

Headquarters of the N.-W. Mounted Police at Lake Bennett.



THE BUTTERNUT (*Juglans cinerea*).

This illustration shows the form assumed by the tree when growing in the open.

from forest fires on the public lands outside the reserves, while the reserves remained practically unscathed. The striking difference between protected and unprotected forests was seen in Washington state. The difference between having a well-organized service, always on the lookout to prevent and capable to fight forest fires, and having no protection for these important mountain woods, has never been felt so keenly before."—*Forestry and Irrigation.*

Here is a clear and strong argument in favor of the policy of setting apart forest reserves and providing an adequate fire guardian service.

The article published in the present issue on Bighorn Shooting was written by Mr. James Brewster, one of the best known guides in the Rocky Mountains. It is not often that a guide possesses the literary skill to which Mr. Brewster may evidently lay claim.

We have received recently the following letter from one of the most successful guides in British Columbia. It shows that there is plenty of game yet if you go to the right country and in the right company:—

I thought I would drop you a note to let you know I am still living I expect to make a commencement on the game paper this month, but as I will be away amongst the Indians throughout January I will not be able to finish it until about the end of February I had two Americans out hunting with me in September and October We confined ourselves entirely to sheep and goats, and were very successful They got their full complement of each—all the law allows, and consequently were well satisfied Most of their heads were fine ones. I got a number of photos which may be of use to you. I am busy at present writing for the American Museum, but expect to be through in about ten days.

There is one etiquette of the ball room and another of the hunting field, and the one is as rigorous as the other. In this country as in England, not to know the manners of the hunting field is to be very badly bred indeed, and therefore we predict a large sale for a neat little pamphlet brought out by Messrs. Vinton & Co., named "Fox hunting; what to do and what not to do." As a specimen we select the following at random: "On arrival at the meet, a cheery 'good morning' to your acquaintances is never amiss, nor are such words amiss to the huntsman should he pass you, but do not seek him out to deliver them. Should the master pass you, raise your hat to him. Keep well clear of the hounds. Avoid talking to the hunt servants." The cost of this pamphlet is one shilling sterling.

Prairie chicken have been reported from Parry Sound several times in the last few years, but it appears now that the birds in question were ptarmigan, which are common in winter, even as far south as the head of Lake Timiskaming.

The Forestry Quarterly is the name of a new publication to be issued under the direction of a Board of Advisers of the Faculty and Alumni of the New York State College of Forestry. As stated in the announcement in the first number, although there are a number of publications in the United States and Canada wholly or in part devoted to the propagandism of forestry, there are at the present time none which are mainly or entirely devoted to the professional or technical interests of the subject. It is this field which the advancement of scientific study of forestry in colleges and by other agencies has opened up, that the Forestry Quarterly designs to fill. Besides publishing original articles on subjects of interest to the profession, and translations of such articles from foreign sources, it is intended to bring reviews and references to current literature and the news of the forestry world in general. It is in the main a student publication intended for students, but it will be supervised by an Advisory Board, at the head of which is Dr. B. E. Fernow, and this should be sufficient guarantee that a high standard will be maintained. The leading articles in the first number

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are: "Volume Tables," by Judson F. Clark; "Difficulties and Errors in Stem Analysis," by A. S. Williams; and "Adirondack Birds in their Relation to Forestry," by E. A. Stirling.

Until 1899 the so-called dog salmon of British Columbia were not of any commercial value. The Indians have caught them from time immemorial and dried them for winter consumption, and they have always looked upon this fish as the staple food of the sleigh dogs, but the white settlers would not touch them and they were never canned. Three years ago, however, an intelligent Japanese merchant, S. Tamura, of Vancouver, began the exportation of dried dog salmon to Japan, and the trade has now reached a point where its permanency is assured, and it is tolerably certain that in the years to come this business will attain to remarkable proportions. This season he will export 2,500 tons of these salmon. The price paid the fishermen for dog salmon has averaged five cents a fish, and most of those so far obtained have come from Fraser River. We have always been of the opinion that there are very few fish that are not fit for human food, but whenever any species is unusually abundant the inhabitants of the region where it is found are very likely to turn up their noses at it. Although an oyster is not a fish, perhaps the scorn with which it was regarded a few years ago by some of the inhabitants of the shores of the lower St. Lawrence may be adduced in proof of this statement. Once, when at Shippegan Island, we noticed some oyster shells outside the back door, and as a steady diet of fried pork had become monotonous, we asked if there was any possibility of getting oysters. The proposition was considered so extraordinary that our host almost fell over backwards, but when he was able to realize that local fashion would not be followed, he requested one of his sons to take a basket and a long rake and fetch some. The lad returned in an hour or two with as many as he could carry. These oysters were to be had in the shallow coves round Shippegan Island for the trouble of raking them up, and, consequently, they were not esteemed. It is so with any species of fish, especially with those of the Pacific coast.

A new forest reserve near Kamloops, in the railway belt in British Columbia, to be known as the Long Lake Timber Reserve, has been set apart by the Dominion Government. It includes all of Townships 17 and 18 in Range 19 and the westerly two-thirds of Townships 17 and 18 in Range 18, all west of the 6th Meridian. The range of mountains in which this reserve is situated reaches a height of 6,200 feet, and forms the watershed for a number of streams flowing into the Nicola River on the south and the Thompson River on the north, which take their rise in the numerous small lakes and swamps in this range. There is a good growth of timber on the hills, principally fir and black pine (Pinus Murrayana) but its main importance is from the fact that in order to ensure the success of agriculture in the valleys below it is necessary to have a full and reliable water supply. The land included in the reserve is at such an altitude that it could not, under any circumstances, be successfully devoted to agricultural purposes.

The Peterboro canoe is making rapid strides in public favor, and in another generation or two it will have crowded the birch bark out of existence in all excepting very remote places. But the Peterboro, as usually made, has certain faults of form. The sides are not deep

enough in a good many of the models, hence when the canoe has to be portaged all the weight rests upon the carrier's head, and not upon his shoulders, as would be proper. A transverse section of the canoe shows a bottom too round for stability, and the longitudinal section shows a keel too straight for ready manoeuvering. Last August we used a Peterboro on the Michipicoten River which had all these faults in an exaggerated degree. Its one good quality was its speed, otherwise it was a rather useless craft, and might easily have proved a dangerous one in a bad rapid. The beauties of the Peterboro are its strength and its fair lines, and its disadvantages are merely those incidental to a faulty model, which could, of course, be remedied.

Those of our readers who are blessed with a chip of the old block, whom they wish to make a sportsman of, will undoubtedly be casting around for a Christmas box which shall cause the youngster to bend in the right direction. To such "Rob and His Gun," by W. A. Linn, may be recommended confidently. It is a boy's book, yet we will venture to say that old boys who have long left school will enjoy it fully as much as a youngster just home for the holidays. Mr. Linn is thoroughly orthodox in his descriptions of such sports as quail and duck shooting and deer hunting, and any lad who takes his advice to heart will have made a long step toward being a sportsman. The book is well illustrated and printed, as might be expected, seeing that it bears the imprint of the Scribner's. The price is one dollar.

There has been issued by the Bureau of Forestry of the United States a Bulletin by Edward T. Allan on "The Western Hemlock." The bulletin sets out in detail the results of a study of this tree for two seasons on the ground, and the conclusions are summarized as follows:

(1) The wood of the Western hemlock is far superior to that of the Eastern tree. It is suitable for use in all ordinary building work; it furnishes good paper pulp; it is sufficiently light and strong to make excellent woodenware stock, and it is particularly valuable for indoor finishing. Its bark is half as rich again in tannin as that of the Eastern tree.

(2) Under favorable conditions the Western hemlock reproduces abundantly and grows very rapidly. Since these conditions are usually disadvantageous to red fir, hemlock may often be counted upon to reforest cut-over lands when red fir would probably fail to establish itself.

(3) The Western hemlock has now to contend mainly with a prejudice which is based on a knowledge of the Eastern tree alone. The importance of bringing it into the market on a large scale as a substitute for spruce and white pine is growing rapidly. Its qualities entitle it to rank among the valuable timber trees of this continent.

The Savage Arms Co., of Utica, N.Y., manufacturers of hammerless firearms and ammunition, have issued a very attractive calendar for the present year. It represents a typical western man of the best type—tall, blond and sinewy—standing over a blacktail that he has just brought down by a single shot from his Savage. We regret that our readers will not be able to obtain copies of this calendar, as we learn that the supply was exhausted within a few days of the public becoming aware that it was to be had for ten cents.

Fox hunting *à l'Anglais* has been a recognized Canadian sport since the earliest days of the British occupation, and we have a very considerable number of men and women who ride both straight and well. The country adjacent to Montreal is hunted by two packs, and well hunted too, though, unfortunately, the season during which the little red rover can be hunted is but a short one as compared with that of the shires. These reflections have been prompted by a perusal of Notes for Hunting Men, by (the late) Captain Cortlandt Gordon Mackenzie, R.A., a little work that should be in the library of every hunting man, whether residing in the British Isles or

out of them. Captain Mackenzie fell a victim to enteric while in charge of the remount station at De Aar, Cape Colony, and so the notes have been edited and put through the press by Mr. H. N. Schofield, a warm personal friend of the deceased officer. The seven chapters composing this unpretentious but most valuable little book, deal with The County in which to Hunt; The Horse on which to Hunt; The Stable; General Stable Management in a Hunting Stable; Feeding of Hunters; Summering and Conditioning of Hunters, and Stable Servants. Each chapter contains hints, the result of many seasons' experience in the hunting field—hints that should be worth a good deal to all who follow hounds.

We Canadians need not concern ourselves as to the county in which to hunt, for our choice is as Hobson's, but the following advice as to mounts is as pertinent here as in the old country.

"A lover of horses would, I imagine, fain be the possessor of a stud of one size and stamp, in a word, a level lot; but you must remember that a collection such as this, like all other collections, is an expensive luxury, and, even with ample means at your disposal, can only be obtained at the cost of considerable time and trouble. A stud of this sort bears somewhat the same relation to that of the sportsman of moderate means, as a bookshelf of first editions, or 'éditions de luxe' to the common workaday volumes which you and I keep on our library shelves. These latter may serve every useful purpose, but do not please the taste and eye of a connoisseur to the same extent. Most of us must be satisfied to have our book-shelves and our boxes filled with good, useful articles; so, should you belong to the many, I would counsel you at starting, to put on one side all 'luxurious' ideas, and, without being overparticular about looks, never let slip an opportunity of securing a horse which you know to be a good and stout performer, practically sound, at a fair price. They go in all shapes and sizes and colors. I can only think of two things which I should avoid at any cost in buying a hunter, unless (and you see there is always a saving clause) he is an *exceptional* performer going at an exceptional price. These two things are: (1) Bad shoulders; (2) Too great length of leg.

The price of this handy volume is two shillings and sixpence, and the pubbishers are Messrs. Longman's, Green & Co., 39 Paternoster Row, London.

A History of the Lumber Industry in the State of New York, by Col. Wm. F. Fox, Superintendent of Forests for that State, issued by the Bureau of Forestry of the United States, is a very interesting sketch of the conditions of this industry from the pioneer days up to the present time by one whose family has been closely connected with its development, and who has had the best opportunities for obtaining an intimate knowledge of the subject of which he treats. There is much of romance and human interest in the life of the woods from the days when New York state was covered by an almost unbroken pine forest, much of adventure by stream and forest from the time when the whipsaw, the prototype of the great modern sawmill, supplied the necessities of the inhabitants, and the first rude waterwheels furnished the motive power for the machinery which sent out sawn boards to meet the requirements of the developing towns and cities, and Colonel Fox has continued to make an interesting history while at the same time giving a great deal of very useful information in regard to the evolution of the lumber industry.

"Why my Photographs are Bad," by Charles M. Taylor, jr., is a volume which should prove of much value to every amateur photographer whether a beginner or one more experienced in the work. In Part I, are reproduced twenty photographs showing errors frequently made by photographers; each error is treated separately. Mr. Taylor explaining the cause of each and telling how it may be avoided or overcome. Part II, consists of twelve good photographs, both time and instantaneous, showing results which with care and practice any amateur may obtain. Accompanying each of these photographs is a schedule showing under what conditions each was taken in order that

proper results might be secured. The book is simply written, thoroughly practical, direct and to the point; it is the result of years of actual experience.

It will appeal to the experienced photographer as well as to the beginner. The reduced photographs illustrate the book and explain the reading matter in a most creditable manner, and are so attractive that one is not satisfied until the book has been thoroughly read.

We are in receipt of the Annual Report of the Smithsonian Institution for the year ending June 30th, 1901. As usual it contains papers of absorbing interest by some of the world's most profound thinkers and discoverers, and though many of these are of too abstruse a character to be popular, several contributors deal with subjects coming quite naturally within the sphere of ROD AND GUN in Canada. Some of these are: Report on the National Zoological Park; Forest Destruction, by Gifford Pinchot and C. Hart Merriam; on the Preservation of the Marine Animals of the Northwest Coast, by William H. Dall; Some Private Zoos, by F. G. Aflalo, and The National Zoo at Washington, by Ernest Thompson Seaton.

We have received from the Department of the Interior a very handsome map of the Dominion on a scale of thirty-five miles to the inch. It is in eight sheets and handsomely colored. This is by far the handsomest map of Canada that the Government has yet issued.

Some interesting information in connection with the new Dominion hatchery on the Lakelse River, B.C., has been received from Mr. Thomas Whitwell, in charge. He states that the party who were to operate it, including himself, arrived at their destination on June 23rd. They had left several thousand feet of lumber and some supplies at the mouth of the Lakelse, necessitating eighteen trips by Indians in canoes before it was available. The river is very difficult to ascend, falling 200 feet in ten miles, so the difficulties which were encountered in the transportation of material and supplies were enormous. After this had arrived they had to transfer a raft of lumber another nine miles to Sockeye River, at the head of Lake Lakelse, to be used in building fences, pens, traps, etc.

These were all completed and established in the river and different creeks by August 11th, and in three nights they had between 300 and 500 sockeyes in the pens. They started spawning the first lot of fish on the 21st and got 400,000 eggs that day. Since then they have had six more spawnings, getting in all 3,932,000 eggs, filling every basket and trough in the hatchery. At the time of writing, October 11th, they had about 2,000,000 in the eyed stage, all of which were doing well. Mr. Whitwell hopes to be able to liberate three and a half million, if not more, of good, healthy young sockeye salmon about the end of January or in the beginning of February, provided they don't have a shortage of water or a very severe frost. He hardly expects they will be able to leave the hatchery before the middle or the end of April, as both the Skeena and Lakelse River will be frozen until that time, so they will have to wait for the break up.

Of the innumerable books that have been written dealing with women on horseback, "Side Saddle Riding," by Eva Christy, is one of the most satisfactory. A feature that we greatly appreciate are the illustrations, which are made from actual photographs. While not so artistic as pen and ink and wash drawings, photographs have the merit of showing things as they are, and to our mind, they convey much safer information to the beginner. The subjects dealt with are saddles, stirrups, bridles, reins, martingales and other necessay parts of a woman's equipment in the hunting field. After that follows an excellent chapter on hunting and jumping, and one on dress, which, by the bye, is quite a revelation to the masculine mind, as it goes into the details of things and explains much that was previously incomprehensible, not to say mysterious. The book is published by Vinton & Co., Ltd., 9 New Bridge Street, London, England, and the price is three shillings and sixpence.

BETTER LUCK NEXT TIME.

So off they went on another WILD GOOSE chase.

They took live decoys, metal decoys, and GLASS decoys—

The last answered BEST, because when there were no geese, the CORKS could be pulled and the decoys SAMPLED.)

The honkers ARE knowing birds.

They make NOISE enough sometimes.

That is when they are a SAFE distance OFF.

But when they are coming down on to the FIELDS, they soar in like hawks, and PASS over you without WARNING.

Then they always SEEM to fly so deliberately.

But just time them over a KNOWN distance if you want to get an IDEA of how fast they move!

They LOOK easy enough to hit,—and so they are if near enough and YOU UNDERSTAND the business.

On this OCCASION we only had ONE shot—

And then, I suppose, the birds were TOO FAR away.

The shot was LARGE and so was the charge of POWDER, — but the birds seemed quite INDIFFERENT,

And just continued STRAIGHT ON until lost to sight.

We have OFTEN tried to shoot a goose near Montreal, but — somehow — have always FAILED.

DUCKS and such things we are good for,

But those HONKERS always SEEM to know

A little MORE than

Yours truly,

"SNIPE."

CONTENTS

January, 1903

Communications on all topics pertaining to fishing, shooting, canoeing, the kennel and amateur photography, will be welcomed and published, if suitable. All communications must be accompanied by the name of the writer, not necessarily for publication, however.

The Official Organ of the Canadian Forestry Association.

ROD AND GUN IN CANADA does not assume any responsibility for, or necessarily endorse, any views expressed by contributors to its columns. All communications should be addressed to:

ROD AND GUN PUBLISHING CO., 603 Craig Street, Montreal.

Price, 10 cents a Number. $1.00 a year.

Canadian Forestry Association

THE objects of the **CANADIAN FORESTRY ASSOCIATION** are :

The preservation of the forests for their influence on climate, fertility and water supply ; the exploration of the public domain and the reservation for timber production of lands unsuited for agriculture ; the promotion of judicious methods in dealing with forests and woodlands ; re-afforestation where advisable ; tree planting on the plains and on streets and highways ; the collection and dissemination of information bearing on the forestry problem in general.

ROD AND GUN is the official organ of the Association, which supplies the articles relating to Forestry published therein.

This Association is engaged in a work of national importance in which every citizen of the Dominion has a direct interest. If you are not a member of the Association your membership is earnestly solicited.

The annual fee is $1.00, and the Life Membership fee $10.00.

Applications for membership should be addressed to the Treasurer,

R. H. CAMPBELL,
Department of the Interior.

OTTAWA, ONT.

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DO NOT BUY A RIFLE UNTIL YOU HAVE EXAMINED INTO THE MERITS OF THE . . .

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for Sea, Lake and River fishing. No losing bait. *No coming home without your largest fish.* No breaking loose or tearing out No one can afford to fish without one. No SPRINGS to get out of order. It is simple and strong; being a LEVER, the harder a fish pulls the stronger it will hold him. It is easily adjusted to all kinds of fishing by sliding the little clamp on the rod. Made in three sizes.

Ask your dealer for the GREER LEVER HOOKS. If you cannot get them they will be sent direct on receipt of price. Send postal note or two cent stamps.

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Caribou Hunting

THE season for big game hunting is almost over, though you have not been able to profit by it owing to the numerous demands upon your time; nevertheless, you are reluctant to let the year go by without firing a shot at game out of the new rifle. Well, there is time yet, for in most of the Canadian provinces caribou are lawful game until the middle or end of December, and the best time to hunt them is while the snow is yet so shoal that snowshoes are not required.

Take with you a good modern rifle—for the shots on the barrens are sometimes long ones,—plenty of heavy, warm clothing, and a sufficiency of currency to pay your way, and if you are a dyed-in-the-wool sportsman there is a good time ahead.

A Caribou Hunter's Camp.

OPEN SEASONS FOR CARIBOU

NOVA SCOTIA, September 15th to January 1st.
NEW BRUNSWICK, September 15th to December 31st.
QUEBEC, September 1st to January 31st.
NORTH-WEST TERRITORIES, November 2nd to December 14th.
BRITISH COLUMBIA, September 1st to December 31st.

FOR FURTHER INFORMATION WRITE TO ANY OFFICER OR AGENT OF THE

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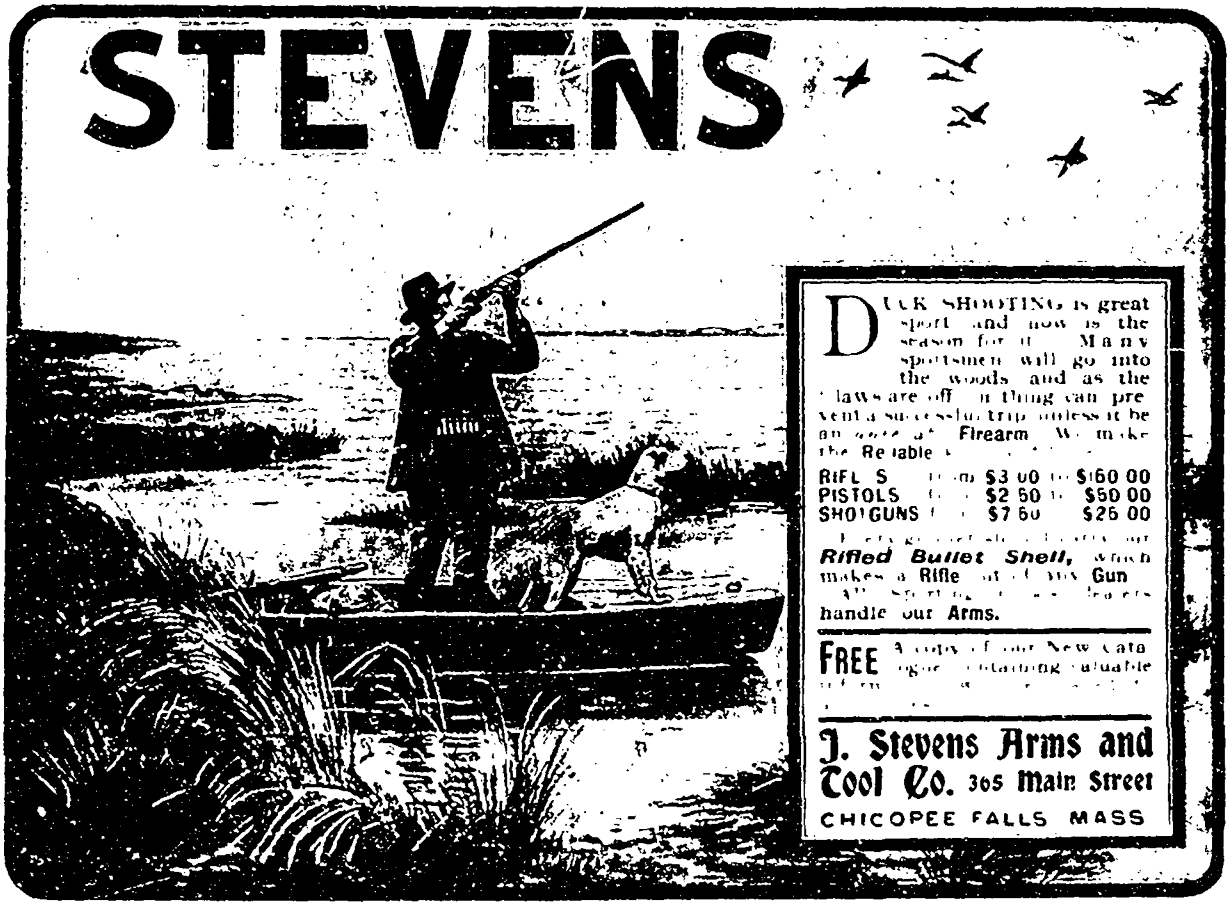
OR TO THE GENERAL PASSENGER DEPARTMENT, MONTREAL, QUE.



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