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Rod and Gun in Canada

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ROD AND GUN IN CANADA

DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

One Dollar Per Annum. MONTREAL, JUNE, 1901. Single Copies Ten Cents.

FISHING IN A GREAT LONE LAND.

By L. H. Smith.

Illustrations by the Author.

(CONTINUED)

The fish in the river are of a much darker color than those in the lake. Instead of the silver sheen which those of the lake show, the river fish are of a dark golden yellow, and some of a purplish cast. As fighters, I have not been able to detect any difference between the fish of the lake (Superior) and those of the rivers. The good fight of one large trout is so much like that of another that to name every one would be simply a constant repetition of fish stories. I will give a short account of one, and this must do for many very similar ones.

Steel River, Telford Pool—looking down

Fishing in a small side pool near my camp on the river one evening, I was standing on a smooth rock, shaped like a turtle's back, when a fish rushed at and took one of my flies. Tom was so near the fish that he saw him plainly; "Holy Kit," he said, "did you see him? he's a whopper." I did not; the shade of light was not favorable to my seeing him. As soon as I struck him, he went to the bottom and sulked, and stayed there for several minutes, after a little urging he made a bolt out into the stream, which here was very swift and deep. I could not follow and he ran out about thirty yards of line, when, luckily for me, he sulked again. I now had to cross the river, and in order to do so had to back up, and let out still more line, until I reached a ford shallow enough to wade. As it was I had to cross where it was deep and swift, and Tom and I fastened on to each other till we got across. I don't think I had more than a dozen turns of line left on my reel. The fish still sulking I reeled in quickly; he soon started off again, but now I had him in good water. How he fought! He leaped clean out of the water time and again; ran up-stream and down-stream, and to make matters more interesting, it commenced to rain; however, I had a firm hold of him, and my tackle held. I played him completely out. When he turned on his side, done, Tom scooped him out. He was a grand fish, but I was a bit disappointed in his weight; in the water I had guessed him at 5 lb.; put on the balance he weighed 4½ lb. I hurried and changed my wet clothes for dry ones, while Tom hurried up a cup of black tea (our substitute in camp for whisky). No man can do as much wading or stand as much exposure on whisky as he can on black tea.

On one of my trips up Steel River I camped on Mountain Lake just where it empties into the river. After supper, Tom and I were chatting over our camp-fire, when we saw a birch-bark, with two men, heading for the shore, just where we were camped; they were two prospectors, Duncan McIntyre and Scotty Parker; they pitched their camp close by ours. These men had for years hunted for hidden wealth in the rocks in this great waste country; Duncan has made two what are called

strikes, but I fear has not been permanently benefited by the few thousand he received for his claims. For one or two reasons I hired Duncan to go with me, help pack my camping outfit, and do the work about the camp. Many pleasant hours have I spent with him in front of our camp-fire; of his early life I could learn but little. A Scotchman, well educated at one of the colleges in Glasgow, his intelligent looking face bespeaks a better and more regular life than he has led. His native "mountain-dew" possibly is responsible for his not occupying a more prominent position in the world than he does. He could rattle off lines from Burns and Longfellow in a style that made me feel my own ignorance. His manner and whole demeanor was that of a refined and educated man, and one that made it a pleasure to be in his company.

One day, wanting Duncan, I went on a little exploring expedition to find his cabin. Though not more than a mile back from the railroad track, it was in a lonesome spot, not a soul near him. A shanty built of spruce poles and chinked with moss was his mansion. The dreadful lack of order and cleanliness, and the complete absence of all comfort inside, made one chill with pity to think that a human being would eat, drink and sleep in such a miserable shack. No one could more completely isolate himself from the "madding crowd" than by taking up his residence in such a place. I took his picture, with that of the shanty, and named him "The North Shore Hermit."

Black River, twelve miles west of Jackfish, is a beautiful stream. Between the railroad bridge and the lake, some two miles, are some magnificent falls. The first one from the bridge is a dark and mighty chasm, which makes one shudder, a fearful abyss, wild and awe-producing in its terrible fierceness. Those below it, and nearer the lake, are extremely beautiful; it is too bad that the R. R. bridge did not cross the stream just below one of these, so that the passengers on passing trains could view the grandeur of a waterfall on this wild river. The water is dark and still for a mile or more up from the bridge, after that it is wild and rapid. I made a trip up its banks once only. My take was not a large one. Last August I fished it down with but little success. I know it is a good trout stream, but to fish it one needs a canoe (and camping outfit) and to ascend it up to beyond where it has been fished. It is a larger river than the Steel, and I know no reason why it should not be as good a trout stream. I believe it is a better one, as it is much larger and longer, and I have reliable information of large fish having been taken in it.

Pine River, at Mazokama Station, is a pretty stream; I camped on it several days on one of my fishing trips. I had for a companion a locomotive engineer, whom I picked up at Schreiber; he was a splendid fellow in camp, and we had a pleasant time. About three miles up the river we came to an almost solid barrier of rock, broken, tumbled and jammed into the river's course, the water percolating through clefts and crevices. We climbed this almost perpendicular dam of rock, and found that above it was a stretch of still water: as we had no canoe with us, we could not explore any further, so I do not know what there may be beyond.

The next station west from the Mazokama is the world renowned Nepigon—safe to say the greatest trout stream in the world. Thousands of newspaper columns have been filled, and books been written, extolling its great wild beauty, and fishing resources, so it is needless for me to give more than a passing description of it. It is the largest river of all those I have named as running into Lake Superior. To Lake Nepigon it is thirty miles long, but in this course it passes four or five smaller lakes. The scenery along the river is of the grandest description, and is well worth going to see, even though one never catches a fish. Lake Nepigon is a magnificent sheet of water, seventy miles long and fifty wide, studded with a thousand islands; it is a picture that would make the eyes of a Ruskin sparkle with joy. The Nepigon Lake is perhaps the source from whence the river draws its endless supply of trout; and while many tourists go every season and fish it, to all appearances the numbers are as great to-day as when the first white man wetted a line in it. The fish may be, and very possibly are, more whimsical, at times preferring certain flies to others, and, as in all rivers I have fished, may have their off times, when they will not take anything you may offer them; but the great Nepigon River fished as it is to-day, will afford good sport to the skilful angler long after all the disciples of Walton now living will be dead and gone.

The Nepigon, besides being the largest and best trout river flowing into Lake Superior, is the easiest fished, as Indians, with their canoes and camping outfits can be hired there; while doing the smaller rivers it is only by chance that one can get a guide or companion to go along to help over the portages and do the work around camp.

Of all the travelling on foot I ever did the going up the trout streams I have named is the most laborious. Sometimes in the river, sometimes along a shore so thick with alders and willows as to make it impassable; again, climbing over and by steep rocks, in places the path is so narrow and dangerous that only the long thick moss, which gives you a hold for your hands and feet, makes negotiation possible. It is the hardest of hard work, and if it be a strange river you are going up you never know what may be in store for you a hundred yards ahead. It may be a sheer rock that completely bars your progress and makes you take to the river again and wade, or, should the water be too deep and rapid, then there is no way for it but to back up on your trail and strike a new line. Though the labor be of the severest kind, the compensation is, that you are exploring, and never know what pool or fine trout stretch may open out to you in the river at any moment. All the disappointments, all the excitement, all the enchanting anticipation of new discoveries, are a part of your programme, and for years afterwards you have in your mind's eye photographs of those wild rugged scenes you have encountered along the rivers of the great "Lone Land."

I named all the pools on Steel River, from Lake Superior to Mountain Lake. The first pool from the lake is "The Lower Pool." It is on the east side of the river, and is dark and deep; formed by an outlet from Steel Lake, and a rush of water as it leaves the gravelly rapids in the river and sweeps along the rocks by the shore. Many are the big fish that have been taken out of that pool, although I have not had my early luck there during the last few seasons I have fished it. Perhaps it is too conveniently fishable.

The first turn above the bridge is "Owl's Corner," so named because one season when I fished the river, four or five young owls had their home there, and, when passing, we almost always saw them sitting side by side on a spruce or balsam limb. The first good pool up the river is the "Rock Pool." Some one has since honored me by calling it "Smith's Pool." It is on the west bank of the river, and is about a mile up from the R.R. bridge. It is a beautiful stretch, and when the fish are taking well, large ones are had here.

About a mile above the Rock Pool is "The Basin," the best pool on the river. I named it "The Basin" because of its peculiar formation. The river narrows and runs through

a smooth formation of rocks for a hundred yards or more, which on one side particularly has the appearance of having been chiselled out, so smoothly has it worn. The whole stretch is like a ship's basin. What ages must it have taken for the passing ice and gliding water to have worn the rock and left it in the shape it now is! I would be almost afraid to tell of the creels I used to take out of the basin the first few seasons I fished it. Some distance above the basin you come to the foot of the rapids, they are about two miles long, and hard and terrible miles to travel. I have hauled my canoe up them, and I have portaged them; either is labor of the hardest kind, but it is one way to get to the upper pools of the river; the other, and perhaps the easier way, is to have a canoe on Clear Water Lake, cross it and portage to Mountain Lake, and then to the mouth of Steel River, where the lake empties into it. To take this route you must have with you one who knows the way.

(*Continued next month*)

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INFLUENCE OF CLIMATE ON ANIMALS.

By the late Frank H. Risteen.

The climate of a country has a very great influence not only upon the habits of animals but upon their appearance. Take the case, for instance, of the black or silver-grey fox. This is without doubt the progeny of the common red fox, yet while it occurs so frequently in Labrador and the North-West as to be a regular feature of the fur trade, it is many years since one was found in New Brunswick. The same rule holds good in regard to the pine marten or "sable." In Labrador there is a variety of marten which is perfectly black, and hence to which the word "sable" is properly applied. Our pine marten is also found there, but the fur is darker, heavier and richer.

The sable is more numerous in New Brunswick than any other fur animal, and he is about the poorest specimen of a sable to be found anywhere. His color is a light brown inclining to yellow. The animal is about half the size of an ordinary domestic cat. Its fur at present is worth from $1.50 to $2. Professional trappers use only the deadfall trap to catch these animals. It is a shame to set steel traps for sable, as when the animal is caught he threshes around so as to greatly injure his fur, and at last dies a lingering death. The spring pole, though it will remove your sable from the chance of being snowed over or mutilated by the lynx or fisher, is so cruel a contrivance that I have never cared to use it.

The old method of setting the deadfall on a stump about three or four feet in height is the best. This keeps your sable, if you catch him, from being snowed up and saves the bait in large measure from being carried away by the wood mice. I used to think there were about a dozen different varieties of wood mouse in this country, but it looks to me now as if, at the least calculation, two new breeds of mice appear in our woods every year.

I have noticed that the sable seems to prefer a mixed growth of woods, such as spruce and hardwood on the sides of ridges. In very cold winters they will be found chiefly in cedar swamps. It is likely they go in there for rabbits. I have never found a sable's nest or den in all my experience. The females are very cunning about the place they select to have their young, in order to preserve them from destruction by the males. In the case not only of the marten, but the fisher, the mink, and, I think, the weasel, the males would destroy the kittens if it were not for the earnest effort made by the mother to preserve them. The kittens are born about the latter part of April or the first of May, I think, because long before the fur begins to play out I have caught female sables with milk in them.

The sable is a regular scavenger of the woods, devouring anything and everything he can find that has, or had, life. Mice and small birds are among their favorite dishes. They will also feed on wild berries of all kinds, as well as mountain ash and beechnuts to a considerable extent. They are remarkably rapid runners, will easily outrun a fox for a short distance, and catch a squirrel in a tree in fair, square running. When discovered by a man in a tree they will jump from tree to tree or else hide in the top. If the tree is isolated, however, I have known them to come down the trunk and jump to the ground even if four or five men were surrounding the tree.

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A Moose Hunt in New Brunswick.

On Sept. 15th, 1900, I started on a moose hunt to the Kisunck Lakes in company with my friend Mr. H. Hanson, of Stone Ridge, N.B. We left the settlement early on the morning of that day, and by 4 o'clock in the afternoon we had arrived on the ground and were busily engaged in getting the tent up and the camp in order. As soon as the necessary chores had been attended to, Hanson said to me, "Rainsford, you had better call to-night and try if you cannot get a moose, as the weather is all right." So a little later we launched my canoe and started up the lake.

It was a perfect night for calling, still and calm. After paddling about a half mile I got out the birch bark horn and gave one call, but heard no reply. Twenty minutes later I called again, and then a bull answered me from the side of a hill, a mile away, as we judged.

We thought he would come up to shot, so I put my canoe about 20 yards from the shore, at a point where we thought he would break covert.

Well, sure enough the old fellow came along, grunting all the time, but when he came to within about 80 yards of the edge of the wood he stopped and seemed suspicious. By this time it was getting very dark, so I wanted to get him in the open as quickly as possible and in order to draw him on gave a very low call almost a grunt, and out he came like a flash.

"Give it to him now," whispered I to Hanson, and on that he fired, hitting the moose, as I could see, somewhere in the shoulder. The moose thrashed through the water for about 15 feet, when Hanson fired again and knocked him over once more, but the bull was game and scrambled to his feet and tried to make off, a third bullet however soon reached him, and he went down for good and all.

We were well pleased with the result of our hunt as the bull had a big and well shaped head of horns. As there has been some discussion as to the best rifle to use for moose, I may add that this shooting was done with a 30-40 Winchester. This model will stop a moose quicker than any other gun I ever saw, and sportsmen need not be afraid to put their trust in it.

We have lots of hunting and fishing here; in summer trout fishing in the lakes and streams is excellent, and in the fall New Brunswick is a paradise to the man who wants moose, caribou, deer or bear. RAINSFORD ALLEN.

Stone Ridge, York County, N.B.

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In her grand head of game, the Dominion has a valuable asset, as our hunting grounds attract annually hundreds of rich men who spend their money freely, especially among the settlers who sell them provisions and act as guides.

Amendments to Quebec Game Laws.

During the recent session of the Quebec Legislature several important amendments were passed. It was enacted that:

"No person shall, in one season's hunting, kill or take alive more than one moose, two deer and two caribou.

"Widgeon, teal or wild duck of any kind except sheldrake, loons and gulls are protected between the first of March and the fifteenth of September of any year, but buffle-heads (known as pied-ducks or divers) may be hunted, killed or taken during the whole year.

"No birch partridge may be sold, or exposed for sale, or held for the purpose of sale until October 1, 1903.

"No dog accustomed to hunt and pursue deer shall be allowed to run at large, hunt or course in any place inhabited by deer between the first of November and Oct. 20th of the following year. Any one may, without incurring any responsibility, kill any such dog found running at large, hunting or coursing in such localities between the above mentioned dates."

An addition to article 1417 defines the rights conferred by a hunting lease granted by the Quebec Government, and another provides that persons trespassing and killing game illegally may have any game they may have taken or killed confiscated and become liable to a fine of not less than $20 nor more than $100, and in default of payment imprisonment of at least one month and of not more than six months.

A license may be granted by the Commissioner to any person, company or corporation keeping cold storage warehouses, or to any hotel or restaurant keeper or to any club, an annual license permitting of the keeping in such cold storage warehouses or in refrigerators during the close seasons, game to be used as food, and in addition, if it concerns a hotel, restaurant or club to serve for consumption therein, during the close season, all game of which the sale is not prohibited, provided that in all such cases the game has been lawfully taken or killed during the time when hunting is permitted.

All persons, companies, corporations or clubs so licensed are prohibited from receiving game when the fifteen days following the beginning of the close season has elapsed.

Warehouses or refrigerators are subject to inspection by the Commissioner or his deputies at reasonable hours, and the onus of proof of the lawful killing or storing of game rests with the licensee. Contravention of this provision may be punished by a fine of not less than $20 nor more than $100.

A clause added to article 1420 of the Revised Statutes enacts that the Lieutenant-Governor in Council may, whenever he deems it expedient, prohibit for a term not exceeding three years the sale or possession for the purpose of sale of any game prohibited by the Act, or prolong for a similar time such sale or possession.

The foregoing enactments were assented to March 28th, 1901.

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The Ontario Fishery Report.

The second annual report of the Department of Fisheries of the Province of Ontario, covering the year 1900, has appeared. Much useful information is being gathered by the department, of which Mr. Francis R. Latchford is commissioner, and in the course of time the statistics and observations so accumulated will add greatly to our knowledge of the important fisheries belonging to Ontario.

During the year covered by this report no fewer than 98,625,000 fry were deposited in provincial waters, but it is said that these gains are probably offset by a tremendous loss of spawn of lake trout and whitefish which matures at a period not covered by the present close season. In Lake Superior the trout spawn from September 28th to October 10th, so that the spawn of all fish taken during that time is a total loss, and it would seem worth the while to imitate the example of the State of Wisconsin which obliges its fishermen during the spawning season to "take the eggs from the female trout while alive, and the milt from the male trout while alive, and after mixing them together in a pail or pan, immediately cast them into the water from whence such fish were taken." The expense of keeping a watcher on each tug for a fortnight or so would not be heavy, and the experiment is one worth trying.

Of the black bass the report has nothing but good to say. It is claimed that "everything therefore points to the black bass as being at present the ideal fish with which to stock our waters." The following should afford subject for discussion: "It is erroneously believed that the large-mouthed variety (species?) is less gamey than his small-mouthed cousin, but this, perhaps, is only experienced when the former is taken in ponds or sluggish waters, for a two-pound large-mouthed in our cold or running waters will prove inch for inch every bit as good a fighter as the small-mouthed, and is in every sense adapted for transportation in any part of the province."

No doubt this statement will not meet with universal support, but, nevertheless, there is really very little difference (in the cool waters of the Dominion) between the game qualities of the two species, at even weights. But all heavy bass are comparatively sluggish, and as the large-mouths grow to a greater size than the others they usually are somewhat inferior as game fish, though superior on the platter.

Ontario has not been successful in obtaining the ova of the land-locked salmon from Quebec, so it is proposed to introduce the steel-head salmon instead. It is to be hoped that the claims of the Rainbow trout will not be overlooked, as there is little doubt it would make a most valuable addition to Ontario's salmonidæ. The rainbow will thrive in water too warm for the fontinalis, and as it grows to a large size and yields superb sport no better species could be introduced.

The total value of the Ontario fisheries for 1900 was $1,333,293, of which the salmonidæ amounted to rather more than half.

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English Pheasants Succeed.

I am pleased to report to Rod and Gun that the English pheasants sent to me by Mr. Herbert Gardiner, of Rond Eau Provincial Park, were liberated on 5th April, on grounds near Leamington, adapted to their habits and requirements. They are doing nicely, and will eventually, without a doubt, stock a good portion of this neighborhood. They lay, on an average, from forty to sixty eggs during the nesting season, and are well suited for our climate.

Leamington, Ont. Forest H. Conover.

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Mr. John D. Pratt, Secretary of the Winnipeg Rowing Club, has received from Lord Strathcona a donation of $100 as a contribution for the prize fund. Lord Strathcona was elected patron of the club at the annual meeting, an honor which has been annually conferred upon him since 1882, and in sending the cheque he makes a most gracious acknowledgement of the compliment, and closed with a hope for the club's continued and increasing success.

The Winnipeg Club have under discussion a proposition to send crews to the International regatta, which is to be held in Philadelphia during the coming summer.

CORRESPONDENCE.

To the Editor of Rod and Gun:

I see by an interview with Captain Jones, Commodore of the Lumsden Line, when he visited Montreal a few days ago, that he made the statement that in every lumber camp on the Montreal River, Ont., and the lakes of the Kippewa Chain, Que., moose meat is served regularly under the guise of beef.

Now, Mr. Editor, I cannot speak for the Montreal River but I can for Kippewa Lake and some of the adjoining lakes, as our firm have had three camps on Kippewa and adjoining lakes both last year and this; and as agent for the company I can tell him that the statement he makes so far as our camps are concerned is without a particle of truth. I can tell him that this season we got two quarters of moose meat from a party of American sportsmen hunting under license and in the hunting season, and last year we got the meat of one moose under the same circumstances, and with these two exceptions we have had no moose meat at our depôt or in our camps during the last two years we have operated on Kippewa.

And the only other camps on Kippewa Lake that I knew of last year were two of Mr. Lumsden's. And does Mr. Jones charge the foremen of those camps with violating the game laws of the province, for that is what it amounted to, for it cannot be used in the camps without the knowledge of the foremen, and if they allow it they are breaking the laws of the province and are liable to a fine or imprisonment?

But, Mr. Editor, I know these foremen and visited their camps last season very often, and I venture to say that the statement as to their camps is just as reliable as it is to ours. And I would advise Capt. Jones, if he is anxious to preserve the game, as he pretends to be, that instead of making wholesale charges against agents and foremen in the lumber camps he would give information to the proper authorities in individual cases that he knows of. He would be doing more for the preservation of the game both in Ontario and Quebec than by making statements that are without foundation.

Trusting you will give this space in your valuable paper, I remain, Yours truly,

D. B. Rochester,
Agent for the Hull Lumber Co.

Sunnyside, Que., April 5th, 1901.

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Editor Rod and Gun:

In your issue of May, 1901, you ask your readers to give their experience with the "Colt Automatic Pistol." I am a fortunate possessor of one, numbered 75 and I would like to say that I believe the fellow that told you that he could not hit a barn door at ten yards distance with the pistol is not worthy of belief.

My experience has been that while it is not as good an arm for target work, as a specially prepared pistol would be, bad marksmanship, to my mind, is due entirely to the user's inexperience with the weapon. You know a person cannot change from a type of arm that they have been used to for a long while to another, and do as good work as with the former.

I myself consider it a very effective weapon and have had very good results with it as a game weapon, last fall shooting a good buck at about 40 yards, second show. On the water, owing to the number and rapidity of the shots, it is very easy work to hit a mark. The simplicity of the weapon makes it very valuable, as it is almost impossible for it to get out of order.

I would also like to answer your C. R. Steele in support of C. A. B. I have had a wide experience in camping out, from the mouth of the Mississippi to the Gulf of St. Lawrence, both in winter and summer. I am a strong believer in the use of blankets, rather than in the felts that C. R. Steele advocates. I have found out by experience that several thin layers of blanket are much warmer than one great thickness of the same weight, and I construct a sleeping bag, the Johnson, made up on this idea, using four blankets that weigh two and one-half pounds each, laced together on the foot and side and covered with a waterproof canvas cover, the whole sleeping bag weighing but fourteen pounds. I may say that last winter in January, I slept out of doors at 35° below zero with comfort, in the Province of Quebec. Another great advantage of having thin blankets is, the ease with which they can be aired and dried when they happen to get wet.

New York City. David T. Abercrombie.

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To the Editor of Rod and Gun:

C. R. Steele asks why I recommend blankets instead of a sleeping bag. Weight for weight they are warmer. Blankets may be tucked in more closely, and are decidedly preferable to a heavy sheepskin sleeping bag. The Indian rabbit skin blanket to be bought at most Hudson Bay ports is, however, the best winter covering. These are very light and almost too warm. Mr. Caspar Whitney, if I remember correctly, found the blue four-point blankets of the Company more serviceable than a sleeping bag in the extremely low temperatures experienced at Great Slave Lake in winter. A very light bag of some waterproof material to go over the blankets and keep out wind might be a good addition—only it should not weigh more than two or three lbs. C.A.B.

In reply to John Gird: Cut the blanket six inches longer than the foot. The foot is placed on a diagonal line joining two opposite corners, and the toe and instep covered by one corner turned back. The opposite corner is twined up along the heel tendon, and the remaining corners are folded over the instep and first fold. The mocassin holds all in place. In very cold weather two squares for each foot should be used. C.A.B.

FINE GUNS ANNUALLY RUINED.

Repeated use of Dry, Harsh Cleaners will Damage Your Shooting Piece.

Every season thousands of fine shooting pieces are ruined by the wrong kind of cleaner. Especially do sportsmen who use smokeless powder find that many cleaners do more damage than they do good. Cleaners that have acid are certain to have a corrosive action on the boring of the tubes. "3 in 1" oil is a cleaner that is all oil, and nothing else. It is the best gun cleaner on the market. It is really the only gun cleaner on the market, and does not contain a particle of acid or grit. Gun clubs all over the country use it and find it to be the very best they have ever used. Charles F. Stickle, of Springfield, Illinois, is the Secretary and Treasurer of the Illinois State Sportsmen's Association, and has the following to say about "3 in 1":—"I invariably use "3 in 1" for cleaning out my fire arms after shooting to remove the residue of powder. I take a fine mesh Thompson cleaner, and coat the surface with "3 in 1," and find that it not only cuts out the residue, but prevents the cleaner from wearing the choke. The use of "3 in 1" I find not only cleans quickly, but protects the boring of the tubes."

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association The Editor will welcome contributions on topics relating to Forestry.

Editor—E. Stewart, Chief Inspector of Forestry for the Dominion and Secretary Canadian Forestry Association, Ottawa, Ont.
Sub-Editor—R. H. Campbell, Treasurer and Asst. Secretary Canadian Forestry Association, Ottawa, Ont.

THE GOVERNMENT PLAN FOR TREE PLANTING IN THE WEST.

For anyone who takes time to stop and consider the question there must be but one conclusion, that a wood lot is a very useful adjunct to a farm, both for its direct returns in supplying wood for fuel and other farm purposes, and for its indirect advantages as a protection from the winds and a conserver of moisture. This has been specially evident in the West, where there are such large extents of level land almost or entirely bare of trees. The land regulations which were adopted by the Dominion Government from the beginning of its administration showed a recognition of the importance of this question, as provision was made for dividing up wooded lands into wood lots for sale to homesteaders who had not sufficient wood on their own lands.

The forest tree culture claim regulation was also adopted to encourage planting on the prairie lands, but this provision did not remain long in force, and out of some 253 claims taken up under it only six were carried to completion. This plan did not work out with much greater success in the United States, from which Canada had adopted it. The fact is that the conditions to success were not understood even by the experts, as may be very well illustrated by the provision of the regulation referred to, which required that the trees should be planted not less than twelve feet apart.

The success which has rewarded the efforts of a few persevering individuals, and the work which has been accomplished by the experimental farms, has added much to the knowledge of the subject, and has given a sufficient basis on which a choice of species may be made and plans of management adopted with reasonable certainty of success, and, without repeating the somewhat extravagant estimates and prophecies of some of the earlier advocates of tree planting, it may be safely asserted that an intelligent and systematic effort to have the planting of trees carried out generally will result in very decided benefits to the individual and the country at large.

The forestry branch of the Dominion is making such an effort, and the plan upon which they propose to work is outlined in a circular which has recently been issued by the superintendent, Mr. E. Stewart. Applications from settlers in the West desiring to avail themselves of the co-operation of the Government in the planting and cultivation of a forest plantation, windbreak or shelter belt will be received at Ottawa. The local tree planting overseer will visit the property of the applicant and prepare a sketch and description thereof, with full particulars and suggestions as to the plantation to be set out. A working plan will be prepared from this information, a copy of which will be sent to the applicant together with an agreement to be signed by him. The department will, as far as possible, furnish seed and plant material, and it reserves the right to take from any plantation set out under its direction any seed, seedlings or cuttings that should be removed and may not be required on the property. The department will render all services specified free of charge, but the owner must prepare the soil, set out the plantation, and properly care for it afterward. A minimum of half an acre of 1,500 trees and a maximum of five acres of 15,000 trees has been fixed. The agreement to be signed by the applicant contains the main provisions above cited.

In addition to this special work the forestry branch will issue circulars from time to time giving general information. In the first of these, which has recently been issued, are given general suggestions for the preparation of the soil for tree planting. The object is to reproduce natural forest conditions, particularly the loose, porous soil which characterizes it, and we quote a few paragraphs from the circular giving directions as to how this may be attained :

"A piece of land which it is intended to plant up should in every case be thoroughly worked up and cultivated some time before the time for planting arrives. Land which has already been under cultivation for some years will prove the best for tree planting. If planting is expected to take place in the fall the soil must be ploughed as deeply as possible during the summer, if possible using a subsoil plough as well as the ordinary plough. After ploughing, the surface must not be allowed to get hard, but should be frequently harrowed in order to preserve the moisture in the ground which would otherwise be lost by evaporation. The chief advantage in fall planting lies in the fact that at that season farm work is not usually so pressing as in early spring, but outside of this, spring planting should always be resorted to if possible, as the soil is moist then and the young plant has a whole season in which its roots may become well established before the winter sets in.

"Preparation of the soil for spring planting should be commenced in the previous fall by as deep cultivation as possible. The surface of the ground should, however, be left rough in order to catch as much snow as possible and also to expose a larger surface to the weathering action of the frost. Immediately before planting the ground should again be ploughed deeply and the surface harrowed down. In cases where it is wished to plant seeds instead of young plants the soil must necessarily be brought into a finer condition. In cases where seedling trees are available for planting it is recommended, as a general rule, that planting operations should be carried on in the spring rather than in the fall of the year. In the case of certain seeds it is often advisable and cheaper to plant in the fall.

"The site for a proposed plantation should be carefully selected with a view to the requirements of the species which it is intended to plant. As a general rule it may be taken that slopes facing towards the north are best adapted to tree growth, as they are usually moister, for the reason that they do not receive the direct rays of the sun, and are less liable to sudden changes of temperature than are southern slopes. Certain trees, as willow, ash, and balm of Gilead, thrive best on moist soil in the neighbourhood of streams and ponds and will often prove a failure if planted on high land where the supply of moisture is somewhat scanty. Many species, however, as box elder, or Manitoba maple, are adapted to growth on higher ground, although the same varieties would probably attain larger proportions in low land where they could obtain more moisture. Such natural considerations as these must be carefully taken into account in connection with tree planting in order to attain to any degree of success."

The cultivation of hoed crops, such as roots and potatoes, between the rows of trees is suggested as a method of decreasing the cost of the work necessary in the early years. The system adopted in Germany is to place the seedlings in rows about three and one-third feet apart and grow potatoes between them.

The plan outlined above is thoroughly practical and it has received the very cordial endorsation of the people of the West to whom it has been presented, and, if it is carried out perseveringly and continuously, the results should be of the greatest advantage.

It must be impressed that this work is not the work of a day. Trees will not reach maturity in a year, or two years, or three years. One cause of failure in the past has been that the efforts made were spasmodic and lacked continuity. The work can be done at comparatively small cost, but there should be no hesitation at placing sufficient funds at the disposal of the Forestry Branch to insure that it be done well. A good beginning has been made and the foundation of the system has been laid in such a careful and practical manner as to give the assurance that it will be carried out wisely and economically. The development of the West is of the greatest importance to the future of Canada, and anything that tends to that end should be of interest to every Canadian. We trust that the influence of the Canadian Forestry Association will be exerted to ensure that the scheme be given such generous support that it will have the fullest opportunity to demonstrate its usefulness.

The plan adopted is largely based on that followed by the Division of Forestry for the United States, but in that country the field of operations is not confined to any particular section. Whether it would be advisable for the Dominion Forestry Office to extend its work in the same way or whether, in the older provinces, the matter should be left in the hands of the local authorities is a question worthy of consideration. The need may not be so pressing in these provinces, but expert advice would be very useful to anyone desiring to have a forest plantation, and we trust that some means may be adopted for the encouragement of such efforts throughout the whole Dominion.

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British Columbia Forests.

By T. C. Whyte, Crown Timber Office, New Westminster.

The preservation and perpetuity of the forests of the Province of British Columbia is a question which has become one of vital importance of late years. If something be not done towards this end we may have in time to face the possibility of a timber famine even in this forest province. The enemy that we have to fight against more than any other is fire. The appointment of Fire Wardens by the Federal Government to protect the timber limits from the danger of fire is a step in the right direction, and we are certain that beneficial results will follow this move on the part of our Dominion authorities. The greater portion of our vast areas of timber limits has been partially or completely destroyed by fire. In the majority of cases this has been the result of gross neglect and carelessness, which could easily have been prevented by the exercise of a little care and judgment. However, it will be the duty of the Fire Wardens who have been appointed to do all in their power to prevent the devastation of our timber by the fire fiend. The Government has recently published notices respecting the protection of forests against fires, in which is embodied a general warning to the public, and a heavy fine is imposed on any person who wilfully infringes the requirements of the Act. These notices have been widely distributed throughout the province, and numerous copies sent to licensees of timber limits or "berths," as they are called in official nomenclature. Those who have received the notices have expressed their determination to carry out the requirements thereof to the best of their ability.

Now, a word or two with respect to reforestation. In Germany, when a tree is cut down, the laws of the country demand that another be replanted, so that, in that country, there is a continual supply of timber. The conditions which prevail in this province, however, are entirely different. An enormous quantity of our best timber has been cut down, and it may be several years before a second growth appears. However, we think that some experiments should be made in the way of replanting or reforestation. Of course there are numerous large timber limits on which, as yet, not a stick has been cut. The timber on the latter will therefore be preserved to us for future utilization, but as the demand will in time undoubtedly exceed the supply unless we adopt some system of reforestation the timber wealth of our province will suffer materially.

The sooner our mill owners and lumber men realize the danger and take steps to apply a remedy or use their influence with the Government to that end the earlier will the preservation and perpetuity of our forests be attained.

✠

Two solid oak logs, in a state of excellent preservation, were recently found by the men excavating in the water course leading to the former McKay mill at the Chaudiere Falls in Ottawa. The logs were thirteen feet under a deposit of earth, stones and other debris, and likely lay in that position since 1858, when the Chaudiere district was commencing to be opened up. Over forty years ago oak trees grew around the rocks at the Chaudiere.

The preservative effect of water on wood that is continuously immersed is remarkable. There is in Ottawa—or rather, in Ottawa East—one man who makes a very fair living from the disposal of oak logs which have been sunk for years in the Rideau River. The specific gravity of oak is very near that of water and a very little soaking will cause it to sink. A great deal of this timber was taken out from the Rideau district, and as it was transported by water many of the logs went to the bottom. In one place there is a deposit of hundreds of logs which had been piled on the ice, but broke through with their own weight. These logs have been lying in the slime underneath the water for from fifty to sixty years, and when raised at the present day are perfectly sound and of good color with the exception of a small portion on the outside.

That the fisherman sometimes gives justification for the reputation which he holds in general opinion as a retailer of large stories was exemplified by a tale which we had from a fisherman on the Rideau, of a famous oak tree fully fourteen feet in diameter, a portion of the trunk of which was still visible, and upon which a team of horses and sleigh had been able to turn. This was the story under the glamor of evening. In the sober light of next morning the sleigh was detached, and further enquiries from a more reliable source established the fact that the tree was a very famous one indeed, so that our informant, now over seventy years of age, had walked miles in his youth to see it; but the diameter was cut down to seven or eight feet. He stated that the largest piece of oak timber he had taken out, which was in the days before the canal was built, squared twenty inches and was forty feet in length.

Copies of the circulars issued by the Dominion Forestry Bureau may be obtained on application to Mr. E Stewart the Superintendent.

*

A local circle of the Canadian Forestry Association has been formed at Crystal City, Manitoba, with a membership of fifteen. The officers are:—President, J. J. King; Vice-President, Jas. Laidlaw; Secretary-Treasurer, U. S. Jory; Directors, Jas. Colter, D. Potter, W. J. Parr, James Stewart, Thos. Baird, John Greenway, F. McEwan. This circle are taking active steps to have the members and others interested supplied with material for tree planting. They intend to send out teams to get young trees, mostly evergreens and elm, where they can be obtained in the neighborhood and will supply them to those requiring them at cost price, which will probably be about five cents apiece.

A circle has also been formed at Virden, Manitoba, with a membership of eleven. The officers are:—President, C. J. Thomson; Vice-President, John Caldwell; Secretary-Treasurer, James Rothnie; Executive Committee, C. E. Ivans, H. C. Simpson, Dr. Stevenson.

*

The Forestry Branch of the Department of the Interior has issued the first circular on tree planting in the west. Special stress is laid on the necessity for proper preparation of the prairie soil in order to ensure success. Any member of the Forestry Association who has not already received a copy may do so on applying to Mr. E. Stewart, Superintendent of Forestry, Ottawa.

MONTREAL HORSE SHOW.

By C. J. Alloway.

On Saturday evening, May 11th, the second annual Horse Show, held in the Arena, was brought to a close, and the final act in which the bay mare Pearl jumped six feet six inches, will long be remembered by those who remained to witness this remarkable feat. From the opening event to the last, at almost midnight on Saturday evening, the interest was unflagging and the attendance excellent. The fashionable world was well represented, the boxes being filled every evening with a brilliant array of Montreal's best gowned women and men in evening dress. The patronage of their Excellencies, Lord and Lady Minto, added éclat to the proceedings, and the Governor's well-known love for horses of a high class, and a prize personally offered by him gave zest and impetus to the enterprise.

Good music was furnished during the intervals of the performances, which, with the interior decorations of bunting and the Arena colors, made pleasant adjuncts and surroundings.

In the main the Show was a success, the number of entries being much in excess of what had been anticipated.

From a financial standpoint the undertaking has come out in a most satisfactory manner, the receipts being largely in advance of those of last year. The original intention of the management was to have the Show of three days' duration, with two performances (afternoon and evening) each day. It was found, however, that owing to the unlooked for number of entries an extra entertainment would have to be provided, and consequently the catalogue was arranged for seven performances instead of six. The Show opened on Wednesday evening, May 8th, and continued Thursday, Friday and Saturday afternoons and evenings without interruption. The weather was fine throughout and just cool enough to be pleasant. Occasionally it threatened rain, but only once did it even sprinkle, and then not enough to cause discomfort.

There were a few much needed alterations and improvements made in the interior of the building, the chief of which was the construction of a promenade around the ring in front of the boxes. This change added very materially to its apearance and to the comfort of the spectators.

The ring proper in which the judging took place was in excellent condition, and was equal to, if not better, than those of New York or Toronto. With one or two exceptions the performances on each occasion were brought on promptly as per catalogue, but owing to the large number of entries in some of the classes, it was on one or two evenings quite late when the last number was called. This seemed to be unavoidable, and the good-natured spectators did not seem to resent the prolonging of the entertainment.

Of the individual prize winners those from Toronto and London were by far the largest, George Pepper of the former being credited with $830. Mr. and Mrs. Beck of London won $570, and Mr. Geo. H. Gooderham carried off prizes amounting to $410. Mr. W. W. Ogilvie was the largest Montreal winner, taking the sum of $245.

There were a few errors committed by the management, and what was considered by some a miscarriage of judgment in some of the decisions of the judges, but such things cannot always be avoided, and no doubt as experience is gained these little irregularities will disappear. One of the most apparent shortcomings of the Show was the height of the jumps and the number in each circuit. Two hurdles in the round is not sufficient to test the best qualities of the average hunter, and three feet six inches of timber cannot be called anything above the ordinary. In contests where the best characteristics of our finest horses are to be tried, no jump should be lower than four feet of timber or wall. Anything of less dimensions is not calculated to excite admiration in those who are posted as to what the capabilities of the horses are. To test the powers of well trained hunters a greater variety of jumps should be used —not all the same height nor the same distance apart. No competitor should have anything whatever to do with the drawing up of the prize list, the framing of the conditions, or be placed in a position to dictate the lines upon which our Horse Show should be run, and no one competing should be allowed to enter the ring when his entry is being judged. These rules should be strictly adhered to, as nothing engenders dissatisfaction more quickly than their violation. There were very good exhibits made from the West, but no feature of the show was more remarkable than the large number of really first class animals which the exhibition was instrumental in bringing forward from Montreal.

The Horse Show which has just closed has aroused a desire among our best citizens to obtain, in future, a better class of horses than they would otherwise have dreamed of. One most noticeable characteristic of the Show was that it was what its name indicated, *all horse*, and not as the one recently held in Toronto, where the horse took second place to other attractions that seemed to be demanded in that part of the Dominion.

The Horse Show is no longer an experiment, but is unquestionably here to stay as an annual and permanent institution, and with a shade more effort on the part of Montreal owners, there can be little doubt that our friends from Ontario will, in the future, have to be content with only a fair and reasonable proportion of the prize money, and not the disproportionately large percentage which, up to the present they have secured.

FISH AND FISHING

Professor E. E. Prince, Dominion Commissioner of Fisheries, Ottawa, read a paper on Fish Culture in Canada, before the Ottawa Literary and Scientific Society recently. The professor disputes the claim made by the late Samuel Wilmot to have initiated fish culture in Canada, and thinks it is proved that Mr. Richard Nettle, now a resident of Ottawa, began the incubation of salmon and trout eggs in the City of Quebec in 1856-57. This was but three years later than Dr. Theodatus Garlick, of Ohio, attempted for the first time on this continent the artificial hatching of fish. By 1868 the Dominion Government had awakened to the value of this means of restocking depleted waters.

Samuel Wilmot made a most zealous and indefatigable Superintendent of Fish Culture, and though in the first instance Canadian fish culture was conducted by rough and ready methods by self-taught men, and many blunders committed, yet so favorable were the conditions, so pure, abundant and cold the water supply, and so robust and healthy the parent stock, that even from start a gratifying measure of success was obtained. By far the most important requisite is pure water, and in this respect there are few countries the equal of our Dominion.

During the last 30 years the Canadian hatcheries have distributed 2,650,468,000 fry, the average during 20 years being 128,000,000. Out of this yearly total 85 millions of fry have been of the salmon, great lake trout and whitefish—all of great economic value.

✠

Sea Trout.

The other day, in making certain changes in the game and fish laws at Ottawa, the question of whether "sea trout" should be added to the provision respecting the exportation of trout was brought up. In the end it was decided to insert these words, although the gentleman who did so knew perfectly well that we have no such fish in Canada.

In Europe the sea trout, Salmo trutta, may or may not be a good species—I do not propose to discuss that here—but our Canadian sea trout, so called, is nothing but our old friend fontinalis, who has taken a trip down to salt or brackish water and thereby acquired a silvery dress which, for the time being, hides his rich coloring.

Once upon a time I was a believer in the sea trout as a species. I had caught bright, silvery trout off the mouth of Bathurst harbor which differed externally from the brook trout I had caught up the Nipissiguit and other New Brunswick rivers, so that I found no difficulty in believing they were a separate and distinct species. But my enlightenment followed quickly. There are two rivers in New Brunswick which have acquired a more than local fame for their sea trout,—I refer to the Tracadie and the Tabusintac rivers,—as I found for myself, one July, upon the extreme head waters of the former stream. In order to get there I had taken a small bark canoe twenty miles over a bad road and then eleven miles through the bush. My reward was great. There was a big run of sea trout in the river. Every pool was full of them. In one half day's fishing I had sufficient fish to fill a half barrel, when they had been split open and salted. The smallest that I kept weighed three quarters of a pound and the largest four and one quarter, and I was smashed once by a far heavier fish (the big one that got away). Having no further excuse for fishing, I ran down the river to its mouth, and noticed that it discharges into a large lagoon known as Tracadie Gully. Later in the year I made other trips to the river, and as the season wore on found the trout rapidly changed their appearance, until, as I saw when caribou hunting during the spawning season, the sea trout of the early summer had become the ordinary speckled trout we know so well; the males red as blood underneath, the females almost inky black.

I had seen enough to cause me to want to know more, so I was at some pains to trace the life history of the Tracadie trout—and this is what I found: After spawning, the river being very small and shallow, the trout drop down stream and pass the winter and spring in the salt waters of Tracadie Gully. Here they grow lusty and bright, owing to the sea water and the unlimited food they are able to obtain. As soon as the spring floods have subsided the trout begin to make their way up the Tracadie. They are then most beautiful to behold, with small heads half buried in their massive shoulders, and with plump sides which gleam like frosted silver when they are struggling against the cruel hook. So the summer wears on, each pool swarms with trout which do not seem to change their quarters at all,—the truth being that one pool is as well tenanted as another,—until, when the leaves are falling and the hardwoods are glorious in their autumn liveries of brown and crimson, each gravelly bar is a spawning bed, but the sea trout have disappeared.

In the hundreds of rivers discharging into the St. Lawrence, on either shore, the same thing happens. The inhabitants know the sea trout well. In many a humble homestead the salted fish, together with the small, sweet potatoes, yielded grudgingly by the sandy soil, form the staple food of the fisher-farmer folk.

Hence there was much wisdom in incorporating in the game law the name of a fish which does not exist.

St. Croix.

✠

Fishing in the Laurentians is unusually good this spring. The season is fully two weeks in advance of that of last year. Several hundred fishermen left the city of Montreal on the evening of May 23rd and were absent until the Monday following. The sight presented by these crowds on their arrival in the city was quite remarkable; each man had a limited proportion of trout and all agreed that never during recent years had fly fishing been so good.

The lakes adjacent to St. Faustin on the Labelle branch, yielded particularly well. Some very large trout were taken. One from Lake Superior weighed three pounds and there were many others taken in that neighborhood nearly as large. While a three pound trout is nothing unusual, at least in print, when caught fairly on the fly, such fish yield uncommonly good sport and test the strength of the seven ounce bamboo rather severely.

✠

Trout fishing at Square Lake, St. Faustin, has been very good ever since the season opened.

✠

A magnificent Salmo purpuratus from Okanagan Lake is now in the possession of Mr. John Fannin, curator of the provincial museum at Victoria, B.C. It measured 34 inches, and was said to weigh 15½ lbs. when captured. Mr. Fannin is now making a gelatine cast of the fish to place in the museum.

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

Spring fishing all through eastern Canada was unusually early, and large catches are being reported. One well-known Montreal sportsman returned on the 13th from a short trip to the preserve of the Laurentian Club with a creelfull. All his trout were taken on the fly and the average was 2 lbs. The fish were in superb condition. It is almost inconceivable that men of means and leisure should continue to fish in the depleted streams of the United States, when a few hours' run will carry them to the streams and lakes of the great Dominion.

✦

Game is migratory. Within the memory of men now living game has changed its habitat enormously. We do not refer to the extermination of certain species, nor to the forced movement caused by the advance of civilization, but merely to the rythmic ebb and flow whereby certain species change their quarters, becoming scarce where they were previously abundant, and numerous where they were before almost unknown.

The Virginia deer is steadily extending its range to the northward. Recently extraordinary numbers have appeared north of the Georgian Bay in Algoma, and they are fairly abundant up to Temagaming. They have followed the courses of the various tributaries joining the Ottawa from the northward. They are particularly abundant on the heads of the Rouge, Lièvre, Gatineau and other streams. It was not always so. In the region about Trembling Lake, where hundreds of deer are shot annually, moose and caribou were the common species 25 years ago. The laws of nature are sometimes mysterious. We do not always know what prompts the wild creatures to change their abodes, but we do know that it is very easy for persons who have paid but slight attention to the matter to deceive themselves grossly. Very much of the game which has been declared exterminated has simply moved on.

✦

In last month's issue, in the fishing department, attention was called to the value of using small flies for trout. It is yet very early in the season and for some weeks, at least, the value of fine tackle will, perhaps, not be very apparent, but so soon as the water shall have become warm and the appetite of the fish less voracious, in order to make a good catch it will be desirable to fish fine and far off with small flies and light casts.

Glancing through the columns of the London Fishing Gazette a few weeks ago we became interested in an account of an English sportsman's fishing in the Kootenay River, southern British Columbia. He said: "The cast I had put together and "used the night before consisted of large, roughly tied flies, of "a pattern which I had found useful in the early season, the "cast being of coarse gut." This combination did not work, and he says: "I changed the cast itself to one of gut tapered "from medium to fine undrawn, and also my reel to one con- "taining about forty yards of tapered line, putting on two "flies and using as tail fly, a fly with dark grey wing, brown "hackle Palmer-wise, and yellow body, the hook being a '0'; "and as dropper a '00' hook, the dressing of which I forget." Then the luck changed and when he left off he had 20 rainbow trout, one of which was a three pounder, the total weight of the creel being 24 pounds.

The rainbow undoubtedly prefers a small fly, but trout fishermen will find that small flies and light tackle will pay any time after the middle of June when fishing for fontinalis.

✦

On the eve of going to press we learn that the following Order-in-Council has been passed:

No one shall receive, ship, transport or have in possession for the purpose of shipping or transporting out of the Dominion of Canada, any speckled trout, river trout or sea trout, taken or caught in the province of Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island; provided—

a) Any person may so ship such trout caught by him for sport, to the extent of 25 lbs. in weight, if the shipment is accompanied by a certificate to that effect from either the local fishery officer in whose district the fish were caught, or from the local station agent adjacent to the locality in which they were caught, or is accompanied by copy of the official license or permit issued to the person making the shipment.

(b) No single package of such trout shall exceed 25 lbs. in weight, nor shall any person be permitted to ship more than one package during the season.

This will be welcome news to anglers, as such enactment must have a happy effect upon our trout fisheries.

KENNEL DEPARTMENT

Conducted by D. Taylor

Correspondence is invited on all matters pertaining to the kennel, and items of interest concerning man's best friend, will be welcomed. An effort will be made to furnish correspondents reliable advice as to the care and treatment of dogs in any case submitted. All communications for this department should be addressed to D. Taylor, Rod and Gun in Canada, *603 Craig street, Montreal.*

At the time of going to press with this number of Rod and Gun, the show of the Montreal Canine Association is an assured success, at least as far as the number of entries are concerned. Indeed, for Montreal, it will prove a record one. This is very gratifying to the promoters who have spared no expense to make the show attractive to exhibitors and to the general public. It is believed that the entries will total over 800 and the number of dogs benched will range about 425.

Airedale Terrier—Champion Dumbarton Lass
Owner, Jos. A. Laurin, Montreal

Although only a ribbon show with a very considerable number of specials thrown in (by far too large a number, we are sorry to see, with strings attached to them) there will be a fine exhibit of outside dogs well-known in the prize ring, entries having come in freely from Western Canada. Among those entered are Mr. A. A. Macdonald's string of wire-haired terriers. Mr. Millar's (of Trenton) cocker spaniels and bull terriers. The Newmarket Kennels will also have a large exhibit of their famous bull terriers, while the collie classes threaten to be the biggest ever shown in Canada, the veteran ch. Old Hall Paris being amongst the number. Foxhounds will also be a prominent feature, both the Montreal Hunt and the Canadian Hunt Club sending the cream of their Kennels. Given good weather and other favorable conditions the attendance of the paying public should also be a record one.

Roy Montez, one of the finest English setters in Canada, is owned in Victoria, B.C., by Mr. Charles Minor. He was bred by Mr. J. R. Anderson, Deputy Minister of Agriculture, who owned his sire, a good dog, of the best English setter strain, his dam being the famous Lola Montez, imported from California. Although a young dog, Roy has done some winning, having taken first in open and winners classes at Portland, Ore., and was also in the money at the late Chicago show, where he ran up against some of the best in the States. Roy Montez is generally admired for his admirable conformation and typical setter head, and with good care and training may yet prove a veritable mine for his lucky owner.

*

Mr. Farwell, of Toronto, has had the misfortune to lose his fox-terrier Norfolk Victorious, which he only acquired a short time ago from the Norfolk Kennels. The dog was found dead in his crate on arrival at Chicago show for which he was entered. The probability is that he was smothered through baggage being piled too closely around him. The bulldog Footpad, belonging to Tyler Morse, also met with a similar fate.

*

The seventeenth volume of the American Kennel Club Stud Book for the year 1900 has just been issued and is a very complete and comprehensive record of pedigreed dogs of every recognized breed. While in some breeds there is a slight decrease, the total number of registrations show an increase of 524 over those of 1899. There is a decline in St. Bernards, Mastiffs, Newfoundlands, Russian Wolfhounds, Deerhounds, Foxhounds, Irish Setters, Gordon Setters, Foxterriers, etc.; while the breeds which show increases are Great Danes, Bloodhounds, Greyhounds, Pointers, English Setters, Irish Water Spaniels, Field and Cocker Spaniels, Collies, Bulldogs, Bull Terriers. Airedale Terriers, Boston Terriers, Beagle , Dachshunds, Irish Terriers, Scottish Terriers, etc.

*

Frank Dole has been finally induced to part with his celebrated bull terrier, champion Woodcote Wonder, which has been sold to a San Francisco gentleman. Mr. Dole has been importuned for a long time to part with this constant winner, and it is presumed the monetary consideration must have been considerable to effect a change of owners. Woodcote Wonder is a wonderful dog, seeming to improve with age, and has yet no doubt a long career of winning before him on the Pacific Coast.

*

The Canadian Kennel Club was organized in 1888 at London, Ont., with Dr. J. S. Niven acting as chairman at the inaugural meeting. The first president was Richard Gibson; W. J. Jackson was the first vice-president, and F. C. Wheeler was the first secretary-treasurer. Other former presidents are J. Lorne Campbell, T. G. Davey, Dr. T. Wesley Mills (Montreal), Dr. J. S. Niven (London), H. Bealington and Geo. B. Sweetnam. C. A. Stone and S. F. Glass have officiated as secretaries to 1891, when the present secretary was elected. The club has seen trouble since its birth, but is now an influential incorporated association, with about six thousand pedigrees of high-class dogs in its stud books, and a constantly growing

membership roll. The privileges of the club are open to American as well as Canadian breeders, and the former are availing themselves of that fact. The officers are: Patron, Mr. William Hendrie, Hamilton; Hon. President, R. Gibson, Delaware, Ont.: president, John G. Kent, Toronto; first vice-president, Dr. J. S. Niven, London; vice-presidents, F. T. Miller, Trenton; Jos. A. Laurin, Montreal; E. R. Collier, Winnipeg; Rev. J. W. Flinton, Victoria, B. C.; Dr. F. W. D'Evelyn, San Francisco, Cal.; James L. Little, Brookline, Mass.; G. Allen Ross, Regina, N.W.T.; secretary-treasurer, H. B. Donovan, Toronto; auditors, G. B. Sweetnam, Toronto; A. A. McDonald, Toronto; executive committee, James Lindsay, Montreal; Dr. Wesley Mills, Montreal; H. Parker Thomas, Belleville; Geo. H. Gooderham, Toronto; W. P. Fraser, Toronto; A. A. McDonald, Toronto; Dr. A. Boultbee, Toronto; F. W. Jacobi, Toronto; James Bertram, Dundas; C. Y. Ford, Kingston; Rev. Thos. Geoghegan, Hamilton; H. J. Elliott, Brandon; F. C. Mills, Hamilton, Ontario. Every dog-owner should belong to the Kennel Club. The membership fee is small, only $2.00 a year, and among the privileges are a free copy of the Canadian Kennel Gazette, which, under its recently improved form is alone worth the money.

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The show of the Montreal Canine Association will bring out a number of new faces amongst the exhibitors, especially in the collie classes, the breed during the last few years having been very popular here, quite a number of very promising puppies changing hands within the past year. Among the new fanciers is Mr. Alex. Smith (not "Auchcairnie"), of Laurier avenue, St. Henri, who is the owner of a nice young sable and white bitch, Glenlivet Lassie by Hielan' Rory ex Queen Bess, bred by W. Ainslie. Lassie was bred on the 29th to Mr. Joseph Reid's grand young dog, Logan's Earl.

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D. Taylor's collie bitch, Lady Marjorie, gave birth on the 12th to a litter of eight—five males and three females. They are by Hielan' Rory and are all nicely marked tri-colors, black, tan and white.

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"Peto," in the Sporting and Dramatic News says:—"The life of dogs bred and kept solely for show purposes is not a long one. The age of Greyhounds, Foxhounds and dogs used for sport only, exceeds those of dogs kept by their owners as a means of winning show honors. There are reasons for this, and it is scarcely necessary to name them. The difficulties that exhibitors of dogs have to contend with are based on the vagaries of "show condition." But then "show condition" has usually been the gorging of the dog as much as possible and the drugging of him also. The wonder is that the losses in some of the largest kennels where this system is allowed is not more frequent. In the near future, purchasers will begin to make inquiries as to how a dog has been fed and drugged before spending a large sum of money on him. Moreover, it is in the interest of the dog itself that he should live a more natural life than many show-winners do. A breed that dies off more quickly than another is generally found to be one in regard to which medicines and artificial means are most often used."

We are afraid that "Peto" is drawing on his imagination not a little when he alleges "gorging" and "drugging" to keep a dog in good show condition. The fact of the matter is that the experienced show breeder relies on cleanliness, a moderate regular diet and plenty of exercise more than anything else to keep his dogs in good condition.

Standard of the English Setter.

The English Setter Club of America, recently organized, has adopted the following as the standard of the breed:—

Head, 20 points; neck, 5; body, 30; legs and feet, 20; tail, 5; symmetry, coat and feathering, 15; color and markings, 5; total, 100.

Head.—Should be long and lean, with a well-defined stop. The skull oval from ear to ear, showing plenty of brain room, and with a well-defined occipital protuberance. The muzzle moderately deep and fairly square; from the stop to the point of the nose should be long, the nostrils wide and the jaws of nearly equal length; flews not to be pendulous; the color of the nose should be black, or dark or light liver, according to the color of the coat. The eyes should be bright, mild and intelligent, and of a dark hazel color—the darker the better. The ears of moderate length, set on low and hanging in neat folds close to the cheek; the tip should be velvety, the upper part clothed with fine, silky hair.

Neck.—Should be rather long, muscular and lean, slightly arched at the crest, and clean cut where it joins the head; toward the shoulder it should be larger and very muscular, not throaty, though the skin is loose below the throat, elegant and bloodlike in appearance.

Body.—Should be of moderate length, with shoulders well set back, or oblique; back short and level; loins wide, slightly arched, strong and muscular. Chest deep in the brisket, with good, round, widely sprung ribs, deep in the back ribs; that is, well ribbed up.

Legs and Feet.—Stifles well bent and strong thighs long from hip to hock. The forearm big and very muscular, the elbow well set down. Pastern short, muscular and straight. The feet very close and compact, and well protected by hair between the toes.

Tail.—The tail should be set on almost in a line with the back; medium length, not curly or ropy; to be slightly curved or scimitar-shaped, but with no tendency to turn upward; the flag or feather hanging in long, pendant flakes. The feather should not commence at root, but slightly below, and increase in length to the middle, then gradually taper off toward the end; and the hair long, bright, soft and silky, wavy, but not curly.

Symmetry, Coat and Feathering.—The coat, from the back of the head in a line with the ears, ought to be straight, long and silky (a slight wave in it not objectionable), which should be the case with the coat generally; the breeches and forelegs nearly down to the feet, should be well feathered.

Color and Markings.—The color may be either black and white, orange and white, lemon and white, liver and white, or tri-color, that is, black, white and tan; those without heavy patches of color on the body, but flecked all over, preferred.

*

The St. Thomas Kennel Club has now seventy-four members in good standing. A useful work at which the Club is aiming is the reduction of city licence on registered dogs. The fee is now $2 for each dog and $5 for each bitch, which is excessive in the case of dogs kept under control.

*

Chatham, N. Y., we hear, is to hold a show the week following the Pan-American, the date chosen by Toronto. This is rather unfortunate for both. A fee of $2 for prizes of $10 and $5 or $8 and $4 will be charged.

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A show will probably be held in St. Thomas some time in the fall.

THE GUN

Conducted by "Bob White"

THE SPORTSMAN'S RIFLE

By C. A. B.

One hears a great deal for and against the small bore high velocity rifle as a game killer. The men, however, who are using them for Canadian shooting are vastly on the increase, and without possessing the gift of prophesy one may foretell, safely, the advent of an era when the black powder rifle will be as obsolete as the flintlock.

On paper the modern small bore has all the best of it. Calculated by the usual formula, the 30-40 or the British .303 have a striking energy of over 2,000 ft. lbs.; very few of the black powder rifles could inflict a blow of 1,500 ft. lbs. It may, therefore, be taken for granted that the modern rifle of the same calibre as is used in the British and American services, has an energy which is to that of the most powerful .45 as 4 is to 3. But, of course, energy is not the only factor to be considered. The area of the bullet is very much less, consequently its penetration is enormously greater, but any such penetration carrying the bullet through and beyond the animal fired at is so much wasted force. Hence, the mantled bullet is utterly inadmissible for American game, and the bullet with the lead exposed at the point is used by all intelligent big game hunters.

This bullet is supposed to mushroom, or set up, upon striking the animal, but it does not always do so, at least not to the extent which is desired. Should it hit a bone, or a mass of dense muscle, it will certainly expand, and make a larger wound than the old fashioned rifle, even when the later was a 45 or 50 calibre. Where the modern small bore seems to fail is in a flank shot, where the resistance of the soft tissues has not been sufficient to mushroom the bullet. In such cases the game often escapes.

Excepting in this particular feature the modern rifle compares favorably at all points with those it is replacing. It may be, and generally is, several pounds lighter, its accuracy is as good, and its trajectory very much flatter, so that judging distance need not be attended to so carefully, and, in the case of game moving rapidly across the front of the shooter, the allowance for such movement becomes so small as to generally be a nominal quantity.

Lots of old hunters will not tolerate the high velocity rifle. As young men they used the black powder rifle—it served their turn well enough and they have no idea of forsaking it—but the younger men are buying the new rifle, and when the grass grows green over the heads of the old guard, the black powder rifle will have disappeared with the men who carried it.

The new arms are not perfect, far from it. A perfect rifle will never be invented. If a man must have a weapon which will knock down his game, crush it to the earth, deprive it of life, even at extreme ranges and at awkard angles, by all means let him take a light field piece into the woods. It is the only thing that will do it. But by shooting straight, which means keeping cool, and refraining from firing at everything within sight no matter what the range may be, the modern rifle will be found a most satisfactory tool.

English sportsmen in tropical lands and in Central Asia have to carry rifles of unusual power. Sir Samuel Baker swore by a .577 weighing 12 pounds, and carrying a charge of 6 drams of Curtis & Harvey's strong No. 6 powder, and a soft lead bullet weighing 640 grains. It takes a stout man to stand up against a rifle like that, but Sir Samuel was a pocket Hercules, and before his deadly aim, elephants, rhinocerii, lions, tigers and buffalo went down with unvarying regularity. Had he been alive to day he would probably have done as other British sportsmen are doing, laid aside his favorite .577 and adopted a .400 or .450 high velocity rifle. These are made upon the same lines as the small bore modern military arm. Their bullets are comparatively light, but have a velocity always exceeding 2,000 feet per second. This gives them a striking energy of from 3,000 to 4,000 pounds, yet they are light and handy as compared with the rifles in use even as late as five years ago.

But for American game we need nothing so powerful. A 200 grain, soft pointed bullet, having a velocity of 2,000 feet per second will, if it be properly placed, kill anything we have in North America.

RIFLES FOR SMALL GAME.

Notwithstanding the time and money expended upon the perfection of sporting implements in Great Britain, the sportsmen of the British Isles are a long way behind their Canadian brethren in the matter of rifles for small game. In England the sportsman is practically confined to rook and rabbit shooting when he wishes to use a rifle. Each of these are easily killed and moreover, the country is too densely populated to make it safe to fire rifles having a considerable range at random. So it has come to pass that a .250 burning 7 or 8 grains of smokeless powder behind a 56 grain bullet is looked upon as rather a powerful weapon. Here we should not consider it in that light, on the contrary, the charge seems to us a badly proportioned one for the bullet is over-light. We have found that a bullet weighing from 77 to 86 grains, gives the best results. One of the latter weight driven by 25 grains of good black powder makes an ideal rifle for shooting animals up to the size of a lynx, at a pinch it will kill a deer neatly, if the bullet has been well placed. But it is quite unnecessarily powerful for ordinary small game. A grouse, or hare, or squirrel is hardly worth picking up if hit fair and square by such a bullet propelled by the full charge.

The ideal small bore for forest shooting is the 22 calibre, but, as is always the case with these tiny bores, it is difficult to keep the rifling in good condition. They foul easily and are hard to clean, yet if neglected rust soon forms and their shooting becomes erratic. For actual game shooting, taking everything into consideration, the best 22 cartridge is the Winchester rim fire 22-7-45. It is not the most accurate cartridge, nor is it as powerful as the 22 central fire, but it hits a happy mean, and a man must be a very remarkable shot to discover any difference in its accuracy as compared with the 22 long rifle, that is shooting off hand at estimated ranges.

Owing to the attention called by the Boer war to the Mauser rifle, we were threatened with a glut of these weapons. We were told they would displace all other rifles for military and sporting purposes, and the ignoramuses scoffed at the idea of the Lee-Enfield being anything but obsolete.

We know now that all this was foolishness. The Lee-Enfield is not a perfect rifle by any means, but even the Boers prefer it to the Mauser. It has a longer range and the bullet inflicts a much more dangerous wound. The British army authorities are now working night and day on a new rifle, and it is said by those in the know, that it will bear a stronger

resemblance to the Lee-Enfield than to the Mauser so belauded by the ignorant scribblers.

A very useful little rifle for Canadian sporting is a single barrel with a Martini action and bored for the .303. These may be had at a very reasonable price in Great Britain, but, unfortunately, the Canadian gunsmiths rarely have them on sale, consequently they are little known here.

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A sportsman who has just returned from Western Ontario tells Rod and Gun that he found deer extremely abundant in Hodgins County. This is easily reached from Sault Ste. Marie and North Bay.

*

The Interstate Association Tournament at Sherbrooke, July 1st and 2nd, should prove a great attraction to trap-shooters. The Sherbrooke tournaments are always largely attended and very enjoyable. The grounds and club-houses are beautifully situated, and magautrap and expert traps are in charge of experienced help, while the clerical work is perfection. Everything goes with that smoothness so essential to a thorough enjoyment of the sport.

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Mr. Forest H. Conover, the Canadian agent of the Dupont de Nemours Co., requests that the secretaries of gun clubs will be good enough to send him programmes of all tournaments beforehand as he wishes to attend them all in the interest of the Dupont Powder Co. His address is Leamington, Ont.

THE LANDSCAPE—ON THE INTRODUCTION OF FIGURES.

Though this chapter, on the introduction of figures into a view, may seem a trifle out of place in a series of landscape photography, it is nevertheless most important, possibly more so because it is a subject to which so little attention is given in the photographic journals, and a subject which, if properly understood, may be made not only to give point to what would otherwise be extremely uninteresting pictures, but may in a measure act in the same capacity as the painters' coloring and cover, or rather draw the attention from defects of composition. By this it must not be inferred that any person who happens to be with the photographer may wander into the view and stand with hands in pockets, looking around, to give emphasis to the fact that the prospect is fine, for though it is possible to create such an idea in this way, in nine cases out of ten, unless the figure is posed in such a position, and in such a spot, it will detract from, instead of adding to, the appearance of the photogram. However, in defiance of the fact that so little is said on this subject of late years the sins against fitness are becoming fewer and fewer, and anything, that is really of the vulgar class, is extremely rare, for almost all those who are capable of producing work that is good in all other respects are endowed with sufficient innate good taste, to prevent them from making any serious errors.

In the first place, for the benefit of those who have never attempted to use figures in their compositions, and who propose giving the matter a trial, it may be stated that as a rule the "real thing" will not answer the purpose, seldom being sufficiently intelligent to take a pose without appearing awkward, when asked to do so. With some discretion and a hand-camera, however, it is occasionally possible to catch the native unawares. At one time, having been struck with the strong beauty of the sturdy fishermen lifting their nets, I decided to photograph them, and actually made three unsuccessful attempts with my tripot instrument from the stern of another boat. While expressing their entire willingness to stand for a picture, they were utterly unable to take their customary positions when asked to do so, and almost invariably, one would either turn and look at the instrument, or roll his eyes in my direction to an alarming degree, and instead of appearing to be tugging at the nets would let his arms hang in a listless, loose-jointed fashion, that was calculated to drive a photographer to despair. Finally the hand-camera was brought into play, and although the same difficulty was experienced on first presenting it at the group, on being told that it was only to see how they appeared on the finder, they resumed their work and a good picture was the result.

But if nature in its wild state, so to speak, presents such difficulties, art in the guise of a friend or two, and some suitable garments, supplies the remedy.

It is somewhat doubtful if the advice to pick up quaint and picturesque bits of costume at every opportunity will meet with the approval of the head of the household, who may not fancy the idea of acquiring a large stock of second-hand wearing apparel. And added to this difficulty, it will be found that it is curiously seldom that anything really picturesque is met with, and still harder to secure it. The wearer either imagines you are having a little fun out of him, or else that perhaps you may be a foolish millionaire and can put up a fancy price if your whims must be gratified. In trying to make such a bargain it is better to come to the point at once and state why you want the article and what you are willing to pay for it. Then, besides clothing, it is necessary to have at least a small collection of the utensils that are commonly to be met with in such scenes as it is intended to portray. In gathering this collection of cast-offs, if instead of aiming at a large and varied collection a little care is taken and variety is looked for, it will be found possible to get along without a great deal. As a usual thing each dress may be more or less arranged in different shapes, so as to appear that the model has had a change of clothes. Then it is a point worthy of remembrance that the brilliantly colored or pure white objects that are to be photographed will of necessity be reduced to monochrone, and following out this idea there is no reason why an article that is to be represented as white in the picture should really be white, when a pale green or blue will give the same result with much more suggestion of half-tone.

Just one word more on clothing: Whatever you do, avoid fancy dresses such as shepherds or milkmaids. Their day is past, or as it has been said, "they belong to a time when literature and art were in their most debased and artificial state, and should never be revived except in burlesque." The figure that is really in keeping with the scene will appear to be not *in* the scene, but *of* it, and none except the initiated will ever suspect it was from a model; whereas figures in fancy dresses will invariably present an artificial or dressed up appearance.

Although landscape artists are daily paying increasing attention to the introduction of figures into their photograms, for some curious reason or other it has been decided by judges at exhibitions, that if a landscape contain figures, it may become a genre picture at the discretion of the judges, and though in sorting the pictures this will be found very convenient, it is apt to be puzzling to those to whom the word landscape means a definite kind of picture, even though the term genre offers a considerable latitude as to its meaning. In the April, 1900, number of the Photo-American there

appeared two genre pictures, "The Anglers," by Chas. W. Hull, and "The Fairy Tale," by Nellie Contant, both of which were good representatives of their class and winners in the Photo-American prize competition. The first one, however, "The Anglers," might just as well have been entered as a landscape with figures in it, though it is possible that under this heading it would have stood less chance of a prize. The second one, "The Fairy Tale," is by far the best representative of the genre class. Not knowing the artist, I am not prepared to say whether it was photographed from a dressed-up model, or from real life in some of the European countries, but if it belongs to the former class it is certainly a well-executed piece of work. The pleased, attentive look of the child, and the busy air of the young mother, to say nothing of the excellence of the lighting for an out-of-doors picture, are worthy of high commendation. The posing of the light figures against a dark background is also a good point, inasmuch as it gives to them a certain amount of relief, that they would not otherwise have.

The Sportsman By courtesy of Photo-American

If you decide on asking a friend to wear some of the wardrobe you have gathered together, and pose for you, give him to thoroughly understand before starting that you have an idea of your own that you intend carrying out, and that no matter whether he has some better advice to offer, it will be to his advantage to keep it to himself, for, notwithstanding how much superior his ideas of proper arrangement may be, if you allow them to mix with your own, the few you have are almost sure to go wrong. Nothing truer may be said in this branch of landscape photography than that too many cooks spoil the broth. In this point as well as in other matters, some models will require considerable education, while there are others who will grasp your ideas at once and set about putting them into execution. One friend of mine, who was jaunting with me across the bush and had little thought of posing for me, on a request took a position and made an excellent subject. We had come upon a little pool, which by leaving both ends out of the plate could be made to look like a stream, and the only thing lacking was a fisherman to give point to the scene. We cut a straight pole and then, for lack of a string, notched the end and inserted a piece of dried grass that answered very well, and three minutes later saw him in his shirt sleeves with hat well tipped back and knees hunched up on the rocky bank, leaning forward and watching intently.

If you see a young child that you believe would answer your purpose, you must capture him wild, so as to steer clear of white collars and creased trousers, and other starch and awkwardness.

In looking at one of the landscapes with figures, that are usually shown, the first thing that strikes one is, that the figure is not suited to the scene or else could have been placed in a much better position ; but this only proves that the photographer was lacking in taste or knowledge, and not that the landscape would have been better without life. A landscape without a figure, usually shows to the trained mind an opportunity wasted. Far too often after the focussing is all done and everything ready for the exposure, the idea of a figure comes to one, and any one who happens to be at hand is told to wander in and take a position, generally any position they please. This is entirely contrary to what should constitute good art, for though the arrangement of the best pictures may appear accidental, the result is the outcome of deliberate educated purpose. If a figure is introduced it should be that it is the figure which gives value to, or as it were, makes the picture; if more than one appears in the picture they should look to so belong to each other, that their separation would result in the work's undoing.

In the doing of this first choose the scene and make careful notes of its arrangement and the class of figure which will be most in harmony with it, then try to decide whether a light or dark spot is required for that position in which the figure is to be placed, and also whether it is to suggest any story or to agree with any title you may have chosen. Possibly the landscape in itself may be very simple and commonplace, so much so that in it there is nothing but light and shade of which a picture could be made. What is needed is a figure that will give point to the picture and harmonize the scattered sunshine and shadow. If the subject is placed at the balancing point of the angle of the composition to give it support and in opposition to the greatest distance to throw it far away and so give the appearance of space, it will usually be effective.

The photographer seems afraid as a rule to allow his figures to look larger than dwarfs. Surely there are no technical difficulties to prevent him from introducing larger figures, so that the effect is added to, both in size and pose. Look for instance at the accompanying illustration.

This photogram "The Sportsman," is reproduced from a photograph by Mr. Louis Pesha, a well known Canadian landscape artist, and from the fact that it is a close conformer to almost all the rules of good landscape photography, it is well worthy of a little careful study.

Here the artist has chosen a subject that possesses a reasonable amount of interest in itself, even if badly rendered. The lines of the picture are well composed. Look at the right and left sides, how they produce the appearance of distance, and then at the foreground, where every blade of grass is so clearly shown as to strongly intensify this effect. This showing of the foreground has resulted in a use of the high horizon line, and so applied the rule to show most of that part of the landscape in which interest lies. The lines in the middle distance are strong enough to show it off distinctly without giving it too strong an accent nor yet allowing it to become confused with the distance.

The light and shade is admirably massed so as to give both breadth and depth to the picture. The immediate foreground is enough darker than the extreme distance to call attention to it; the light is not allowed to form a horizontal line across the landscape, but is effectively broken by the two bushes in the centre. The principal spot of illumination is the face of the hunter, and additional relief is given it, or in fact to the whole picture, by placing it directly in front of the darkest mass.

Divide the picture, as was shown in the "arrangement of mass," and it will be seen that the old man and the dog come on one of the intersections of the lines, and so illustrate the rule to place the principal object on one of the points of effect. Further, the position of the dog and man form a triangle, and so secures for the sportsman a more solid appearance than if he were standing alone, and as both his feet are shown, without detracting in the slightest degree from his appearance.

The one weak point in the composition is the blank white sky, though by the use of a second negative this defect might have been easily remedied.

This photogram is well worthy of some careful study on the part of the young landscape artist, for it can be applied not only to this article, but to almost anything on landscape photography, and the more it is studied the more will this be apparent.—H. McBean Johnstone, in the Photo-American.

Pan-American Judges.

The following are the judges and the breeds assigned them at the Pan-American Dog Show, Aug. 27–30, 1901:

Mr. James Mortimer, Hempstead, L.I.—St. Bernards, Mastiffs, Bloodhounds, Deerhounds, Basset hounds, Bull Terriers Boston Terriers, Foxterriers, Scottish Terriers, Black and Tan Terriers, Dachshunds, Yorkshire Terriers, Toy Terriers, (other than Yorkshire) Whippets and Schipperkes.

Mr. Charles H. Mason, New York, N.Y.—Great Danes, Russian Wolfhounds, Greyhounds, sporting Spaniels, Poodles, Toy Spaniels and Pugs.

Mr. William Tallman, Greensboro, N.C.—Foxhounds, Pointers, English, Irish and Gordon Setters.

Mr. C. G. Hopton, Roseville, N.J.—English Bulldogs, French Bulldogs, Airedale Terriers, Irish Terriers, Welsh Terriers, Skye Terriers, Pomeranians and miscellaneous classes.

Mr. Wm. C. Hunter, Harrisburg, Pa.—Collies.

Mr. Geo. F. Reed, Barton, Vt.—Beagles.

Mr. E. M. Oldham, Superintendent.

A Vexed Question Settled.

At a meeting of the executive committee of the International Kennel Club (Eng.) the question of sporting and non-sporting dogs was fully discussed and the following divisions of the different varieties was approved:

Sporting.—Bloodhounds, Otterhounds, Russian Wolfhounds, Irish Wolfhounds, Deerhounds, Greyhaunds, Foxhounds, Harriers, Beagles, Pointers, Setters, Spaniels, Retrievers, Bassethounds, Dachshunds, Whippets.

Non-Sporting.—Mastiffs, St. Bernards, Great Danes, Newfoundlands, Collies, Old English Sheepdogs, Bulldogs, Dalmatians, Poodles, Chow Chows, Schipperkes, Pomeranians, Pugs, Toy Spaniels, Yorkshire Terriers Maltese Terriers, Italian Greyhounds, Toy Terriers (smooth) and Griffons Bruxellois.

Terriers (other than Toys).—Airedale Terriers, Bull Terriers, Fox Terriers, Irish Terrier, Scottish Terriers, Welsh Terriers, Old English Terrier, Dany Dinmont Terrier, Skye Terriers, White English Terriers, Black and Tan Terriers, Bedlington Terriers and Clydesdale Terriers.

ANSWERS TO CORRESPONDENTS.

Fontinalis (Rochester).—There is trout fishing galore in many of the waters of Northern and Western Quebec. The only exceptions are those which contain pike and doré. Thus it comes to pass that a fall or rapid at the foot of a lake, frequently preserves it as a trout water. In one stream known to the writer the lower stretches swarm with hungry pike, but above certain low falls these are not found, the brook trout taking their place. You may get excellent fishing near St. Faustin, and at dozens of other places.

J.J.S. (Wabigoon).—The two most accurate black powder charges are the 32-40-160 and the 38-55-260, the latter really having but 48 grs. of powder though rated at 55 grs. With either of these rifles a crack shot using a rest, and shooting under favorable weather conditions, could occasionally put 10 consecutive shots in a four-inch circle at 200 yards. The 38 cal. is amply powerful for Virginia deer, but its trajectory is high, so it is desirable to judge distance correctly. The 32 cal. is a better hunting cartridge, but unnecessarily powerful for small game, and has been superseded of late by the 25 cal.

E. S. Johnson (Montreal).—The aluminum utensils are no doubt excellent—and comparatively costly. Water in an aluminum kettle will boil in less time than in an iron or tin vessel, and aluminum frying pans are easily cleaned, but after all tinware is good enough for knocking about, and on account of its low cost will continue to be used by most of us.

Vermont.—The birch-bark was undoubtedly the best craft for the purpose, that the uncivilized Indian had in his power to make, but it is very inferior to a good Peterboro. The lines of the latter could, however, be considerably improved for rough-and-tumble work—too much attention has been paid to mere speed.

J. B.—There is no such bird as ruffled grouse. The common woods grouse, Bonansa umbelloides, or ruffed grouse is meant.

J. R. (Botson).—There are elk in the foothills at least as far north as the Yellow Head pass, which is in approximately the same latitude as Edmonton. It is more than likely that this animal is found considerably nearer the Peace River, but this remains to be shown. Whenever the name "Red Deer" appears upon a map of North Western Canada it means the Wapiti or "Elk." The other deer are mule or so-called "jumping deer," and white tail.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

SUMMER PHOTOGRAPHY ALONG THE BEACHES.

H. McBean Johnstone.

Ten years ago the sea-side visitor who carried a camera was the exception ; now it is the other way round, and it is the exceptional one who does not possess one of those deadly little black boxes so dreaded by the pretty girl when she is coming out of the surf. If the summer man does not own a camera when he decides where he is going to put in the summer, he goes out and blows himself to one and takes his first lesson along the sands. It is in this way that so many well known amateurs have started on the downward path, for once they are thoroughly interested, it is only a matter of time until they are able to talk plates, and paper, and composition, and effect, and what not, as unintelligibly as the oldest and most hardened in the ranks. And if they persist in their evil ways and are not saved by some good missionary in the form of one who has been through it all, they will likely get a picture of Aunt Susan and little Mary Ann, in their bathing suits, into one of the papers and then, of course, their names are made,—they are famous.

But joking apart, there are, along the seashore, many little episodes forever happening that are well worthy of a dry plate, if one can only get them, and along the banks many phases of beautiful nature that can be translated into pictures full of life and realism, that others can look at and enjoy. Only, to get these things, you have to be a little more than a mere button presser. For instance, in looking over the album of one of these press-the-button fellows, what a similarity we see between two different workers in this branch. Not that there should not be a similarity provided that the work is good, but as a rule these productions are anything but that. In most cases improvement is possible.

First on the list of subjects that come under the head of beach photograms is the everlasting picture of groups of summer boarders. Now the summer boarder is not, as a rule, a work of art—unless it be a she,—but nevertheless, so associated is he with numberless good times that any collection in which he did not take some place would be lacking in that human interest so necessary to make the photogram worth looking at. You know it is the associations that we group around the taking of a picture that makes it valuable to us. If you do not believe that, just consider for an instant how much more interest you take in your own work than in the work of someone else, and then ask yourself the reason for it. So the summer man takes first place easily enough in this direction. Then, as a sub-division of this class of work, we have the portraying of little children busily engaged in the building of miniature strongholds in the plastic sand and shaping out, in their own imaginations, buildings too vast for the grown-up mind to conceive. And here we can get something really artistic and well worthy of a little careful study in grouping and arrangement. But it is a kind of work that one has to be thoroughly in love with to make a success of, and it is also necessary to have more or less of a knowledge of children. Somehow, you have to keep them from looking at you and engrossed in their play, or the picture will be worthless from a pictorial standpoint. Perhaps the best plan is to have some one with you to take the youngsters' minds off the instrument. It is a study in patience as well as photography, but looking at it from either point of view, it is well worthy of a little careful attention.

Or perhaps it will be possible to catch them romping over and around a bit of wreck which has been cast up on the shore, and by the action of innumerable fierce nor'westers been almost buried in the ever shifting sands. Alone it might not be a thing of beauty, but take it when a lot of merry little imps make it a scene of life and enjoyment and at once it gives to the picture that appearance of "something doing," so to speak, and takes away that look of the photogram being merely made to show the print to the doting parents. Or again, get them sitting with the fishermen, listening to marvellous sea yarns of mermaids and devil fish and what not, while the sly old salts wink gravely at one another and lose no time in keeping at their work of mending their nets. Such photograms are worthy to be dignified by the name of studies, and if the idea is properly carried out will form a welcome addition to the stock of lantern slides that your club is getting up for next winter. At once, after the summer is over, they take on a sort of dignity that it would never be possible for Katie Jones in her bathing suit to attain.

Then, too, these same fishermen with their supernaturally grave faces and shiny rubber boots, are, if you catch them at work, well worth a bit of attention. Go out in their boats with them and get them at work lifting the nets, and snap pictures of the great masses of slimy writhing fish as they quiver and glisten in the sunlight and then pour in an almost steady stream into the big flat-bottomed boat. It is great sport. The work takes place in the morning before the fog has yet fairly risen off the surface of the water, and when the sun is just climbing up over the barely distinguishable horizon. The boat rocks on the gentle morning roll of the water as it gurgles under the bow, and were it not for the hoarse oaths of men, it might be almost a fit time for a reverie, so peaceful is it all.

Or walk along the beach with the camera and catch the roll of the tide as it comes in, its vanguard breaking on the smooth sand and other wavelets following, flowing over the top of them as though they had never existed. Here and there is perhaps a sand-piper that will give life to the scene and save it from an appearance of utter desolation. O! what a wealth of studies there are to be found along the shore.

But to pass on. Marine photography might be said to form a branch of along shore work during the summer months, and while it would be impossible to touch on it here, in so confined a space, and give anything like practical instructions on it, still it is just as well to bring it to mind. The general rules to be followed are to remember to use a large plate, a quick lens and a sunny day, when it will be possible to get some kind of gradation in your sails and prevent that flat look so common to the poorer specimens of this branch. And then speaking of flatness, it might not be amiss to just mention that if there were two or three boats included in the view, instead of just one, there is a less likelihood of there being a lack of perspective. In seascapes, where there are not any trees to show the effect of distance, there is a great danger of the photogram not being divided into planes and failing to show distance as it should. Several boats in a view effectually prevent this fault.

In marine photography it is a lucky fellow who owns a camera where the shutter works outside the lens, for then there

is less danger of moisture getting on the glass and dimming the image. On several occasions I have seen what might otherwise have been good negatives spoiled by just this trouble.

Then, too, it is not necessary to touch on marine views with a sunset for a background. They are common, but somehow always pretty, though it has been said with no small degree of truth that they owe their beauty to the fact that to bring them out as moonlights (which is almost always the case it is necessary to print until all the defects are covered over,—an easy method of getting an effective picture with little trouble, and somewhat of a lazy man's way. The kind of chaps that go in for this sort of picture are the ones that take them to a gallery to be developed. Nevertheless a sunset over the water is, in spite of all, despite all argument, a most striking affair unless overdone. Catch it some day when the long black clouds are interspersed with equally long streaks of red and yellow, and then try it and see if I'm not right.

Of the many other entrancing little pictures that are to be had along the shore and back over the banks, I am going to say

nothing. The trees that make such grotesque pictures, the charming twisted roads over-hung with good-looking trees, the summer campers, and the picturesque old farmer with his straw hat and much bepatched breeches, will be all passed over, and we will go on to just a word on the manipulation of photograms of the beach type. In looking at it from this standpoint it might be said that there is nothing to say, and then again it might be that it would be possible to say a lot more than I am going to. In the first place, you never want to take a seascape without clouds. To my mind there is absolutely nothing that looks worse than a picture of water that has been left bald-headed. Sort of seems as if something was missing. My favorite method is to use that old scheme of a 10 per cent solution of bromide of potassium. Before applying the bromide wash the negative in water for about 15 seconds, and then with a tuft of absorbant cotton apply the solution to the sky-half. It is not necessary to be very particular in doing this for the action of the developer will prevent the formation of a definite line. After applying it give it another rinse and then continue the developing. It is sometimes necessary to repeat this operation several times, but in the print the trouble is well repaid. Sometimes, it is true, you will spoil a negative in this way, but ask yourself if you think it would have been worth anything without the bromide treatment, and you will often be able to willingly cast out a spoiled plate where otherwise you might be inclined to give vent to a sigh.

The light at the seaside during August is especially deceptive, being really much stronger than one would suppose, and, as a consequence, is the cause of much over-exposure. On a clear sultry day the sea presents nothing but a white glare, and the shore, only a long stretch of uninteresting sand, and the result is almost certain to be over timing. If, on the other hand, the sky is overcast with the humid atmospheric vapor of the dog days the exposure of a plate will result in a uniform gray sky, lacking in interest, but the detail in the foreground and middle distance will be considerably better. It is a good plan to stop down one half and to increase the speed of the shutter during these days, though even then it is impossible to expect clear definition in the distance, because that is usually obscured by the ever present haze. Much can be done toward rectifying this, however, if the developer is weakened and the process of development prolonged until all the detail has come out and can be discerned by the ruby light. It is on just such sultry days as this that sudden storms spring up and give one a chance to take advantage of these sudden workings of nature.

It is on humid gray days, or even when there is a fog, that it is possible to get the best photograms of people. One can always decide if the air is clear enough by looking at the ground glass on the finder, and if the faces can be seen distinctly, say at a distance of ten feet, then it is usually possible to bring them out as well in the negative. Such portraits require a full opening and a quick release of the shutter, and the result is usually better if a prolonged development with a weakened developer is given. Perhaps nowhere, as in summer photography along the beaches, is an exposure table of so much use to the amateur, unless it be that he is an old hand at the work, and even then he is often apt to make mistakes.

Just one word in conclusion. Remember that you are not at home in the house, and that almost every wind will load your camera up with sand, so keep a dusting brush handy. You'll need it.

✦

The Scrap Bag.

In looking over the portraits that are displayed by the average amateur on the walls of his camera club, there comes to one a sort of feeling that the worker has gone too much to the lighting and posing side of his subject and by some stupid

mistake or other left out all the inner spirit of the man so to speak, left out, in fact, the one thing necessary to make the photogram worth looking at, and the only thing that could possibly make it worth preserving. What is it, let me ask, that distinguishes the work of the cheap professional from that of the high priced man? Is it the "finish?" I would like to just say right here that I do not think that it is. Look at the display of the cheaper man and make a careful note of how not only is there a lack of judgment shown in the lighting and posing, but how the very expression of the face seems to say all over it, "cheap work," and then, in addition, how any semblance of expression that there was in it is all retouched out till the appearance is that of the famous Kipling housemaid, "beefy face and grubby." This over retouching is, I note—since amateur portraits have commenced to have the tremendous run that they have—just as common among the amateur fraternity as among the professionals. Turn from these to the pictures of our celebrated men, which are commonly on sale, and which are the work of men who are famous the world over as makers of good portraits, and note will you how the very individuality of the man is portrayed all over it, so that on looking at it one involuntarily says to one's self here is a man of strong character and well fitted for the position that he holds, or here is a weakling and an incompetent. Look at those photograms that we see daily of McKinley and Roosevelt, and see how they show up the very life of the men so to speak. Why I'll bet those fellows both get lots of votes on nothing else than their good looks as shown by the man behind the camera. But just imagine how these same men would look if the picture had been the production of some pot-wash amateur, who knows nothing beyond the laws of lighting and posing, and not very much of them. The real trouble is that for a long time the desire has been to catch the effect, something that is suitable for exhibition purposes, regardless of expression or likeness, and now when he is called upon to do something more he cannot fill the bill. Portrait photography is fast sifting down to a point—among professionals as well as among amateurs—when it is necessary that the production be a likeness as well as an effect, and this, taken into consideration with the fact that all persons are more or less conceited and want a little flattery thrown in, leaves the ambitious amateur with his work well cut out.

✠

That extremely reliable newspaper, the New York World, is authority for the following story, and while I do not think it can be exactly true, still I give it for what it is worth. Canaan, Conn., is fixed by the World as the locality of this truly miraculous happening, and the article ends up by saying that scientists and experts are already flocking to make investigations. But to proceed with the story. One of the villagers was visiting his hennery to collect the daily fruit and found a young pullet guarding her first egg, apparently very much amazed at the result of her efforts. And well she might be, for apart from the fact that the egg was an unusually large one for a first lay, it bore upon its surface an excellent reproduction of a chicken's head. Whether the chemicals that were in the bird's food are to blame for the strange occurrence or whether the picture is the "result of hen-influence," as the World puts it, is not definitely known. No mention is made of there being a lens used in the production of the photogram. All efforts to remove the picture failed, and the shell is now on exhibition, and will later in all probability be sent to the State Museum after the photogram experts from Yale University have had a chance to examine it. Of course I'm not saying that all this may not be true. All I say is that the World is my only authority. The World is a big paper, surely it must be a fact.

✠

Now that the summer with all its little atmospheric peculiarities is coming on, it might not be amiss to just say a word or two on that elusive quantity known as aerial perspective. When you look at a landscape that has been properly developed and printed with a due regard for what is right and proper, you will notice that in the near foreground there are considerably heavier shadows than there are in the distance, and that in between these two extremes there is, or should be, a range of half tone that gradually blends off from the one to the other. But this is not always done properly. I remember a case in point where the worker had a truly excellent photogram of distant mountains, hazy, indistinct and picturesque, in fact just what he needed to form a most beautiful background for his landscape. And would you believe it, he did not know enough to use it. Instead, he read some sort of an article on how to reduce a portion of a negative without touching the rest and then went and did away with what constituted the chief charm of his picture. Such idiocy makes me positively angry. Here I am trying by means of short exposures and careful development, and every other way I know how, to get just the effect that he had, and that he threw away. As Shakespeare puts it, "What fools these mortals be." But just try to imagine if it were not for atmospheric perspective, how our photograms would look, and what dull, flat, lifeless things they would be. Take a piece of white paper and draw across it two straight lines—the one above the other—and you will have an idea of about how much expression there could be in a picture without this aerial perspective, and at the same time learn far better than I could ever teach you how much of it you must have to make your photogram worth looking at.

✠

Do not use every kind of dry-plate that is put on the market, but instead settle on one that you consider to be a good one and then study that one alone, as to exposure and development, until you get it working to perfection. This is not a new piece of advice in these columns, but judging from the number of queries that come as to which is the best plate and the best developer, it is, I think, a thing that can stand repeating. If you do as you should, you will find that after you get accustomed to it you will get better results than if you used first one and then another, simply because a friend recommended it. Any of the standard plates will give a good result, provided that it is properly manipulated, and all you have to do is to stick to it to get good work all the time.

✠

Correspondence.

(Correspondence should be addressed to H. McBean Johnstone, Box 651, Sarnia, Ont.)

Bayard E. Sparham, Smith's Falls.—Your query has already been answered by mail. I have your other letter in reply to my request and trust that I may have an early opportunity of hearing from you.

W.R.G., Ridgetown, Ont.—In reading over your letter, asking that I recommend one of the cameras from the list that you enclose, it seems to me that it would be better if you were to write to me and let me have your address that I might write to you direct, when it would be possible for me to say things that could hardly be said here. If I thought that you had any idea of the kind of work you want to do, I would ask you to

tell me, but I suppose that you only want to take pictures. Now for that purpose I do not think that you would find either of the Panoramic instruments referred to to be of any great value. Even in the hands of an experienced worker they are sometimes difficult to manage. But you had better send me your address.

William Harrison.—It looks to me as though you had been too sparing in the use of your developer. Don't be this way, but use a little more and have enough to cover the plate without having to resort to violent agitation to do it. Streaks, and uneven development—such as you have—will be the result if too little is used. Also, it is best to use as fresh a developer as you can, i.e., as your plate will stand, for in the end you will find that it is cheaper to do this than to spoil a plate by an old and discolored solution. The grading of a good negative is only possible by carefully and slowly coaxing up all parts of the image pretty well together.

Henry A. Rickier.—At least four or five minutes should be necessary for the proper development of a good negative.

Buffalo, N.Y.—You should not attempt to take moving subjects at short range, for if you do, blurring will be the result. Take them far enough away to get a good exposure and at the same time a quick one, and then enlarge by any simple method.

Eustus McMicken.—Send me your address,—not necessarily for publication, you know, but merely as an act of courtesy.

Selfish Fish and Game Protection.

To the Editor of Rod and Gun:

To the already long list of truthful maxims, we will add another, i. e.: "Nine-tenths of the so-called fish and game protectionists are so from purely selfish motives and not from any desire to be public benefactors, or for the love of fish and game in themselves." We will only touch on one of the many instances that we could give to prove the truthfulness of the above.

The writer was for several years one of a committee appointed in a nearby state to rear and import new kinds of game suitable to restock the depleted fields and forests of that country.

We imported those noble game birds, the capercailzie and black game, from Sweden. We also brought in sharp-tail-grouse and quail, and also reared Mongolian pheasants. The cock pheasant is a most beautiful bird and would be an attractive acquisition to our game birds. Nearly all of the so-called sportsmen who visited the aviaries and saw these superb birds with their brilliant plumage, showed the true state of their feelings on game protection by expressing a wish that they—the pheasants—were released so that they could have "a crack at them." No thought or interest in them beyond the fact that they and all other game were simply being propagated and protected for their personal benefit, so that they could gratify their lust for shedding blood by destroying and killing some of nature's most beautiful creatures.

During the recent session of "The North American Fish and Game Protective Association" we kept in the background and "observed." We sorrowfully noticed that this same selfish spirit was present, together with at times a lack of "common sense" among some of the members.

It was recommended that the laws regulating the open seasons for fish and game in the different provinces and states should be uniform as to dates. The open season for moose, caribou and deer to be from September 15th to November 30th, and when Dr. Brainerd proposed a common-sense amendment, that the open season for the above named game should be allowed to range within the named dates, shortened and changed to suit different localities, the Doctor's amendment barely passed by a feeble majority.

While uniform fish and game laws should be made for adjacent woods and waters in the different provinces—say for instance Vermont, New York and the Province of Quebec should have a uniform law to protect the fish in the waters of Lake Champlain. It would be the greatest piece of folly to advocate the same law to govern deer shooting in the back woods districts of the Ottawa country, that would be suitable for the thickly inhabited state of Vermont, or on feathered game to have the same open season for the marshes of the James Bay as for the Chesapeake, or for the coasts of Labrador as for the Long Island shores, etc.

We sportsmen and game protectionists should cultivate a more liberal and thorough knowledge of the nature and habits of our fish and game before we pose as law framers for their protection and propagation.

In the thickly settled states it is a mistake to have a very short open season. When this is done it is made a novelty, and then every man who owns a gun or can beg or borrow one will be out every day during the open season, and the poor game cannot move without running against a man with a gun. Either close the season altogether or make it long enough to rob it of its novelty. Stop the marketing of game at all seasons, and fix the number that can be killed by each shooter in a day or during the season.

Game for food should be killed when in a quiet and undisturbed state, though advocates of deer hounding claim that venison is more palatable and more easily digested if killed when in a heated condition with its veins filled with hot excited blood.

The flesh and blood from a frightened and exhausted animal when used for food is little less than *rank poison*. I have touched on the above subjects very briefly. At some future time I may go into them more fully, as volumes can be written on these subjects, and even then the truth would not be half told.

Stanstead.

Montreal, Feb. 23, 1901.

It is understood that the government of the Province of Quebec is about to prohibit all fishing, for some time to come, in Lake St. Louis, Lake St. Francis and some of the other lakes of this Province.

The Annual Meet of the Canadian Canoe Association will be held at Brockville under the auspices of Bohemian A.A.A.C., in August. The war canoe race will be the principal event of the meet, and every effort is being made to have a large number of entries.

At the annual meeting of the Leamington Gun Club the following officers were elected for year 1901: A. Huffman, president; A. Harrington, vice-president; Jas. Watson, secretary-treasurer; John Conover, field captain; F. H. Conover, manager. The dates for the annual summer tournament will be Thursday and Friday, August 8th and 9th, 1901. There will be cash prizes and high averages for both day's events. An invitation is extended to all sportsmen.

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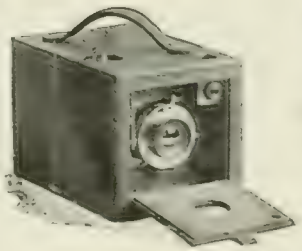

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Rod and Gun in Canada

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ROD AND GUN IN CANADA

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One Dollar Per Annum. MONTREAL, JULY, 1901. Single Copies Ten Cents.

LABRADOR AS A COUNTRY FOR CRUISING.

Dr Wilfred Grenfell, Medical Supt, Labrador Mission.

Nine years ago we made our first expedition to Labrador. We sailed from Yarmouth, England, to St. John's, Newfoundland, in order to get a pilot who would recognize at least some of the headlands, when eventually we should find the land of our destination. For our vessel was only 97 tons burden—ketch rigged—and none of us had ever put foot in the country before. We had been warned, moreover, that from Belle Isle to Cape Chidley at the south side of the entrance to the Hudson Bay Straits, there were no lights, no landmarks, no buoys or sea marks, no artificial harbours, and no advantageous aids to navigation of any kind. We had expected a warm welcome in St. John's—which we literally received, for that unfortunate city was on fire when we arrived—and the heat in that magnificent natural basin, surrounded by its wonderful cliffs, was phenomenal. The crossing had taken us 17 days from the Fastnet rock—not a bad record considering we had lost three days in fog, and had run south as far as the Flemish Cape. But the best crossing we ever made was the succeeding year on the homeward passage. Leaving St. John's, Newfoundland, on the 28th of November, we heaved to off Great Yarmouth pierhead, on the east coast of England, in exactly 12½ days—six hours had been spent with our head hove to the westward in the channel—except for that we had a fair wind varying from one quarter to the other the whole way across—and this small sailing vessel had maintained an average speed of 7.1 knots per hour from start to finish. It is easy enough to cross the Atlantic in a small boat, for after all, owing to the deep water, the seas are true, but the danger comes in trying to do it quickly. If any one wants a new sensation let him run in a small sailing boat with a low freeboard, of say three feet, for days together as we did, at times getting 240 knots out of the ship in 24 hours. The "fate" of the ship seems occasionally unavoidable as the towering green mountains rise behind, but they subside again, melting with a final rush under the stern, though the ship is apt to give very uncomfortable "yaws" from side to side, and unless you have two stout men at your wheel, and they well used to it, you are apt to let the ship broach-to, especially in the dark, and then—the Deluge.

Looking back on the various cruises we have made since then—which include journeys round England, West Scotland, West Ireland, and Wales—round the Shetlands—Orkneys—Faröes—and all round Iceland, I can only say none have greater capacities for a summer cruise for pleasure (mine have been in the capacity of a medical missionary among fishermen) than the rugged coasts of Labrador. If one looks out Labrador in an Encyclopædia, one finds its character so shockingly destroyed, one would fancy it was the natural home of the Furies, and that incessant gales hurled mountainous seas in unbroken succession through a network of icebergs against unknown, death-dealing crags. Now, being a Master Mariner and Captain of my own boat, which has now developed into an 84-ton steel unsheathed schooner-rigged steamboat, and having cruised so many times the whole coast, I am in a position to say this is very far from being the true state of affairs—that I was able to cruise one year from St. John's, Nfld., the whole coast to Okkak (north of Cape Mugford) in a small launch 45 feet long by 8 feet wide, arriving back on November 13th, shows how different is the real state of affairs; indeed, one year having had an accident to my steamer, I was able to continue my peregrinations without much risk in an open 16-foot-lugged-rigged dingy.

I have been tempted, Mr. Editor, to write you a first article on these lines because I feel sure if some of your readers, who own yachts or who make summer trips together in hired vessels, were to know how easy it is to get a pilot among the Newfoundland fishermen who knows the Labrador coast, and who has himself taken a small and often poor and ill-formed vessel year after year with perfect equanimity along that coast in search of codfish, I am sure many more would visit the coast for a summer cruise. There are a great many attractions which very few other coasts offer in these days, and a run down on the outside Newfoundland, say from Halifax, or if preferable through the Gulf along the west coast of Newfoundland, is only a matter of a few days. Every year numbers of small fishing and trading schooners go down this very trip. My advice is to any one going down, go north along the Newfoundland west coast. It is a lovely coast, exquisite scenery, and plenty of free salmon and trout fishing. Pass through the Straits of Belle Isle, a perfectly easy matter for the water is *all* deep to along the north shore, and you can run your bowsprit aground there practically the whole way, before you would touch your keel. But *return by the east coast* of Newfoundland without any doubt, for the prevailing winds, when September once comes in, are westerly, and this is still truer of October and November. This gives you a weather shore and smooth water the whole way. But beyond that, beautiful natural harbours are so numerous you can, if you wish to do things comfortably, make a harbour every night. This is what the fishing craft do. It is well to remember you would not have even the risk of a lonely tour. On both your journeys north and south, you find plenty of sailing craft of every description running north or south with you, and this is a great source of relief, if one has never cruised the coast before. For these men have the ripe ex-

perience of a life-time at this work, and one can trust them absolutely. The actual losses of life from schooners in breezes of wind outside harbours on Labrador is an absolutely negligable quantity. Collisions are the rarest things, we may say, even with ice; the boats seldom collide to do themselves any damage and there are no ocean racers to run over you in the night. I cannot call to mind in all these years one life lost or one schooner after June from breezes of wind, unless it has been by having poor holding gear and poor holding ground, or the upsetting of small boats overloaded or by squalls. Have plenty of chain, two good anchors and a mooring rope for emergencies, and I see no danger whatever in cruising the Labrador coast in summer. Some of the chief attractions are the exquisite icebergs, the finest in the world so near civilization, and really not a source of danger unless one runs foolishly, or on dark nights, or in heavy fog. Fog north of the Straits of Belle Isle is much less common than further south and on the banks. Then the wonderful long "runs," that is, stretches of navigable water shut off from the sea by islands. Between Hopedale and Port Mauvers one can cruise a good 100 miles of coast, never going into the open Atlantic, and that among countless islands, scarcely ever trodden by the foot of man, and where wildfowl of all sorts abound.

There are long bays and indraughts which have never been explored, and weeks of pleasurable hunting, fishing and exploring could be had from a yacht, or the small boat, in that region alone. There is field there for the prospector, botanist, geologist, antiquary, ornithologist, and sportsman. There are beautiful wooded islands inside Davis Inlet, and elsewhere, where no man dwells, and where one enjoys the sensations of Robinson Crusoe when he first took possession of his island. There are caribou and black bear, and every year one or two white bear are shot on the outside, I know of six last year. Spruce partridge and willow grouse are to be found, besides the waterfowl.

There are Indians of the Montaignais tribe occasionally to be met, and always some of that extremely interesting race, the Eskimo, who here come further south than anywhere else. The deep sea fishing is splendid, and the trout in virgin rivers are naturally quite unsophisticated, and are extremely abundant. The salmon will rise well in some of the rivers. One gentleman has now been two summers all the way from England for salmon-fishing in a river on the east coast. There are many unfished entirely, but whether the salmon in them would take a fly I can't say. I have little time in summer for sport of that sort. Of late years tourists have been "talking" of coming down, and a stray expedition from Harvard, Brown and Bowdoin's, have come and spent a summer in small schooners exploring, etc. All these have been thoroughly satisfied, as far as they have let us know, with the abundant capacities the coast offers, and none have found really any special dangers peculiar to Labrador.

One ought not to forget one great attraction, and that is the Grand Falls of Labrador. At the bottom of an exquisite bay called Hamilton Inlet, 130 miles up from the sea, there runs out the great Hamilton River, and 200 miles up that river is a wonderful fall called "Grand Falls," half as high again as Niagara, with an immense body of water going over it, and only on three occasions visited (so far as is known) in all history by civilized man.

The addition of a little permanganate of potass to the usual tar, oil and pennyroyal mixture is said to act as an extra repellant to the black fly and mosquito.

FISHING IN A GREAT LONE LAND.

By L. H. Smith.

Continued.

Immediately above the rapids are three miles of still water, at the head of which is the "Bay Pool." Here the river widens out, and forms a little bay, beyond which is a gorge, through which the river tears and rushes in wild fury. Navigation stops here, and the distance from this to Mountain Lake must be done on foot.

"Simpson's Stretch" is just above the gorge; I named it after a friend, the best angler I ever fished with. The stretch was about one hundred yards of smooth water gliding along on a gravelly bottom, not more than two to four feet deep. I always passed it, not thinking it likely water for fish. The first time my friend saw it, it took his eye, and he tried it. I saw him take and basket three or four three to five-pound fish without moving from his position in the river. How he would strike, play and gaff a fish, and put him in his basket! From his tail fly to his wrist his tackle worked as though automatically. He would fight a five-pounder with his 8 oz. spliced greenheart in such a way that if I attempted to do the same thing I should smash my rod into splinters. Not he, he was a born fisherman, and could basket his fish in a style that I never saw equalled by any other man. He is as much at home in a birch-bark as an Indian, and from tying a fly, striking and basketing a five-pound speckled trout to a right and left on the sharp-tailed grouse of the prairies, he is the best all-round sportsman I ever knew.

"Telford's Pool" is just above Simpson's Stretch, and this I named after another of my fishing companions. It is a good pool, with a good piece of water just above it. Some distance above these good waters are the two lovely falls, and above the last one only a short distance have you to go, when you are looking on Mountain Lake.

My "chapter of accidents" is the biography of a snelled hook and five old flies which I have carefully preserved on the first page of my fly-book. No. 1 is a No. 2 Sproat hook which I took out of the maw of a fish. He had, two weeks before, in the same stretch in the river, taken a minnow, and in striking him I snapped the gut. No. 2 is a No. 4 Seth Green fly, with which I took a fish that weighed 5½ lbs. in a little divergence from the river, not two feet deep; a most unlikely place for so big a fish to lie in. No. 4 is a small old salmon-fly, given me by an old salmon fisher in Scotland. I struck a heavy fish with it, and snapped the leader just where the fly was tied on. I had a duplicate, a "Silver Doctor," which, without moving from the spot where I was wading, I tied on and tried in the same place; at the second cast he took it, and I had him, with the first fly solid in his mouth; it is my No. 3. No. 4 is a much water-worn "Parmachene Belle." A fish carried that for a week or two as a kind of artificial belly-pin. I must have struck him foul, and there it stayed till I had the luck to have him take a fly in the proper manner, and so gave me No. 4 in my chapter. No. 5 is a "White Miller" hackle. An Indian in the winter season brought to my old friend the captain at the tank-house, and sold him, a speckled trout. When cleaning it, he took from his mouth this fly, which he sent to me. It was a fly I had lost in him the previous summer, and was another case of poor snells, which snap at sight. Moral: Don't use snelled flies; use flies tied on Pennel-eyed hooks, and a good stout six-foot leader, one that will stand a 6 lb. strain. I have long discarded snelled hooks for heavy fish. This trout weighed 6½ lbs., and, had I taken him, which I certainly should

have done with an eyed hook, he would have been my record fish. My No. 6 is a No. 4 Seth Green fly, with two feet leader attached. My daughter, fishing from the rocks on the lake shore one day, broke this in a fish; some days after, I took the same fish, and thus my No. 6 in my "Chapter of Accidents."

Whilst I believe the rivers along the north shore of Lake Superior to be among the best trout streams in the world, and that the species Salmo fontinalis is the best of all fresh water fish, it must not be forgotten that he has his whims and perplexing fancies. Some seasons the fishing is all that an angler could wish, and others so poor that he wishes he had stayed at home. This idiosyncrasy in trout I do not understand. When they are taking well, they may prefer certain flies, but I have seen them rise to almost anything that could be called a fly; again, I have seen a shoal of three to five pound fish lying in the stream, lazily working their fins only enough to keep them in position in the water. You might try every fly in your book, minnow, spoon bait, anything, everything, they would simply take nothing. I daresay fish in a river that has never been fished are more easily taken than after they have been educated to know what lures and artificial flies are; for this reason, unless I use more skill or go further up the rivers, I may never again take fish as easily as I have done.

My lamented friend Grant went one season to St. Ignace Island. It is a good place for trout, and is spoken of in "Fishing with the Fly," Orvis and Cheney Collection. This island is in Lake Superior, only a few miles from the shore, and to get to it Mr. G. and his friends hired fishermen at Rossport to take them in their safe Mackinac sailboat. Their catch was great, all with fly. They built a corral, and were saving their big fish to take away with them; an accident happened their dam the last night, and they lost all but one or two five-pounders. The next season they took no fish in the same water.

I have had similar experiences both in the rivers and in the lake. From off the rocks some seasons I have fought big fish after big fish, and by night my creel would be a load to carry; other seasons my catch has been so light that things would not be well had the camp to depend on it for a supply. I do not know the biography of a trout; I do not know what it is that, in such waters as I am speaking of, makes him some seasons easily takeable, and in others almost untakeable. I have tried, and tried well too, when I thought that all conditions were favorable, and my creel would be very light. I would watch the reports from the Nepigon—not always reliable, as the guides want customers. When these red canoe-men have sometimes told me of the catch of five and six pounders, my question "Were they taken with the fly?" sometimes disconcerted them—that is if an Indian can be disconcerted.

I would conclude by saying to those who like a summer outing for trout, that a few weeks with a good camp outfit will be well spent in the "Great Lone Land" I have written of, but the expectant angler must not forget that even there, the greatest of all trout regions, the fish have their off seasons.

A SPRING OUTING.

By A. Heneage Finch, Lidstone, Man.

It was the closing days of March. A wandering "chinook" had spent its vacation amid the hills and plains of Idaho, Montana, and Dakota, making all nature lovely—rolling up "earth's winding sheet" and spreading a beautiful emerald robe, veneered with silver threads in its place. Homeward bound it turned northward along the valley of the Red River of the North, where

"Out and in its course is winding,
"The links of its long red chain,
"Through dusky depths of Pineland
"And gusty leagues of plain."

Halting for a breathing spell at the "Heart of the Dominion" it sped westward along the beautiful Assiniboine, "with a rollicking, madcap, galloping chase," and old Boreas, who had held undisputed sway since last November over the fertile "Portage Plains," quickly and quietly slunk away northward. "And not a moment stopped or stayed he" till, behind the Duck Mountains among the tangled woods to the north and west of Lake Winnipegosis and Swan Valley, he halted "nursing his wrath to keep it warm," and awaiting an opportunity for revenge.

The dirt-laden snow had all disappeared, filling the sloughs and streams to overflowing with a discoloured fluid. For many days the industrious farmers had been seeding. Here and there a venturesome gopher, a harmless creature, with his beautiful striped coat, would be seen standing erect viewing the passer-by and scampering off to his burrow at his too near approach. Along the roads and across the newly harrowed fields an occasional eddy of wind would whirl up dust, leaves, and dried grass, increasing in speed and size till, like a huge hour-glass, it would break and dissolve on the distant horizon in a dense dust cloud. Anon a "mirage," so common here, would convert the whole plain into a beautiful shimmering lake, or suspend it inverted in the sky. But hark!

"Is it the clang of the wild geese,
"Or is it the Indian's yell,
"That gives to the voice of the chinook wind
"The sound of a far off bell?"

Yes, all day, and all night, the air is vocal with the musical "clang of the wild geese," mingled with the sharp, rapid "swish" of the mallard's wing. Northward to the marshy stretches, and adjacent wheat fields south of Lake Manitoba they were speeding there to rest and feed, and wait till winter had crept still farther northward.

How I longed to leave dull care behind and hie away to those northern wheat fields and

"Send high in air the death hail,
"Where the wild goose wings his flight."

Out on the plains, right in the midst of the best feeding grounds, lived a particular friend of mine, friend H——, with his new-made bride, who was also a particular friend of the partner of my joys and sorrows. So, on the morning of March 31st, a soft, balmy air blowing from the south, meekly and innocently approaching the queen of my heart and home, I suggested, now that the long winter was over we should take a drive round town. "Why, yes," she would be delighted! "And say! could you not drive us out to friend H——'s, and we could stay all night?" "We could just as well as not!" "Now do dear, like a good fellow!" Slightly demurring so as not to show that to be the very thing I was planning, I consented.

So procuring the use of a friend's horse and buggy, I surreptitiously secreted under the foot rugs and horse blanket my trusty "No. 12," and a bag of carefully prepared ammunition. Away we sped right merrily. The afternoon was waning as we neared the end of our sixteen mile drive, in time to locate the feeding grounds and see the lakeward flight of large numbers of grey geese and clouds of ducks.

Friend H—— was busy seeding and we quickly made arrangements that before daylight, while the teams were feed-

ing, we would set the decoys, fix our blinds, and make our bag before breakfast. In the meantime, to try our guns and ammunition and "get our hands in," we took a short run before dark and bagged a pair of magnificent mallards that rose from some stubble before us, others, where the chances were just as good, getting away apparently unhurt.

The evening passed pleasantly in conversation and song, our host and his charming young wife making our visit delightful indeed. At length seeking repose we dream all night long of the "honk, honk," of Anser canadensis, and the merrier "whink, whink," of Anser polaris, and the still more delightful "thud" which tells of an effective shot. Precisely at 4.30 the little alarm clock, which was muffled under my pillow, gave its warning whir-r-r. Dressing quickly, I descended, lamp in hand, and tapped gently on H——'s door, but he was already dressing and eager for the coming sport.

Opening the door, we are greeted by a huge snowdrift. Old Boreas had at least taken revenge and was blowing a young "blizzard," but the temperature being high the falling snow was now soft and clinging. Fully eight inches had fallen, and earlier in the night it had been colder and the snow had formed huge drifts.

H——, with the consistency of a keen sport, said, "Well, it is too stormy to work, not fit for man or beast to be out, so we will just hitch up Bob (his best horse) to the old buggy and go and have a hunt anyway. Dear knows where we will find the game, this storm will terribly demoralize them." I heartily agreed, of course, for, like the "darkey," I had "comed a purpose."

Daylight was just showing in the east when, with "Bob" well blanketed and ourselves well wrapped, having eaten a cold lunch, and leaving our spouses in the land of dreams, we made our way through the drifted lane and eastward along the section line towards a stretch of low land which might afford some open water for our feathered friends.

The wind, which had lulled before daylight, now settled down to a steady blow from the north-west. Snow began to fall heavily and swirl in blinding clouds before the wind.

Occasionally we could hear the wild discordant cries of the geese, and anon duck our heads from the rapid passing of a flock of mallards driven with the wind. But as the light increased we began to take toll, digging the fallen birds out of the soft snow.

Following the line of flight we at length come to the "camping ground," a small surface pond or lake, half a mile or so in extent, which from the discordant cries and an occasional glimpse between the drifts, we concluded to be literally "covered with game." Posting ourselves in good cover we soon bagged some fine ducks, which circled near, and by carefully imitating the cry of the goose, some disconsolate wanderer would circle too near for his own good but greatly to our delight and the increase of our pile.

All of a sudden the whole population of the lake, with unearthly cries, rose and flew over our heads towards Lake Manitoba. Bang, bang, bang, as fast as we can load and fire, till our guns are hot the air is clear and not a bird falls. So much for promiscuously firing at the mass without picking your bird. Satisfied that there must be one or more wounded geese who would give out at the first halting place, we followed them, and after a couple of miles facing the storm we come upon a few small flocks, which, when they take wing, leave a wounded comrade, which we secure after a blood-warming chase.

To our left we could hear the deep booming "honk" of some large Canadians, but they could not be seen. Making a detour we espied them on the water in a shallow slough, so we decided to "stalk" them with no more cover than the snowy banks. We had about 100 yards to creep on hands and knees, and about 35 to crawl flat on the ground in the snowy weeds. This only brought us within about 100 yards, when they took fright and rose, but four barrels spoke out. B.B. chilled shot had the effect of dropping one fine fellow in the middle of the pond where some grass held him anchored. Casting lots who should play dog, it fell to H——, who stripped and waded waist deep in the icy waters and secured him.

Making homeward in a westward direction we found, about six miles from home, the ducks making lakeward in the teeth of the storm, creeping along the ground in broken flocks, taking a north-east course, from which direction the wind was now blowing. Securing Bob in the shelter of a deserted shanty whose floor had been removed, and in the cellar of which he refused to stand, we each secured a bundle of old straw, and placed ourselves about 100 yards apart in the line of flight, using the straw covered with snow as a partial blind, lying down flat on the north side of the little ridge thus formed. Here we secured some half dozen each before the flight ended.

About two miles further homeward we found a field of old oat stooks, among which a number of birds were feeding. Tying Bob to the road fence, H——, who was getting very cold, circled round to drive them, while I crept up a depression to the edge of the grain patch and took cover and waited.

As H—— approached the game a fine mallard "flushed" before him from behind a stook and he "downed" it, at which, of course, every bird took wing. A fine flock of geese passed over my cover, from which I was only able to drop one. While retrieving this from the top of the bank, I spied what appeared through the drifting storm to be a flock of geese sitting on the snow about 400 yards away on the bank of the same depression in which I then was. Awaiting H——'s arrival I showed them to him. "Yes, they are large grey geese with their heads under their wings fast asleep." A point of bank projected about 50 yards this side of them. Now if we could reach that point unseen we could secure two each easily enough. So we proceeded at once to "stalk." Keeping in a stooping position we had not proceeded far till we found we must lower our bodies or be seen. So unloading our guns and plugging the muzzles with grass we crept through the slushy snow and snowy grass, often using our heads as snow plows to escape detection.

It is hard to judge distances in a storm, which we had found out many times already that same day, and when we reached "the point," and took a sly peep through the increasing storm we judged it to be fully 100 yards yet to where we could dimly see some half dozen forms quietly sitting. So, according to a prearranged plan we were to rise together, rush forward as far as possible before they rose and fire. We cleared our guns of snow, reloaded, and waiting for an extra blinding whirl we rose and rushed forward. As we ran nothing could be seen 30 yards away, so forward we plunged till we found ourselves waist deep in a bank of soft snow. At that instant the air cleared and we sighted our game. Four barrels belched forth their contents of B.B. chilled. Suffice it to say we gathered no game, the seats and wheel tops of a mowing machine and hay rake almost covered with snow, and now well spattered with shot marks attested the correctness of our hurried aims.

THE GUN

Riflemen are continually being offered new sighting devices whereby aim is facilitated and changes of elevation made with ease and rapidity, but, as a rule, these so-called improvements are looked at askance by the practical man. He has found by actual experience on game that his best shooting is done with a single fixed sight. A man who is in good practice soon learns how much to allow for the drop of the bullet, and his allowance is made almost with the rapidity of thought. Then, by firing four inches, eight inches, a foot, or whatever

Wolf Lake, Northwestern Que

height may be required above the mark he wishes to hit, he achieves his object. Hunting ranges are short, in North America at least; even on the plains 350 yards may be given as the extreme outside limit of long distance shooting. In the forest, big game is generally killed within 100 yards, and often the range is even less than half this.

The rear sight may be either a broad, shallow "V" with platinum line in centre, or else a straight edge with the same platinum line and a small notch, though the latter is not absolutely necessary. It is questionable whether any aiming contrivance superior to this simple sight will ever be invented; certainly it has never yet been made. This rear sight should be placed at such a distance from the eye that it is perfectly clear and without blur. A person whose eyesight is normal, and good, may be able to use the sight to advantage when not more than eight inches from the eye, but a long-sighted person will require the back sight placed farther off than that. To accommodate all ordinary variations of vision the rear sights on military rifles are placed 24 or 25 inches from the heel the butt, measured along a straight edge. The military rifle, however, usually has a barrel some 33 inches in length, so that, supposing the stock to be 14 inches long and the trigger two inches in rear of the face of the breach, there will be left between sights 24 inches (approximately . Sporting rifles with their shorter barrels are not so well off in this respect, and it is difficult to get more than about 18 inches clear between sights —sometimes 14 inches has to be the limit. In such cases it is very necessary to take extra pains when sighting, because a small lateral error of the foresight will cause a very much larger divergence of the line of fire when the bullet reaches the object. An error of 1/100 of an inch in the alignment of the foresight, with a radius of 2 ft. between sights, will result in a horizontal error of 3 inches at 200 yards. Now an error of 1/100 of an inch is a small matter, and it requires very steady holding to avoid one no greater, so it is not at all surprising that in rapid shooting at moving game the bullet does not always go where we intend.

The foresight may be one of divers patterns. Some men like a flat-topped sight, others prefer a knife-edge, not a few prefer the so-called caterpillar sight which was first brought into common use by the users of English double express rifles, and there is not a better one for game shooting. There is this difference between target work and hunting—in the former case the tip of the foresight is usually brought with much deliberation to show against the lower edge of the bull's-eye, while on the other hand the hunter places the foresight so that it covers the object he wishes to hit. A very successful hunter of big game has written that when he wished to practice, so as to keep his hand in, he pasted a black inch-disk on a picket, two feet above the ground, and fired at it at a range of 25 yds. This represented to him the brain of some carnivorous animal in the act of charging. He never allowed himself to dwell upon his aim, nor would he rest content until he could put two successive shots from his heavy express into the black.

On this continent we must adopt other methods, as our shooting is usually done at the shoulder of some large animal at a range of from 50 to 150 yds. The man who, using a fixed sight, can put most of his shots into a target a foot in diameter at these ranges, without dwelling upon his aim, should be a successful hunter.

✠

Judging by what we hear, we believe that the Winchester 30-30 cartridge would be considerably improved, were the bullet changed to a flat-pointed one with more lead exposed. On such big game as bear, moose and elk the present bullet does satisfactory work, usually expanding sufficiently, but on smaller animals such as goat, deer and wolf this is not always the case. If the Winchester company will make this improvement we shall not hear of many wounded animals getting away, as the flat-topped, 30-calibre, metal-cased bullet with exposed point is a killer.

✠

The best gun cover is one made from the skin of the common seal. A good pelt may be bought for a couple of dollars. Have this tanned and then soaked in neatsfoot oil. Cut the skin so that the hair side shall be out, and make the cover an easy fit, as you may want to get your rifle or shotgun out in a hurry. Such a cover will protect the weapon from damp and rough usage.

FISH AND FISHING

Few wealthy sportsmen can resist the attractions of our Canadian salmon streams, but it is not every day that a party, including such prominent and influential men as one that has just sailed, visits the Labrador coast. The steam yacht Wacouta, owned by Mr. J. J. Hill, President of the Northern Pacific carried, in addition to the owner, ex-President Grover Cleveland; Colonel Lamont first vice-President of the Northern Pacific; Frank H. Baker President of the First National Bank of New York; C. W. Dunn General Counsel for the Northern

Pacific; M. D. Craver, General Counsel for the Great Northern, and several ladies. Mr. Hill is the lessee of the Esquimaux River, where he has a snug fishing lodge.

✣

NEPIGON FISHING

We have received numerous inquiries of late with regard to the Nepigon, so, in order to be able to give the latest information up to date, Mr. Alex. Matheson, the Hudson's Bay Company's factor at Nepigon, was written to. His reply is appended.

"Yours of the 30th to hand; I will proceed to answer your questions with regard to the fishing facilities, etc., in the rotation you have them in your letter.

1. The Hudson's Bay Company can supply tourists with complete camping outfits—comprising tents, bedding, cots, cooking utensils, provisions of the best quality, and at reasonable prices.

2. The best fishing is from the first of June to the first of September.

3. The flies are nearly extinct by the first of August, should it be a dry season—they seldom last over the 15th.

4. We have no difficulty in supplying first class guides, who know the river well, and the best fishing spots. The prices charged are as follows:

Head Guide - -	$2.00	per day and board.
Cook - - - - -	2.00	" "
Paddlers - - -	1.50	" "
Rent of canoes - -	.50	" each canoe.

5. Nearly all the trout taken from the stream are caught with fly. The best varieties are the Jock Scott, Sportsman, Miller, Silver Doctor and others. We carry a complete stock of fishing tackle of all kinds to choose from, this being a specialty.

"We always like to know in advance when to expect tourists so that we can ensure punctuality for their despatch up the river, and in securing guides. I enclose a small card for your guidance, and any other information you need will be gladly furnished."

The season for speckled trout in Ontario is from May 1st to September 14th. All persons are required to obtain a permit to fish in the waters of the River Nepigon, which may be procured on application to the proper authorities. Permits are not necessary in other inland waters, excepting interprovincial waters, and then only from parties who cross for the day and who do not engage boats from Ontario boatmen or stop at Ontario hotels. The fee in such cases is $5.00 a rod.

It is illegal to sell, barter or traffic in speckled trout, bass or mascalonge taken or caught in provincial waters before the first day of July, 1903.

The fee for a license to fish in the Nepigon is $15 for two weeks or less, $20 for three weeks, and $25 for four weeks, where the applicant is not a permanent resident of Canada; and $5 for two weeks, and $10 for four weeks where the applicant is a permanent resident of Canada.

✣

SICAMOUS.

(The-Place-Where-They-Catch-Fish.)

You will see on consulting a map that Sicamous Junction is situated by the great Shuswap Lake, its name being in Indian, The-Place-Where-They-Catch-Fish. For ages this place has been known to the Shuswap and Okanagan Indians, as well as to a few wandering white men, as a good fishing ground.

During the shooting season the sportsman will find here two species of deer: the mule deer (locally known as the black tail) and the caribou. The former are abundant on the low lands near the lake, while the latter frequent the higher altitudes. Bear are very numerous, and I frequently buy their skins from the Indians; they are both black and brown. Further back in the mountains there are lots of grizzlies, but the natives generally avoid them and few skins are brought in. The Indian hunters dread the grizzly on account of its [illegible]ous nature and wonderful vitality.

It may seem strange to dwellers in the East, but it is true nevertheless, that we have no trails near Sicamous, our only path being the railway track. The Indians do all their

hunting from canoes on the lake, and as they know all the watering places where the game come to drink they find no difficulty in securing all they want.

Travellers who wish to visit the beautiful Okanagan Valley and lake, diverge from the main line at Sicamous Junction. Up the valley there are several points such as Vernon, Kelowna and Penticton, from which the sportsman may start on a trip, certain that he will find all species of game common to this part of British Columbia, such for instance as bear, deer, sheep, goat and mountain lion. At these points guides, pack animals and outfits may be secured. The country is admirable for riding over as there are good trails everywhere. The fishing in Okanagan Lake is excellent.

F. W. Padmore.

Sicamous, B. C.

✠

FISHING IN THE LAURENTIANS.

By Jock Scott.

The brook trout is very widely distributed in Canada, but there are regions in which it is more abundant and more widely found than in others—in some parts of the country, indeed, it is altogether absent, but these are the exceptions. Go where you will, however, you will not find it in greater abundance than in the great territory extending from Labrador to the Ottawa River, known as the Laurentians. Here is a country of granite rock and waterways innumerable. The lakes and streams are clear as crystal, there being no sedimentary deposits to render them turbid. They are cool, and thus in every way suited to the needs of the salmonidae.

There are hundreds, aye thousands, of lakes which have never been fished by civilized man. Not all of these contain trout, because, unfortunately, into some the northern pike and wall-eyed pike (the doré), have got a foothold, and wherever this is the case you will find no speckled trout, although you may find large quantities of the great lake trout, miscalled salmon trout by the settlers. One reason for this is of course that the pike is more or less of a surface fish, and is never found in deep water, while the lake trout excepting during the spawning season, sticks to the deep, and so is safe from its shark-like enemy. Moreover, the lake trout grows to so great a size that it is only in its youthful days that the pike can eat it.

In a country where trout are so abundant it would seem that trout fishing must be invariably successful and a comparatively simple matter; but it is not so. There are no waters that are so rife of disappointment to the wandering fisherman, though on the other hand few are more prolific of sport when they are understood. In a great many of the lakes there are vast quantities of small fish, always spoken of as "minnies" by the backwoodsman. These fry form the principal diet of the trout, and, as all fishermen know, there is nothing that the trout feeds upon with such eagerness as the young of his own or some other species. When they can get an abundance of fry they will not take the trouble to rise to the surface after the fly.

This is why some of the lakes yield so much greater reward to the humble bait fisherman than they do to the experienced fly fisherman. In such cases trolling is almost the only means of getting them in a sportsmanlike way. It is quite fashionable to make light of trolling, and there is no doubt that fly fishing is cleaner work and better sport, but when the choice is between going home with an empty creel, or using the minnow either naturally or artificially, most men who are not bigoted will use the minnow. But there is trolling and trolling. Some people think that all they have to do is to walk into a tackle shop and buy an artificial minnow as big as a humming bird, then rig it up with about twenty yards of water cord, a couple of brass swivels and a lump of lead, after which they may repair to whatever water suits their fancy with the certainty of catching enormous trout. The experienced man works rather differently. His first care is to secure some nice fresh minnows. These he dries carefully and preserves by packing them in salt, or by bottling them in one of the half dozen preservative solutions known to the craft. These fish should be from 2½ to 4½ inches in length. A flight or gang of hooks is next prepared. The patterns of these gangs are very numerous, but one of the most successful consists of three triangles and a sliding lip-hook. The bait properly placed upon such a flight will deceive the wariest old trout that ever swam. Upon the flight there should be a trace of not less than 9 ft. of stout salmon gut, having in its makeup at least three free-running, small-sized swivels. To this trace the reel line is tied, a small boat-shaped lead being placed immediately above the trace—this shaped lead preventing kinking. The reel line should be ordinary enamelled silk line, strong but not too heavy. The rod generally selected is some ten feet in length, weighing not less than 10 oz., and the reel which answers best is one with a broad barrel and plain click. With such an outfit a man may visit the most refractory lake in the Laurentians, even in the heighth of summer, feeling tolerably certain he will take all the large trout he requires.

To come back to what the purists call legitimate fishing: in the month of May anyone with sufficient intelligence and vigor to bait a hook may be perfectly sure of taking trout. All nature is emerging from its long winter sleep. The time of torpor has passed, and the trout now once more in good condition are keenly sensitive to the pangs of hunger. They will swallow almost anything. The big bags of the year are generally made by the persevering, prosaic man, well supplied with earthworms. The number of fish to be caught at that time of the year is prodigious. Sportsmen generally prefer to stick to the fly even in early May, and they often fill their creels. But, of course, they are contented with very much smaller bags than the French Canadian habitant whose sole idea is to tempt the trout with a juicy lob worm on a cod hook.

The spring that is just closing was an early one, and fly fishing was as good as it ever will be by the 15th of May. The other kind of fly was also very much in evidence several weeks earlier than usual, and it is to be hoped will disappear the sooner in consequence, but it is never safe to bet about these things. By the 24th May the lakes and streams of the Laurentians were filled with trout leaping madly for the fly, and the quantities brought out from the nearby lakes when the holiday makers returned to the big cities would have made a load for a small schooner—but of course these people never reach the waters lying back in the woods where the real *good* fishing is.

June is a magnificent month in the Laurentians, though inferior perhaps, in some respects to May or September. During the middle of the day, when the sun is bright, the surface water gets rather too warm to suit the fastidious trout. He then keeps to the deeps or, preferably, near where some cool spring discharges into the lake, so from 10 o'clock in the morning until four in the afternoon the fishing is, as a rule, indifferent, but during the early morning hours, and from late afternoon until dark the fish are on the feed, and the angler is likely to get all he has a right to.

July and August are not so satisfactory from the fisherman's

point of view. On cool, dark days the fishing is frequently excellent, and almost invariably the late afternoon and evening fishing is worth its cost, but the excellent sport of the spring is not duplicated until the leaf begins to change color in September. Then angling in the Laurentians it truly delightful. The Black fly, and the mosquito, and the brulôt have disappeared. The foliage is a dream of harmony, and the soft, hazy atmosphere of Canadian autumn throws a fleecy veil over the glorious woods. The waters are like burnished steel and the ring made by the rising trout is seen from afar. The fish are not in such fine fettle as they were in June, for the spawning season is drawing nigh, but even yet they are good enough for a king or a president—according to the way you look at it.

To be Continued.

TAKAKKAW FALLS.

The Canadian Rockies are, as yet, almost unexplored. They stretch for many hundreds of miles in a general direction west of north, from the 49th parallel, which is the international boundary, to the very shores of the Arctic Sea. The least width is 500 miles. In the far north they cover 750 miles

of longitude, not all in one range, but in a series separated by valleys, almost troughs, following the general trend of the main uplift.

To show what a vast and interesting field here awaits the explorer, it may be mentioned that within 30 miles of the main line of the Canadian Pacific Railway a party of hunters recently stumbled upon a valley—probably but one out of hundreds—whose attractions are equal, if not superior, to the great Yosemite. All the elements of picturesque beauty are to be found here. Peaks whose jagged summits pierce the thin air 11,000 ft. above sea level, hundreds of square miles of eternal blue ice, forests of gigantic conifers, such as only exist upon the Pacific slope, and, lastly, waterfalls the like of which hardly exist elsewhere.

The reputation of this valley having at length reached the outside world, an engineer and surveyor visited it last autumn. He found its average elevation to be 6,000 feet, and the depth of the larger of the two more important falls 1,400 feet—a first leap of 200 feet being followed by a tremendous plunge of 1,200 feet. This is to be known as the Takakkaw Fall; its rival, equally beautiful and of fully as great volume, will be known as the Twin Fall. Here the milky glacier water makes one tremendous leap of 1,250 feet into the bed of the canon.

When such discoveries as these await the explorer within 30 miles of Field, B.C., the possibilities which lie beyond are such as to encourage the belief that ere long the feet of at least some of the young men will be turned in that direction.

HORSE NOTES.

For nearly half a century some of the best blood bred on American soil has been sent to England to compete in her greatest racing meetings, and although the Derby and other classic events have occasionally dropped into the hands of American owners, it has not been until the present year that American-bred animals, riders and trainers have been considered dangerous competitors on the English turf. The Derby, Oaks, Alexandra Plate and many other of the best events in England have been carried off this year by owners from this side of the water, and from the number and high breeding of the entries for future events made by Messrs. Reeve, Whitney, Crocker and others, this tide of success would appear to be as yet only at half flood.

These results, however, need not be considered otherwise than natural, as they are the consequence of the union of the choicest American and the best imported English strains.

*

Prophets of ten years ago who predicted the almost total annihilation of the horse will, with surprise and interest, read of a few startling events which have taken place in the equine world in the past few months.

At a sale held by Mr. Walter Grand, of the American Horse Exchange, New York, he sold forty-one carriage horses for a sum exceeding seventy thousand dollars, or an average of seventeen hundred and thirty-seven dollars, also at the sale of thoroughbreds, the property of Mr. J. B. Haggin, of Rancho del Paso, Cal., on June 14th, at Sheepshead Bay, two hundred and one colts and fillies brought the enormous sum of two hundred and thirty-three thousand nine hundred and twenty-five dollars, or an average of eleven hundred and sixty-three dollars and eighty cents each. Many of these animals sold at prices running from five to ten thousand dollars, and one reached the unprecedented sum of thirteen thousand dollars, the animal being purchased by Mr. Sydney Paget.

Never in the history of the horse has he commanded such high prices as at present, notwithstanding the statements to the contrary made by those interested in artificial modes of locomotion.

KENNEL DEPARTMENT

Conducted by D. Taylor

Correspondence is invited on all matters pertaining to the kennel, and items of interest concerning man's best friend will be welcomed. An effort will be made to furnish correspondents reliable advice as to the care and treatment of dogs in any case submitted. All communications for this department should be addressed to D. Taylor, Rod and Gun in Canada, *603 Craig street, Montreal.*

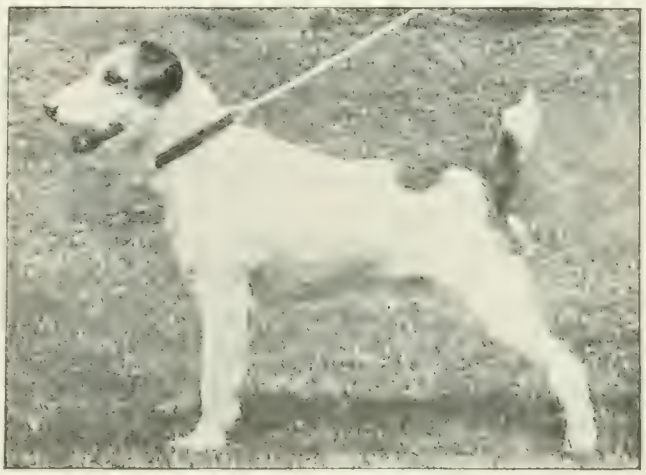
THE CANINE ASSOCIATION'S BIG SHOW.

The promoters of the bench show held in the Victoria Skating Rink on the 29th, 30th and 31st May have every reason to feel elated over the success of their venture. There was a record number of dogs benched, a little over four hundred, which, with the liberal classification and the unusually large amount of duplications, brought the total number of entries up to over nine hundred, thus making another record. In consequence of the rush of visitors, the aisles were at times uncomfortably crowded and the attendants and owners experienced no little difficulty in getting the dogs to the judging rings. This, along with the fact that there were a good many clerical errors in the catalogue, some of the dogs being wrongly entered and numbered, several not appearing at all, tended to delay the judging somewhat, and it was not until late on the evening of the third day that Mr. Lacy (who was entrusted with all the breeds but Fox, Irish and Scottish Terriers) finished his onerous task. Mr. James Lindsay judged the classes mentioned above, and got through a painstaking examination of the dogs submitted to his judgment in good time, his decisions giving general satisfaction. Through the regrettable death of his little daughter, Nettie, on the second day of the show, the Association was deprived of the valuable services of the superintendent, Mr. Alex Smith, and as a consequence the show committee worked under considerable difficulty; still, however, if at times there was a little confusion there was really no particular ground for complaint. Everyone in authority did the best they knew how and showed a willingness to expedite matters which amply compensated for any slight mistakes which may have occurred.

Among the visitors from a distance were: Mr. James Mortimer, of Turf, Field and Farm; Mr. James Watson, of Field and Fancy; Mr. A. A. McAllister, Peterboro, Ont.; Mr. George Bell, Toronto; Mr. Parker Thomas, Belleville; Mrs. A. A. Macdonald, Deer Park, Toronto; Mr. and Mrs. W. H. Tallis, Grand'Mère, Que., etc. It was gratifying to see such a large representation of the fair sex among the visitors, many of the most prominent society ladies seeming to take a personal interest in the awards, the kennels displaying a blue ticket or two being generally surrounded by a bevy of fair admirers.

Taken all through, the dogs generally were a very fair average even if there was an absence of many of the well-known cracks of dogdom. It was also quite in keeping with the reputation Montreal has acquired as a collie stronghold that this breed should stand out most prominently. About eighty altogether were benched and the greater proportion of these possessed undoubted merit. Next in order in point of quality came English Foxhounds, with one or two exceptions the classes being filled with entries from the kennels of the Montreal Hunt and the Club de Chasse à Courre Canadien, which sent the cream of their packs.

Taking the breeds in catalogue order we find St. Bernards, which, with the exception of Messrs F. & A. Stuart's entry and exhibit, were rather of a nondescript character. As far as size went they were all right but most of them were badly gone in the legs and of the cow-hocked variety. The Stuart boys' Lady Hereward has both character and quality, and was really the only one in competition calling for special notice, the others not being in the same class at all. She won right through. The Earl of Shrewsbury, same owners (for exhibition only), is a remarkably well proportioned dog, sound in limb with true St. Bernard head and expression. Newfoundlands found a good representative in Wallace, who was easily first. Mastiffs and Bloodhounds were blank. It is a pity to see so little interest taken nowadays in the grand old English mastiff, as a more faithful guardian of the home does not exist. Russian Wolfhounds were a nice class and most of them gave every evidence of quality. The best of the bunch was C. P. Simpson's bitch, Akorlina, which won through her own sex classes and also beat



MR. D. W. OGILVIE'S BANK NOTE

Winner at Montreal Show: The President's Medal, the Association's Medal, the C. K. C.'s Medal, the Can. Fox Terrier Club's Medal for best wire dog, the C. F. T. C.'s Medal for best Terrier in Show, Henry Birks & Son's Silver Cup for best wire, H. M. Walters' prize (oil painting of winner, value $40), special for best sporting dog, etc., etc.

the winner in open dogs. She has a grand body, strongly and yet finely built with a great coat, and would be in the money in almost any company. Greyhounds were only fair the best of them being Captain, a fine well-formed brindle.

Pointers and English setters were lacking both in quality and quantity, and the same might be said of Irish setters, the judge seeing fit to withhold a first prize in the dog puppy class. Irish Water Spaniels while short in number were very good types of the breed. Brian Boru, first in novice, was beaten by Mickey O'Camp in the open, the latter's superior condition and better coat no doubt gaining him the premier position. Field Spaniels were moderate both as to numbers and quality. There was quite a large entry of Cocker Spaniels but as a number of these did not appear in the catalogue considerable confusion arose over getting all the dogs into the ring, the numbers and classes being so mixed up. The principal exhibitors were Bay View Kennels (Fred. T. Miller), Trenton, Ont.; George Bell and A. T. Mead, Toronto. Bay View Blackbird and Bay View Beau, two nice little dogs of good

(*Continued on Page 11.*)

ROD AND GUN IN CANADA

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All communications should be addressed to:

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

22 Lincoln Ave.,
Newark, N.J.

Enclosed find cheque for $2.00 for two copies ROD AND GUN in Canada. We have "lots" of good fishermen (and dear me what a stock of stories they have) but no fish to compare with Canada. (God's country for fishermen).

Yours truly,

J. L. WERIZ.

While we thoroughly believe in modesty and self-effacement, there is such a thing as having those qualities abnormally developed, and for fear that some of our good friends should accuse us of this failing we are going to blow our own trumpet—just one little blow—after which we will promise to be very good again and hide our light under several bushels if necessary.

Two years ago ROD AND GUN was born. Heretofore magazines of this class had failed lamentably in Canada, and it required some pluck to invest in an undertaking which the "I-told-you-sos" had already condemned. But the verdict of sportsmen has shown that the judgment of the men who started it was as good as their courage. In two years ROD AND GUN has become the acknowledged organ of the man who loves the wonderful Canadian wilderness, with all its charms, mystery and magnetism, and from nothing our subscription list has grown to very respectable proportions. And we can say, and say honestly too, that what we have won we have won by sterling merit; because we supplied something that was needed—reliable information. ROD AND GUN is happily situated; it is published in the largest Canadian city, and numbers among its friends every Canadian sportsman of note. There is no information bearing upon our own field which we cannot obtain from the greatest living authority upon it in each case. We do not guess, and we do not evolve information out of our own inner consciousness. We do not tell a man to go to this place, or to that place, unless we know for a certainty that what he seeks is there, and that it will be no fault of the informant if the success does not warrant the effort.

That the work ROD AND GUN has been doing is bearing good fruit is shown by the number of inquiries which have been received from the United States. The letters of inquiry received so far this year are ten times as numerous as those which came to hand during the corresponding months of 1900, and of course those of 1900 were very considerably more than those of the year which preceded it. All that Canada requires in order to become the great playground of eighty millions of people is that her attractions shall be made known—and ROD AND GUN will make them known.

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Bass fishing in the Province of Quebec has been legal ever since June 15th, but few indeed are the sportsmen who have been thoughtless enough to catch the parent fish as they guarded the young fry from the foes which, without that protection, would surely have encompassed their destruction.

What shall be said of the man who shoots the mother grouse and leaves her fledgelings to fall a prey to the squirrel and the mink? It would be difficult to find a single extenuating plea for such a creature—and the man who catches bass on the 15th of June, in Quebec at least, is a twin brother in depravity to this wretched pot-hunter. The bass is quite unlike the trout, and when robbed of the protecting care of the parent fish, the alevins fall a ready prey to any predatory fish which may happen to discover them. For several days the little fry remain in a dense mass in the nest, and as they are utterly defenceless the gaping jaws of a pike will swallow dozens of them at every snatch. Nothing but the courage and strength of the parent fish can save the young bass. The spines in the dorsal fin are very strong and sharp, and the old black bass knows no fear, hence he is an antagonist which all the prowling robbers hold in respect.

We feel assured that none of our readers went bass fishing in June.

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The editor of the Newport, Vt., Express and Standard has just finished a most interesting series of letters descriptive of a trip which he made last year in Northern Quebec. This gentleman, in company with a friend, left Newport on the 21st of August and returned about the 20th of October. During the interval he passed through a thousand miles of wilderness in his canoe. He crossed sixty-seven lakes and made one hundred and fifty portages, the longest being four miles. The route traversed was from Kippewa to Grand Lake, and then following the height of land to the head of the St. Maurice, which he descended to near its mouth at Grandes Piles. He says: "With all its hardships it was a trip never to be forgotten. The country we passed over is unlike any other part of this whole continent. Indeed I know of no other part of the whole world that is so thickly and widely diversified with lakes and rivers as this vast wilderness south of the James Bay." Mr. D. W Hildreth is to be congratulated upon having made a very plucky and successful trip, and we hope that he will make many another one.

quality were first and second in novice but were beaten in limit by the same owner's Bandit, a good sound dog in every way but in rather poor coat, he in turn was beaten in open by Geo. Bell's well-known Standard. In novice dogs, any solid color but black, Mrs. H. Molson's Larry was an easy first. He won right through his classes and was also first winners, Standard being reserve, a decision which was open to criticism. Standard is a more typical cocker in every way but his coat not being in the best of trim probably influenced Mr. Lacy. Taken all through the bitches were superior to the dogs. There was a close run between Geo. Bell's I Say II., the winner ; Gypsy (rather light, but with beautiful eye and fine expression); Tick, kennel mate to the winner, and Ottawa Belle, who begins to show age.

Collies, as we have said, were the most prominent feature in the show and, for the large number exhibited, the general excellence was above the average. This is the more creditable when the fact that all the entries were local is taken into consideration, and it is questionable whether any other district in Canada could do likewise, taking quality and numbers into account. In the dog puppy class there were fourteen entries and Mr. Lacy had a pretty hard task before him in making his selections, if we except Mr. Reid's Logan's Earl, who was a comparatively easy first. He is a big dog for his age, long and racy looking, with a fine head and splendid natural ear carriage ; he is also strongly built and showed a capital coat. Indeed his only faults are a rather light eye and a little wideness in the front legs, which is more noticeable through an accident to the right foreleg in his younger days. Mr. Joseph Quinn's Lord Minto was placed second, a dog with a fine expression and good ears but a bit short in the head, and A. B. Strachan's Highland Chief third. A very nice dog which might have held a better position with perfect justice was Mr. Alexander's Mountain Victor. He is brimful of quality but being a late puppy was scarcely matured enough to come against the bigger fellows. If he holds on as he is doing, however, he will yet make his mark. He is well formed every way and with fine markings had the best expression of any collie in his classes. The novice class was a repeat, although quite a number of new dogs appeared on the scene, amongst them being Mr. Arthur F. Gault's recently imported Royal Scot, a black, tan and white, that has done quite a lot of winning in the Old Country. He had quite a following of admirers and it was fully expected by them that he would come out very near the top. To the astonishment of the prophets, however, he was among the firts to be turned down, a decision we have little sympathy with, because, although he is rather short and with a heavy coat had rather a "crulgy" appearance in the ring, he has all the characteristics of a true collie. He is deep-chested, excellent legs and feet, good length of head and finely carried small ears, with a nice expressive face, but he certainly has not the racy look about him demanded in the collie. Of course his luck followed him through the other classes and he was dismissed with a simple commended card in the limit and open. The limit class saw the entry of Knight Errant II and King Edward VII (litter brother to Earl), who looked as if he had been sadly neglected. Notwithstanding King Edward's dilapidated appearance he was placed ahead of his brother, maintaining the same position in open and also coming first in winners. Of Knight Errant II it must be said that he deserved a much better position than "highly commended." Although seven years old he is a marvel for his age and had unquestionably one of the best formed heads of any dog in the show, good in ears and expression, splendid action and capital coat. Being largely white, Mr. Lacy may have had some dislike to his appearance on this account. The veteran Ch. Old Hall Paris, exhibited by the Westmount Collie Kennels but not for competition, looked fit to win in any company and was greatly admired by those who know a good collie. In the classes for dogs other than sable and white Royal Scot was given the blue ribbon so that his kennel was decorated with three first prizes confined to color. Heilan' Rory was second. In puppy bitches the most noticeable was Alex Smith's Glenlivet Lassie, nine months old, exceedingly well matured for her age, good length of head, very sweet expression and beautifully carried ears. Besides she has an abundant coat of the right texture, good in bone, remarkably fine springy action and proved herself a grand shower. Mr. Stalker's Strathardle Queen, rather light in body and bone and head a shade too finely drawn, was second ; Logan's Daisy Blossom, a good sized one and plenty of bone, was third. The novice class was a repeat and in the limit Wishaw May, from Coila Collie Kennels, appeared on the scene and split the first and second prize winners. Wishaw May is a good size, has a long, finely formed head with perfect ears, but she was not shown in her best condition, being taken up with the duties of maternity. There might have been a different story to tell had she been in full bloom, as it was Mr. Lacy was quite justified in assigning her the position he did. No change was made in the open or winners, Wishaw May being reserve to Glenlivet Lassie. In the bitches classes for tricolors W. S. Elliott's Blair Athol Patti, a nice shapely dog with plenty of collie character was first, the old veteran Auchcairnie Patti, who despite her age wears well, second. There were also a number of local classes and competitions confined to members of the two collie clubs which would be tedious to go over as they were mainly repeats.

Bulldogs were a fairly representative class. Mr. W. H. Tallis' Tippoo Sahib beating Russell A. Alger's Rufus in the light weights, also disposing of Mr. Colvin's Fop, which scored first in the heavy division, in the winners.

Bull Terriers were another feature of the show, over thirty being benched, and the quality was all that could be desired. There were no less than fifteen classes, four of which were local, the others divided by weights. In the puppy class, both sexes, Mr. J. P. Payan's Edgewood Cliff was first. Bay View Flyer was first in the open light weight with the winning puppy second ; open heavy weight—T. A. Armstrong's Ottawa Major first, D. Forbes Angus' Lord Roberts second. Bay View Beryl, shown in fine condition, was first in open bitches and winners with Ottawa Biddy reserve.

Airedale Terriers (seven shown in thirteen classes) were hardly up to the mark if we except Ch. Dumbarton Lass, entered to compete for specials only, and she was certainly not in the best condition, being much gone in coat.

Boston Terriers and Beagles do not call for special mention, and in Dachshunds there was little competition. Mr. L. C. Ogilvie's Vento Silhouette won in novice, limit and open.

Over fifty Fox Terriers (wire and smooth) were shown, and Mr. Lindsay had his hands full in placing the ribbons after the first selection in wires, the majority being a pretty level lot. In the dog puppy class for wire-haired Mrs. Macdonald's Red Wolf won, following up his success in the novice. He is a handsome puppy on the small side but exceedingly well formed. Cash Box second and Rattler third should have changed places and probably would have done so only for the condition the latter was in. The limit class brought out D. W. Ogilvie's Bank Note, Mrs. Tallis' Long Face, Mrs. Macdonald's Aldon Vandal, and several others. Bank Note was easily first

in the race. He is an exceptionally good terrier, was set down in the pink of condition and at the present time will take a lot of beating. He has a good length of head and punishing jaw, deep chested and strongly yet gracefully built—altogether a very desirable dog and undoubtedly the best of the bunch. Besides the best terrier in the show he won a whole lot of specials, amongst which was the President's medal for the best representative of any breed. Aldon Vandal came second, and Long Face (who won all through last year) third, but their positions should have been reversed. Long Face is a very stylish dog, a little leggy perhaps, but has a fine head and grand coat. Through Aldon Vandal not being entered in open he came in for second place and reserve to Bank Note in winners. In bitches Mrs. A. A. Macdonald's exhibits had it all their own way, Aldon Gaiety being first in novice, Aldon Ecstasy first in limit, and Aldon Sequel first open and winners. Outside of these there was nothing particularly noticeable, but this did not detract from the position they occupied and to which they were fully entitled. In the local class for wires Mr. Jos. Stanford's Banjo, a typical terrier of much merit, won first in puppy and novice. The smooth terriers were not quite so good as the wires, the best of the lot being H. Parker Thomas' Elmwood Holiday (first in novice, second limit, open and winners), and G. Bell's Fordham (first limit, open and winners). Under the condition he was shown this dog scarcely deserved premier place.

Irish Terriers were not conspicuous either in number or quality, the best of the dogs being a puppy by the famous Masterpiece, Kinkora Kerry, from the Kinkora Kennels. The bitches were well represented by Ross & Brown's Wicklow Girl, her principal fault being a bit softish coat but otherwise a good sound terrier and likely to turn out a good brood bitch.

Scottish Terriers were few in number but high-class quality. Coila Kennels Midlothian Chief and Wishaw General were first and second respectively, both exceptionally fine specimens of the breed. The same owners Snap Shot was first in the limit and open bitch classes with H. Parker Thomas' Heel and Toe a close second.

Amongst the smaller dogs the only other exhibit worthy of special mention was the splendid quintet of Skye Terriers shown by Mr. Geo. Caverhill. In Prince Royal, Moorlander, Jubilee Queen, Diamond Queen and Silver Queen has a lot which would be hard to match anywhere, and they were shown in the very best of condition, reflecting no end of credit on the kennelman, Mr. Buckingham. Mr. Caverhill also showed Kelso Badger, a rare good mustard Dandie Dinmont. The number of pet dogs was limited, and there was a falling off in Yorkshires from former Montreal shows, while Montreal society ladies have evidently not yet been seized by the Pomeranian craze.

The show, we understand, was a success financially as well as otherwise, and there is some talk of a repeat in September, after Toronto. Whether the idea will materialize or not it is difficult at present to say.

✣

After the Montreal Show Knight Errant was sent down to Mr. Mortimer's kennels at Hempstead, L.I. He arrived there safely enough and was being taken out of his crate when he got away, cleared a fence and has not since been found.

✣

Mr. Joseph Reid having won the Licensed Victuallers' Cup three times in succession (three different dogs), it now becomes his own property.

Some of the editors of the kennel press on the other side are having a rather animated debate over some of Mr. Lacy's decisions, but the old "Stock-keeper" is not losing anything in the argument. It is quite a matter of business, you know, and those who know look complacently on and smile.

✣

Judges for Toronto Dog Show.

Mr. J. S. Williams, Toronto—St. Bernards.

Prof. Wesley Mills, Montreal—Mastiffs, Bloodhounds, Great Danes and Dachshunds.

Mr. John Davidson, Monroe, Mich.—Russian Wolfhounds, Deerhounds, Greyhounds, Pointers, Setters, Chesapeake Bay Dogs and the miscellaneous classes.

Mr. James Mortimer, Hempstead, L.I., N.Y.—Dogues de Bordeaux, Poodles, Dalmatians, Beagles and all Terriers except Yorkshires.

Mr. E. M. Oldham, New York—All Spaniels, Pugs, Pomeranians and Yorkshire Terriers.

Lieut.-Col. Robert McEwen, Byron, Ont.—Collies and Old English Sheepdogs.

Mr. Tyler Morse, Danvers, Mass.—Bulldogs.

CHIPS.

C.A.B.

The pursuit of knowledge is oftentimes beset with snares and pitfalls. On one occasion I asked a French half-breed his name for the fresh water mussel, so abundant in the Quebec streams. The reply came quickly, "We call them oysters, Monsieur." Another time I wanted the French name for the curious shelf-shaped fungus, found on the bark of decaying spruce and birch trees: "That, Monsieur, is a mushroom." Then I knew I should have to try again.

✣

As a rule furs are very easy to save in good condition in this climate. They are taken in late fall, winter and early spring, when the weather is so favorable that no preservatives are needed. Beaver are slit up the belly and stretched on a round hoop by a lacing of raw hide strings. Otter, mink, marten, fisher, &c., are skinned from tail to head without slitting. Muskrat are preferred by the H. B. C. when skinned from head to tail. For the more valuable furs, stretchers, on the boot tree principle—a wedge driven in between the arms of the stretcher—are used. The trapper usually makes them out of straight-rifted cedar. While still moist a pelt will stand a great deal of stretching, and it is well to do this thoroughly for several reasons. After the skins are dry, or even partly dry, any attempt at stretching them further would split the pelt. Furs hung in the shade for three days on stretchers ought to be safe. Bear skins require a different treatment. The finest are taken in May and early June, when the weather is always warm and is not unfrequently decidedly so. Hence trappers peg out the skin, "flesh" it very carefully, and sprinkle the hide with a liberal allowance of salt, before stretching it on a heavy frame in the sun. The frame resembles an open doorway and must be larger in every way than the pelt to be stretched. From three to six days of this drying will suffice.

✣

A good cooking fire is made by cutting a couple of 8-feet logs, placing them parallel and 6 inches apart, and filling in between with kindling. Half a dozen pots and pans may then be kept aboiling, and, moreover, the cook is sheltered from the heat of the glowing coals.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

USES AND ABUSES OF VELOX PAPER.

Quite recently it was remarked by the editor of the query column of one of the leading photographic journals that a very large percentage indeed of the questions asked him dealt with the manipulation of Velox paper, and that occasionally he had sent to him specimen prints, with requests to tell what was the matter with them. While there are a whole host of faults to be found among the prints examined, arising from as many different causes, the most common error made by the beginner is that of using the wrong grade of paper on the wrong negative, with the result that, while the photogram is not wholly spoiled, it nevertheless does not possess the effect that might be brought out of it with the proper handling. Perhaps, as a starter, it would not be amiss to take a run over the different grades of Velox, and to size up the uses to which it is intended that each should be put.

In the first place, we have the paper divided into two classes, which, for the sake of convenience, are known as the Regular and the Special—these terms being adopted out of reference to the fact that different times are required for the exposures and development. The Regular papers, requiring as they do a long exposure and short development, are adapted to negatives lacking in contrast; and the Special papers being just the opposite *i.e.*, needing a short exposure and lengthy development, fits them for use on hard negatives, where soft effect and fine detail is looked for. Again, these two papers are sub-divided into several classes, thus making it possible to get the exact grade that is required for any particular negative. The Regular is composed of three varieties the carbon, the rough and the glossy. Of these, the carbon is particularly applicable for negatives that have a lack of contrast, and almost invariably it will make a better print from such a negative than can be obtained on any other paper. The surface, as one would naturally suppose from the name, is a smooth matt. The rough Velox has on the whole the same characteristics as the preceding one, with the exception that the surface is rougher, and that, as a consequence, it is better adapted to those productions where a broad, striking effect, more or less free from a distracting mass of fine detail, is the result looked for. On the contrary, the third of the Regular type, the glossy, being of the smooth, shiny type, as its name suggests, and taking a very high polish, is especially designed for use where a wealth of fine detail is wanted. Of course, it is understood that this last paper, like the preceding two, is intended only for negatives that are inclined to be flat. And just here, it might be remarked, that not a few amateurs judge the flatness of a negative by the density of it, instead of by the contrast between its lights and shadows and its snap and brilliancy, as they ought The first essential thing that is necessary to learn in the use of Velox is to judge your negatives so that it will be possible for you to decide what grade of paper you will employ

Then we come to the Special Velox and *its* uses and abuses Of this class there are five types: the carbon, the portrait, the rough, the glossy, and the rough double weight, each of which like those already gone over, has its own particular use. All the Special papers need only about one-fifth the time to expose and twice the time to develop as required by the Regulars. In point of surface appearance the Special carbon is exactly similar to the Regular carbon, but having quicker printing qualities, yields far superior results in the case of negatives that need no additional contrast. Half the poor prints that are made with this grade of Velox owe their troubles to the fact that the wrong paper has been employed, with the result that the weak points of the negative are accentuated instead of covered over. The portrait is similar, except that its surface is half matt. The glossy is also the same, except that it is adapted to a different kind of negative from the glossy already described. Now, coming to the rough and extra rough, we have two very pretty and extremely artistic papers, though, of course, worthless where it desired that the print have accuracy of detail. Soft, pleasing shadows and marvellous gradation are two of the leading characteristics of this paper, and while adapted to the same type of negative as carbon and portrait, it gives greater breadth and less detail. The only difference between the two styles rough and extra rough—are that the heavier requires no mounts. It is, of course, a matter of taste as to which is to be used.

Looking for Moos

The tendency of all grades of Velox is to strengthen and emphasize the contrasts of the negative, so that, as a consequence, it will be found advisable to use negatives more inclined to be lacking in contrast than those that are too harsh. The Velox paper will made the shadows and high lights more brilliant than you might be inclined to believe if you have never tried it. An undertimed negative that is exceedingly contrasty with defective detail will produce a poor print at best on Velox, and when added to this is the common fault of over timing the print, the result is anything but beautiful. You will, indeed, be surprised to learn what effects can be produced from poor negatives, provided the correct quality of paper is selected and the picture is given the right developing and timing. There is no use in trying to force the development of undertimed prints, for you are invariably going to get miserable greyish whites, though it is true the same result may be the consequence of other causes—for instance, a lack of bromide, or paper that the light has got at. Over-exposure, too, will cause this; though, in this case, instead of the print taking on a greyish appearance, it is more inclined to a black look. Then, too, occasionally you will run across prints that have a white deposit all over the surface, but this is due to a different cause, namely, a milky hypo bath, and all that is necessary to fix things up all right is to go over the surface with a wet sponge. Provided this is thoroughly done, the print will not be spoiled in the least.

Perhaps the commonest trouble that is experienced with Velox, and at the same time the simplest to remedy, is the appearance of blotches on the print after it is all finished. Several causes may be at the bottom of the trouble. For instance, it may be due to the developer not being spread over the surface of the paper when it is first put in the developer, in which case it is a good scheme to have at hand a soft camel's hair brush that you can quickly pass over the surface to help spread the developer. In the case of glossy and Special Velox it may be the result of the use of sulphite containing sulphate, and it cannot be too strongly impressed upon the user of this paper that it is essential that perfectly pure chemicals be employed throughout. The same defect is to be observed where too much water is used in mixing the developer, though there is little danger of it being from this cause where the directions are followed accurately. Where the stains, in addition to being present, are of a yellow color, it may be due to the above causes, or to too long a time being allowed to elapse between developing and fixing. Very frequently where a batch of prints are put in the hypo bath they are allowed to lay still for a few minutes, and during that time they will stick to one another, and the fixer does not get a chance to work. Consequently they discolor. In this case there is no practical remedy but to avoid the stain due to the developer failing to spread evenly; it is a good scheme to immerse the print in a tray of water first.

Once in a while one runs across a lot of marks running in one direction, due to pressure and friction on the surface of the paper. On the glossy Velox it is possible to remove them by rubbing with a tuft of cotton wool dipped in alcohol, and on the matt paper, though they seldom occur there, they may be rubbed off with an ordinary soft eraser. Several other little faults are hardly worth touching upon, referring as they do to the developing, and the best way to learn them and to overcome them is by carefully reading the directions and by experimenting a little.

One very important thing that you will have to learn in the working of this paper is that it is absolutely essential to success that you know where you exposed a print—just how far from the light—in order that you may expose every other print from the same negative at the same distance. In fact, it is a good idea to adopt some standard distance for all your work in order that you may be saved trying to guess just where you will expose. Then, instead of having to have a different exposure for every negative, all that will be necessary for you to do will be to have different exposures for each different grade of negative—grading your negatives by their density.

And while speaking on this subject from the query editor's point of view, it might be well to say a word or two as to the permanency of the Velox print. In any case where the print fades you are almost sure to find it is due to some fault of the worker and not of the paper. Velox paper is as permanent as any photographic paper on the market, with, perhaps, the single exception of carbon. This is said as the result of actual tests.

On the whole Velox is a paper which, in spite of its many rivals that are springing up daily, is still holding its own, and can be honestly recommended as one of the best, if not the best, "after-supper-paper" on the market to-day, and, what is still better, the fear of its being a complicated process need deter no one from attempting to use it.

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The Scrap Bag.

Portraiture Among Amateurs in New York.—In looking over the portraits that are displayed by the average New York amateur on the walls of the local camera clubs, there comes to one a sort of feeling that the worker has gone too much to the lighting and posing side of his subject, and by some stupid mistake left out all the inner spirit of the man, left out, in fact, the one thing necessary to make it worth looking at. What is it, let me ask, that distinguishes the work of the cheap professional from that of the high-price man? Is it the "finish"? I want to say right here that it is not. Look at the display of the poorer fellow and make a careful note of how not only is there a lack of judgment shown in the lighting and posing, but how the very expression of the face seems to say all over it "cheap work," and then, in addition, how any semblance of expression that there was in it is all retouched out, till the appearance is that of the famous Kipling housemaid, "beefy face and grubby." This over retouching is, I note, since amateur portraits have commenced to have the tremendous vogue that they are now running, almost as common in the amateur fraternity as among the professionals. Turn from these to the pictures of our celebrated men that we see on sale, that are the work of men who know what they are doing, and note how the very individuality of the man is portrayed all over it, and how on looking at it one involuntarily says that it is a man of strong character and well fitted for the position that he holds, or that he is a weakling and an incompetent. Look at the photographs we see of M'Kinley and Roosevelt and note how they show up the very life of the man, so to speak, and then imagine how those same men would look had they been taken by some of these pot-wash amateurs who are all lighting and posing, and were unable to catch that fleeting expression by which the intimate friend of the sitter says whether the portrait is a good one or not. The real trouble is that for so long a time the desire has been to catch an effect that is suitable for exhibition purposes, regardless of expression and likeness, that now when the photographer is called upon to do something more he is unable to fulfil the bill. Portrait photography is fast sifting down to that point among amateurs as well as among professionals where it is

necessary that the production be a likeness as well as an effect. This, taken into consideration with the fact that almost all persons are more or less conceited and want a little flattery thrown in, leaves the ambitious amateur with his work well cut out.

A Criticism of Some So-called "Nude" Pictures.—On the walls of a great many of the camera clubs and in the columns of many of the photographic magazines just at present are to be seen what I have referred to as "so-called nude" photograms. You will note, please, that I do not say right out that they are nude, for, to tell the truth, I do not think that they are entitled to be so designated. There is a big difference between nude and naked photograms, and the sooner the artists (?) who are making them learn this the sooner will the examples that we see improve. If you do not believe what I say, all that is necessary for you to do is to take a look at the work of such artists as Carine Cadby, whose delicate little child studies in the nude will never cease to attract the praise that they so well deserve, and then contrast these with some of the pictures that we are shown of naked voluptuous-looking women whose only attraction is their lack of proper clothing. No attempt at posing can be seen in some of them, not the faintest desire to give them a good lighting unless the effect aimed at is to get something weird and unnatural.

A Frequent Cause of Fog.—In running over the work of half-a-dozen young amateurs you are almost sure to find that one or more is troubled with fogged plates, due to not putting the slide of the plate-holder in straight after making an exposure. It is so easy to put it in by inserting one corner first and then straightening it up afterward. Now, all I have to say is—do not do it. It will invariably fog the plate. Be careful to put it in straight, even though it may be a little more trouble.

Along the Beaches and Around the Great Lakes.—Those amateurs who live in the vicinity of the great lakes or around the shores of the St. Lawrence and the other large rivers of this country may, indeed, consider themselves in luck as far as the making of marine views and shore studies is concerned. Nowhere on the continent, perhaps, as on the great lakes, is allowed to the amateur the opportunity of studying the aquatic side of nature as it is here. The trouble is that our workers here have not, or do not seem to have, any idea of the possibilities that lie within their grasp, the consequence being that our American brethren from the other side of the water make all the beautiful pictures that are showered broadcast over the old country, and the people over there forget that the great waters are in Canada. Wake up.

Photography in the Lay Press.—Perhaps there is no surer indication of the hold that photography is recognized to have on the public, than the suddenly active interest that the large magazines such as the Ladies' Home Journal, Everybody's, The Home, McClure's, and a number of others of lesser magnitude are taking in the art. It is not over five years ago that the editor of one of these journals predicted that photography as on illustrator of a story or an article could never be a success, owing to its lacking the ability to descriminate and select as an artist might. It is not three months now since the editor of the largest amateur journal (photographic) in New York City told me the same thing, and that, after a practical trial of the subject. And yet, look at the marvellously artistic illustrations that Mrs. Gertrude Kasbier is providing for the article "The Making of a Country Home" in Everybody's Magazine. And what is more she is doing it all by straight work too, without any faking or vignetting to detract from the naturalness of the effect,—effect so natural that one finds it hard to believe that that are not the work of some skilful manipulator of the brush and pencil. Of the thousand and one articles that the magazines of to-day are able to present to their readers in an interesting and lucid manner, all through the use of photographs, I am going to say nothing. Suffice it to remember that to do the same thing ten years ago would have been well nigh an impossibility. I do not think that I am far wrong when I say that it is the possibility of making photograms and half-tone engravings, that has made the ten cent magazine of to-day practicable. Certainly without cuts these journals would not prove half so successful and certainly also, to make the cuts by the old expensive methods would put most of the journals out of business. Then why not take a look while we are at it, at the way that some of these magazines that owe their very existence to photography, are awakening to the fact there is such a thing as art in it. Last month, in the various periodicals, I saw at last three different articles dealing with this subject. Perhaps the most notable of them was that of Miss Frances Johnston in the Ladies' Home Journal where she will continue from month to month to give short accounts of the work of the leading women photographers of the day, with reproductions of their work. The work of Alfred Steglitz also comes in for a certain amount of talk in a recent number of one of the periodicals under the heading of artistic photography. Looks as if some people were just waking up, doesn't it?

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Correspondence.

Correspondence should be addressed to H. McBean Johnstone, P.O. Box 651, Sarnia, Ont., Canada.

Lewis Stafford, Winnipeg, Man.—It would be a trifle difficult to give an answer to your question as to which is the best developer on the market. Every amateur has his own pet one, and really, after all it is perhaps more the way in which the mixture is made use of, and the degree in which the operator understands what he is doing, that has most to do with the making of good pictures. Apart from this, it is just worth mentioning that among professional workers pyrogallic acid is still the most popular developer, as it admits of more control than any of the new developers. The objection to it among amateurs is that it stains the fingers, though most of them do not know that if they take the precaution to dip their fingers in a pan of water or under the tap each time after touching the solution, that the danger of stain is comparatively small. Old solution will stain the fingers more than new. A point in favor of pyro is that owing to the slight yellow stain that it imparts to the negative, it will decrease the printing speed and frequently do away with the necessity of intensifying.

Charles Courtney:—Yes, it is quite practicable for you to develop four 4 x 5 negatives in an 8 x 10 tray at once and save time. There is little danger of their coming up so rapidly that you would not be able to watch them properly. It will be necessary, however, that you have ready a tray of restrainer or rather of restrained developer, into which you can plunge them if they should prove to be over exposed. I never think of developing my negatives one at a time, unless it is something extra special.

George Harris Hanna, Ottawa:—As you have but recently moved to Ottawa, I would advise you to join the Camera Club of that city. They will show you more pretty spots that are worthy of a picture in two days than I could tell you about in a whole article. Up the Gatineau River there are some remarkably striking subjects for magnificent photograms.

P. A. W.:—The trouble with the print that you enclose is that you have under exposed it. The exposure that you gave would have been suitable for the subject had it been ten feet farther away. You will have to bear in mind that the nearer your subject is to the lens the longer is the exposure it requires, and if you want to photograph a railroad train at full speed it is for this reason that you do not want to wait until it gets right up on top of you. Try your photogram over again, giving an exposure about twice as long, and let me know what you get.

A. S. Clark, Three Rivers :—Unless you are using an orthochromatic plate, I do not think that you will reap much benefit from the use of a color screen. You will find that for a great many subjects the orthochromatic plate will prove to be well worthy of the little extra cost, inasmuch as it will give you results you will never get without its use.

Frilling :—The use of an alum bath will prevent frilling. You will find that your plates only frill in very hot weather.

Quorum:—I do not know where you will be able to purchase any ready made cloth negatives, but am inclined to think that almost any dealer would be able to secure them for you, or, at least, direct you to where you could procure them. Why not make them yourself ?

T. Y. Abbot: Would prefer not to answer your query. I have my own ideas as to which is the best camera for the purpose you mention, but could hardly put them in print. You will readily understand the reason of this, I think.

CORRESPONDENCE.

Editor Rod and Gun :

The statement in the article "Ontario Game" in the May number of Rod and Gun that the elk is found in northern Ontario is surely erroneous. In the prosecution of my work as an Ontario land surveyor, I have become acquainted with much of the country from Lake Temiscaming to Winnipeg River, and whilst I have come across the red deer, the moose and the caribou, I have never heard or seen anything of the elk.

On the question of the occurrence of the elk in Ontario in former years, I am sure all readers of Rod and Gun would be pleased to receive any evidence in the matter. There seems to be a tradition amongst the old settlers in certain parts of the province that the elk, as straggling individuals, was met with in the woods in early times, and it would be very interesting to have the information on the subject made public.

[illegible] M. Ayre.

Rat Portage.

Editor Rod and Gun :

I have read with much pleasure the articles in your magazine concerning game protection. This district is badly in need of more protection, as the Indians and some whites are slaughtering the deer now at wholesale with perfect impunity. It seems that the Indians are not included in the clauses of the Game Act which inflict a penalty on people killing deer out of season, which seems to be a deplorable defect in these same game laws. Now the deer killed at this season are very little use for food, and the does are all heavy in fawn, so that it would be much better for the Indians themselves if, instead of being allowed to exterminate the deer, they were compelled to observe the law, similar to the whites, in which case there would be game for years to come.

I enclose a photo of a tree felled by beavers, taken by myself. The tree is eight inches through, and most of it was cut into sections two feet long, and carried to their storehouse.

A. T. Bickford.

Vernon, B.C.

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Editor Rod and Gun :

I have been away fishing at our lakes for some few days. The weather was not just what we wanted for fly fishing—too much rain—but we got 61 trout (fontinalis), 16 of which weighed between 2 and 3 lbs., the majority over 2½ lbs. The party consisted of four rods: Messrs. W. H. Hayes, Walter Greaves, J. N. Deslauriers and myself. We used the fly exclusively, and no doubt we could have caught more had we cared to use bait. The lakes we fished in are preserved waters near the Rivere de Lièvre, about 20 miles from Buckingham, Que.

A. W. Timoor.

Ottawa.

Mr. J. C. Cetton names the following provisions and quantities for four men and four guides on a two weeks' trip in the woods :—Flour and products, Bread, Pilot Biscuits, Corn Meal, Rice, etc, about 100 lbs. ; Pork, Salt Pork, 60 lbs., Bacon 15 lbs., 75 lbs. ; Beans, 1 peck, 15 lbs. ; Onions, 1 peck, 12 lbs. ; Potatoes, 2 bushels, 120 lbs. ; Butter, 15 lbs. ; Sugar, 15 lbs. ; Syrup, 1 gal., 4 lbs.; Salt, 1 bag, 10 lbs.; Pepper, 1 box, .5 lbs. ; Mustard, 1 box, .5 lbs. ; Vinegar, 1 qt., 2 lbs. ; Worcestershire Sauce, 2 bottles, 2 lbs. ; Baking Powder, 2 cans, 2 lbs. ; Pickles, 4 pt. bottles, 6 lbs. ; Matches, 1 large box, .25 lbs. ; Candles, 2 doz., 4 lbs. ; Soap, 4 bars, 4 lbs. ; Coffee, ground, 4 lbs., or 4 1-lb. cans of prepared Coffee, 4 lbs. ; Tea, 2 lbs. ; Chocolate, soluble, prepared, 3 1-lb. cans, 3 lbs. ; Milk, 6 1-lb. cans condensed, 6 lbs. ; Soups, Solidified Squares, assorted, 1 doz., 3 lbs. ; 105¼ lbs.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry [illegible]. The Editor will welcome contributions on topics relating to Forestry.

Editor—E. Stewart, Chief Inspector of Forestry for the Dominion and Secretary Canadian Forestry Association, Ottawa, Ont.
Sub-Editor—R. H. Campbell, Treasurer and Asst. Secretary Canadian Forestry Association, Ottawa, Ont.

SOLITUDE

How still it is here in the woods. The trees
Stand motionless, as if they did not dare
To stir, lest it should break the spell. The air
Hangs quiet as spaces in a marble frieze.
Even this little brook, that runs at ease,
Whispering and gurgling in its knotted bed,
Seem but to deepen with its curling thread
Of sound the shadowy sun-pierced silences.

Sometimes a hawk screams or a woodpecker
Startles the stillness from its fixèd mood
With his loud careless tap. Sometimes I hear
The dreamy white-throat from some far off tree
Pipe slowly on the listening solitude.
His five pure notes succeeding pensively.

—Archibald Lampman.

The White Pine.

As the botanical classification of plants is determined largely by their inflorescence, the trees are not all included in one order or class, but are scattered throughout the different groups of plants. Thus we have our elms and the nettle rubbing shoulders in the urticaceæ, while the locust tree consorts with the common pea and other simple herbs in the leguminosæ. There are some orders, however, nearly all of the species in which are trees or shrubs, and the most important of these from a lumber point of view is the coniferæ. This order, which includes all our great timber trees, derives its name from the form in which the fruit appears. The coniferous trees which occur in Canada, with the exception of the tamarac, are evergreen and, in addition to their peculiar fruitage, are distinguished by their awl-shaped or needle-shaped leaves and their resinous wood.

Prominent amongst the trees in this order is the White or Weymouth Pine (Pinus strobus, L.), which has sometimes been designated the "King of the Forest." The name White Pine is due to the distinctly white color of its wood as compared with that of the Red Pine, from which tree it is also easily distinguished by its much finer needles, which are arranged in groups of fives. Weymouth, which name is most frequently used in England, is borrowed from Lord Weymouth, an English nobleman whose name is associated with the early settlement of New England and the introduction of this tree into the old country. Its range in Canada is through all the Eastern Provinces north to the height of land along the Laurentian Range and westward nearly to the Red River and Lake Winnipeg.

In the virgin forest these trees grew to a great size, running up to five or six feet in diameter and 200 feet in height. Evidently there were giants in those days, and it would be impossible for anyone who had not seen it to picture the scene in the valley of the Ottawa or the St. Maurice when these great trees stood in the forests in their pristine grandeur. The most important purpose for which timber was required in the early days in Canada was for ship building, and the great pine trees, so suitable for masts, quickly attracted attention and as a result the pine timber was appropriated for the Crown, many of the old deeds of land expressly excepting it from the transfer. Strange to say, however, to those who look at the question from the present standpoint, the white pine was slow in winning its way into favor for lumber purposes. The market in the old country had been trained to the use of the Baltic timber and the white pine was considered to be too soft a wood to be of any use. All the lumbermen sought for the red or Norway pine, which has more of the characteristics of the lumber from the country from which it obtained its second name. This feeling in regard to the white pine existed also in the United States, and a gentleman for many years connected with the lumber industry relates that a shipment of this wood which his father took to that country lay for two years before a purchaser could be found. When a beginning was made in the use of this tree the tide soon turned and it has been for many years the most important timber tree in Canada and the Northern United States.

There is no question that for lumber purposes its value in Eastern Canada will go on increasing, and as it will grow upon sandy or rocky soil, which is practically useless for agricultural purposes, it is in the interests of the country generally that every effort should be made to ensure that it should be a permanent source of revenue for those provinces which depend upon it for so large a portion of their income. To this end the two main things necessary are prevention of fire and arrangements for reproduction. Coniferous trees contain considerable resin and are therefore very inflammable, and as a result the forests on immense territories have already been destroyed and much of the valuable assets of the country have gone up in smoke, proving a curse rather than a blessing. For reproduction it is necessary to provide a supply of seed. As the pine does not produce seed to any great extent before attaining an age of about thirty years, or a diameter of six inches, and then only every third or fourth year, the cutting should be done with reference to these facts, in such a way as to ensure the production of sufficient seed to renew the growth.

The uncertain knowledge of the trees possessed even by those who have made some study of botany is illustrated by the fact related by Dr. Muldrew that a class of students in that science at an examination were unable to distinguish between a twig of the white pine and little ground pine of the Club Moss family. Little errors of this kind too sometimes have more or less unpleasant consequences. A committee of a certain State Legislature were visiting a forest tract under the care of the State, and one of the members of the Committee remarked to the forester who was conducting the party that the seeding pines were coming up in a very satisfactory way. The forester, with a proper scientific regard for truth but perhaps without sufficient consideration for political effect, informed the gentleman that what he thought were pine seedlings were merely plants of the ground pine. It may be imagined that the effect on the mind of at least that member of the Committee whose little airing of the results of his observations were thus rudely dealt with, was hardly as favorable as might have been desired for the purposes which the forest management hoped to have accomplished by the visit.

THE EFFECT OF PASTURING ON THE GROWTH OF TREES.

Wm. N. Hutt, Southend, Ont.

It seems to have become habitual with us in our ordinary way of thinking to regard the trees and the forests as fixed parts of a landscape, like the hills and the valleys and the streams. The hoary, majestic oak and its kindred of the "forest primeval" appear to live irrespective of time and to have an existence unaffected by variable surrounding conditions. Yet, how delusive are these appearances when carefully investigated. The sturdy giant of the forest is dependent on the sunbeam and the raindrop, and exists only at the mercy of the insect on its foliage or of the animal browsing beneath its shade.

From even very casual observation it must be evident that trees are injured and their growth retarded by animals pasturing about them. It is the purpose of this article to give briefly the results of detailed observations, extending over a period of years, concerning the animal in its relation to the tree. On open ranges the damage to trees by stock is of a more or less trifling nature, except when very large herds or flocks pass frequently over the same ground. On enclosed areas of bush, such as might be found in a farmer's wood lot, the damage to the trees reaches its maximum.

The injury done to trees in a pastured wood lot is in direct proportion to the number of animals and the scarcity of forage. Hogs are often turned loose in a wood lot in the fall to fatten on nuts and acorns, and as long as this food lasts little damage is done, except the loss of seeds and nuts which produce next year's seedlings. As soon, however, as the supply of nuts ceases, down goes the snout of the hog to find food under the surface mould. In this rooting for worms and grubs many small roots and fibres are torn up and girdled of their bark, while young seedlings are often rooted out of the soil entirely. If hogs are left in a bush, as sometimes happens, till it is not a question of fattening, but of bare subsistence, large trees are torn and girdled and the growth of scores of years sometimes destroyed in a few hours. A case of this extreme kind happened near Niagara Falls some years ago. A butcher, whose slaughter-house on the outskirts of the town had became offensive to the citizens of expanding suburbs, was forced to remove his abattoir a couple of miles into the country. The spot he secured was part of a magnificent old chestnut wood. About an acre was fenced off and a drove of twenty-five or thirty hogs turned in to fatten on nuts, and the offal from the slaughter-house. Soon all the grass disappeared from the enclosure, next the mixed herbage and seedlings, till nothing green could be seen as high as the pigs could reach. All the refuse of occasional killing was not sufficient for the hogs, large saplings and poles were attacked, and all the fresh bark within reach stripped off. Great holes were burrowed round the trees and the bark gnawned off a foot or two under the ground. Every square yard of the whole surface was turned over and all the small roots within range eaten off. Not a single tree escaped injury, except a few old veterans protected by two or three inches of hard, rough bark. When late in the fall the gaunt razor-backs were turned into juicy bacon for the citizens of the town, the beautiful woods of a few weeks before had become almost a howling wilderness. A decade of growth has passed over the woods since then, but has failed to obliterate the destructive effect of one fall's pasturing by hogs.

Another peculiar case of the injurious action of hogs on trees happened this summer. A farmer had enclosed his apple orchard and turned in the hogs to eat up the fallen apples. During the summer the orchard was pruned, and though the pigs were well fed twice a day, they girdled all the fresh bark from the brush A week or so after the pruning the brush was hauled off and it was found that the bark was torn from the trunks of many trees, while several were completely girdled.

Horse have also been known to injure trees by girdling their trunks and limbs. While speaking on forestry before the Middlesex County Farmers' Institute, a gentleman told me of his having a row of maple trees girdled by colts. The trees were just outside the fence of the field in which the colts were pasturing. As the pasture became poor, the colts had grazed along the fence-corners and had reached over and destroyed the whole row of shade trees. Horses and cattle, however, generally confine themselves to eating off the leaves and green twigs within reach. In every pastured wood-lot the high grazing mark is very apparent. Contrary to what might be expected, sheep are the most harmful to trees, of all browsing animals. Besides closely cropping off young seedlings and sometimes girdling the fresh bark from growing trees, sheep by their restless activity so trample the soil about trees as to make the growth of the latter almost an impossibility.

In spite of an occasional excessive damage to trees by browsing of animals, by far the greater injury results indirectly from the trampling of the soil and the consequent destruction of the natural mulch about the trees. On the vegetable mould of the forest floor depend largely the health and vigor of the trees. This mould, which is composed largely of decaying leaves and twigs, is of a very porous nature and forms a natural reservoir for water. Under the shade of the treetops the moisture of the vegetable mould is given up slowly throughout the season, and the air about the trees is kept in that humid condition so favorable for plant growth. The downward movement of water through the forest mould is also slow, and as the water-table gradually lowers, the roots of the trees push down through the softened subsoil. For th's reason forest trees are seldom blown down by high winds. Moreover by virtue of the slow movement of water in the forest mould, the springs of the woodland have a continuous, even flow throughout the year.

One of the most noticeable features of pastured woodlots is the absence of the natural forest mould. The sharp feet of stock cut up the soft turf and pack it, so that its water-holding capacity is practically destroyed. For this reason creeks become in spring rushing torrents roaring down hillsides and tearing away the fertile soil, and become dried up rocky gullies almost before summer comes. Rain falling upon pastured forests finds in the soil no natural reservoir, but passes quickly through the soil to swell for a few hours the creeks, and is lost to the trees. When summer comes the soil of a pastured woods is hard and cracked like a bare fallow. The rain which fell upon it has passed through it so quickly that the roots of the trees have been unable to follow down after the too rapidly receding water-table. Deep root growth under such conditions is checked and the trees are very frequently blown down by strong winds. It is not an uncommon thing on closely pastured woodlots to see sturdy oaks and maples, or even the tough-rooted elm, overturned by the wind.

Besides being a reservoir for moisture the forest mould is a natural seed bed and nursery for nuts and seeds, which fall upon it from the trees above. It must be known that seedlings of forest trees are the most delicate of all plants and require during their early years almost ideal conditions of vegetation. In the deep rich mould under the protecting shade of the

parent trees the little seedling finds this ideal condition of growth in which to start. When a break occurs in the leafy canopy overhead the little tree stretches up quickly to fill up the gap. The packed and tramped soil of a pastured woodlot offers only a lingering death to the tender seedling, and so nature's method of perpetuating the forest is cut off. For this reason pasture ranges are always characterized by a decreasing number of trees, and the roots of these lacking their natural protection the trees have always a stunted, scrubby appearance. On constantly pastured woodlots it is not an uncommon thing in a dry summer to see large trees wither and die. Doubtless these trees had been resisting adverse conditions for years. The wonder is that they lived so long. In Elgin County last year I was asked to explain, as if it were a Sphinx riddle, the dying of timber in bushland there. As the woods where the timber was dying were constantly pastured, an answer was not difficult.

It is well known that the soil of the forest is made richer by each annual fall of leaves. In pastured woods this condition is reversed, for lacking the small herbage and seedlings to hold the leaves when they fall, they are blown by the wind from beneath the trees, drifted deep in gullies, piled in fence corners, and even carried free of the woods altogether.

To sum up briefly, it may be said that pasturing the woodlot is detrimental to its soil and entirely antagonistic to successful wood culture.

*

"William Silvering's Surrender" is the title of a little book on Forestry which has been issued by the Winnipeg Forestry Association. The editor is Reverend Dr. Bryce, whose name is already well known in Canadian literature, and in this work he has gathered together a great deal of information on the subject of Forestry, both of a general nature and special to the Canadian North West, which should do much to impress the great advantage to the country of conserving a reasonable area of forest and extending the planting of trees wherever agriculture is undertaken. The narrative form which has been adopted by the author gives life and interest to the subject and no doubt the little romance woven into the story will be attractive to many who would not feel drawn to the perusal of an unadorned forestry manual. Copies have been supplied to school teachers, and partly as a result of this action Arbor Day has been celebrated with greater enthusiasm and interest than ever in that Province.

It is a little regrettable that the list of officers of the Canadian Forestry Association was not brought up to date in this book, and the following changes should be noted:—Mr. J. S. Dennis, Deputy Commissioner of Public Works for the North West Territories, Regina, is now Vice-President for the District of Assiniboia, and Mr. J. G. Laurie, of Battleford, for the District of Saskatchewan.

It may be well also to call attention to a little slip in giving the name of the very able Minister of the Interior under whose administration the policy of setting apart timber reserves in the west was adopted, as the Honorable John White instead of the Honorable Thomas White, and we might also suggest that some credit should be given in this connection to one of the members of the Winnipeg Forestry Association, Mr. E. F. Stephenson, to whose foresight, and the recommendations made by him as Crown Timber Agent, the adoption of such a policy is largely due.

We are in receipt of a notice of a work entitled "Sylvan Ontario," by W. H. Muldrew, B.A., D.Paed. This is, we understand, a guide to the native shrubs and trees of Ontario on the same lines which were followed by Dr. Muldrew in his smaller Guide to the Trees of Muskoka, of which some notice was given in our January number. This should prove a very useful manual to anyone who is interested in our native trees and its value will be very much increased by the 131 leaf drawings by which it is illustrated. We hope to give a more extended notice later when we have had an opportunity for careful examination. The work is issued by Wm. Briggs, of Toronto, at 50c. and $1.00.

*

Dr. C. A. Schenck, who so kindly assisted at the annual meeting of the Canadian Forestry Association, has also been giving the people of Kentucky the benefit of his knowledge of forestry in a lecture on Forestry for Kentucky, delivered recently at Louisville on the invitation of the Board of Trade of that city.

*

It is hoped that by the time this issue is received by the members of the Forestry Association the report of the annual meeting will also be in their hands. There has been unavoidable delays that prevented its earlier publication, but we trust that it will meet with the approval of the Association.

*

The fire season for the present year has been bravely opened in the Province of New Brunswick by a display of some brilliance, of which we clip the following account from the press:—

Moncton, N.B., May 23.—(Special)—Forest fires are raging at various points along the Intercolonial, between Harcourt and Quebec. The weather has been very dry, and unless rain falls soon great damage must result.

At Harcourt, several miles square have already been burned over, but as this section was almost wholly denuded of forest almost a dozen years ago, there was little material except blackened stumps and dead limbs for the fire to feed upon, and the flames are spreading slowly.

In the vicinity of Barnaby River and Rogersville the damage is greatest, and the people are making desperate efforts to save their property and houses. In spite of all that could be done a house and barn near Barnaby River, owned by Davis Buckley, was burned to the ground yesterday, and other places are in such immediate danger that the people are packing up their belongings to move at a moment's notice.

Large lots of railway ties and posts piled along the track were also burned, and the railway authorities were obliged to move cars from sidings to save them.

The fire is on both sides of the railway and all trains are ordered to run through the burning district with great caution.

*

Fires are also reported from the Riding Mountain district in Manitoba, but it is hoped that the Government fire rangers will succeed in checking them.

*

The raven is a hardy, fearless bird and cunning withal. About mid-October those that have bred in the Kippewa region are joined by many from further north. They all remain in that district until toward the new year, when they move a few miles south, but never go very far, nor stay away many weeks. In March they are already working north, toward Hudson's Bay and the barren lands.

PROMISE OF THE MORNING.

Night upon the forest,
Night upon the hill;
Whip-poor-will! whip-poor-will! whip-poor-will!
Mellowed is the music
Of the murmuring rill;
Whip-poor-will! whip-poor-will! whip-poor-will!

Faster fall the shadows,
Deep and dark and chill;
Whip-poor-will! whip-poor-will! whip-poor-will!
Louder peals the chorus
O'er the water's trill—
Whip-poor-will! whip-poor-will! whip-poor-will!

How the cheering echoes
Earth and heaven fill!
Whip-poor-will! whip-poor-will! whip-poor-will!
How the night air pulses
And our spirits thrill!
Whip-poor-will! whip-poor-will! whip-poor-will!

Life is full of shadows,
Deep and dark and chill;
Whip-poor-will! whip-poor-will! whip-poor-will!
Comes to us the message—
Dawn beyond the hill;
Whip-poor-will! whip-poor-will! whip-poor-will!

Not until the morning
Shall thy voice be still;
Whip-poor-will! whip-poor-will! whip-poor-will!
Thou shalt be my promise
Of good and not of ill;
Whip-poor-will! whip-poor-will! whip-poor-will!

The late Frank H. Risdon.

ALCES PAPERIFERA.

By St. Croix.

By an oversight, the cause of which remains a mystery, naturalists have omitted to classify Alces paperifera, the Magazine Moose, a subspecies presenting several important modifications of structure and habit from the typical animal.

His size is never less than 3,000 words, his stature being determined by the length of the monthly fiction offering, which limits his growth in front and the necessities of the editor's drawer which curtails his rear. Exceptional moose—the giants of their species—have dragged their weary length to 8,000 words, but such phenomenal examples of obtuseness and forbearance must ever remain rare.

A paperifera does not shed his antlers like the vulgar animal—he carries them throughout the year, for whoever yet saw the magazine moose dehorned.

In the bush alces may fall anywhere—the finish may come in the deep woods, or in the barren, or amid the lily ponds, but the magazine moose has no choice in the matter; it has been ordained that he shall die five sticks before the end of the article, so as to leave just sufficient space for a description of his wondrous antlers, and for the sportsman to get comfortably out of the bush.

Another marked peculiarity of the animal under consideration is that even during the height of the rut he is fit for food. The steak cut from his sirloin is invariably "juicy," even in mid-October. Such marked differences serve, infallibly, to differentiate the magazine moose, and few, except very verdant naturalists, could fail to distinguish him from the great black beast of the bush.

If the stuffed moose is grim, how much more saturnine is the magazine moose! Small wonder that inexperienced youths doubt the killing properties of the 30-40 smokeless against so terrible a creature; if the moose of the woods were one-half as forbidding as A. paperifera, none but a fool would tread the forest without a howitzer and an abundance of lyddite ammunition.

In the course of a letter to Rod and Gun written by Mr. George G. Cotton, the author of the very useful "Hints About Camping in Canada," to which attention has been called in these columns, there are some paragraphs that are so pregnant with sound sense that no apology is made for printing them for the benefit of those who have not had Mr. Cotton's experience in wilderness travel. He says:

"Of course people that go to the fishing and hunting grounds, where there is a grocery store around the corner, or a club house liberally stocked and supplied within easy distance, know almost absolutely nothing about starting off for a two or three week's journey through the forests, depending only upon what you portage and the resources of the country. Almost invariably they overburden themselves; or if not this, they go to the other extreme and take too scant a supply. Sometimes this scant supply is caused by their guides, and, you might as well know it, the sportsmen themselves start in and eat only that which strikes their fancy, which in many cases are the things that are the easiest cooked and most accessible and which later on, when you are surfeited with fresh caught fish and fresh killed meat, will be needed to give a variety, so that your last few days in camp will not be a series of unbalanced meals.

"Another thing, campers do not get up in the morning and get started early in the day, do not stop early enough at night, so that they can get supper and a comfortable bed made, which is one of the great comforts of camp life.

"To my mind, to thoroughly enjoy camping you must have a plan perfectly organized beforehand and adhere strictly to it. I find you are then better satisfied when your outing is over than if you try to satisfy the whims of all members of the party in any two or three weeks trip in the woods. At least such has been my experience."

Almost any wood will do for the camp fire upon an emergency, but there is a great difference in heating power. Pine, rock maple, yellow birch, tamarack, white birch and dry poplar should be chosen, in the order given.

*

Indians are rarely good shoots. The average white man is as good at target shooting off-hand as is the red man with a rest. But the latter will kill most game. He is a better hunter by far, gifted with a patience, beside which that of Job was feverish unrest, and is not predisposed, constitutionally, to buck fever. The Indian is by nature a gambler, and during the dull days of mid-winter, when there is little else to do, the young men of the tribe are fond of target-shooting for prizes. The successful ones accumulate a large collection of moccasins, toboggans, snowshoes and canoes, which once belonged to their less skillful brethren.

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Rod and Gun in Canada

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ROD AND GUN IN CANADA

DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

One Dollar Per Annum. MONTREAL, AUGUST, 1901. Single Copies Ten Cents.

THE HABITS OF THE BEAVER.

As told by Henry Braithwaite to the late Frank H. Risteen.

Beavers are not so numerous in New Brunswick generally as they were twenty years ago, but on my own ground they are about as plentiful as ever, for the reason that I have always made it a point to leave a sufficient number every year on the different streams to keep the stock replenished. The trapper who finds a beaver family and never lets up until he has wiped them all out, is pursuing a very short-sighted policy. A female beaver will usually bring forth from two to five kittens each spring, and I have known them to have six, in one case seven, in a litter. In this country the kittens are born the latter part of May or first of June.

The animals are now more numerous in Northumberland and Restigouche than any of the other counties. They would be numerous in Gloucester, Madawaska and Victoria, but are followed up too closely by the Frenchmen, who never think of giving them a chance to breed. In the southern and western counties very few are now to be found. The pelts at present are worth about $2.50 a pound. They vary from half a pound to two pounds in weight, the average being about one and a quarter. Most of these go to the London market, some of them to Montreal. The age of the beaver makes very little difference with regard to the quality of the fur. Three and four-year-olds are about the best, as the skins are more pliable. The drop in Alaska seal has brought down the value of the beaver, because the latter is used to counterfeit the former. After a beaver skin has been plucked and dyed to resemble seal it takes an expert to tell the difference.

A good many stories are told about beaver by people who don't know. For instance, it is claimed that he uses his broad, scaly tail as a trowel to plaster his house or dam. As a matter of fact, they simply keep lugging up mud and tramping over it, and that is all the plastering that is done. Then again, it is stated that they only work at night. I have often seen them working in the daytime, especially in the spring of the year, when it freezes too hard at night for them to cut their wood. I have known them to come out of their houses at eleven o'clock in the forenoon, and it is a common thing for them to appear at three o'clock and work till dark. The Indians, and some white men, take advantage of this, and lie in wait to shoot them when they show up. In the early fall, when warm nights are the rule, they are not apt to be seen in the daytime. For shooting a beaver in the water the shotgun is preferable to the rifle. Only about half of the animal's head shows above the surface, and as he is nearly always under full head of steam, it is hard to stop him with the rifle. If you miss your beaver he up-ends and dives like a shot, his broad tail striking the water like a side of sole leather. His object in spanking the water is to put the other beavers on their guard.

In some respects the cleverness of the beaver is overrated. He is certainly a very good, clean workman in the mason and carpenter line, but is far easier to trap than a fox or fisher. When you are laying for him with a gun, all you have to do is to keep perfectly still, and he will swim right up to you; but the slightest whiff of human scent will send him to the bottom. Beaver dams are not always built of sticks and mud. I have seen four of them that were entirely built of stone. At Beaver Brook lake there is an old stone dam about forty rods long. When this dam was first made it is likely it was cemented with leaves and mud, but this soft material washed out after awhile without materially lowering the dam; and when a new family of beavers fell heir to it they had water enough there without having to raise the dam. The beaver is a great worker, but he likes to loaf the same as anyone else when he has a chance. For instance, when he can find an old driving dam, it is a regular windfall for him. He goes right to work and plugs up the old gateway, and soon has a splendid fit-out. It makes him fairly grin to strike such a snap as that. But I have seen beavers that didn't seem to have good horse sense. They will undertake to build a dam in a place where it will be carried away with every freshet, and maybe within ten rods of it there would be a good, safe site. Sometimes they will pick out very mean places for food and will nearly starve in the winter, though there is plenty of good, straight-grained grub not a quarter of a mile away.

Some people who write stories for the papers say that what are called "bank" beavers are lazy old males that have been fired out of the house by the rest of the family because they wouldn't work. I wonder what kind of a spy-glass the man had who saw this taking place. Perhaps he was a mind-reader who could figure out what the beavers were thinking about. Bank beavers are not always males, by any means. I have trapped female bank beavers with their kittens. The fact is that when beavers take to the bank it is because there is so much water that they don't need a dam, or because there is no chance to build a dam. That is why you find the bank beavers mostly on lakes, or large rivers, which they are unable to dam.

A full grown beaver will weigh from 30 to 40 pounds. I have caught a good many scaling over 40 pounds, and have been told by very reliable people that 60 pounders have been taken. I think the beaver, if he could only keep out of the trap, would live to a ripe old age. His growth is very slow, yet he sometimes reaches a remarkable size, with every sign of being

a regular old settler. I feel safe in saying that he is liable to live to be 25 or 30 years of age. The fur of the beaver is at its best in the winter and early spring. The outer and longer coating is coarse and glossy, almost black in color; the under coat is very thick and silky, nearly black on top and silver grey underneath.

The beaver is really a sort of portable pulp mill, grinding up most any kind of wood that comes his way. I once measured a white birch tree, 22 inches through, cut down by a beaver. A single beaver generally, if not always, amputates the tree, and when it comes down the whole family fall to and have a regular frolic with the bark and branches. A big beaver will bring down a fair-sized sapling, say 3 inches through, in about two minutes, and a large tree in about an hour. The favorite food of the animal is the poplar; next come the cherry and balm of gilead. They are fond of all kinds of maples, and will eat cedar, hemlock, or spruce. In some places they feed principally on alders. They also eat the roots of many kinds of water plants. When food is scarce they will consume the bark of the largest trees.

They commence to build their houses and yard up wood for the winter in September, but sometimes as early as August, and sometimes as late as October. They drag in the wood from all directions, and float it up as near as they can to the front of the lodge. There is nearly always two doors to the beaver house, and a favorite place for them to pile their wood is between these openings. But they leave a great deal of it out in the pond, more than half of which they are not able to consume, because, when the pond freezes up, they are only able to reach what is below the ice. The size of the house, as well as the woodpile stored in the pond, depends on the size of the family. An average house, which is generally circular in shape, will measure about twelve feet in diameter, and stand from three to six feet above the surface of the water. I have known them to be as large as sixteen and as small as six feet in diameter. The walls are usually about two feet thick and are strong enough to support the weight of a full grown moose without collapsing. They are perfectly air-tight, and being steam-heated by the beavers, must be very warm and cosy in the coldest weather. Very old beavers usually build larger houses, work more systematically and go in for comfort generally.

Each beaver has his bed neatly placed against the inner surface of the wall. His bedding is composed, usually, of wood fibres stripped fine, about like an Indian's broom. In the case of lake beaver, with whom wood is apt to be scarce, blue joint grass is used for bedding. This bedding is taken out pretty often and a fresh supply brought in, for the beaver is a most cleanly animal and his couch is soon fouled by his muddy occupation.

The two outlets from the lodge are built on an incline to the bottom of the pond. I think the idea of that is that if an enemy comes in one door they can make out at the other. The mud with which the roof is plastered is mostly taken from the bottom of the pond, close to the house, sometimes leaving quite a ditch there, which is handy as giving the beavers room to move about when the ice gets thick. As the ice freezes down to the bottom, the beavers extend a trench from this ditch out further into the pond to enable them to reach their food. This trench is sometimes ten rods in length. They will often cut a canal about two feet wide from one lake to another, if the intervening ground is barren and the surface level. Sometimes they will excavate an underground canal between the lakes. If the house is on a lake and there is a wide strip of barren between the house and the edge of the woods, they will cut a canal clear up to the edge of the woods, so that they can float their stuff down. To see a beaver swimming down the canal with a tree in tow five times his own weight is a comical sight. He has a good deal the same look on his face as the man who is lugging home his Thanksgiving turkey.

It is very seldom that the house is located on or near the dam. Beaver dams vary a good deal in height, according to the shape of the bank and the depth of water, seldom, however, measuring over seven feet. They are often eight or ten feet wide at the base, sloping up to a width of from one to three feet on top, and are usually perfectly water-tight. They are very firmly constructed and will sometimes last for years after the beavers have left them. Where beavers have seldom been disturbed they can be captured by making a small break in the dam and setting a trap for them when they come to repair the leak. But where beavers have been much hunted—and they are mostly all pretty well posted these days—this scheme is a poor one. The beavers will promenade on top of the dam and smell around the trap, to see what is the matter, and when you visit the trap you are liable to find in it nothing but a bunch of sticks. A beaver colony will often use the same dam for a number of years, especially when it is at the outlet or inlet of a lake, but they will usually build a new house every year. I think they do this on the ground of cleanliness, on which point they are very particular.

As compared with the otter or mink the beaver is a very slow swimmer. His front legs hang by his sides, and he uses only his webbed hind feet for purposes of swimming. It is easy to capture one in a canoe if you can find him in shoal water. He is a most determined fighter, but clumsy, and easy to handle. If he could get hold of you with his teeth he would almost take a leg off – so you want to watch him sharp. The proper place to grab him is by the tail.

The only enemy the beaver really has to fear is man. The bear and the lynx lay for him sometimes, but not with much success. I have known a bear to go down into four feet of water and haul a beaver out of a trap. The lynx occasionally catches a small beaver on the bank, but a full grown one would be too many for him to handle. Wild animals in some respects are ahead of men. They never have a swelled head; never bite off more than they can comfortably chew. Each fellow knows what he is able to tackle and get away with without injuring his health. The bear has too much sense to tackle the porcupine, and all hands line up to give the skunk the right of way.

One of the queerest facts about the beaver is the rapidity with which his long, chisel-shaped teeth will recover from an injury. I have known beavers to break their teeth in biting a trap, and when I caught them again ten days afterwards you couldn't see a sign of the break—the teeth had grown out to their former perfection in that short period.

As soon as the lakes and streams open in the spring, the old males, and all the two and three-year-olds, start off on a regular excursion and ramble over the brooks and lakes for miles around, the old females remaining at home to rear their young. In fact, the mother beavers remain at home all summer, while the rest of the tribe are ranging about until September, when they commence to club together again. The kittens generally remain with the mother for two years. When they are three years old they mate and start off on their own hook. You can mostly always tell the newly-wedded couple by the small, snug house they build. They seem to be very devoted to each other, but I have noticed one point about the young she beaver that is very human. If the trapper comes along and her mate is wafted up, she goes skirmishing as soon as possible for another husband.

Near the root of the beaver's tail are glands which hold a thick, musky liquid called the castoreum, which is used by trappers to scent their bait. When I want to shoot a beaver I get out my bottle of castoreum and pull the cork. The beaver will swim right up within range as soon as he catches the scent. When trapping in the fall, which I seldom do, I generally daub a little of the substance on a dry stub or snag a few yards away from the shore. The trap is set about three inches under water where the beaver climbs up on the bank, a bunch of poplar being generally used for bait. When trapping in the winter you cannot use the castoreum, as the trap is set under the ice where the scent has no effect.

Some old trappers, when setting traps under the ice, cut four stakes, three of green poplar and the other of some kind of dry wood. These are driven down through the hole in the ice close to the house, solidly into the bottom, forming a square about a foot each way. The trap is set and lowered carefully to the bottom by means of two hooked sticks, the ring on the chain being slipped over the dry stake. This is not a sure plan at all. There is nothing to prevent the beaver from cutting off the poplars above the trap and carrying them away. In fact, if the beaver gets in the trap he is simply playing in hard luck. The best way is to shove down a small dry tree with three or four branches sticking out on which the trap can be set, and place bait above it in such a fashion that the beaver will have to step on the trap to reach it. But if the water is shoal enough, the safest way is to place your trap on the bottom. It is, of course, all-important that the beaver should drown soon after he is caught; otherwise you are very apt to get nothing but a claw, particularly if he is caught by the forefoot, which can be twisted off very easily.

The cutting of a hole in the ice and other disturbance caused by setting the trap, of course, scares the beavers in the house, and you are not likely to catch any for two or three nights. But the beavers cannot get away, are very hungry for fresh food, and after they get over their panic will readily walk into the trap.

The ability of a beaver to remain under water for a long time is really not so tough a problem as it looks. When the lake or pond is frozen over a beaver will come to the under surface of the ice and expel his breath so that it will form a wide, flat bubble. The air coming in contact with the ice and water is purified, and the beaver breathes it in again. This operation he can repeat several times. The otter and muskrat do the same thing. When the ice is thin and clear I have often seen the muskrat attached to his bubble, and by pounding on the ice have driven him away from it, when he would drown in a very short time. I believe that the beaver, as well as the loon, sometimes employs this pneumatic suction principle by breathing into the mud on the bottom, and thus remaining under water for a remarkable length of time.

It almost takes a burglar-proof safe to hold a newly captured beaver. I once caught an old one and two kittens up the north branch of the Sou-West, put them in a barrel and brought them down to Miramichi lake. That night she gnawed a hole through the barrel and cleared out, leaving her kittens. They were so young that I had no way of feeding them, so released them in the hope that the mother might find them. Soon after that I caught a big male beaver. I made a large log pen for him of dry spruce, but the second night he cut a log out and disappeared. Beavers when alarmed generally make up stream, so I went up the brook to where a little branch came in and I thought I would go up that a little ways, and I hadn't gone more than ten rods before I came across my lad sitting up in the bed of the brook having a lunch on a stick he had cut. He actually looked as if he knew he was playing truant when he caught sight of me out of the side of his eye. I picked him up by the tail, brought him back, put him in the pen, supplied him with plenty of fresh poplar, and he seemed as tame as possible and never gave me any more trouble. I brought him out to Stanley where he lived a long time. Turnbull had a thoroughbred mongrel dog which was jealous of the beaver, and one day attacked him. He only did that once, for the beaver nipped the dog's tail off quicker'n a cat could catch a mouse.

UNSCIENTIFIC FACTS ABOUT ANIMALS.

By C. C. Farr.

The rabbit, or more scientifically speaking, the hare, though small and generally held in contempt is the most useful animal that runs in the bush.

It is the animated wheat of the woods. Without it some of the most beautiful and valuable of our fur bearing animals would become extinct, while the owls and some of the larger species of hawks would have to go out of business.

It is strange how many of the carnivora are dependent on it for their daily food. From the lynx to the tiny weasel, all, more or less, prey upon the poor little rabbit, and yet, in spite of all this, so prolific is it, that, were it not for the periodical attacks of some pulmonary complaint, which completely depopulates whole districts, it would increase and multiply far beyond the needs of its natural enemies, and like the rabbits in Australia and New Zealand, become a nuisance on the face of the earth.

I imagine that this disease, to which they are subjected, must be tuberculosis, if so it might have a bearing upon the prevalence of this disease amongst Indians. Many years ago, while travelling through the Kippewa country, I passed through a swamp where rabbits used to swarm, and I found some lying dead and others in a dying condition. My companion, who was an Indian, informed me that the trouble was in their lungs. Unfortunately, I did not examine one of them myself for sake of verification, but accepted his statement for fact. I know, however, that for some years afterwards rabbits became very scarce in that locality; so much so that the Indians suffered, and there was a famine amongst them.

A famine amongst Indians is simply a scarcity of rabbits; excepting those who live on the frontier, there is always a famine amongst them in the matter of flour. Fish and meat constitute the staple food of an Indian and the greatest of these is rabbits.

Whole families living in the interior make use of only two or three bags of flour during the winter, and only eat it when game is scarce, or when on a journey, therefore, as rabbits are most easily caught and are the most plentiful of all the animals in the bush, a scarcity of them means hunger to the Indians. Their name for rabbit is "Wahboos,"—"The Little White Chap,"—a name half friendly, half contemptuous.

If an Indian has a low estimate of any man's intelligence, he says: "Wahboos ometinenjigay,"—"He thinks like a rabbit."

To the women is left the task of catching them. It is considered purely a woman's job and beneath the dignity of a good hunter. The men will sometimes make the "fences" for the snares, but the women usually set the snares and attend to them.

The method of snaring them is very simple. An especially well beaten track is selected and across this a small

balsam or spruce is thrown, one of about one and a-half or two inches in diameter, taking care, however, that the pole crosses the track about a foot above the ground. At the butt end balsam, cedar or spruce brush is stuck in the ground or snow, forming with the top of the little tree a fence through which the only opening left is by the track, on each side of which stakes are placed, leaving a passage of about six inches in width. Then a small spring pole is stuck into the snow so that the top of it when bent down comes exactly over the centre of the opening. To this top is attached a piece of small twine with a loop on the end for making the snare, but tied in such a manner that there is about four inches to spare on the wrong end. On this there is a knot made, and by looping the snare end around this knot, and tucking the slack between the string and the cross pole where it is brought tight against it by the strain of the spring pole a slip knot is formed, which is released by a slight pull on the snare end. The snare is then rounded into a circle of about three and a half to four inches in diameter. This is suspended on two very fine twigs stuck into the snow with their tops leaning towards each other, which hold the snare up about five inches from the ground. Beneath it are placed about three short sticks also stuck in the snow, which prevent the rabbit from diving beneath the snare. All these "setting sticks," as they are called, have to be of dead wood, otherwise the rabbits would nibble at them and disarrange the snare. The next and final act is to take the fine tops of the birch, poplar or maple and stick them promiscuously along each side of the fence.

The rabbits eat these, and finding such excellent food on one side of the fence expect to find the same on the other, and to reach it they have to pass through the little circle of the snare which seems made especially for a rabbit to go through. But alas for the rabbit. Its shoulders catch the snare and knock it off the small "set sticks," The noose then tightens on its neck and a more vigorous pull sets the spring pole free, which, if properly arranged, will jerk the rabbit off its legs and end its career, "Sus per coll." Sometimes the noose slips over its shoulders and catches it by the hind legs. Then it makes a long fight for freedom and is often still alive when found; but the Indians object to eating rabbits thus caught. "Map is ootch," they call them, and only eat them when rabbits are scarce, otherwise they let the children have them.

An Indian, or indeed anyone who can catch a rabbit, need never die of starvation in the bush, as long as rabbits abound. A piece of twine and a jack knife is all that is required, though for the matter of that an Indian can dispense with the twine, being always able to find some bark or root that will serve the purpose. The great trouble is that the rabbits nibble the twine, and to prevent this the Indians use various substances. In the summer the rubbing of the snare with the bruised brush of the balsam is sufficient, but in the winter the Indians always use the frozen dung of the dog, which is infallible, though I fancy that coal tar would be equally efficacious.

The various uses of the rabbit skins by the Indians are so well known that I hardly need to enumerate them. They cut the skins into strips which they twist into a coarse, furry yarn and then weave, by netting, into blankets and all kinds of garments, though the latter have been superseded by the white man's garments of cloth.

The rabbit does not figure conspicuously in Indian legendary lore. It was one of the animals that came short of grease when the Geetchie Manitou distributed grease, or fat, to all living animals. All animals were supposed to be originally made without any fat and they complained to the Geetchie Manitou on that account, therefore he created a river of grease and ordered all the animals to gather together on its banks upon a certain day. The bear, being a greedy fellow, came first, and not content with drinking his fill, he even swam in it, so that to this day his coat is greasy. The beaver also swallowed large quantities, and all the other animals drank of the grease, each in the order of their fatness; but the rabbit and the partridge tarried so long in coming that the Geetchie Manitou told the weasel to go and hunt for them. But the weasel was so slow that the laggards came of their own accord, and when they came the grease was done, all but a spoonful of the skimmings, which had stuck to the banks like a high water mark. This was given to the rabbit. Then the partridge cried so bitterly that the Geetchie Manitou took pity on it and wiped his fingers upon its neck, so that to this day the partridge has a little smear of fat on each side of the base of its neck. In the meantime the weasel arrived, but all the grease was consumed and it got none. In vain it protested that it was delayed by having to tie its moccasin strings. There was simply no more grease, so to this day the weasel has not a particle of grease upon its body. All of which contains a beautiful little moral lesson for those of slow and sluggish habits.

✣

By far the most important article in an outfit for winter work is the snowshoe. Without a rifle, or gun, you may still kill game by trapping, and catch fish enough to live on, but with two feet of snow on the ground you will be perfectly helpless without your snowshoes. The best materials for the bow, and for the filling, are white ash and caribou hide babiche, but many Indian tribes use other materials—in fact they make what they can get serve, being practical men. Contrary to the general belief, moose hide does not make a very bad filling. A yearling bull's hide should be chosen; this will yield 500 yards of babiche, and one pair of full sized shoes will require from 400 to 500 yards of this material. Horse hide is an excellent filling, and ordinary cow hide may do at a pinch. Second growth white ash makes by far the best bow, but the northern Indians use yellow birch, or oak, as well, when ash is scarce. As to shape, each tribe has its own ideals, influenced by local conditions; between the bear paw of the Montagnais Indian, and the 5 ft. shoe of the Cree, you will find dozens of curiously shaped snowshoes. The most peculiar I have yet seen is used by the Coast Indians of southern Alaska. The shoe is small, the lacing (on account of wet heavy snow, which balls badly) so coarse that you may pass two fingers through the web, the nose is turned up, and a deep groove runs down the centre of the shoe. Moreover, as an additional assistance on the treacherous ice-slopes of the Coast Range, each shoe has a patent brake on the outside of the bow, consisting of the tip of the black, pointed horn of the mountain goat. This is set so that it will fold backward against the bow, when the shoe is stationary or moving forward, but will stand out at right angles, and dig into the ice, should a slip backward occur.

✣

Nine men out of ten will pitch a lean-to camp on ground which slopes toward the fire, thinking thereby to get the maximum of benefit therefrom. The tenth man has been a closer observer, and you will notice his open tent faces a slight rise. The heat rays strike the canvas at a more acute angle in the latter case, and about 20 per cent. more heat finds its way into the tent. A careful trial will convince anyone of this—especially of a cold winter's night.

THE WHITE BUCK.

By St. Croix.

"Is that gentleman in?"

That gentleman was, and a few seconds later the half-breed was seated on the extreme edge of a chair in my den, his mocassined feet strangely out of place on even a rather shabby carpet.

"Well, Jim?—out with it, man." My visitor's bashfulness was extreme. Thus exhorted, Jim began:

"I guess, mister, them little deer we was a-talking about is back of the Maryland road; and a man I'm acquainted with livin' there tol' me he run agin' them t'other day on his wood lot."

This was news indeed, for the last authentic report of the said deer—for there was only supposed to be one herd within a day's ride of the city—had placed them some miles further off than did this last rumor.

"Jim, do you think we could find them if we got off at once?" I asked.

"Sarten shure, mister," answered Jim, "snow just right for tracking." There being about a couple of inches of snow covering the hard frozen ground, it seemed possible that Jim's hopes had a somewhat more solid foundation than is usually the case with an Indian's anti-hunting prophecies to a wavering patron.

"Then Jim, you go down to the grocery store and order grub for a week's hunt, and I will pick you up there in an hour's time."

Jim gave a grunt, and on being released went off down the street like an india-rubber man, stepping high to clear the windfalls which from habit seemed to cumber his path. It did not take me long to get ready, for, in the hay loft over the stable my camp kit was always ready, my first care on returning from a hunt being to have all tinware cleaned, rents in blankets or bags repaired, and axes ground before putting them away.

The Maryland road is a highway built after the Roman manner, that is to say, always preferring to go over the crest of a hill rather than to turn its flank. It starts from the city of Fredericton—where it ends is uncertain, although a hardy explorer, according to tradition, is said to have gone so far along it that the ever narrowing trail became a cow path, which in its turn degenerated into a squirrel's track, which finally led to the foot of a big pine.

We found the road heavy, and by the time we had covered the three miles between the city and our proposed camping place, the dusk was deepening rapidly. In due time the logs were crackling, and master Jim and myself sipping a warm and exhilarating beverage as we toasted ourselves before the blaze. That night it registered 15° below zero, but not even our consciences disturbed our rest.

In the morning we arose early, but nevertheless later than the moose birds, who had already discovered that our sugar-cured ham was of a brand they approved of. Jim, on that bright frosty morning was in no hurry to begin the hunt. He was experiencing a new sensation, having just discovered that fluid beef with plenty of pepper in it is a soothing concoction, and it soon became evident that he had sinister designs on the remainder of our stock. Indian fairy tales, legends concerning all animated things known to the great northern woods, from the giant moose to the chicadee, chronological data regarding the Indians, his ancestors, and much other valuable and miscellaneous information, flowed in a voluble, disconnected flood from the cavity which separated the three hairs of his moustache from the four decorative bristles of his chin.

At length we started. The country we roamed over was entirely denuded of heavy timber, owing to bush fires and the misguided labors of past generations who had industriously destroyed the only valuable crop that land can ever carry. There was, however, a scrubby, second growth which made it a most suitable country for deer, with abundance of food and shelter, though an exceedingly difficult one to hunt over, the swamps being very dense. We returned to camp that evening tired and hungry, with two "partridge" as a result of our labors. The morning's narrative was not resumed—there was no longer anything to be gained, and, besides, we were done to a turn.

Turtle Portage, Lake Kippewa

After supper: "Well, Jim, where are the deer?"

"Dunno": which was likely.

Next morning I walked over to a neighboring farm and enquired of the women folk, who alone were at home, about the game we were after. They were hospitable

and accessible to flattery, but knew little. Finally the more interesting of the two recalled that "Nathan" had seen a white deer feeding in the old pasture with the cattle before the last snow.

I hurried back and communicated the joyful news to Jim. In honor of the occasion we made an inordinate brewing of fluid beef and indulged in a perfect wassail bout. It ought to have killed us, but men camping out in a temperature of minus anything you like can stand much, and we started on the trail actually invigorated by our excesses. During several hours we plunged through dense thickets and scoured open barrens in an admirable and untiring manner—but all to no purpose. Deer, whether white, dun, grey or black were absent from the landscape.

For yet another day we persisted, and were rewarded by a rabbit which Jim foully murdered with a rock; then I gave up, and the edict went forth: "Jim, go to town and send out the waggon." With visions of social joys before his eyes, Jim obeyed promptly. It has always appeared to me that the Indian takes to the chase with reluctance and quits it with alacrity.

In due time the young bay horse and old grey waggon hove in sight, and with half an hour to spare before dark we began to re-travel the Appian Way which is called Maryland. I had myself seen that everything was in the trap, and that both my express rifle and Jim's muzzle loader were securely wrapped in the blankets and placed at the bottom of the load. Slowly we toiled up the hills and merrily we rattled down the slopes, until more than half our journey was completed.

I remember the scene well; a little hill in front—quite a gentle rise for the Appian Way—and a rough pasture on the right hand. My discontented glance roved casually over it; I started,—rubbed my eyes. There stood a white deer!

The animal did not seem in the least alarmed, and I began to hope I might yet get a shot. Most cautiously I rummaged in the blankets for my rifle; at length I had it in my hand, but where, in the name of fate, were the cartridges? A groan escaped me as I realized they were in Jim's pitsnargan, miles away.

Now came the most wonderful part of the adventure; indeed, had I not myself witnessed the sight, I should find some difficulty in crediting it. Perhaps the disappointment I had undergone had produced a temporary aberration of intellect, causing me to see things as they were not; or perhaps it was the fading light which deceived me, but this is certainly what I seemed to see. The buck appeared to gradually rear upon its hind legs, getting higher and higher, until it looked as tall as the young tamarack that were scattered here and there over the rough pasture. Then, with the greatest deliberation the uncanny animal placed its off fore foot to the point of its delicate muzzle, and its near fore foot before its off.

In this remarkable attitude it stood for some seconds—then it dissolved, as it were, into the gathering gloom.

Meditating deeply on this strange occurrence, I resumed my journey. The first person I met in the city was my doctor, who on hearing my story insisted on feeling my pulse. Shaking his head as he turned away, I caught the muttered remark: "Too bad, too bad—a victim of the fluid beef habit."

Morals.—(1) Always keep both rifle and cartridges handy until the trip is really over. (2) Don't indulge too heavily in fluid beef. (3) If you value your reputation, keep the secret of all wonderful adventures in your own bosom.

THE SHORES OF LAKE SUPERIOR.

By Mary W. Alloway.

Summer and sunshine are the natural atmosphere of poets and painters, shady bowers and singing brooks their usual settings. Winter is not often their theme, though some of the New England poets, it is true, reared among the granite hills and bold sea-coasts, have loved nature in her sterner moods and given us,—"Snow-Bound,"—"The Rainy Day" and others in which grey tones prevail. Some of our American scenes are so suggestive of majesty, that the best time to see them is in the more austere seasons. This is essentially true of the north shores of Lake Superior. They are usually described as bleak and uninteresting in the extreme, but this winter afternoon, looked upon from the railway train as it rushes to the north-west prairies, the scene is wonderfully impressive and grand.

For miles and miles the track runs close to the shore of this great inland sea, the largest body of fresh water in the world, the opposite one being lost in the misty distance. There are rocks, rocks everywhere, here running down boldly, with their bases lost in the water, and there fringing curved bays and defining beaches, up which the waves ripple or foam; for except in sheltered parts, the water is as open and flowing as in summer. In places a surf like the ocean beats up; coating the rocks with a crystal covering which is very beautiful. Running in one place on the very edge of the water we describe a complete horse-shoe curve; round which the engine can be seen from the window tearing along under the beetling cliffs which frown from the other side, having a most weird effect. At one point, it is said, the cliff falls sheer sixty feet from the track to water, sixty feet in depth below. What a leap it would be if we jump the track; but we hope not to. Over bridges and across ravines we move swiftly and safely, the view changing every moment with new vistas of land and water. We cross rivers, some frozen into white ribbons, others too swift of current to freeze, flowing as in June to meet the green waves of the lake. In ravines are huts and cabins, the smoke of the family hearth curling up to sky, speaking of the patient toil and isolation of those who have cast in their lot among these grand hills.

The outlines of the brown hills change continually against a sky as soft and blue as that against which Vesuvius rears its smoking crest. As if the view were too fine to be continuous we dash through the darkness of rough tunnels, cut in the solid rock, only to sweep out again into the beauties of forests of evergreens, snow, rock and water.

The smoke from the locomotive rolling off among the tops of the pines, gives a mystical look to them, but the smaller shrubs below, crusted with snow and at times bright with red berries, seem to defy anything to make them look grim or subdue their cheerfulness. So far for the shore,—but even it cannot compare with the outlook over the water. The difference in temperature between it and the air causes a profuse evaporation, so that the whole surface is covered with floating, white vapors, which rise and mingle with the clouds above in the most exquisite shades of pearl and grey. Out of the mist the many islands lift themselves like mountain tops above the cloud-level. The crags and boulders are of all tints of brown and red, down which occasionally a little, summer cascade is frozen in its fall into a jewelled cataract. The sun sinks over the far-off purple hills in a radiance of gold and crimson, and like all other sunsets defies pen or pencil to perfectly depict it. As he disappears the stars of these cold, northern skies shine out and night, like the curtain we draw down as the lamps are lighted, shuts out the view.

FISH AND FISHING

A TRIP TO BOLTON PASS.

Last May shortly after the opening of the fishing season, three of us, Doc, Cox and myself, met on the street one evening, and as we were all "tarred with the same stick" in this particular, straightway proceeded to plan an expedition after the toothsome brook trout. Doc informed us of a wonderful brook flowing through the Bolton Pass where trout galore were to be caught by the veriest novice, and, as he claimed to have been there and told wonderful tales of previous successes, we then and there decided to take it in. Accordingly, ten o'clock the next evening found us starting on our forty mile drive to Doc's Promised Land; Doc and Cox in the front rig leading the way, and the writer's horse and buggy bringing up the rear.

Just as day was breaking and we were nearing the pass in the mountains where Doc's famous brook was to be found, we crossed a likely looking stream, and Doc telling us to drive on several miles to a farm house which he described, and where we were to put up the horses and fish down stream to meet him, jumped out and started in to fill his basket with the speckled beauties, while Cox and I obedient to his instructions proceeded onward to look up the farm house. Well, as we were strangers in that section we must have taken a wrong turn, for no farm house appeared in sight after an hour's drive and the road was rapidly assuming a grade like the roof of a house. At the top of an exceptionally steep and rough bit of road we halted to give the horses a breathing spell, and incidentally, held a council of war, the ultimate conclusion being that we were on the wrong road and that the only way out of the difficulty was to go back to the brook where we had left Doc. Upon arriving at the turn, Cox went on down stream to find Doc, while I turned up toward the pass where I duly arrived in less than an hour.

It was yet early in the day and the scenery and weather were each perfect, and this, together with the fact that I could see a sparkling brook winding down through the pass at my feet, sufficed to again put me in good humor to such an extent that I almost forgave Doc for sending us on a wild goose chase while he, as we supposed, was loading his basket

Bolton Brook rises in a lovely little lake at the top of the pass of the same name, and for the five or six miles of its length is an ideal trout brook. In earlier days, if reports are to be believed, it teemed with trout, but now, alas, it takes a lot of walking and the weather conditions, and the skill of the rodster must be perfect to even get a fair catch.

Well, to resume my story, I drove down the pass and put up my horse at a habitant farmer's place, whose log house and barn adjoined the road. This worthy while assisting me to unhitch and stable my horse, regaled me in his broken English with his views on the leading political question of the day, the British-Boer War, then in it's infancy, and his family history, both ancient and modern; all being extremely interesting, especially the latter, he being the father of twenty-four children, and just having married his second wife, a widow with over half that number of her own. Where he kept them all, I could not imagine, as the house had only two rooms.

After directing me where to fish, and sending one of his numerous progeny with me to show me the brook, he then retired to the house to explain the wonders of my Bristol steel rod to the "old woman." My small guide after conducting me to the brook and showing me McManus' Pork Barrel, a deep pool in the brook, so named, he explained, because a man named McManus had filled a pork barrel in a few hours, fishing, also returned to the house leaving me to my own devices.

I then put my rod together and started in to make up for lost time, as I wanted to have a good basket by the time the others came up. I fished down the brook for over an hour with indifferent success, before the other two overtook me and went on further down in search of water over which I had not fished. I kept steadily at it until an uneasy feeling in my commissary department reminded me that I had eaten nothing since the night before, and in looking for my lunch I made the discovery that my stock of bait was back in the buggy, and that the small box at my belt was empty. Thoroughly disgusted with my luck, I sat down on the bank in a shady spot, and finding that my feet were hurting me, succeeded after a struggle in getting off my rubber boots, bathed my feet in the brook and ate my lunch. The day was warm and as I had had no sleep the night before, I fell asleep! I do not know how long I slept, but was awakened by a terrible burning sensation in my feet, and upon examination found them the color of a boiled lobster and swollen about two sizes. While I had been sleeping, the sun had moved round, throwing the lower part of my body into the strong sunlight and burning both of my pedal extremities a lovely terra cotta red. It was an impossibility to get into my boots, and as Doc and Cox were perhaps miles down the brook, I shouldered boots, fish and tackle and tramped through the brush and over the gravel two long miles back to where I had left my horse. Arriving there, the "old woman" prepared a strong solution of salt and water in which I soaked the swollen and inflamed members until I had reduced them to a size which admitted their insertion into shoes and stockings. Then thoroughly disgusted with my luck and leaving no word for Doc and Cox, I hitched up and struck out for a friend's house, about fifteen miles away, near where there was a brook in which I knew trout were to be found, and good ones too, and where I knew the the country.

There I spent the night, and succeeded in swopping of my boots for a pair a size or two larger and in the morning fished down the brook locally known as the "Ann Smith" brook to the pond, getting twenty-eight nice ones on the way down, together with three small chub, which I placed in my basket along with the trout. In saving these chub I had an object in view. When fishing this same brook the year previous I had seen a number of extra large trout in the pond which had refused both fly and worm. I wanted some of these so I tried them with chub.

Arriving at the pond I baited with a chub and cast far out in the pond working the bait around to give it the appearance of life. Soon I had a strike and after a good fight succeeded in landing a beauty. Each of the other two chub brought in a good one, and then I baited with a small trout. This and one other, each brought in a large one and then they quit biting. I tried them faithfully but business seemed to be over for the day, so quite well satisfied I packed up and started for home, where I arrived without further mishap about ten hours after Doc and Cox. I had twenty-eight nice brook trout, from six to eight inches long, and the five old "Senders," the largest fifteen inches long, two fourteen, and one thirteen and a half and one twelve. The whole just about filled my basket.

The worst, however, remains to be told. Doc and Cox coming up the brook and finding no trace of me had gone to the house where I had left my horse, and had there heard about my hard luck and sunburnt feet, together with my forgetfulness of bait, and Doc thinking it one on me had spread the story around among the boys, stating that my chapter of accidents was not due to loss of bait and sleep, but was a case of too much "bait." This, however, I easily disproved when my full basket was shown, and when the fact became known that Doc was the only one in the party who happened to have any of that kind of bait with him on the trip.

Doc and Cox claimed to have caught two hundred and one, but if they did I never saw them, and I have failed to find anyone who did. BRISTOL.

Granby, Que.

*

We have received many enquiries as to the Nepigon, and have decided to answer some of them in ROD AND GUN. The Nepigon is remarkable for yielding the largest speckled trout, fontinalis, which have been taken in Canada. Every season fish weighing ten pounds are caught and there is a fairly authentic record of one weighing over sixteen. The scenery of this river is very grand; in some places the shores are verdant with foliage to the water's edge, and again in others bold cliffs frown from dizzy heights on the island studded waters. After leaving Lake Helen and passing the little Indian village at the mouth of the river no further traces of civilization are encountered.

Six miles higher up stream the first camping place—Camp Alexander—is reached and a portage is necessary. Below this camp there is no fishing, as a rule, but from this point to Lake Nepigon, twenty miles as the river winds, there is good fishing almost everywhere. The river falls between these points about 300 ft. so that there are rapids innumerable. So strong is the river that two canoemen are an absolute necessity.

Near the head of the river are the Virgin Falls—a miniature Niagara—and a great fishing pool is at their foot. Shortly after this the lake itself is reached, a most lovely sheet of water with a coast line of some 600 miles. It is estimated there are over one thousand islands in the lake—at any rate there are many hundreds of them.

In the report of the Fisheries Department of Ontario, for 1900, Mr. S. T. Bastedo, Deputy Commissioner, seems to be in favor of leasing some of the waters of New Ontario. He says: "These lakes should be regarded as so many farms, the property of the Province, and be dealt with in the same way—leased or rented for a number of years."

A good deal may be said against such action. It is true that this system is in vogue in Quebec but we believe that all waters belonging to the people should be open to them, under proper restriction, as it is not right to lease, perhaps to a single individual, waters which if adequately protected, would yield enjoyable sport to a multitude of men. In any case we trust there will be no leasing of the Nepigon or any of its tributaries. We know that many applications have been made with a view to this end, but heretofore excellent judgment has been shown in refusing them.

*

FISHING IN THE LAURENTIANS.

(Continued from page 8 of last number.)

One very noticeable peculiarity of Laurentian fishing is the uneven distribution of the fish species. The writer when in Washington a few months ago asked a well-known ichthyologist, if he could give any reason for this: Why one lake of a chain should hold trout, another bass, and yet a third pike or doré, and he confessed himself utterly unable to explain the circumstance. But, at any rate, it should not be forgotten that it is not merely sufficient to visit any backwoods lake to get fish, but that reliable information should have been obtained before starting. I will give an instance in proof: In the case of the Macaza, a tributary of the Rouge, which empties into that river above Labelle, there are no trout in any of its lakes or tributary streams until the extreme head-waters are reached. Here you will find a lake second to none in the province. The French surveyor who visited it several years ago named it Five Finger Lake, on account of its shape. This remote water holds numbers of speckled trout—*fontinalis*—some weighing from three to five pounds; yet all the numerous lakelets surrounding Five Finger Lake yield no trout. It may be that the only reason trout are absent is that coarse fish have been, unfortunately, introduced and have exterminated the trout; but this remains to be proved.

The ideal rod for Laurentian fishing is one of some 10½ feet in length, weighing from 7 to 8 oz., and having a short, stout top to be used for light trolling or bait fishing. On some of the lakes long casting pays, and therefore the rod should spring from the butt, and yet be able to carry a heavy line. Of course, the experienced fisherman will have his own ideas about these matters, but I do not think he would go far wrong were he to follow this advice. In the way of reels, I strongly object to multipliers in any shape, and much prefer a good plain click with plate handle for Laurentian fishing.

In the matter of flies, the following may be recommended with some confidence: 1, March Brown; 2, Jenny Lind; 3, Professor; 4, Montreal; 5, Seth Green; 6, Teal Wing; 7, Jock Scott; 8, Silver Doctor. Of course, there are many other flies, some of which are fully as good as any of the foregoing; but with a collection of these, tied in various sizes, together with a few midge flies and small duns for evening fishing, the angler's fly book should be well stocked.

Wading trousers or stockings are not required in the Laurentians. The fishing is either from a boat, or canoe, or else from the shore of some rocky lake, unless, indeed, it be from the banks of a delightful mountain stream. There are no heavy rivers to wade, so that the outfit required in some regions would be merely a source of embarrassment in the Laurentians.

But do not fail to take a large sized creel. With a little perseverance you may often fill it, and it is much better to have one too large than too small.

Should you be fishing in a lake remote from civilization you will have to take some means of preserving your fish. If a prolonged stop is contemplated, a stockade may be built in which the fish are penned until required for transportation. The Norwegian dodge of a floating box or tank with holes in it, and a hinged lid, is a very useful contrivance, as it enables several dozen fish to be kept alive until required. The Indian method is, however, to smoke the fish. A small wigwam of birch bark having been built, the fish, previously cleaned and slightly salted, are hung therein over a fire of smoldering cedar chips. In a couple of days they are so thoroughly smoked that they will keep for several months. It is a very good plan to soak the fish in strong brine for several hours before hanging them in the smoke-house, or else they may be rubbed with a mixture of dry salt and coarse brown sugar, 2 ozs. of the latter for every pound of the former. It is quite useless to try and smoke fish which are very fat, such as salmon during the early

run, or the big lake trout just before the spawning season, for when subjected to the heat of the smoke-house these very fat fish run to oil.

Generally, fishing in the Laurentians means camping out, so that it is as well to go prepared for this. The habitant farmer is usually desperately poor, and it is not safe to rely upon him for anything but the bare necessaries of life. Should he have a boat on the lake, it will probably be a heavy, leaky old tub ; a tent is not usually among his belongings; and as for fine fishing tackle, he knows it not. Therefore, be well advised, and take everything that you are likely to need, but do not be enticed into buying large quantities of so-called luxuries. Most of the things the silver-tongued salesman will try to foist upon you are not really luxuries, but, on the contrary, will prove obstacles to your happiness should you have much travelling to do. The appetite the Laurentian air is sure to give you will take the place of a sauce, and plain wholesome fare will be thoroughly enjoyed, even by a stomach grown accustomed to the spiced dishes served in hotels and clubs. One class of so-called necessaries you will certainly not need, and that is medicine. Beyond one or two trivial remedies, which will suggest themselves to the experienced camper, nothing need be taken. Of course, all sorts of things might happen—but then they never do—and so it is just as well not to lug the contents of an apothecary shop into the bush, on the off chance of being taken down with some improbable sickness.

MOOSE AND CARIBOU IN NEW BRUNSWICK.

(By the late Frank H. Risteen.)

The almost complete extinction of moose and caribou which has taken place in the State of Maine has induced many American sportsmen, who wish to hunt more noble quarry than the common red deer, to invade the big game fields of Canada. Nova Scotia, despite the ravages of the crust-hunter and the snarer, has still a fairly good supply of moose, but caribou are very rare and deer are only now being colonized. In the vast forest solitudes of Quebec and Ontario all forms of game are plentiful. The Province of New Brunswick, however, at the present time, is receiving more attention from big game hunters than any of the regions named. It is well stocked with moose, while its caribou herds are only surpassed by those of Newfoundland. The province is also rapidly filling up with deer. These are as yet more numerous in the western counties, contiguous to the Maine border, while the principal habitation of moose and caribou is the far-spreading wilderness that lies to the north and east of the St. John river. The game protective system now in vogue is a decided advance upon the almost criminal neglect of former years, but is still far from adequate to prevent the wholesale slaughter of game, especially moose and deer, in the deep snows of winter by logging crews and people living in the back settlements. The caribou, from the peculiar formation of his hoofs, is able to traverse the heaviest drifts with ease and so escapes, in large degree, the fate that overtakes his less favored congeners. His restless habits, too, make him difficult to locate at all times of the year.

The usual rate of wages asked by our best moose guides is from $3 to $4 per day, the guides supplying camps, canoes, tents—in fact everything except teams and provisions. Cooks and camp helpers receive $1.50 per day.

New Brunswick is one of the few regions in America where the black bear can be hunted with a sure prospect of success. On the head-waters of the Nepisiguit, as well as of the Restigouche, are hills of considerable height which many years ago were swept by forest fires. Fields of blueberries have since sprung up upon these barren slopes, where Bruin may be found regaling himself in the summer and early autumn months. The animal must first be located with a field-glass from the camp or other convenient site. After that it is a matter of strategy and marksmanship. It is not uncommon for fifteen or twenty bears to be seen on a hunting trip and as many as half a dozen are sometimes shot by a single hunter. Though formidable enough in appearance the black bear is very shy and timid. His principal concern at sight of man is to exercise the functions of his feet.

Moose and caribou are well distributed over nearly all the forest lands of the province. They are especially abundant on the upper waters of the Tobique, Nepisiguit, Restigouche and all the numerous branches of the Miramichi. The most approved method of circumventing the bull moose is by "calling" him with the birchen horn in the mating season. Various beliefs exist as to the duration of this rutting period. There are certainly no precise limits that can be fixed as applicable to all cases. The consensus of opinion is that the season extends from about Sept. 15th to Oct. 15th, though moose have, in isolated cases, been called as early as Sept. 1st and as late as Nov. 15th. There are, practically, two periods, indefinite as to length, when the bull moose may be called successfully. The first is early in the season before he has found a mate ; the second is late in the season, when the cow, having wearied of his attentions, has deserted him. While the cow is in company with the bull he will not respond to the birchen horn unless the call is given at a very close range, when he is likely to investigate. He has a realizing sense of the force of the saying that "a bird in the hand is worth two in the bush." It occasionally happens that a whole moose family, composed of a bull, one or two cows and their attendant train of calves, will come to the call at once. This may be the product of sheer sociability, or else of that fatal curiosity which has been observed, in greater or less degree, in all members of the deer family. It is unwise to dogmatize in reference to the habits of wild animals. They vary greatly with the individual and very little is really known about them. Many instances have occurred where two or more bachelor bulls have responded to a skilful caller at the same time, their hoarse grunts proceeding from widely separated points as they advance to the imaginary trysting place. Fortunate, indeed, is the hunter who is then in position to witness the appalling spectacle—the combat of two monster bulls for the mastery. The contest is furious beyond description, the frenzied roars of the rivals may be heard for miles around, horns are splintered and wounds inflicted that frequently result in death to one or both of them. As you survey the battle field, up-rooted saplings, trampled grass, bunches of hair and pools of gory mire attest the rage and strength of the opposing patriarchs.

(To be continued in next number.)

ANSWERS TO CORRESPONDENTS.

Puritan:—Lake Winnipeg is 300 miles long and contains many islands. Canoes should be secured in Winnipeg ; guides and everything else at Selkirk. Capt. Robinson recommends going to Edmonton, then down the Saskatchewan to Lake Winnipeg and Winnipeg city by way of Red River. Trip may be prolonged to Grand Forks and Fargo. Trip of about 1600 miles ; duration three or four weeks. Guides can be obtained at Grand Rapids, mouth of the Saskatchewan. An occasional boat runs late in the season from Selkirk to Grand Rapids, earlier they ply regularly.

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

Granby, Que.

In conclusion, allow me to congratulate you upon the quality of the magazine you are turning out every month. It is crisp, clean and well written, and ought to attain a large circulation here in Canada.

N. A. MEYER,

The Granby Box Co.

The Canadian wilderness is a magnet whose influence is felt farther afield each year. It is now attracting sportsmen from the extreme States of the Union. Many men of means and leisure, although living far from the boundary, arrange for a regular summer or autumn trip to the Canadian forests and mountains. This is gratifying and we can assure them that they will be certain of a hearty welcome from their brother sportsmen in Canada, and that they will find a lively desire on the part of local hunters to help them towards sport. This is, of course, supposing them to be, as most of them are, fair hunters and fishermen, and not mere game butchers. For men of the latter stripe we have no use and we congratulate ourselves that we have seen so few of them.

A misconception seems to exist in the minds of many American gentlemen as to the cost of sport in Canada. While it is true that the wages of good guides, in certain parts of the Dominion, have risen quite rapidly of late, it by no means follows that a man needs to be a millionaire to enjoy Canadian sport. Prices are regulated by demand and supply—of guides as of everything else. When a couple of hundred men aim at the same narrow strip of territory, and there happen to be but 20 first-class guides available, it is quite natural that these men, finding themselves so much in demand, should raise the price, and in the end that the longest purse should secure the best man. Hunting grounds have their day and become fashionable or unfashionable just as is the case with a summer or a winter resort. If men will follow in the track of the multitude they must expect to pay the piper. There is really no need for this sort of thing, as Canada is vast enough to supply hunting grounds for every man who cares to pursue her big game, and between the Atlantic and the Pacific there are hundreds of thousands of square miles of ground on which no civilized foot has ever left its imprint, and where the Indians have particularly moderate ideas as to the value of their services. The man who has the necessary energy to discover new hunting grounds for himself, who is above sinking into the rut of tradition, and who desires to keep his expenses within very moderate bounds will do well to eschew the more fashionable resorts, that is those that are most often talked about in the sporting papers.

Between the cities of Ottawa and Vancouver, a distance of nearly 3,000 miles, a man may leave the railway track at numberless points and be in regions just as good as those we read so much about. There are lots of good guides to be had, men who have made a living and supported their families by their trapping, hunting and fishing, who would be delighted to guide a sportsman for $1 a day and their board. Add to this the cost of provisioning the party, which need not exceed 50c a head a day, and it will be seen that the total expense of a hunt in the Canadian bush is not appalling. Of course, the non-resident sportsman should take out his hunting license, and he will have to face the cost of a modest camp equipment, but even so, a very shallow purse should be deep enough to stand the drain entailed by a visit to the great wilderness of the north.

✣

The Province of Quebec Fish and Game Protective Association, an old and highly respected body, has recently drafted new by-laws, and generally shown evidences of a renewed vitality. The struggle against lawlessness and game extermination has been an up-hill one, but signs are not wanting that a turn of the tide has come, and that public opinion is now setting more and more strongly in the direction of the enforcement of our remarkably good game laws. After all there never has been much trouble with the laws—even the very worst we had on the statute book were far better than none at all—but there has been a great laxity in their enforcement. Canada has suffered, as all young, sparsely inhabited countries must suffer, from the fact that the game wardens are usually relatives, or at least, acquaintances of the poachers. It is hard for a man to arrest his brother-in-law even if he should have killed a doe and her fawn in leafy June, but the Dominion is emerging from the kindergarten stage, and if we ever succeed in getting game protection entirely divorced from politics, as we hope to do, poaching will be reduced to a minimum. Canadians are a law-abiding people, and we need never fear the shot-gun tactics which have been such a bane in some other countries.

✣

Elsewhere in this issue we publish a letter from Mr. N. A. Meyer, of Granby, Que., which discloses a very unfortunate condition of affairs there. According to our correspondent the Quebec Government has issued thirty licenses for gill nets in the lakes of Sherbrooke county. This means practically that in a very short time the remarkably good fishing at present existing in these lakes will be a thing of the past. It certainly is most depressing to find that the Quebec Government is not more alive to the necessity of the situation. We hope that it may be found possible to cancel these permits and that in any case no further ones will be issued.

KENNEL DEPARTMENT

Conducted by D. Taylor

MONTREAL COLLIE CLUB'S SHOW.

This recently formed organization held a show of collies on Saturday, 20th July, at the old Corporation quarry, Outremont, confined to its members only, which proved a very interesting affair. The Club is composed largely of young breeders and it was more to give encouragement to them than anything else that the show had its origin. The place of exhibition, though an ideal spot for an open air show, is a little out of the way, for city members at least, and this was probably the reason why both exhibits and spectators were not more numerous. About thirty or forty dogs were tied up, ranging from the puppy of two months or a little over to the full grown animal; of the latter there were only three or four, the large majority being in the puppyhood stage. The principal attraction for visitors was Mr. Gault's recently imported dog, Braehead Royal Scot, and Mr. McRae's Lord Minto, the latter of which held a good place at the last Montreal show. Prof. Wesley Mills was the judge, and it is needless to say had a difficult task to perform. With animals of such immature age as under three months it must always be pretty much a matter of guesswork to decide upon the best, and it is not to be wondered at that even such a good authority as Prof. Mills tripped up over some of his selections. His most conspicuous mistake was made in the awards for puppy bitches under three and six months respectively, where in the latter class he completely reversed his finding in the former by placing Mr. Parson's Petite Cote Blossom first instead of third. There is no doubt his second finding was the correct one. But notwithstanding this and one or two other mistakes his decisions were accepted in the spirit in which they were made. The officials of the club—Mr. A. F. Gault, president; Mr. John Lewis, vice-president; Mr. H. L. Thomas, secretary-treasurer, and some of the committee, including Messrs. R. C. Binning, Wilson, Coull, Stalker and Alexander, did all they could to make it a very pleasant afternoon for visitors. We hope their next venture will take a more ambitious turn. Following is the

Prize List.

Class I—Puppy dogs under three months:—1, Bonnie Dundee, Mr. A. B. Stalker, Lachine; 2, Glencoe Diamond, Mr. Chas. Wilson, Point St. Charles; 3, Glencoe Dandy, Mr. Chas. Wilson; reserve, Robin Adair, Mr. J. A. Parson, Montreal Annex. Nine entries.

Class II—Puppy bitches under three months:—1, Mountain Rose, Mr. J. Alexander, Point St. Charles; 2, Lass o' Gowrie, Mr. A. B. Stalker; 3, Petite Cote Blossom, Mr. J. A. Parson; reserve, Duchess of Dee, Mr. J Ainslie, Outremont. Five entries.

Class III—Puppy dogs under six months:—1, Bonnie Dundee, Mr. A. B Stalker; 2, Glencoe Dandy, Mr. Chas. Wilson; 3, Heather Chieftain, Victoria Kennels, Point St. Charles (Messrs. Coull & Waddell, proprietors); reserve, Cairngorm Rover, Mr. R. C. Binning, Outremont. Six entries.

Class IV—Puppy bitches under six months:—1, Petite Cote Blossom, Mr. J. A. Parson; 2, Lass o' Gowrie, Mr. A. B. Stalker; 3, Cairngorm Belle, Mr. R. C. Binning. Five entries.

Class V—Puppy dogs under nine months:—1st prize withheld; 2, Mountain Victor, Mr. J. Alexander; 3, Cairngorm Rover, Mr. R. C. Binning. Three entries.

Class VI—Puppy bitches under nine months:—1st and 3rd withheld; 2, Cairngorm Belle, Mr. R. C. Binning; v.h.c., Heather Pride and Heather Dewdrop, Victoria Kennels. Four entries.

Class VII—Puppy dogs under twelve months:—1, Lord Minto, Mr. W. McRae, Point St. Charles; 2, withheld; 3, Cairngorm Rover, Mr. R. C. Binning. Four entries.

Class VIII—Puppy bitches under twelve months:—1, Strathardle Queen, Mr. A. B. Stalker; 2, withheld; 3, Cairngorm Belle, Mr. R. C. Binning. Three entries.

Class IX—Novice (dogs which have never won a first prize at any show):—1, Lord Minto, Mr. W. McRae; 2, Outremont Laddie, Mr. H. Mackenzie, Outremont; 3, Braehead Sirdar, Mr. Chas. Wilson. Six entries.

Class X—Novice (bitches which have never won a first prize):—1, Heather Bloom, Victoria Kennels, Point St. Charles; 2, Queen Bess, Mr. J. Ainslie; 3, Strathcona Queen, Mr. J. R. Lewis, Point St. Charles; reserve, Cairngorm Belle, Mr. R. C. Binning. Four entries.

Class XI—Open dogs:—1, Braehead Royal Scot, Mr. A. F. Gault, Montreal; 2, Lord Minto, Mr. W. McRae; 3, Outremont Laddie, Mr. H. Mackenzie; reserve, Braehead Sirdar, Mr. Chas. Wilson. Six entries.

Class XII—Open bitches:—1, Strathardle Queen, Mr. A. B. Stalker; 2, Heather Bloom, Victoria Kennels; 3, Queen Bess, Mr. J. Ainslie; reserve, Strathcona Queen, Mr. J. R. Lewis. Seven entries.

Winners—Dogs:—1, Braehead Royal Scot, Mr. A. F. Gault. Bitches:—1, Strathardle Queen, Mr. A. B. Stalker.

✠

Mr. Tyler Morse will judge Bulldogs at the August Bank Holiday Dog Show, in the grounds of the Duke of Edinburgh Hotel, Wimbledon, England.

✠

Mr. B. Gordon, British Columbia, has purchased the well-known American Collie bitch, Shadeland Snowflake, which will hereafter be shown under his name.

✠

The Bull Terrier bitch American Belle, which Mr. Heydenfeldt bought of the Bay View Kennels, Trenton, Ont., has given birth to eight puppies by Bay View Brigadier.

✠

Mr. Jas. A. McGee, of Longueuil West, was last month presented with a nice litter of puppies by his collie bitch, Dominion Patti. They are thriving nicely notwithstanding the warm weather.

✠

Mr. John F. Campbell, of Montreal, has bought the liver and white pointer dog, Sir Donald (first novice at the late show), and has registered him in the American Kennel Club Stud Book as Canadian Dexter, No. 61,789.

✠

Mr. George Raper, the well-known English fox terrier breeder, has, we understand, purchased Champion True, whose sire and dam, Champion Veracity and Brokenhurst Dame, are both inmates of Mr. Gooderham's kennel, Toronto.

✠

Mr. Alex. Smith's collie, Hielan' Rory, was the sire of four prize winners at the late Montreal show, viz., Glenlivet Lassie (five first prizes and Association medal for best bitch in show), Highland Chief (two firsts and third), Blair Athol Patti (four firsts in classes other than sable and white), and Captain Jinks

(two seconds and a third). This is quite a record and goes to prove his value as a stud dog.

✠

Since our last issue Messrs. F. & A. Stuart have had the misfortune to lose their fine St. Bernard stud dog, Ch. Earl of Shrewsbury. He was taken suddenly ill during the heated term in the end of last month, and died after only two hours' suffering in spite of all that could be done under the best veterinary advice. Earl of Shrewsbury was a great winner in the Old Country, but was never exhibited for competition in Canada. The Messrs. Stuart have already made arrangements to fill his place by the importation of a young dog and have also purchased a young bitch which will be here soon.

✠

The following bench show and field trial fixtures have been announced:

Pan-American Exposition Dog Show, Buffalo, N.Y., August 27, 28, 29 and 30. E. M. Oldham, supt., Germantown, Pa.

Danbury Agricultural Society's twentieth annual dog show, Danbury, Conn., October 8, 9, 10 and 11. Jas. Mortimer, superintendent, Hempstead, L.I.

Western Canada Kennel Club's field trials, LaSalle, Man., Sept. 2 and 3. H. H. Cooper, sec'y, Winnipeg, Man.

Manitoba Field Trial Club's fifteenth annual field trials, Carman, Man., Sept. 10th, etc. Eric Hamber, sec.-treas.

Brandon Kennel Club's annual field trials, Martinville, Man., September 17. Dr. James H. Elliott, secretary, Brandon, Man.

International Field Trial Club's thirteenth annual field trials, Chatham, Ontario, Canada, November 12, 1901. W. B. Wells, Hon. Secretary.

North American Field Trial Club's trials, Ruthven, Ont., November 19. Richard Bangham, secretary.

The English Stockkeeper reports the death of Mr. R. Pickup's well-known Bull Terrier, Champion Bellerby Queen, one of the best that ever went into a ring. She was bred in 1891, and had won hundreds of prizes, including many championships. The last prize she won was at the recent Manchester Show, where she secured first, championship and special for the best of her breed in the show.

Three well-known sportsmen of Kankakee, Ill., started on July 12 on a canoe voyage which will certainly be one of great interest. They bought a large Peterboro canoe and shipped it to Missanabie, meaning to descend the Moose River to Moose Factory on James Bay. Their intention is to proceed by easy stages, returning by the Abittibi River to Temiskaming. They expect to be away from civilization for some five weeks. No more delightful way of passing a vacation could be imagined. They will see a country which has been sleeping as though under an enchanter's wand, but which is destined ere long to waken from its trance and to make strides which will be the marvel of the world. Mr. F. H. Clergue, of Sault Ste. Marie, who has started the rolling mills and pulp manufactories at that point, said recently in a speech he made at Toronto, that everything he had sought for in Algoma, he had found, and it is believed by the best authorities we have, that undreamed of sources of wealth must exist in that lone, mysterious land so long neglected. Rupert's Land, now known as the Northeast Territory, contains about 218,000 square miles of unexplored wilderness, and in it game and fish are as abundant as they were in the days of Champlain. Nor may we doubt that the rocks, consisting largely as they do of the Huronian and Silurian formations, contain an inexhaustible store of minerals. The nickel deposits of Sudbury, and the iron beds of Wahnapitae, promise that this faith is not an unreasonable one. A party of sportsmen containing members having some practical knowledge of geology and mineralogy, would have a very strong chance of staking something worth the while in the great region lying around the southern shores of James Bay.

Bringing out the Head.—A Kippewa Scene.

In the July issue of Rod and Gun Mr. John McAree, of Rat Portage, disputed the existence of Elk (Wapiti) in Northern Ontario. He is evidently unaware that the heads of elk shot in Western Quebec at Grand Lake, Victoria, were exhibited at the New York Sportsmen's show a few seasons ago. There is a reasonable prospect that stray elk are alive to-day, all along the height of land from Lake Manitoba as far as Longitude 75° West, in Quebec. They were formerly extremely abundant in the Niagara peninsula, and were found, according to the Jesuit records, even to the Ottawa river.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

ON BUYING A CAMERA.

The mistake of buying a cheap outfit is perhaps the commonest of all those that are made by the beginner in photography. When you go out to buy a pair of shoes, you know perfectly well that you can get something that will serve to cover your feet for a dollar, or if you are buying a suit you know that it is possible to obtain something for five dollars. But you don't do it. Not much you don't. You know blamed well they wouldn't wear any length of time and that in the long run it would simply be money thrown away. I wonder if it ever occurred to the man who is buying his first camera that the same principle could be applied and insure his getting a much better instrument even though he knows nothing about what he is doing.

[illegible] N. H. Quebec

Perhaps some readers will think that I am speaking with the interest of the dealer at heart. Not so the one who has bought one of the cheap kind, for he will realize from his own experience that what I say is the truth. The trouble is that the tyro finds it difficult to believe that one little piece of glass can be worth five dollars and another be worth fifty without being any larger. And that just reminds me of the funny thing that happened to a friend of mine awhile ago. He was passing a pawnbroker's window and happening to glance in, he saw two lenses, one a large cheap 8 x 10 mounted on a front board, and the other a fine little lens and tube of a celebrated make. He went in and priced them, and what was his surprise to find the cheap lens, which in reality was worth about one tenth of the other, was valued at about four times the good one on account of its size. Well, its just the same with people who do not know. They go by the size almost altogether, unless, of course, they are fortunate enough to have a friend who knows what is wanted and helps them out. The theory of some that they will learn on a cheap instrument and then get a better one, is, to say the least, foolish. I made that error myself. I thought that to buy an expensive outfit would be throwing money away. So I got a friend to get me a lens of the fixed focus type and then went to work to make me a box that would serve to go behind it. The box was only made to hold one plate in the first place, and necessitated my going to the dark room after each exposure, and then in the second place was continually leaking light. I think that before I finally got up my nerve and my cash to get a decent instrument I must have wasted what I finally paid, at least twice over. Whereas, had I got a good camera in the first place, I would not only have known how to make photographs at the end of the year, but would also have had something to show for my trouble. As it was I had nothing.

The maker would prefer that you have a good instrument, but he knows perfectly well that if he does not sell you something cheap somebody else will, and foolish indeed would he be not to take your dollars in preference to letting someone else have them.

Suppose we take a look and see just what you are getting for your money. You start out with the idea that you will not go above a certain price for the thing. And you don't. You know perhaps that the lens is the main point to be considered. Someone told you that. And in the catalogue you find a camera with all the latest improvements and wonder of wonders—"a fine single achromatic lens." Moreover it is "made specially for the firm to use on this particular camera." This all sounds well, and what is more, owing to the way the instrument is put up, looks very well. By the way, that putting up costs something. Suppose we say that the camera that sells for ten dollars retail, minus the profits of the retailer and the manufacturer, really cost $4.00. Brass work, bellows, frame and all the rest of it must tot up to something like that. Well where does the lens come in,—that "fine single achromatic." Well, the fact of the matter is, *the lens is worth about twenty-five [illegible]*. A good lens is worth fully that many dollars anyhow, and as many more as you like to pay. Do you wonder that your "fine single achromatic" will not do the work, will not turn out as sharp pictures, nor work as fast as

the good ones. How would a twenty-five cent and a twenty-five dollars suit of clothes compare—that is provided you would find a suit as cheap as that. Is it any wonder you fail?

I do not think that I am giving away any trade secrets, for I think that any man of common sense would be able to see that this is the case, and all who have had any experience with cheap instruments can, and I am sure for the sake of their less experienced brethren, will corroborate what I say.

It surely must be that those that are buying a camera cannot stop to figure just what percentage of the whole amount they are going to spend in photography, their first investment is to be. The cost of the camera is a very small thing in comparison to the amount it takes to keep on taking photographs and if one keeps at it anytime, the cost of a cheap camera is perhaps only one or two per cent. of their total bill of expenses. And the percentage of failures runs up as the cost of the camera runs down.

There is a lot of talk in the photographic journals about it being the camera and not the man that makes the picture. Don't be misled by it. It only means that it is the posing that depends on the man, the selection, so to speak, and then after that it is up to the instrument. If the instrument is a poor one, while it will produce in a general way the same result on the plate, there will be numerous little differences between the picture produced and the picture that would have been produced had the lens been decent. I would hate most awfully to say it for a fact, but I would not hesitate very long to make a wager that most of the sample pictures shown as the work of the cheap cameras are cut from the centres of pictures taken with high-priced machines. And if that is not the case, it is only because the manufacturer lacks enterprise. I know that if I were in the business of making cheap cameras I would do it mighty quick.

In the correspondence which I conduct in one of the photographic magazines, there seems to be a run from time to time on the query, "Which is the best camera for me to buy?" The people who ask it never think to say what sort of work they intend to try to do with it, but in view of the fact that they do not realize how important a question this is to be answered, this can be overlooked. But they do put such simple little queries sometimes. For instance, one says in a letter that I had last week, "Some time ago I read an article on photographing clouds which said that —— lens and the ——— plate were used. Do you know whether any other camera will take clouds as I am going to get a different kind that is cheaper. I expect to take quite a lot of clouds." Another encloses me a list of instruments that some journal gives in exchange for subscriptions, where the prices vary all the way from five to twenty-five dollars, in accordance with the number of subscriptions that are secured. And yet he calmly comes forward with the question, "Which is the best?" O these amateurs! Why is it they don't find out what they want to take with the camera and then ask what sort of an instrument is best adapted to the type of work they have in mind. This asking of questions promiscuously, is foolish.

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The Scrap Bag.

The Annual Exhibition at the New York Camera Club.—A short time ago I had the pleasure of going over the photograms that represented the year's work at the New York Camera Club, and on the whole I might say that the exhibit was a remarkably good one. One point well worthy of mention, inasmuch as this is the home of the fuzzy type, is that the exhibit was on the whole remarkably free from the so-called "soulful" photograms. Perhaps the only two members whose work could be really said to belong to this class, were Mr. Joseph T. Keiley (as one might expect) and Mr. Juan C. Able. The latter gentleman's name appears twice on the catalogue as the maker of by-gum pictures while Mr. Keiley offends no less than five times, though it is true that one of his productions entitled "Vine Crowned: A Summer Idyl," being a representation of a corn field in the autumn, is by no means a fudgism and is well able to rank as a pretty composition. To go to the opposite extreme and look at the most commonsense sort of work, it is only necessary to turn to the productions of Miss Frances B. Johnston whose "Carpenter" and three "Studies of School Children" are particularly sharp and clear and hold the interest of the observer, not on their "indefinable subtleties" but on their ability to tell their story clear and well. A marvellously vivid photogram of the common thistle by L. W. Brownell attracts attention from the masterly manner in which the subject is handled. In fact it is a question as to whether he or Wm. J. Cassard with his pictures "Grapes," "Fruit," "Ducks," etc., is justly entitled to the palm for still life photography. Rudolph Eickemeyer, Jr., is to blame for four delightful little studies entitled "Spring," "Summer," "Autumn," "Winter," though he rather spoils it all by showing alongside them a thing which he calls "Late Afternoon in Winter" composed of all foreground and a horizon that comes within about half an inch of the top of the plate. I can really give no better discription of it. In fact, in view of the good work that this gentleman turns out as a rule, the less said about it the better. The only thing to do, is for the sake of charity to suppose that he was imitating a "fuzzy-type." Frank Eugene, who shows five portraits is certainly entitled to the distinction of the most unique mountings that have been seen on the walls for some time. To describe them would be little short of an impossibility without reproductions of the pictures themselves, but perhaps some idea of what they were like will be obtained when I say that the mount that the print was mounted on was very thin, a sort of Japanese paper, I think. The effect was on the whole not unpleasing. Chas. H. Loeber was well represented by a single picture, "A Winter's Day on East River," an extremely vivid scene in the vicinity of the Brooklyn Bridge, showing a tug in the foreground and large quantities of ice running. Mrs. Sarah H. Ladd's "Messengers of Spring" was good. "A Winter Landscape" by Wm. B. Post was also very fair. Francis J. Strauss' "Beach, Montauk" was a most magnificently executed scene along the sand dunes, and was well worthy of an enlargement instead of the comparatively small-sized copy that was shown. Although there were a number of portraits shown—a large number in fact—there were hardly any of them that were worth mentioning, with the exception of those that were exhibited by Frederick Colburn Clarke and Mrs. R. P. Lounsberry. Strange to say both of these showed photograms of well known people. Mr. Clarke's "Maud Adams in L'Aiglon" was without exception the best likeness of the popular young actress that I have yet had the pleasure of seeing, while his portrait of Gen. Nelson A. Miles was also a remarkable likeness. Mrs. Lounsberry's picture of Miss Mary Mannering standing at the door of a little cottage with her horse, is too well known to make further comment necessary. Her picture of Mr. Richard Le Galienne, the author, stamps her as a master of the lens as far as the making of a speaking likeness is concerned, and unless Mr. Le Galienne is much unlike the ordinary sitter that the photographer runs up against, he could not help but be pleased with the pensive, thoughtful, and if I may use the word "poetic" air, with

which the artist has endowed him. Taken all in all, and passing over the poorer specimens of work that always will creep in, the exhibition of 1901, was all that the most exacting of the members could have wished, and if the improvement during the coming year is as great as during the twelve months gone past, the New York Camera Club's showing of next year bids fair to surpass anything that has been seen in this line heretofore.

A Mistake in Composition.—While we are on the subject of the prints that are being exhibited on the walls of the camera clubs, it might not be amiss to call attention to one picture in particular that could have been so easily improved on had the operator only known what he was about. The subject was a high, rugged rock, standing out black and clear against the sky which was more or less cloudy, the one redeeming feature of the photogram. The foreground was of gleaming wet sand. Now, in the taking of the picture the photographer had just stood far enough back to get in all the rock, all the beach and all the sky, or pretty nearly all, the result being that the work was completely ruined from a pictorial standpoint, though it was evidently exhibited under the impression that it was worthy of some note since it was possible to discern no other good reason for its existence. What the operator should have done was to have avoided this dwarfing of the principal object by getting closer to the rock and making it large enough to bring out the idea of mightiness and strength. Of course, this would have cut off all the fine cloud effect that he had secured, and then, too, he would have lost the gleaming silvery sand for a foreground. But after all, of what value were they to him even though they were beautiful in themselves, when one considers that they killed the rest of the picture. It is a lesson that the young amateur has to learn, and no matter how beautiful an object is, he has no right to include it in his picture unless it is going to be of assistance to him in composing his picture and is to be of some significance there, and furthermore, that if in any way it is going to spoil effect then no matter how beautiful it is he must sacrifice it. It is not a collection of beautiful objects that have been grouped with some show of consideration for their relation to one another. This particular photogram that is referred to is a good sample of what is meant, for had there been a narrow strip of sand and a narrow strip of sky with the rock the most prominent object, there was really the making of a fine picture.

Figures in Landscapes.—The death of Mr. H. P. Robinson and the consequent focussing of the eye of the photographic world upon his numerous masterpieces, brings forward the fact that in almost all his pictures of any importance where the subject would admit of it he has employed figures. In fact it is possible that there never was a photographer who so persistently advocated the use of the figure in the landscape as did Mr. Robinson, and there is little doubt that much of the charm of his work is dependent upon this fact, combined of course with the fact that good work always possesses a charm of its own. Surely here we have a good reason as to why we should have a figure in our picture, regardless of the fact that a figure often assists in intensifying the meaning of the subject, as for instance a man struggling before the wind will convey the idea of a storm, and also regardless of the fact that a figure suitably placed will often give balance or point to the subject. It is not proposed in this confined space to attempt to go into the subject of figures in landscapes in anything like the detailed way that it ought to be handled, but all that is intended is to point out to the ambitious amateur that anybody can master the rules of at least fair landscape making, and set out and produce work that will pass muster after a fashion, but that the amateur who is able not only to do this but to place in it a figure as well, is pretty nearly a master of good landscape photography. There is a whole lot to master in the correct placing of figures. It does not only consist in knowing where it is best that the figure should go; it consists in being able to place that figure so that it appears to be "of" the photogram as well as "in" it,—truly a difficult task, but one that the late Mr. Robinson has proved to be by no means an impossible one. The reason that so many photograms are spoiled by figures is owing to a lack of fitness, first, perhaps, in the dress of a model, and second, in its position, two facts which will require very careful attention from the worker who is trying to make a success of this kind of work.

Freak Photography.—Among a certain class of newspapers freak photography seems to hold a leading position as an entertainer, for from time to time we see reproductions of photograms taken in various unique positions. Possibly the best known of the monthly magazines indulging in this sort of thing is that English publication, the Strand. Quite recently the New York World contained a set of pictures of the taller buildings of that city which had been photographed by pointing the instrument straight up into the air and blazing away, thus giving to the buildings the appearance of lying flat on their backs. The effect is, to say the least, odd, and the impression that one who did not know what he was looking at would get, would be that he was looking away into the distance, particularly in the case of one where the subject is Trinity Church. This is due to the fact that the spires at the top narrow up so rapidly that the whole thing appears to be telescoped. The appearance of other buildings varies in accordance with the distance the camera was away from the base of them. Altogether the effect produced is very unique and original, but as far as practical value goes, it is right out of it, unless indeed one includes the amount of neck straining that it saves. It will probably do away with "rubbers" altogether.

Those Heavy Masses.—Perhaps there is no fault that is seen more commonly in looking at photograms by amateurs, than that almost universal and extremely noticeable error of giving false values to the picture by accentuating the heavy masses all out of harmony with the remainder of the scene. Is there any good reason for it? Is this caricaturing of the tonal values, so that one part of the picture which is behind another part, calculated to give it additional strength or vigor? Or can it be that it is the outcome of a striving after effect at the expense, not only of truth, but in addition of everything that is artistic? One feels inclined to believe that the latter is the case. This class of work is very much effected by the so-called "New School" photography. In fact it is most likely here that it has had the start, for were only one man to have given it the send off, it is not possible that, being what it is, it could have ever made itself felt in the way in which it has. But when a clique take anything up, there can always be found a certain number of workers of more or less note who are ready to believe that it is art and to attempt to imitate it. And it is just in this imitation that the fault lies. We all know that many of the old masters relied largely on the skilful handling of their shadows to produce the appearance of breadth, the appearance of strength and various other effects. We also know that certain members of the new school have, by the skilful handling of the masses made pictures where others would only have produced photograms. And yet just as soon as one of their ignorant imitators knowing nothing of the laws and

limitations of composition, or the arrangement of the lines and masses, starts to make the same kind of things, there is trouble. And it is solely because they work on the principle that it is the masses that make the picture instead of on the principle that the masses are only the setting for the real picture. Unless there is a picture to commence with, and a reason for the view existing on paper, no amount of skilful handling of masses will ever make anything that is pleasing.

But I have just been reading this over, and it seems to me that I find that I have shown a tendency to stray from the point that I started out with the intention of impressing.

Why have so many heavy masses at all. It is not absolutely necessary that we should? No, it certainly is not. The fact of the matter is that the heavy mass photogram is simply having a run at present, just the same as double breasted vests did a year or so ago. Personally I do not like them. Why not go back to the old way just once in a while at least and make something light and sketchy—something that will relieve the eyes of those people who, like me, are over-powered with all this blackness and all these "effects." I do not see why not!

Hand Work in Photography.—In sincerity in photography, the first essential is that the work should be a photo graph, a literal transcript of nature. Hand work, however, is permissible within reasonable limits, provided it is used as a help to the securing of some effect that is aimed at, for here it is often possible to get a truer picture than could be produced by straight photography. It is the light rays under our judgment and good taste which produce the picture, while we with our limited means of modification endeavor to bring the photogram into harmony with our idea of what the scene should be to be at its best. So that you will readily see that by literal it is meant that the picture is to be the effect under which the picture was made, and not merely an effect however pleasing, for the simple reason that it is not possible to start with a free hand. "Stand out in the fields with a fistfull of brushes and you may paint your dreams if you can; but when you stick your head under that black cloth, stick to facts, because you must."

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On May 8th last the freshmen of Columbia University, New York, engaged Falk, the photographer, to come and make a number of pictures of them in a large group. The sophomores of the University decided that they could not with dignity allow such an event to take place and planned to storm the "freshies" with enough eggs to thoroughly convince them that they ought not do do such a thing. To avoid this the photographer was given his instructions to be on the ground at nine o'clock in the morning and to have everything ready to proceed at once to business. Unfortunately, at the last minute, the "sophs" got wind of the plan and calling together a force o about forty strong, proceeded to the scene of action, with their supply of ammunition. On reaching the ground where the "freshies" were displaying their smiling countenances to be took, the challengers placed themselves between the camera and the group and proceeded to cut up capers. In the vain hope that they would ultimately depart in peace, the "freshies" waited patiently and the camera man tried to look pleasant on his own hook. Finally driven to desperation the freshmen made a rush at their tormentors, who escaped through a new building. A few minutes later, just as the freshmen had arranged themselves into another pose, and the operator was again getting ready to do duty, the sophomores again appeared and commenced a bombardment. Their fire was quickly answered and for a period of perhaps five minutes a terrible battle raged. After peace was restored and when the proceedings were ready to go on it was discovered that during the turmoil some unprincipled "soph" had made off with the lens, the result being that the photographer was forced to withdraw, which he did amid the derisive hoots of the belligerents. The date of the operation has been indefinitely postponed.

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Correspondence.

Correspondence should be addressed to H. McBean Johnstone, P.O. Box 651, Sarnia, Ont., Canada.

Harold C. Austin, Ridgetown, Ont.—See the reply in last month's Rod and Gun in Canada with reference to your query on pyrogallic acid and its use. If then your inquiry is not satisfactorily answered, write to me again.

Willmott.—The address of the New York Camera Club is No. 3 East 29th St., New York City. If you contemplate a visit to that city it will be well worth your while to go up there.

T.A.R., Montreal.—I would be inclined to think that if you were to mount the picture that you enclose on a piece of dark board that the contrasts, which are weak anyway, would be better brought out. If you take your negative now that it is dry, and after wetting it, dry it over again in a current of warm air, you will find that it will result in it being made stronger than it now is. If that does not intensify it enough, I am afraid you will have to use a mercury bath or some other means of intensifying. I would like to have you send me a print off it after you have done it over, and also explanations of what method you adopted, with full data concerning it.

Geo. A. Wilson.—If, in the photographing of high buildings, you make use of the spring back of your camera, you will not be troubled by the lines sloping in at the top. To use it, swing the top of the ground glass toward the lens and then focus about half way up the building with the largest stop. Next insert the smallest stop in order that you may get the necessary sharpness, and make the exposure. The side wing is rarely used. You will get a better picture if you can manage to take it from half way up a building which stands opposite, provided your lens is of a wide enough angle to admit of your doing this.

W. H. L.—(1) No. (2) It is possible to do it as you say, but you will get surer results if you stick to the plan usually adopted. (3) By all means. That is the only way. Any other way would fog the plate beyond repair.

A Sad State of Affairs.

To the Editor of Rod and Gun:

One thing Rod and Gun should take up and make an energetic kick about, that is the fact that the Quebec Government has been stupid enough to issue thirty licenses to seine or gillnet fish in the lakes of Sherbrooke county. The result will be ruin to all fishing in those lakes until they are restocked unless the licenses are revoked this year and not reissued. While at Magog a few weeks ago, I saw a party of six that had twenty-seven grey trout or lunge with them, averaging in weight from 5 to 12½ pounds. These were only the morning's catch. They had been at Brompton Lake for about a week and had averaged over 200 lbs. of these fish per day, and could have caught more had they been able to keep them.

For the insignificant sum of $10.00 each, or $300.00 in all, our Government is apparently willing to destroy the fishing in these lakes for all time to come. It seems hard to believe, but is a fact nevertheless. You ought to take the matter up.

Granby, Que. N. A. Meyer.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association.

The second annual report of the Canadian Forestry Association, which has just been issued, is a timely and important publication. When we read in the American Lumberman, the leading lumber paper of the United States, statements like the following which appeared in its issue of the 8th of June last.—"It is true that white pine had been growing scarcer and scarcer in districts tributary to water shipment, and it had also been known to have been cut out rapidly in the interior of Wisconsin and Minnesota; but never until this year has it begun to dawn upon the minds of distributors of white pine lumber that there was an actual scarcity of the wood and that its end was in full view. This year, more than in any year since the development of the northern pine forests began, has the scarcity of white pine stumpage and lumber been significantly impressed upon the minds of the people. Witness the hegira of lumbermen to the south within the past year or two. Witness also their western flight to the Puget Sound district, to the California Slope and to the intermediate districts of Idaho and Arizona."—When we read a statement like that from so good an authority,—an organ of the lumber trade, let it be noticed, not a forestry journal,—it must be admitted by anyone who reads the paper by Mr. John Bertram, published in that report, that the Association were particularly fortunate in having the question of the management of pine forests dealt with by one who had gained such a thorough knowledge of it, practically as a lumberman, and also as a member of the Ontario Forestry Commission. It is unnecessary to mention particularly the lines on which Mr. Bertram lays down his policy of forest management, but we wish to call attention to the fact that he does not lay down his plans as final or complete. There is still much to learn of the life and habits of the trees, there are yet further problems in management to be worked out, and Mr. Bertram's paper is especially valuable as indicating the lines along which investigation should be made. In Germany thorough study and measurement has been made of tree growth, and the yield tables compiled therefrom and the knowledge of the habits of the different trees obtained as a result of this work have enabled that country to maintain a prominent place as a lumber-producing nation in spite of her great population and the large area devoted to agriculture. Thorough work, thorough development of her resources has made Germany what she is and made her feared by other nations as a competitor in the industrial world. Why should not some such forestry work be begun in Canada? Why should not some such work be carried on by the Government alone, or with the assistance of the lumbermen, but in such a way that the result of the investigations could be properly compiled and made available for the use of all? Why have the Governments set apart timber reserves if it is not the intention to make them to a certain extent, the experimental farms of the lumbermen, as well as a perpetual source of wealth to the national exchequer?

The reforesting of the denuded areas is a question of great importance which Mr. Bertram had only time to touch upon. This is an undertaking which can probably best be carried out by the Government, and there is no question that it is a large enough one to tax its energies to the utmost. Governments, however, are supposed to live for the future as well as the present, and, if the pine is to become even to a greater extent than it has been up to the present a source of wealth to the country, should not some beginning be made in the direction of making portions of the Crown domain which are now utterly unproductive, what they might be, a rich source of revenue?

As an offset to the threatening bareness of the east, Mr. J. R. Anderson, Deputy Minister of Agriculture, introduces the Forestry Association to the great, the almost embarrassing, wealth and variety of timber there is in British Columbia, waiting only the time, of which the indications are beginning to make themselves felt, when the demand from beyond her borders will give her lumber an adequate value, and when she will be a great source of supply for the east and farther east. British Columbia is a great mineral province, but it is no rash statement to say that her timber wealth will be of fully as great importance as the products of her mines, while the beneficial effects of the forests on the physical condition of a mountainous country cannot be overestimated both for its direct and indirect effects.

No Forestry Report would be complete at the present time without some consideration of the pulp industry, and in the paper submitted by Mr. J. C. Langelier is an able presentation of the vast resources which Canada possesses for this purpose in her spruce forests. To anyone who has not given the matter attention it will be somewhat of a surprise to know how great our resources are in this respect; but although Mr. Langelier has, perhaps, as full a knowledge of the subject on which he speaks as anyone in Canada, yet it may be pointed out that these figures are only estimates, and although we may claim without hesitation a premier place for our pulpwood resources, still our knowledge of them is very far from being exact. The dangers pointed out by Mr. Langelier: fire, improper colonization, cutting of too small trees, are clearly the chief ones. The remedies, however, are not so easy of application.

The calculation submitted by Mr. Langelier as to the relative productivity of lands in the spruce districts when devoted to agriculture and pulp respectively makes very clear the fact that by encouraging settlement on such lands we are not only either condemning the settler to struggle for a mere existence after the wood has been cleared off, or encouraging the taking up of lands by persons who have no further interest in them after the wood has been removed, but we are using the land for a purpose that does not by any means make the best or most profitable use of it, either for the individual or the state. It is well that this fact should be clearly demonstrated and impressed on the mind of the public, for the views on this subject are usually very one-sided; in fact, most people can hardly be led to admit that there is anything worthy of consideration that can be said on the side of those who favor a timber rather than an agricultural crop.

The cutting of small-sized trees is a very serious menace to the reproduction of the spruce, and, although the regulations of Quebec and other provinces have provisions directed against this abuse, it may be doubted whether in all cases these provisions are fully lived up to, while as a matter of fact the information

we have as to the seeding and growth of the spruce are not sufficiently full and exact to make the proper plan of management of spruce forests so evident as to impress all who are dealing with such forests with the necessity of following it. As to the pulpwood cut for export, there is good reason to complain of the reckless way in which the spruce is slaughtered, not only in Quebec, but in the other spruce-producing provinces, and Dr. McKay, of Nova Scotia, has, unquestionably, justification for calling the pulp men "the locusts of the forest." Whether the temporary expedient of an export duty on pulpwood, as suggested by Mr. Langelier, with its possible international complications, would be the best means of preventing the excessive cutting for export, may be doubted; and, so far as the Forestry Association is concerned, their influence might preferably be directed towards a better appreciation and observance by the people of Canada of sound forestry principles and the adoption of measures by the Governments to withhold from entry and keep in their own control for timber production the land best suited for that purpose, as well as to enforce the necessary regulations. It is a question worthy of discussion also as to whether and how far the Governments would be justified in taking control of the cutting on private lands.

Mr W. P. Flewelling, Deputy Surveyor-General of New Brunswick, submits a paper giving a sketch of forest legislation and the methods of conducting the lumber industry in that province. New Brunswick has always been a large producer of lumber, and much of its area is more fitted for timber growth than for agriculture. The long term license adopted a few years ago has had the effect of interesting the lumbermen more generally in forest preservation, and the Government has also taken some steps in that direction, but there is still much unnecessary destruction of timber, while the information available as to the growth of the principal timber tree, the spruce, is not very definite.

Dr. Jas. Fletcher, the Dominion Entomologi-t, described some of the principal forest insects, and suggested methods by which destruction of timber from this cause might be prevented. It was clearly shown that the necessary preliminary to understanding how to deal with destructive insects was to study out thoroughly their life history, and, in view of the large quantities of timber which are rendered useless from this cause, some steps should be taken to provide that this study should be made.

A very interesting paper was the one submitted by Dr. W. H. Muldrew, of Gravenhurst, who, himself a teacher, cannot be accused of being an outsider trying to push a fad on workers already overburdened. Consequently, his suggestions as to the position which Forest Botany should hold in our schools are of special interest. We trust that many of those interested in the work of our High and Public Schools, whether as teachers or otherwise, may have the opportunity of reading this paper and that some steps may be taken to have the importance of Forestry impressed on those who will govern the future policy of our Dominion.

The paper submitted by Mr. E. Stewart, Dominion Superintendent of Forestry, outlined the tree planting plan proposed for the Western plains. As this plan was reviewed in our last issue we need not enlarge upon it here. We may say, however, that this plan is being very heartily taken up, there being some three hundred applications under it filed with the Superintendent.

The addresses, and particularly the evening lecture given by Dr. C. A. Schenck, of Biltmore, are of special interest, as Dr. Schenck has had experience both of the European and American systems of forestry. It was made very clear by him that the two main preliminary conditions to the adoption of systematic forestry practice, were protection from fire and a sufficient stumpage value to make such a scheme profitable. It appears evident, then, that we must look to the question of price, and that is one difficulty that has stood in the way up to the present time. When we take a survey of the whole of Canada we find that, with the exception of the white pine, our timber trees have not yet reached that period of scarcity and value which would impress generally and seriously the necessity for taking action. Our spruce forests are still extensive and, to the mind of the public, apparently inexhaustible; our British Columbia timber is as yet hardly in sufficient demand to make such an appreciable tax on her great resources in that respect as would render them of a great present value. But though, for instance, the price of New Brunswick spruce timber is stated to be lower this year than it was last year, or than is was forty years ago, still it appears from the general outlook that timber must advance in price, and, that being the case, there is the most abundant reason why steps should be taken to prevent, as far as possible, the sweeping away by a useless destruction of what we now possess. The essential first step, as pointed out by Dr. Schenck and emphasized by other speakers, is protection from fire. Dr. Schenck even considers that the present generation would be justified in going into debt to provide the necessary means of protection of such a valuable asset.

From this report we may tabulate the policy of the Canadian Forestry Association in regard to our forests as:

First, last, and all the time: Protection from fire, from the Atlantic to the Pacific.

Second: The study of our timber trees and the systematization of our knowledge in regard to their growth and all that affects it beneficially or injuriously.

Third: The growing of trees where they are the most profitable crop or serve to protect crops that are more valuable.

Fourth: Education—through the schools, through the press, through reports, through all possible means—of the public to an understanding of the great importance of this subject to the future of Canada.

*

NOTES.

The dry weather in Manitoba during the month of May made the conditions favorable for the starting of fires, and consequently a number of fire rangers were placed on duty in the vicinity of the timber reserves at points likely to be endangered. A number of fires started, but fortunately they were held in control by the rangers, and the damage was not very extensive, particularly as the fire was mostly through townships that had been burnt over before; but much of the young growth was killed. Of those started in the Riding Mountain District, apparently some small fires were due to settlers, and one in the Duck Mountains is supposed to have been the work of trappers on a bear hunt; but in most cases the origin is uncertain. None extended over a wide area, two square miles being the largest mentioned, while in another case an estimated loss of 6,000 cords of wood is reported. The method employed for fighting the fires was to cut down any dry stumps or trees that were on fire and throw them back on the burned ground, or, if the timber was lying partly in the fire, the burning portion was cut off and similarly treated. Where the fires were working in the ground they were stopped

by digging with shovels, and near swampy places where water was available it was made use of.

In the Turtle Mountain District the fires have been kept out of the reserve, with one exception which burned over a section; but this has only been accomplished by hard work and constant watching. Many of these fires come across the boundary to the south, where the settlers are not always as careful as they might be in setting them out, and are the despair of the forest ranger. The Indians also occasionally slip across the border and start a little fire to assist them in their hunting operations, but after the ranger has "chased them over into Dakota," his authority ceases, and he is left to rage impotently along the invisible but powerful barrier which stands between him and his tormentors.

With the advent of wet weather in the beginning of June it has been found possible to withdraw the fire rangers, and there will probably be no further danger till the fall.

✠

The village of Cache Bay, near Sturgeon Falls, Ontario, has been burned out; the result, it is supposed, of forest fires which were raging in the neighborhood.

✠

A fire has done considerable damage to timber limits at Kippewa, in the Province of Quebec. It began on the 30th June, its origin presumably being in a settlement a short distance back of Bais des Peres where settlers were clearing land by fire. The hot weather and strong wind raised apprehension of a serious fire, but the wind abated and blew back over the burned area. A big force of men fought the fire with water or by shovelling back earth on it, and were succeeding very well. There was also a fire at White River, on the Ontario side, which did considerable damage to a number of settlers.

✠

Mr. N. McCuaig, General Superintendent of the Forest Protection Service for District No. 1, in the Province of Quebec, makes the following suggestion in regard to the equipment of fire rangers :—

"A soldier on the battle-field without his rifle and ammunition is of very little account, and largely similarly situated is the best Fire Ranger, far away from help in the forests, face to face with his enemy—the fire—without any implements. Here are the articles that are usually employed in fighting fires, viz., spade, hoe and pail. There is little doubt if the Government offered a suitable reward to native mechanical ingenuity, a tool would be shortly forthcoming that would combine the spade and hoe in one implement effective and convenient for either purpose and not exceeding three and one-half pounds in weight. This, together with a rubber cloth pail, the whole at a trifle of expenditure, would constitute an equipment by which the ranger would be in a position at any moment to deal with a fire in its incipient or more advanced stage. A handle for such an implement need not be carried, as one could quickly be provided in the woods. The cost of such articles, including the leather belt, should not exceed three dollars per ranger, and it might cost less if the pail adopted should be a tin folding pail. I beg to call the immediate attention of the Government to the matter, in the confident belief that its adoption would be a wise, practical and profitable investment to help protect our forests from fire."

✠

Sylvan Ontario : A Guide to our Native Trees and Shrubs, by W. H. Muldrew, B.A., D. Paed. Wm. Briggs, Toronto. 50c. and $1.00.

This book has grown out of the efforts made by Dr. Muldrew to find some method to enable his pupils to identify easily our native trees, with the object of arousing an interest in this important part of the Canadian flora. That the plan adopted has been worked out from actual experimentation with classes of pupils and has been found successful, is its best recommendation, and undoubtedly the method of identification by such a conspicuous and generally present feature as the leaves will be found much less difficult than the one based on the floral characteristics which are much less easy of recognition and are usually available for observation for only a very short period. Many students of Botany have practically overlooked the trees altogether, and such a work as "Sylvan Ontario" will serve a very useful purpose if it leads to a better knowledge of the trees which hold such a prominent place in this Canada of ours. This book is an index, not a treatise; but to anyone wishing to study our native trees we cannot do better than recommend obtaining a copy, always bearing in mind, as suggested by the author, that taken by itself it may prove as interesting as is usual with an index or dictionary, but that when read in connection with the living things which it introduces, there is reason to hope that it may happily combine instruction with recreation in a way not without interest to the thoughtful reader. The drawings which illustrate the leaves of the different trees and shrubs, and which have been made by the author from the originals, give that additional clearness by which accurate illustrations are always superior to word descriptions. While the index was primarily compiled for the Province of Ontario, its usefulness is by no means confined to that Province, and it should prove of great assistance in all of Eastern Canada and the neighboring States.

The neat and tasteful leather binding, tied with thongs, gives the book an attractive appearance, and the whole of the typographical work is clearly and carefully done.

CAMPING OUT.

C. A. B.

Four good brick or stone walls and a watertight roof are all capital things in their way: they come in handy when a winter blizzard or an equinoctial storm is raging, as well as during those other spells of bad weather which visit us at intervals throughout the year, but in sweet summer-time a city house is little better than a prison.

There is no better way of putting in a vacation than passing it in the woods. Health and strength go hand in hand beneath the trees. What could be jollier than to lie at night before a roaring fire of hardwood, the pure breath of heaven fanning one's cheek, and the stars twinkling in the dark vault overhead? The Arabs say days spent in the chase are not counted by Allah in the length of a man's life; it is a very pretty conceit, and perhaps not far from the truth after all.

Only a few years ago people were afraid to go camping, dreading all sorts of evils; many dire maladies were supposed to lurk in night air, but the teachings of common sense and of science have killed that superstition. An open air life will build up a constitution, and a few weeks under canvas in summer is an admirable sequel to a winter's grind at one's profession or business.

Unfortunately, most of us have now dwelt so long under artificial conditions that a knowledge of how to live advantageously away from bricks and mortar is not generally known, and the novice may have some difficulty in deciding what outfit to take, and how best to govern his existence when far from the butcher, baker, doctor—and such luxuries of a city life.

The tyro usually carries a lot of things into camp that he would be better without, and leaves behind the few simple necessaries which would enable him to live in health and comfort in the bush. The experienced woodsman does not ask himself as he overhauls his modest kit, "May not this also be of some use?" but rather questions himself as to whether he cannot do without it. Some things—blankets, matches, axe, for instance—he knows he must have, but useless "truck" he discards, and by such judicious paring "travels light," and enjoys himself all the more in consequence. Of course, if a party proposes camping close to civilization, where farms or stores are within reach and transport is not a difficult problem, its members may enjoy all sorts of luxuries they would have to deny themselves in the wilderness. It is the difference between a coasting voyage, and one taken in blue water out of soundings. No hard and fast rules can be laid down.

An outfit which would be perfect for Florida, would not do for Maine or the Adirondacks, nor would an expedition to the plains of the west require the same equipment as one fitted out to explore the wooded region north of Lake Superior. The prospective camper must consider the size of his party, the probable duration of the trip, and the means of transport likely to be at his command. In Quebec and Ontario he will usually be able to travel by canoe, though even here he is likely to have more or less portaging, or carrying to do, over necks of land or around rapids, so that he will enjoy himself none the less if he have no superfluity of this worlds goods with him. Should he not be able to use a canoe he and his guide must pack everything on their backs, and the inventory must undergo a most rigorous pruning before starting. On the plains waggons are available, while in the mountains pack horses, burros, or mules, become the means of transport.

No traveller in the wilderness can dispense with matches and an axe, and a compass is usually required. I always carry a few matches in my pocket in a leather case, as that does not condense moisture; in a metal box the matches are often spoiled from this cause in winter. A reserve should be kept in a dry, wide-mouthed bottle, securely corked. The compass should be about the size of a watch. Personally I prefer a small prismatic compass, but they are much more expensive, and the ordinary kind will serve all purposes except the taking of an exact bearing of some distant object. An axe of less than three pounds weight is not much use, though a not overstrong youth might find a so-called hunting axe of two and one-half pounds better adapted to his strength, but cutting up a night's fuel with such a tool is a heart-breaking task.

Novices are always impressed with the tremendous importance of a tent, and generally choose one heavy and large enough to shelter a squad of militiamen. Now as a matter of fact a good Canadian woodsman hardly requires a tent either in summer or winter. A few sheets of birch or spruce bark in warm weather, and a log and bark cabin in winter afford him ample shelter. The great Napoleon found that his troops were more healthy when bivouacking (sleeping under the stars) than shut up in tents; and the summer camper will certainly find the same thing. Even in summer, when flies are numerous, I prefer a lean-to with a mosquito bar.

All provisions should be kept in separate bags, then the salt and sugar do not become too intimate, and the pepper does not fraternize with the tea. A couple of squares of waterproof material, or light duck, about 6 x 8 feet, with metal eyelet holes around their borders are better than any tent, and can be used for a variety of purposes. They serve as shelters in case of a sudden storm, or to wrap the camp kit in—in short are worth their weight in gold.

A clean flour sack filled with balsam tips makes an excellent pillow, and a couple of feet of these same fir tips laid under the blankets will woo slumbers to content a king. By the bye, there are two ways of laying the boughs. The first and most natural, the wrong way of course, is to dump them down "any-which-way" as the woodsmen say; the second to spread them in layers beginning at the head, with the tips of each feathery bough pointing toward the head of the couch.

The cook of the party ought to be supplied with a frying pan with socket handle, tin kettles without spouts, a few "dippers," knives, forks and spoons, and if transport is available, a tin baker for bread making. At a pinch cups may be fashioned out of birch bark, and a sheath knife serve in lieu of table cutlery.

No doubt it is a difficult matter to provision a large party for a long trip in the woods, and a novice would be wise to consult some experienced friend or guide in this matter, but beans, pork, flour, baking powder, tea, coffee, sugar, salt, pepper, and canned fruits and vegetables may be selected safely.

Generally trout, and, occasionally, grouse and even venison, in season, may be reckoned on to help out the bill of fare. In some parts of the country game and fish are so abundant that the hunters and prospectors take little except flour and tea, or coffee, but in the east this might mean starvation or something akin to it.

A few simple hints should suffice if followed to keep the camper in robust health. Don't sit in wet clothes, or boots; don't work too hard on an empty stomach, or in a very hot sun; and lastly keep good hours and wear flannel underclothing—all very old and time-worn advice no doubt, but well worth attention nevertheless.

It is a long time since a sea salmon was seen in the St. Lawrence, but one was killed last week in the raceway under Mack's mills, Cornwall, according to the Freeholder, by W. Borthwick, a mill employee, while spearing suckers. He did not know what a prize he had captured, and took it home and had it cleaned, but on showing the head to Mr. Mack, the stranger was clearly identified from the scales and shape of the head as a genuine salmo salar. The fish was a female, weighing about five pounds, and was full of spawn. It is a pity that Mr. Borthwick had mutilated the fish before speaking about it, as it would have been worth a good deal as a curiosity. No doubt it grew from one of the innumerable salmon fry which have been deposited in the river from time to time. We hope fishermen will be on the lookout for strange fish, and let us know about them, as the matter is of decided scientific interest.

✠

In a recent issue of Rod and Gun the statement was made that a license to shoot big game in the province of New Brunswick, cost a non-resident $20. This was an error, the ante has been raised another $10, and it now costs $30 to "come in."

✠

Several of the English journals have of late referred to a "decline of sports" in Great Britain, but as a matter of fact there is a healthy, progressive condition of affairs in connection with the pastimes of that country. True, the Americans have shown supremacy in most of the international contests, but this merely indicates that the sportsmen of the United States have improved more rapidly, not that British sports have retrograded.

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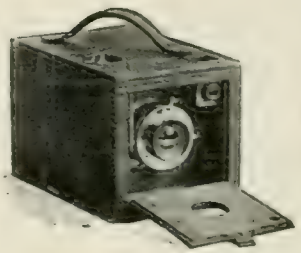

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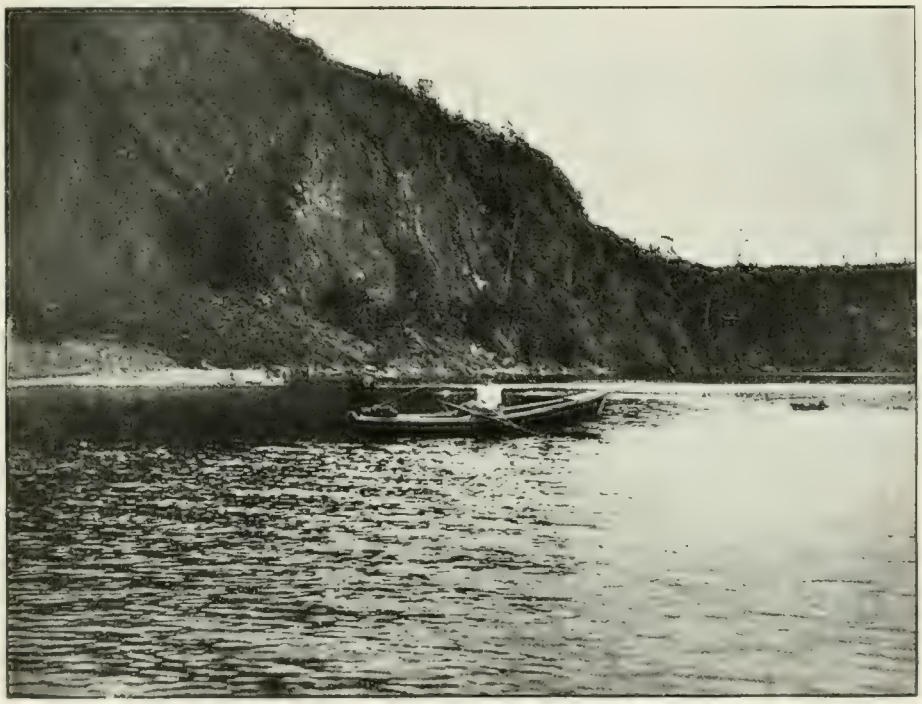
MASSANOGA, OR PICTURE LAKE.

In the days of the long ago, before the white man had landed on the North American continent, the Indian had but two grand recreations—killing game, and fighting his neighbor. There was perpetual warfare between the tribes and between none was it more persistent than between the Ojibway and the Iroquois. There was a great difference in temperament between these peoples. The Iroquois was a fierce, crafty, cruel foe, given to living in villages, while the Ojibway (of the great Algonquin nation) was a nomad, a perfect Ishmael. Rarely indeed were the Algonquins the aggressors. They possessed no villages, but lived in small communities scattered through the vast region which is bounded by Lake St. John and the Ottawa on the east, the height of land on the north, and the prairie to the west of the Lake of the Woods. Some idea of the extreme mobility of these people may be appreciated, as we learn that when a hunter killed a moose he usually moved his wigwam to the meat instead of carrying the meat to the wigwam. Their slight social fabric made these people very open to attacks from their implacable foe. But too often a stealthy war party of Iroquois braves would fall upon an isolated community of Algonquins, and after torturing and murdering the men would carry off the women captives, and it need not surprise us that the Algonquins when they got an opportunity paid off some of these bloody scores.



The Picture Cliff, Massanoga

The other day I went to look for the great grey trout in a lake which was the scene of successful reprisal by the persecuted Ojibways some 400 years ago. This sheet of water, 10 miles long, is situated in Addington county, Ontario. To reach it one goes to Kaladar station, and then makes one's way over 17½ miles of hilly, sandy road to the lake. Here lives Johnny Bey, strangely enough a pure Iroquois Indian, the descendant of the men whose bones are yet unearthed along the sandy shores of the lake, while the victors have passed away leaving but few evidences of their long occupancy.

Massanoga is divided, almost, into two lakes, by a long, narrow peninsula which stretches out from the west shore about four miles above the foot of the lake, leaving but a narrow channel between its extremity and a steep rock mass, some 300 feet high, which faces it on the east shore of the lake. This rock was at one time decorated with numerous rude sketches made by the ancient Indians in commemoration of events which they considered worth recording. Unfortunately, none of them were drawn higher than a tall man could reach from his canoe, and, when the vandal lumbermen came into possession, and dammed the lake near its mouth, the rising waters destroyed all save a few pictures which had originally been drafted at an unusually high pitch of water. These pictures were made with iron oxide, scraped from some iron ore beds known to exist to the northeastward of the lake. As works of art they are not remarkable,

but as attempts at reproducing the scenes of a stirring Indian drama they are successful. Most of them evidently referred to the great battle which took place on this point, though a few deal with other subjects. There is one weird sketch of a gigantic animal, with its coat standing up like the quills of a porcupine, possibly arrows or javelins) surrounded by a crowd of naked men who seem to have thrown their spears at it. The settlers call this a camel, but I consider the scene represents the doing to death of either a particularly large moose, or else the killing of some rare animal, such as the elk, for no doubt these animals at that time occasionally wandered to Massanoga as they were abundant in the Niagara peninsula.

The Indian legend of the battle runs something in this wise: By an ancient treaty all waters flowing into the Ottawa—the Grand river—belonged to the Algonquins, and the watershed of Lake Ontario and the St. Lawrence was the hunting ground of the Iroquois. A half mile back from the lake the height of land is reached, and while the Massanoga discharges by way of the Mississippi into the Ottawa, just across the hill there is another chain whose outlet is toward Lake Ontario. So, at this point, the rival hunters were close neighbors, and Massanoga must have seen as much bloodshed as the borderland between England and Scotland where the Percy and the Douglas ravaged and pillaged each other's territories alternately.

Launch on Ma[illegible]ga Lake

According to the legend the Iroquois were running short of game on their side of the ridge; the moose had been well thinned out, deer had become scarce, and the glossy pelts of the beaver and otter hard to capture. And, in contrast with this sad state of affairs, the Algonquin preserve was a perfect sanctuary for game. This was rather more than the hunger-pinched Iroquois could stand, so taking advantage of a temporary absence of the Algonquins from the lake, they stole over the ridge and established a large hunting camp upon the sandy peninsula facing the big rock. Here they revelled in moose muffle, beaver tail and boiled porcupine until they waxed fat and slothful, then one fine night an Algonquin scout discovered them, and at the rising of the sun a whole fleet of Ojibway canoes was discovered advancing up the lake to do battle.

The Iroquois were caught at a great disadvantage, but at anything like even numbers they could usually defeat the less warlike Algonquins, so they drew up along the shore ready to make a stubborn defence. The action was opened by flights of arrows fired at long range which did but little damage, but, suddenly, a terrific yell from the neck of the peninsula announced that a force was advancing in that direction, and that the retreat of the Iroquois was cut off. It was no longer a battle but a massacre, and not a single Iroquois hunter escaped to tell the tale. Even to this day human bones are washed up after a storm, and for many and many a long year no Iroquois dared to approach the shores where their forefathers had met so signal a disaster. After a time, however, rival white men came into the field, the Algonquin throwing in his lot at first with the French while the Iroquois was the trusted ally of the English settler. These furnished firearms to their redskin supporters, enabling the latter to gain a series of easy victories over their crudely armed rivals. So the Algonquin had to abandon his old hunting ground and to withdraw into that great northern wilderness which had in truth always been the headquarters of his race.

This summer the silence which has so long brooded over Massanoga was rudely disturbed by the advent of a fussy little gasoline launch. Brimfull of energy and splutter, this noble craft of but 17-ft. keel creates more disturbance and is more in evidence than would be a whole fleet of canoes. Even Johnny Bey, the Indian hunter, has fallen a willing victim to its charms and the visitor will often see the bull-necked, deep-chested fellow with his hands on the spokes of the little 8-inch wheel, steering the launch over the waters his people have known so long. There are summer visitors too; girls in white frocks, and men in cool flannel shirts, and some day they are going to import cunning musicians and give concerts on the point where long ago the Algonquin made such a slaughter of his foemen. Yet even to-day, the deer come down to drink in the lake and are very numerous in the hills bordering it, and there are many lake trout of goodly size to be caught by the experienced fisherman—only he will need a long line and a heavy sinker, for the lake is in places between 250 and 300 ft. deep, and during the warm weather it is the habit of the grey trout to seek the bottom. Massanoga is the modern name for this sheet of water. The Indians call the upper bay

Mazinog and the lower one Mazinan, the one meaning "here there are pictures," the other "to the pictures." However, "Massanoga" is more euphonious, and so, perhaps the white man was right when he changed the name of the combined waters to Massanoga.

This is the centre of a very good sporting country. Twenty miles beyond, to the north-west, there is very good trout, black bass and mascalonge fishing, and I do not think there is a much better region in Ontario for deer and ruffed grouse. All around Massanoga are charming lakelets at which the deer drink during the warm weather twice every day: a few, of course, fall victims to the needs of the back settlers—but not very many, because there are so few back settlers. The lumber has been cut, the boys have gone away to the west, the girls drifted to the big cities, and the old people do not do much deer hunting.

From Massanoga a canoe route exists adown the Mississippi—an unassuming river with a pretentious name—about 120 miles to the Ottawa. I have not been down it, but am told that a few miles below the lake there are falls almost 100 ft. in depth, and it is said that below this point there are no grey trout but a great store of pike, and bass, and in the autumn wild fowl innumerable.

If these stray notes should tempt some brother sportsman to try Massanoga and the country of which it is the centre, I feel satisfied that he will not regret having taken the trip. I can speak out of my own personal experience of the deer, the ruffed grouse and the grey trout.

MOOSE AND CARIBOU IN NEW BRUNSWICK.

(Continued from last month).

One cannot help but feel how desperate the pangs of the vanquished must have been. A few weeks later (if they have both survived the battle), these self-same bulls, with others of their fellows, may be found "yarded up" in the December snows and living on terms of the utmost amity, while the cows, which were the cause of all the late unpleasantness, have located themselves elsewhere.

Persons who have never seen a "moose-yard" commonly suppose it to be a small tract of ground in which one or more moose have located themselves in the winter months, and where they have tramped the snow down flat. A moose-yard, in reality, often covers an area of one or two square miles. It simply consists of a number of paths in the snow to which the moose mainly confine themselves while browsing on the young growth from place to place. When feed becomes scarce the moose locate another yard. If a moose is started by man from the yard he will not return to it that winter.

The surest way to shoot a moose is by stalking on the snow. Unless they have been frequently disturbed they are not nearly so wary as the deer, but when once fairly alarmed are very determined in their flight and will place a surprising number of miles behind them with their long, swinging trot. Some of the Maine hunters practice a method known as "walking down" the moose. When the animal is started in the light snows of November they follow his track persistently, camping on the track each night and resuming the chase next morning. From time to time the moose is started again and at last comes to know that a relentless pursuer is on his trail. In about three days, or five at most, the moose "rounds up" and stands at bay, when the hunter shoots him down. Opinions differ as to why the moose allows the man to overtake him. Some contend that his feet become sore; others that he cannot eat while he knows that he is being followed; others that, after being started many times, he becomes at last indifferent. I should say that insufficient feeding superinduced by fright was the true explanation.

Many theories formerly held in regard to the habits of moose, and the best mode of hunting them, have been disproved by experience. For instance, as to calling moose, it was firmly held by the old Indian guides that this feat could only be accomplished between sundown and sunrise. The hapless sportsman was required to while away the stilly night cramped up in a bark canoe, or else lie out on the cold, moist barren with a blanket wrapped around him, while his Milicete guide, well primed with fire-water, shattered the silence with the mournful music of his horn. A perfect moonlight night was necessary if the sportsman was to have any chance of planting a killing shot. Even where the conditions were favorable the performance was one involving so much hardship that many sportsmen lost all desire to repeat the experience. The usual result was that three or four moose were missed or wounded in the semi-darkness to every one that was brought to grass. The practice of night-calling is now very largely a thing of the past in New Brunswick as well as in Nova Scotia. As soon as the business of guiding sportsmen became profitable, white guides went into it in large numbers. These, being more intelligent and enterprising, have out-classed the Indians in all save cheapness and relegated to the limbo of the laughable much of their wigwam lore. It was discovered that an unmated bull moose would respond readily enough in the day-time to a skilful caller, and when he did respond the chance of placing the bullet in the right place was immeasurably improved. Many of the most successful white guides in the province now call entirely in the day time.

Then, with regard to the feeding habits of moose many old theories have been set aside. It was formerly held that the moose never peeled the tree upon which he fed clear around, and hence never killed the tree. I have myself seen maples, mountain ash and sapling birch from which the bark had been stripped completely around by the moose. The favorite browsing trees of moose are whitewood, moosewood, willow and cherry; they will, however, eat the bark and twigs of any kind of hardwood and most of the evergreens, especially fir. Spruce or cedar they will not touch unless hard pressed by hunger. They are also fond of a thin, flat grass, light green in color, that grows chiefly in the beds of streams or ponds, or in marshy ground. This is locally known as "deer grass" and moose will often go under water for it and remain there a surprising length of time. They will nibble the leaves of the water lily and seem to regard the roots of this plant with special favor. Mr. Philip Selick, of Moncton, has had a number of moose in captivity for many years and has bred them successfully on his farm. Whatever may be said of the animal in his natural state, these domesticated moose possess the voracity of a pulp mill, consuming anything and everything in the vegetable line that is offered them, even to fir branches an inch or more in diameter. Another popular error is the belief that the moose, by reason of his giraffe-like legs and comparatively short neck, is unable to graze without kneeling. The moose has an inordinately long head to atone for his brevity of neck. With his forelegs planted slightly apart, he has no difficulty in eating or drinking on the level.

The size of a bull moose has not much relation to the weight or width of his horns. Moose of 1100 or even 1200 lbs.

will often be found with a comparatively inferior set of antlers, while an 800 lb. moose may have a five feet spread. There is no positive relation between the age of a moose and the number of points on his horns. Speaking generally, the horns increase in width, weight and number of points until the moose is five or six years old. After that they gradually deteriorate, the palms dwindling and the points losing much of their sharpness and symmetry.

In regard to caribou hunting in New Brunswick, if one wishes to secure a fine head it must be sought before the 15th of November, as by that date the old bucks have commenced to drop their horns. It is a fact that admits of no question that the antlers of young bucks of moose, caribou and deer mature later and are shed later than those of the older males. The horns of any of these animals may be knocked off by contact with trees, etc., some days or even weeks before they would otherwise be shed, but speaking in approximate terms, the older males of caribou have commenced to dispense with these ornaments by November 15th, while deer retain theirs a month later and moose until January 1st. The greatest number of points ever noted on a caribou head secured in this province is thirty-nine. This caribou was recently shot on the North-West Miramichi by Charles F. Riordan, of Boston, Mass. There can be little doubt, however, that these figures will eventually be surpassed, as single antlers have frequently been found after they were shed containing over twenty points. Herds of fifty or seventy-five caribou are occasionally seen on the barrens of the North-West and South-West Miramichi. That they should be able to thrive and fatten on such etherial fare as the reindeer lichen, eked out in the winter months by the moss to be found on the spruce, fir, maple, beech, birch and other trees, is a most surprising fact.

Some of our provincial guides have learned how to "call" the caribou with considerable success. A birchen horn precisely the same as that which is used for moose is employed. The mating call of the caribou, both in male and female, is a sort of hoarse cough, or bark. In fact it is doubtful whether this solitary note does not comprise the entire musical repertoire of the caribou at all seasons of the year. It is not at all difficult to imitate. The only drawback to its complete success apparently is that it is a very low call, and hence can only be employed to advantage when the game is close at hand. It is often used with effect, however, to stop a herd of caribou which has just been started. A bull caribou will sometimes advance to the call at full speed and then, upon discovering his mistake, will circle the hunter repeatedly, giving evidence of a total bereavement of his senses for the time being. The wearing of a red cap or a "sweater" by the hunter will frequently induce instantaneous lunacy in an entire herd of caribou and they will remain rooted to the spot gazing at the gaudy apparition while the death-dealing rifle is thinning out their ranks.

Shooting a bull moose which has been duped with the birchen horn is nearly always a most memorable experience, and doubly so if the sportsman has called the animal himself. It is not at all difficult for an amateur to acquire the art, as was shown one autumn when Mr. John Bodkin, an English sportsman, called up and shot, on the Nepisiguit River, one of the finest specimens ever secured in this province.

Let me briefly describe a somewhat similar experience which was mine on the first day of October, 1898. In company with A——, an enthusiastic local sportsman who had never seen a moose in a state of nature, I left Fredericton the day before, with provisions for ten days, bound for Cains River. At noon we reached a log house in Zionville, the last barbaric outpost of civilization, and there secured Arthur and Dick Evans, the one as teamster, the other as general utility man about camp. With all our effects placed in a heavy farm waggon, we trudged ahead over the six miles of "portage" road that wandered over the ridges between the settlement and Cains River. The road was called "good," which means that the feat of making a worse one had often been accomplished in the lumber woods. The river was reached in two hours and then a somewhat novel mode of progression was adopted. All hands boarded the waggon, while Dick steered the team straight down the bed of the stream. It was our earnest wish to reach the mouth of Otter Brook, seven miles down, by sunset. The waggon clattered and clambered over the rocks, now in shoal water and now plunging without previous notice of motion into holes that almost floated the load. Here and there fallen trees lay across the stream and had either to be surmounted or chopped out with axes. On all such occasions Dick applied his vocabulary to the team with force and freedom. We emerged from the experience with a great respect for that noble animal, the horse, as well as for the human anatomy. Otter Brook landing was reached when the sun was still half an hour high. We had driven thirty-seven miles that day, thirteen of them through the woods. On the way down stream the "works" of moose were visible at every turn. Once the horses plunged violently at scent or hearing of some wild animal around one of the turns in the stream, but we were unable to determine what it was. The remorseless racket kicked up by the waggon pounding over the rocks was a source of grief to us, as it could hardly fail to alarm the game, perhaps for miles around. We decided that it would have been a better plan to have used from the "Meadows" down a birch canoe, shod with cedar strips, for there were several stretches of dead water, affording excellent calling sites, where the canoe would have floated nicely, needing only to be carried over the intervening shoals.

Our camp at the mouth of Otter Brook was merely a strip of canvas, hung in shed fashion from a ridge-pole, well protected from drafts by boughs at the back and sides, with an ample trench in case of rain, and sheltered from the prevailing winds by a grove of small pines. As we reclined that evening on our couch of boughs with pipes aglow, after a generous repast of woodland fare, and watched the sparks flickering about like fire-flies in the outer gloom, life seemed to be worth the living.

Next morning as breakfast was being prepared A—— caught a string of goodly seeming trout at the mouth of the brook, but the season was late and they lacked their usual flavor. Soon after sunrise Dick plunged abruptly over the bank with his team and departed on his homeward voyage. The roaring of the waggon over the rocky road was heard for a long time. His instructions were to return a week later to the some point, as we intended to make this our permanent camp. About a mile up Otter Brook were two small barrens and a promising water-hole. I called here for moose that morning and was certain that I heard an answer, but the true nature of the sound was soon revealed. It was the measured stroke of an axe over on one of the hardwood ridges to the north—an accoustic effect that can easily be mistaken for the distant note of a bull moose.

The weather being remarkably warm for the season of the year, the work of plodding through the cloying moss along the edge of these barrens was quite wearisome. After returning to

camp and stowing away another substantial meal, that never failing solace of woodland existence, it was decided to cross the river and cruise the big Bantalorum barren, which lay almost parallel to the stream and about a mile distant. There was no semblance of a trail to the barren and the heat was felt severely as we struggled through the riotous jungles of underbrush that clogged the intervening hollows and ravines. As the barren was neared the soil became more swampy, offering such precarious support to the dwarfed and stunted spruce that struggled for existence there, that many of them had desparingly collapsed, forming a chaos of unsightly snags through which our progress was tedious and toilsome. When the barren was reached it presented the appearance of a vast, unbroken amphitheatre, a mile or more in length, flanked by walls of sombre fir and tamarack. One's view of it from the level bog, however, was restricted by a peculiar hummock-like formation of firmer heath that raised itself like an island in the midst of the quaking waste. If these barrens, of which so many occur in the New Brunswick wilderness, are old lake bottoms which have become transposed into so many huge sponges by the obtrusion of centuries of vegetable growth, how shall we account for these tumulous elevations in the centre that occur so unfailingly.

From the main barren radiated in various directions several bays or pockets. At the entrance to one of these we sat down on a crumbling bunch of hard-hacks to secure, if possible, a respite from the heat. The head of the pocket lay to the west and the breeze was blowing softly from that point towards the outer barren. It was two o'clock p.m. With not much hope that a bull moose was within calling distance I raised the horn and gave the short call. Immediately I thought I heard a monosyllabic response in the deep woods across the pocket, but my companions heard nothing, the sound was not repeated and I dismissed the thought as fanciful. All was still except the wind that played as on a harp its wailing monotone through the stunted spruces and over the steaming heath. I tried a second call, louder and longer than before. The result, to say the least of it, was startling.

The trees within the sombre barrier just across the pocket seemed to be falling down. The crashing of limbs was heard and the hollow reverberation of tree trunks smitten by a giant force. I listened to the disturbance with a sinking heart. It was a bull moose without doubt, and my fear was that the animal had been alarmed by the loud call, delivered at so short a range, and was seeking safety in flight. I ought to have reflected that when the bull moose detects the spurious call he steals away on velvet foot. The tumult of splintered limbs and smitten trunks grew louder and nearer and then, as we crouched in the heather, two prominent yellowish objects emerged like spectres from the shadows. They were the antlers of a bull moose. We could see as he swaggered jauntily towards the light that he was deliberately hooking the trees and upturned roots, now with the other, as if in challenge to a possible rival. The horns then ceased their tossing motion and the moose, which had located the call to the fraction of a yard, seemed to gaze intently across the pocket in our direction. The moment was a trying one and though nothing but the horns were visible we were sorely tempted to shoot. The wisdom of waiting was soon manifest. With a confident, belligerent "Wuh, Wuh!" the moose stepped out in the open and swerved to the right, quartering down the wind. This move was strictly in accordance with proverbial moose tactics and was designed to intercept the scent. The course taken brought him slightly closer to us as we knelt with cocked rifles in the spongy bog. A—— placed his faith in a Savage rifle; mine was the regulation Lee-Enfield of the English infantry, reinforced with the dum-dum bullet. For about thirty yards the moose traversed the bog, head downwards, as though in a trance. The outlines of his bulk as he made for the open bog were at first somewhat obscured by a few outlying spruce and windfalls. I whispered to A—— to wait till he was in plain sight. Then the moose swung past the last intervening root and his huge body appeared in unobstructed view.

As the rifles cracked the moose kept on his course as though heedless of the sound—a sure sign that he was hard hit. Had we missed him he would have certainly halted and faced the enemy, or else have started for cover. We fired two additional shots each, when the monster dropped heavily to the turf. Five of the six shots fired had found their mark, three in the shoulder and two behind it. The range was about seventy yards. One of the Savage bullets reduced the liver to a pulp, while the dum-dums smashed the massive shoulder bones like glass. The horns of the moose measured forty-five inches across and were high and shapely, the blades taping twelve inches at the widest point. Six feet ten inches, as near as we could determine, was the height of this moose at the withers.

It was certainly a remarkable piece of good fortune that enabled us the first day after leaving Fredericton to secure the prize we sought. Here let me offer this suggestion to whom it may concern: that when a moose, as frequently happens, is killed on a barren in warm weather under circumstances that render it difficult to dress the carcass at once, the meat can be preserved for days as though packed in ice by simply covering the entire carcass with moss.—By the late Frank H. Risteen.

Combined Camp Bed, Pack Blanket and Sleeping Bag.

Take a strong canvas, preferably dark colored waterproof, 78 inches long, 33 inches wide when doubled and with or without a six inch flap at one end—the edges, lengthwise, to be sewed together strongly and neatly—each end to be hemmed and through the hem place strong eyelet holes about six inches apart and large enough to admit easily a small rope.

When used as a bed thrust two poles seven feet long through and spread them by four crotched sticks, one at each corner. Place a log of wood under each end of the poles and you have a bed on which, with your blankets, you can sleep very comfortably.

The canvas can be used en route to and from camp as a pack blanket or tump by passing a rope or tump line through the eyelet holes at each end.

If desired to use the canvas as a sleeping bag fasten together with a few safety pins the outer edges of your blankets lengthwise and at the foot, place inside the canvas and lace it through the eyelet holes at foot.

An association for the protection of game has been organized at Golden, B.C., and the following officers elected: President, J. G. Ullock; vice-president, C. A. Warren; secretary-treasurer, W. Alexander. The following pledge was prepared: "We, the undersigned, members of the Golden District Game Protective Association, hereby bind ourselves to act collectively, as well as individually, as assistants to the game warden of this district, and will endeavor to enforce the laws."

RIFLE SHOOTING IN CANADA.

To what extent the enthusiasm as to rifle shooting, which was aroused by the initial reverses of the South African campaign, will permanently improve rifle shooting in Canada is a question the future must answer. In Great Britain it is said that the formation of civilian rifle clubs with their leavening of volunteers have increased exceedingly rapidly in numbers and in membership. According to the London Field, a thoroughly trustworthy authority, British rifle clubs have developed steadily from small beginnings.

The National Rifle Association, notwithstanding its onerous duties, eagerly welcomed this new trend in rifle shooting, and encouraged it in every manner possible. Competitions have been set aside for the exclusive benefit of members of clubs affiliated with the parent association. These, as a rule, are competed for with miniature rifles and under conditions differing widely from those governing ordinary target shooting. In one class of competition there is a miniature range, a miniature rifle, and its miniature ammunition; in others there is shooting with miniature rifles at distances often fired over with a service rifle, thus serving a useful purpose, since they permit the use of ranges which would be condemned as dangerous for the service rifle and ammunition. The third class of shooting which is indulged in by the affiliated clubs, includes the use of service rifles and ammunition at the shorter ranges. The object aimed at, and seemingly attained, by these classes is the bringing target shooting attractively before a larger class than is represented by mere membership in the volunteers.

This it would appear is precisely what is needed in Canada. In the scheme outlined by the Militia Department, and published a few weeks ago, there seems a disposition to force every man who uses the range to become, at least nominally, a member of the militia. This has undoubtedly had a deterrent effect upon many who would otherwise have wished to join, and is probably responsible for the lukewarm interest exhibited so far by the great mass of Canadian men.

With the lessons of the Boer war before us we must be blind indeed if we do not see the vital need in a country where conscription does not exist, of every able-bodied man being somewhat of a marksman. The drill of the barrack square, the tinsel and blare we can, perhaps, do without. What Canada needs most is 500,000 men of Anglo-Saxon and Celtic descent who could at short notice use their rifles to good effect.

The time to train the hand and eye in shooting is in youth. Instances are, it is true, on record showing that men of mature years have now and again learned to use the rifle and shot-gun, but in the vast majority of cases the only time to master any field sport is during those years when the receptive faculties are most on the alert. Every Canadian lad should have it in his power to become a marksman, if his bent lie in that direction.

WOODLAND SCENES.

I was sitting with my back against a log in the deep woods one October morning, watching for two squirrels that were hiding in the top of a great walnut tree. One of the squirrels I had shot at and missed, whereupon it scampered up the tree in question, followed by another one of its kind to the topmost branches. A patient examination of all the limbs failed to disclose to my eyes so much as an ear, so I sat down to wait until the game moved.

A half hour passed, by which time every knot and bunch of leaves had become familiar to me. There was a very large limb that extended out from the tree in a horizontal direction for ten feet, then bent upward gradually. On its under side there was a hole such as a gray squirrel might fancy. Presently a saucy woodpecker, resplendent in red and white and black, scuttled down the limb in search of food. Instantly my full attention was directed to it in the hope that its actions might betray to me the location of the two hidden squirrels.

Down came the woodpecker after the halting, jerky manner of its kind, but suddenly it stopped short, then flew up and alighted further down the limb. At the same time there was a flash of gray near the hole in the limb, and some small creature disappeared within. I had never before noticed any ruffling up of the feathers on a woodpecker's neck as an indication of anger, or what not, but this one was either startled or angry, for its neck feathers resembled those of the mischievous little camp robbers of the west. But no matter what its feelings were, the woodpecker sidled up to the hole and peeked in, with its head cocked first to one side, then to that.

It is customary with all good woodpeckers, like policemen, to rattle for assistance when they believe they have corralled a bigger bargain than they can make away with unaided; but this one did nothing of the sort, as it seemed dubious as to whether its game was really cornered. Finally it decided to take a look inside, so it ducked its head and crept in very gingerly and very slowly. A moment of silence followed, then all at once a bunch of feathers was literally fired out of the hole, much after the fashion of a young man's hurried exit from a wouldn't-be-father-in-law's door. It was the woodpecker. It found its wings after a headlong tumble of several feet, perched on a nearby branch and glared across at the hole in the limb, seemingly undecided what to do, though full of fight.

I was puzzled to know what was in that hollow limb, but the woodpecker soon settled all doubts by flying across to the hole with neck feathers ruffled up and blood in its eye. No sooner had it alighted than a flying squirrel darted out of the hole and pounced on it, both finally alighting on a lower limb. Then followed a game of hide and seek, with the woodpecker forcing the fight. Up and down, round and round the limbs and back and forth from one to the other they went. Sometimes the flying squirrel—evidently dazed by the sunlight—would turn and pursue its enemy blindly, and then the bird would hesitate, whereupon the squirrel finally made a dash and gained the dark interior of its former place of refuge.

How this interesting encounter may have terminated it is impossible to say, for at that moment I saw one of my squirrels peeping over the fork of another branch, and the shot I fired at it broke up the game which I had been fortunate to witness.—Exchange.

That the black bass has a penchant for precious stones and interior decoration seems evident from the frequent fish tales circulated to this effect. The latest comes from Frankfort, Ind., and is as follows: "A month ago William Freas, Jr., of this city, while fishing in Cedar Lake, lost a valuable diamond cuff button by it slipping out of his cuff and falling in deep water. Of course, he never expected to see the diamond again, and had dismissed it from his mind until this afternoon, when he received a registered package containing the button and diamond intact, and a letter from W. R. Sherry, of Chicago. The letter stated that Mr. Sherry had been fishing a few days ago in Cedar Lake, and among his catch was a four-pound bass. When the bass was dressed the button was found in its stomach. He learned from the hotel proprietor of Mr. Freas' loss and correctly supposed the button and diamond were his."

KENNEL DEPARTMENT

Conducted by D. Taylor

Recognizing the marked interest taken in canine matters at the present time by all classes, the New York Herald now gives its readers regular cable correspondence of the latest English kennel intelligence, which is extremely interesting to the general reader and a decided boon to those who desire to keep posted in what is going on among the fancy in Europe. From a late letter in this journal we learn that there is a decided split between the English Kennel Club and the ladies' branch, resulting in the resignation of the president, the Duchess of Newcastle, and Lady Kathleen Pilkington and Mrs. Oughton Giles, two of the most prominent members. Whether the entire branch may individually and collectively pick up its skirts and retire gracefully is what nobody can foretell. The disagreement appears to be of a trifling character and arises from the ladies wishing to retain a small percentage of their annual subscription as a fund for prizes confined to the ladies' branch.

✠

The Kinkora Kennels, Montreal, have recently imported the Irish terrier Dunmore Bill, who took second novice at Dublin in April last, being only beaten by the sensational dog Colin, who has now at thirteen months old earned the title of Champion. Dunmore Bill, whose name has been changed to Kinkora Brock, was whelped June 9th, 1900, and is a son of Palmoral Bill and Barnsley Floss, a daughter of Champion Breda Muddler. Kinkora Brock is described by the English Stockkeeper and Our Dogs as possessing the best Irish terrier character in his class, and will prove a valuable out-cross for the Kinkora kennels. Barnsley Nellie, now the property of Mrs. James L. Kernochan, New York, is a litter sister of Kinkora Brock, and at seven months won at Belfast first in puppy and second in novice class, a remarkable performance for so young a bitch.

✠

Thirteen has proved an unlucky number for Mr. Joseph Reid. His collie bitch Daisy Blossom gave birth about the beginning of August to that number of puppies and all of them died shortly afterwards. They were by Mr. Gault's Royal Scot.

✠

On Monday, 12th August, Mr. Alex. Smith's (Auchairnie) collie, Maple Blossom, gave birth to ten puppies by his own imported Hielan' Rory. Needless to say Alex. has weeded them out and retains what he thinks will be likely winners.

✠

The Champlain Kennel Club will hold its first annual show at Burlington, Vt., on the 11th, 12th and 13th September, under A. K. C. rules. The premium list provides for eighty-five classes, exclusive of winners' classes, and the prize money is uniformly $5 first, $3 second and a diploma for third in all novice, limit and open classes, and $3, $2 and a diploma for puppy classes, which, however, are provided only for English and Irish Setters, Collies, Bulldogs, Smooth Fox Terriers and King Charles and Blenheim Spaniels. Mastiffs, Russian Wolfhounds, Greyhounds, Deerhounds, Foxhounds, Dachshunds, Gordon Setters, Field Spaniels, Dalmatians, Poodles, French Bulldogs, Scottish Terriers, Black and Tan Terriers, Pugs, Pomeranians and Prince Charles Spaniels have but one class, an open class for dogs and bitches. All other breeds have novice, limit and open classes and one winners' class for either sex. The breeds in which the open classes are divided by sex are English Setters, Cocker Spaniels, Collies, Bull Terriers and Boston Terriers. There are also quite a number of specials, including cups, medals and gold dollars. Mr. C. H. Mower, P. O. Box 92, Burlington, Vt., is the secretary. Mr. Mortimer will judge.

✠

Messrs. F. & A. Stuart have just imported a young St. Bernard bitch from Manchester, Eng. While not a "shower" Snowflake (the name of the puppy) is absolutely perfect in expression, color and markings, qualities which, while counting very heavily in the ring, are far more valuable in a brood bitch, which is what they hope to make out of "Snowflake." In her blood there are two crosses in the first generation on the sire's side of the famous Lord Bute, sire of Sir Hereward and champion Young Bute. On her dam's side there is the acknowledged giant of the St. Bernard breed, champion Sir Bedivere. This is a combination which is now very rare, and if there is anything in breeding at all "Snowflake" ought to be able to find a place in the pedigrees of some of Montreal's winning St. Bernards in days to come.

✠

We understand that Mr. W. Ormiston Roy has purchased the handsome young dog, Mountain Victor, bred by Mr. D. Alexander, who will in future be shown from Coila Kennels. We also hear that he has sold a young puppy by Knight Errant II. ex Wishaw May to Mr. Mortimer, Hempsted, L.I., for a good figure.

✠

King Edward VII., who won at Toronto and Montreal, is booked for the Pan-American at Buffalo. He will meet there a number of the best known dogs in Colliedom.

✠

Dr. C. Y. Ford, Otterburn, Kingston, Ont., who has been on an extended visit to the old country recently returned and brought with him what is described in the daily press as one of the ugliest bull pups ever seen in the Limestone City. The new importation is said to be a grandson of the subject of the famous painting "What we have we'll hold." Dr. Ford also brought with him a handsome blue spaniel for Mr. A. Macdonell, of the Ontario Bank.

✠

Mr. James Watson, of Field and Fancy, has imported the well known rough Collie dog, Parkhill Squire, by Finsbury Pilot, out of Cathkin Duchess. Parkhill Squire was formerly owned by Mr. Hugh Miller, of Rutherglen, Scotland, and is the winner of a very large number of first and special prizes, and the sire of many winners in the land of his birth.

✠

The well known American sportsman, Foxhall Keene, who has lately taken an interest in Airedale terriers and imported some of the best breeding in England to establish a kennel, has suffered a heavy loss at the outset through the death of Rock Princess, a bitch which he had purchased for $1,000. She died on the White Star steamer Celtic which arrived at New York on August 4. Rock Princess was credited with being the best bitch in England, having won first and championship at the Crystal Palace show last October, and at the recent Otley show in May she won first limit, open and

championship, defeating Broadlands Bashful and a lot of other cracks. Mr. Keene is too good a sportsman, however, to allow such a contretemps to discourage him and is already on the outlook for something to take her place.

*

At a meeting of the Council of the Canadian Kennel Club, Mr. Jos. A. Laurin, Montreal, was elected vice-president and representative of the Province of Quebec for the fifth time in succession. Among the nominations for the executive committee, to be elected at the annual meeting on 4th September, are: Mr. James Lindsay, Dr. Wesley Mills and Mr. Arthur F. Gault, Montreal.

*

The entries for Toronto are a guarantee of an excellent show both as to numbers and quality. One gratifying feature is the presence of a large number of exhibitors hitherto unknown in the fancy and we trust their success will be such as to give them encouragement for the future. As usual, there will be a fair sprinkling of Montreal dogs. The Canadian Kennel Club offers medals for the best dog in the following breeds: St. Bernards, Mastiffs, Bloodhound, Newfoundland or Great Dane, Foxhound or Beagle, best Pointer, Setter, Collie, Sporting Spaniel, Bulldog, Bull Terrier, Fox Terrier, Terrier (other than Fox or Bull), Dachshund and best in classes 194 to 201 inclusive.

*

Fitz Roya, the dog with the gold tooth, died in Boston lately. He was prostrated by the heat and the attending veterinaries could not save his life. Fitz Roya was the property of Shirley Marston and was considered the most valuable French Bulldog in the country. He was bought by Mr. Marston at the Paris Dog Show, where he won first prize, a diploma and a gold medal. He was exhibited at the leading American dog shows with success, having won two firsts at New York and valuable prizes at the Boston, Baltimore and Philadelphia exhibitions. Mr. Marston is a most enthusiastic admirer of French Bulldogs. Three years ago he imported Champion Rico, and at present has several valuable pups by Fitz Roya.

*

At a meeting of the Council of the Ladies' Kennel Association of America, it was decided to hold a four day bench show during the week beginning December 15 at Madison Square Garden, New York, with Mr. James Mortimer to superintend. The prizes in all puppy, novice, limit and open classes will be $15, $10 and $5. Winners class, the Association's silver medal and there will also be team prizes of $20 for the best four in each breed. The entry fees will be $5 and $3 for the members of the L. K. A. of A. Fifty per cent. of possible profits will be donated to charitable purposes and the remainder kept as the Association Dog Show Fund. The classification will be as liberal as possible, and the show should call forth the hearty support of the fancy.

*

The Western Canada Kennel Club's Field Trials, which take place on September 2nd at La Salle, give promise of being the best the club has held, both in number and quality of entries, and in the sport, the birds being unusually plentiful. The club has added a third event this year, a sweepstakes, open to any dog who has competed in an all-age stake, and must be owned and handled by an amateur. Mr. Joseph Lemon is to be thanked for this addition, as he presented a handsome trophy for an additional stake, the idea being to give a chance to dogs which have won an all-age, and are, therefore, barred from entering, to compete instead of being left at home. This is an idea which clubs or individuals who love field sports and field dogs would do well to copy. It would doubtless prove a drawing card at field trials, and largely increase the attendance and number of entries. The club will also present a valuable prize to the owner of the winning dog to accompany the Lemon trophy, as it does with the F. G. Simpson collar and chain, which is also an annual trophy. Mr. C. C. Chapman has added a trophy to the Derby event this year.

*

A cable despatch from London, Eng., under date of Aug. 9th, to the daily press, gives the following item of interest to dog fanciers: "G. M. Carnochan, of New York, whose contest with the British breeders of fox terriers was decided yesterday against him at Micham, Surrey, has added to his extensive kennel by purchasing six more fox terriers, including Hot Stuff, winner of all the prizes of the Crufts show. Their aggregate cost was £350. He has also purchased the prize hackney cob, Miss Innocence, with which he hopes to win the blue ribbon at Madison Square Garden, New York, next winter." Mr. Carnochan is of the order of "Never say die," however, and in making these purchases of terriers it is his intention, it is believed, to establish a kennel in Buckinghamshire, Eng., where climatic conditions are more favorable for rearing than the United States with its extremes of heat and cold. He will thus be able to compete on more equal terms with English breeders.

*

The series of matches recorded in the above cable were made a year since. At that time Mr. Carnochan was in England and through the papers there issued a challenge to breeders of Fox Terriers, to the effect that he would show this fall a terrier of his own breeding, born in 1900, against one bred during the same year by anyone accepting the challenge. The conditions were $250 a side, $50 forfeit. The challenge was accepted by the Duchess of Newcastle, Mr. George Raper, Mr. Frank Redmond, Mr. Mason and Mr. J. Phillipson.

*

Of Mr. Carnochan's representatives, Cairnsmuir Get There was shown successfully in the puppy class at Pittsburg last March, and is a son of the celebrated champion Go Bang. Cairnsmuir Just In Time has not been exhibited on this side. As regards the opposing forces, the Duchess of Newcastle's Commodore of Notts was a winner at the Crystal Palace a month or so back, while Mr. Raper's Raby Holdfast has competed successfully at several shows, including the exhibition at Barn Elms last month.

*

"The Show Dog."

We have been favored with a copy of a valuable book bearing the above title, the author of which is Mr. H. W. Huntington, of Providence, R. I., author also of "My Dog and I," and a gentleman well known as an expert in caninology. In "The Show Dog" Mr. Huntington has certainly produced a work which is highly creditable alike to himself and the printers, for, typographically, it is all that can be desired. The book is handsomely bound in cloth, contains 244 pages and is embellished with 120 half-tone illustrations from life of famous dogs of every breed both in the old and new world, and will be sent to any address in Canada or the United States on receipt of the price, which is very moderate, taking the excellence of the work into consideration. To the breeder and

fancier the work will prove a welcome addition to the literature of dogdom while to any dog lover it will simply prove invaluable as a book of reference. Of course the illustrations, which are generally taken from the best types, are a great help to the amateur and will give him at once a correct idea of the general conformation and character of any breed with which he may be desirous of becoming acquainted. The letterpress makes the reader familiar with the origin, habits and peculiarities of each breed, and describes in concise language the standard of perfection as adopted by the specialty clubs, so that even the veriest novice ought to have a faint idea as to whether his dog is bred to the mark or not. The author follows up the descriptive portions of the book by a series of "Comments" which are both entertaining and instructive and will enable the dog owner to avoid many of the pitfalls which beset his path in rearing his pet from the puppy stage to maturity. Two or three Canadian kennels are represented in the book, one of the subjects being Mr. Laurin's Airedale terrier Dumbarton Lass. We strongly recommend the book to our readers, feeling assured that they will derive pleasure and profit from its perusal.

*

Speed of Dogs.

Comparatively few people realize of what remarkable speed dogs are capable. Some remarkable statistics in regard to this have been gathered by M. Dusolier, a French scientist.

He points out the marvellous endurance shown by little Fox Terriers who follow their masters patiently for hours while the latter are riding on bicycles or in carriages.

According to M. Dusolier, the speed of the shepherd dogs and those used for hunting ranges from ten to fifteen yards a second. English Setters and Pointers hunt at the rate of eighteen to nineteen miles an hour, and they can maintain this speed for at least two hours.

Foxhounds are extraordinarily swift, as is proved by the fact that a dog of this breed once beat a thoroughbred horse, covering four miles in six minutes and a half, which was at the rate of nearly eighteen yards a second.

Greyhounds are the swiftest of all four-footed creatures, and their speed may be regarded as equal to that of carrier pigeons. English Greyhounds, which are carefully selected, and which are used for coursing, are able to cover at full gallop a space between eighteen and twenty-three yards every second.

How great an achievement this is may be judged from the fact that a thoroughbred horse rarely, if ever, exceeds nineteen yards. Moreover, it is said that a hare at its greatest speed never goes faster than at the rate of eighteen yards.—London Mail.

*

The Trimming of Dogs.

The trimming of dogs for the passing purposes of the public show has always been a vexed problem for exhibitors, says the London Field in a recent issue; they halt between opinions—some defending the custom, while others, unfortunately the minority, deprecate it. The advocates of the custom argue that they have as much right to trim the hair or coats of their dogs as their neighbors have to subject their horses to similar treatment, with no better object than to display their leading features to the best advantage. It is perhaps a good thing that the horse and the dog are not in this matter on an equality. The supporters of dog trimming, indeed, might find a better analogy in the curious device of coloring sheep for glorification at shows, but they should note that there is a movement on foot to abolish the practice, which has for so long been followed by flockmasters in connection with certain varieties of sheep. The fact remains that the trimming of many breeds of dogs, such as terriers, has latterly been advanced to an extent that approaches an art. A recent writer, a large exhibitor and breeder of Scottish terriers, says that the sides of the dog's head are "trimmed" down pretty well to the bare skin until the animal has been thoroughly transmogrified, and if the majority of our leading terriers were shown absolutely *au naturel* they would find it a difficult thing to "struggle into the money." This refers to but a single variety of the dog, one less trimmed than some others. Though the custom is to some extent encouraged by the Kennel Club, it is impossible to say what latitude is allowed. The exhibitor, therefore, does not know how far he may go. It is to be deplored that the judges themselves are so mixed up with the custom of trimming and with the Kennel Club that they are incapable of taking action with regard to the former. As the matter stands at present, the sin is not so much in its commission as in its discovery, and, so long as the operator is clever enough to hide his handiwork, the breed or variety upon which he manipulates is the sufferer, and not, as justice would ordain, himself.

*

To Correspondents.

Lost Dog (Lachine).—There is no such thing as a "lost dog" in law, and the rightful owner can claim his property no matter whose possession it may be in. It is immaterial whether it has been found or purchased by the person who is in possession of it. The police are the proper custodians of a strayed dog.

Curious (St. Hyacinthe).—A paragraph appeared in this department two months ago which partly answers your question. Some large prices have been paid for coursing greyhounds, as for instance Falconer, for which $7,500 was paid. In the matter of show dogs the record prices have been: Ch. Sir Bedivere, a St. Bernard, who was bought by Mr. E. S. Sears, Wyoming Kennels, Melrose, U. S., for $6,500. The collie Ch. Ormskirk Emerald was bought by Mr. A. H. Megson, from Mr. T. H. Stretch in January, 1897, for $6,000 cash and the collie Ch. Edgbaston Marvel. The latter dog cost Mr. Megson $2,500, so that altogether the price paid for Emerald was $8,500. Other two collies, Ch. Southport Perfection and Ch. Christopher were sold for $5,025 and $5,000 respectively, while the bulldog Rodney Stone brought $5,000.

T. P. (Montreal)—According to your own showing your puppy does not get the exercise it should have. A dog was not made to be cooped up in a small back yard all day. Devote an hour or two morning and night to a constitutional—the exercise will do both of you good. Besides you will have a chance to train your dog in the matter of obedience. Take him on a lead for a time and promptly check him if he should roam from the heel. After he is fairly obedient under the lead let him accompany you without being led and let him know by firmness that he cannot leave your side without permission.

W. Simpson (Ottawa)—The general rule is to give a second service free if the first missed, but we believe there is no obligation whatever to do so. A stud fee is for the service irrespective of whether the bitch comes in whelp or not. How far custom would govern in an action at law we cannot say, but our advice is not to seek redress through that medium. The better way is to have the conditions of service stipulated in writing or verbally in the presence of disinterested witnesses.

ROD AND GUN IN CANADA

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

We are often asked for the best book on taxidermy. This is rather a difficult question to answer as there are several of undoubted merit, but taking everything into consideration we think that the one written by Mr. W. T. Hornaday, Director of the New York Zoological Park, and published by Scribners' Sons, New York, is the most useful. It is called "Taxidermy and Zoological Collecting," and as might be expected from the reputation of the eminent writer, is essentially practical. One of the most interesting chapters in it is that in which he describes the process of making casts of fish. The process is really very simple and any man of ordinary intelligence, by taking some pains, may soon become quite familiar with the process. Of course, the painting of these casts requires a considerable amount of artistic talent, the more the better, but by copying nature and having a freshly caught fish of the species before one while using the brush, the thing may be mastered. The difference between one of these casts, artistically painted, and the old fashioned "stuffed" fish would impress any but a blind man. Mr. John Fannin, the veteran naturalist of British Columbia, has made a most superb collection of the provincial fishes by following Mr. Hornaday's directions.

✣

A few years ago the State of Maine began to look upon game protection as worthy of serious attention. The effect was soon apparent. Game began to increase and deer, caribou and moose were soon more abundant than they had been for a couple of generations. Then the enterprising American people grasped the situation, and hunters poured in by hundreds, so that in the end the caribou and the moose began to diminish once more under the tremendous toll taken of them by the rifle, though the deer seemed to hold their own.

New Brunswick was the first of the Canadian provinces to imitate Maine's excellent example. Now, a writer in one of the leading provincial newspapers gives it as his opinion, that every bull moose in the forests of the Miramichi is worth at least $500 to his province—that is to say, every such animal will cost the hunter at least that amount to bag it. Of course, New Brunswick is not all Canada by any means, and there are many regions to the north and west of this province where a man may reasonably hope to get his moose at an expenditure of perhaps one fifth of this amount, but it is evident we ought at the least to value our moose at the price of average pure bred cattle. Indeed, they are more valuable than cattle, because, while they bring as much money they cost nothing to rear. Looking at it in this light it is certainly somewhat astonishing that the pot-hunting of moose should be permitted. We cannot protect them too carefully, but we must see to it that we do not live in a fool's paradise, thinking it sufficient to pass laws to secure the preservation of this noble game. No law will have that effect unless it is enforced, and it just in the enforcement that our system is weak.

Moreover, our legislatures are very partial to the occasional proclamation of a close period lasting for two or three years—something that few practical sportsmen consider a benefit. To say that moose shall not be killed during two years is simply to put a obstacle in the road as far as legitimate hunting is concerned. It has no effect on the Indian, and very little upon the lumberman and back settler—that is to say it has no influence upon that part of our population which really thins the moose ranks. By encouraging sportsmen to visit the provinces of the Dominion, we provide employment at good wages for the very men who hold the fate of our moose in their hands, and it were surely wisdom to make these men see that a bull moose alive in the woods is as valuable to them as would be a prize bred heifer, while the same animal killed in defiance of the law is hardly worth the snowshoes and toboggan needed to carry its meat to the clearing,

Once upon a time, a lessee of a certain salmon river was much troubled by poaching on its lower waters. Ere leasing the river he had been warned that probably not one fish in ten would escape the spear and the nets to give him sport in the upper pools; but he leased the river, notwithstanding, and speedily evolved a plan whereby he neutralized the poaching and vastly increased his own catch. Ascertaining, by the aid of one or two trusted agents, the names of the poachers, they were given employment from June until October, as canoemen, cooks and guardians, and kept far away from the lower pools where they had heretofore done so much damage. At the end of the second season these men were so much better off than they had ever been, that they allowed their nets to rot, and serious poaching was a thing of the past.

A like happy result may be secured whenever sportsmen of the right kind visit. The New Brunswick guides have already found that there is far more money in protecting the game than killing it out of season, and, consequently, Chief Game Commissioner Knight is finding his task easier each year. In every back settlement in Canada there are a few men, good woodsmen and hardy fellows, who are responsible for the poaching, should there be any. Just give these fellows steady employment at good wages, taking sportsmen around hunting and fishing, and you will diminish the illegal killing at once, in some cases do away with it altogether. Nine out of ten farmers could not kill a moose in one hundred years, it is only the few skilful men with a drop of sporting blood in their veins who are to be feared—and they are doubly dangerous during those long, dreary periods when a senseless law keeps the open-hand sportsmen out of the bush.

If you have not had experience in the woods the cheapest way to get it is to buy it in the shape of a good guide. It does not pay to get an inferior guide because he is $1.00 per day less than a better man. The best, and necessarily the most expensive at the outset, is the cheapest in the end, for your moose hunting trip becomes a success and pleasure instead of a disappointment, and an Indian knows by instinct what a white man frequently has to learn at the hunter's cost.

CONTENTS.

BOOK REVIEW.

Mr. L. H. Smith, of Strathroy, Ont., has more than a local reputation as a keen fisherman, a good shot and all-round sportsman. His numerous friends will, therefore, be glad to learn that he has issued a neat little volume which he has called "A Sportsman's Taxidermy and a Sportsman's Photography." Mr. Smith holds, and holds rightly in our opinion, that the true sportsman should be something more than a mere game and fish slaughterer. An intelligent understanding of the two twin sisters, taxidermy and photography, is absolutely necessary to the man who, nowadays, aspires to the admiration of his fellow sportsmen. The author of this little work, together with such well-known sportsmen as the late Dr. Rowe, proprietor of the American Field, and others, was one of those to whom we are indebted for the modern Bench Show and Field Trials, and for more than thirty years he has taken a most absorbing interest in such matters. To him was consigned Dart, the first Llewellyn setter that came to America, but well known as was Dart, the great Gladstone was even better known to the kennel world. This great dog, probably the greatest field dog ever seen on this continent, was bred by Mr. Smith.

Those of our readers who read the capital series of articles on "Fishing North of Lake Superior" in Rod and Gun, of which Mr. Smith was the author, will realize the charm of his literary style. In addition to being a lover of the dog Mr. Smith is a keen fisherman and a trustworthy ornithologist.

But, returning to this latest work of his pen. In the first place this little book is very well and amply illustrated by a number of half tones made from Mr. Smith's own photographs. This adds greatly to its value. The first part of the book deals exclusively with taxidermy and the art of setting up of game after having secured it. The second is devoted to taking your game without securing it, that is to say, shooting it with a field glass or camera. We have had some twenty years' experience with the sister arts of which Mr. Smith writes so entertainingly, and we can assure our readers that they will find him a very safe guide. The book is issued from the press of the Sportsmen's Review Publishing Co., of Cincinnati, O., and its price is $1.00.

*

We have been favored by Mr. Hornaday with a copy of his recently published "Notes on the Mountain Sheep of North America, with a Description of a New Species." The new species is, of course, Ovis fannini. The specimen was, we believe, purchased by Mr. Henry Brown, at Dawson, North-West Territories, in February, 1900. He presented it to the Provincial museum at Victoria under the impression it was a specimen of the Ovis stonei, but Mr. Hornaday happening to see it was startled to find a species absolutely new to science, and so strikingly differentiated as to render its title to independent specific rank beyond question. We now know of three distinct sheep in British Columbia and the Yukon Territory. Firstly, we have Stone's sheep, which is a very dark colored animal, and there is the beautiful white sheep called after Dall, and, lastly, Fannin's sheep, having a curious saddle of gray in strong contrast to the remainder of its coat, which is white. The color of its saddle is produced by a mixture of pure white and blackish brown hairs. The gray color covers the shoulder from the insertion of the neck down to the knee, where it fades out. Mr. Hornaday's pamphlet should be on the shelves of every man who takes an interest in the big game of our magnificent Dominion.

HAIL TO THE HEARTY HUNTSMAN.

O, we're getting under cover, for the "sport" is on the way,
—Pockets bulge with ammunition, and he's coming down to slay;
All his cartridges are loaded and his trigger's on the "half,"
And he'll bore the thing that rustles, from a deer to Jersey calf.
He will shoot the foaming rapids, and he'll shoot the yearling bull
And the farmer in the bushes—why, he'll fairly get plumped full.
For the gunner is in earnest, he is coming down to kill
—Shoot you first and then enquire if he hurt you—yes, he will—!
For the average city feller he has big game on the brain
And imagines in October there is nothing else in Maine;
Therefore some absorbed old farmer cutting corn or pulling beans
Gets most mightily astonished with a bullet in his jeans,
So, O neighbor, scoot for cover, or get out your armour plate,
—Johnnie's got his little rifle and is swooping on the state.
O, we're learning, yes, we're learning and I'll warn you now, my son,
If you really mean to bore us you must bring a bigger gun,
For the farmers have decided they will take no further chance
And progressive country merchants carry armour-plated pants;
—Carry shirts of chain plate metal, lines of coats all bullet proof
And the helmets they are selling beat a Knight of Malta's "roof."
So I reckon that the farmers can proceed to get their crops,
Yes, and chuckle while the bullet raps their trouser seats and stops;
And the hissing double-B shot as they criss-cross over Maine
Will excite no more attention than the patter of the rain,
And the calf will fly a signal and the Jersey Bull a sign
And the horse a painted banner, reading "Hoss - Don't Shoot: He's Mine!"
And every fowl that wanders from the safety of the pen
Will be taught to cackle shrilly, "Please don't plug me; I'm a hen."
Now with all these due precautions we are ready for the gang,
We'll endure the harmless tumult of the rifle's crack and bang,
For we're glad to have you with us—shoot the landscape full of holes—
We will back our brand-new armour for to save our precious souls.
O, you feller in the city, these 'ere woods is full of fun,
We've got on our iron trousers—so come up and bring your gun!

—Holman F. Day, in Lewiston, Me., Jounal.

"BLESSED IS THE MAN WHO HAS FOUND HIS WORK."

Some time ago, in the *Philistine*, that little monthly magazine published in East Aurora, New York, by the Roycrofters, there appeared the following advertisement:

. PIRIE MacDONALD

gives you

GREETING.

He has a workshop on the sixteenth floor of the Washington Life Building, New York, where he makes photographs and various other kinds of portraits of MEN. Not but that he loves women, as all good men should, but because he knows that he can make men's pictures best. "Blessed is that man who has found his work."

The same issue of the magazine tells of the reason why Pirie has suddenly shown a preference for the sterner sex, and we reprint the account of the decisive battle as it appeared in the Philistine, and would remind our readers that MacDonald is the man who a few years ago astonished the whole National Convention of Photographers by the unheard of excellence of his portraits of both women and children, and at the same time captured every medal in sight.

"Mr. Pirie MacDonald, formerly of Albany, New York, but now of New York City, is a photographer. He calls himself a Photographic Artist—and he is. He has more medals, and gets higher prices than any photographer in America. His prices are as high as a church steeple. Pirie is the only man I ever knew, or heard of, who made a fortune taking photographs. He has his limit in every savings bank in Albany, owns a block of flats, and sports an automobile in the park with a bull-dog sitting beside him.

Pirie of the Medals does not take everybody's picture—he picks his customers. As you enter his place he sizes you up through a peep-hole from behind the arras, and if your countenance lacks the trace of the classic, Pirie signals his assistant, and you are informed that Mr. MacDonald is in Europe and will not return for a year and a half.

Mr. MacDonald's specialty until recently has been society belles—tall, lissome beauties, proud and haughty, with a wondrous length of limb; these are the kind he liked best. And so famous is MacDonald that sitters have come to him from Rochester, Potsdam, Chambersburg, Rahway and all the country around and gladly paid the price of one hundred simoleons for one portrait, done with that wonderful Rembrandtesque effect, and signed by the artist. Often Pirie would send the fair one home to change her dress, but if her hair needed rearranging he always attended to that himself. Pirie's skill lay in posing his subject so as to get the best result. He usually would sit down with his sitter and talk to her about this or that, and tell her stories, pathetic or comic, and all the time he would be watching her countenance and debating in his mind whether he would pose her as a Madonna, Sappho, Judith, Marguerite or Queen Louise. The Judith-Holifernes pose was his best, but it was often difficult to bring about the feeling that gave attitude. Women want to look pretty, and that wasn't what Pirie cared for; he desired chicity-chic, go, biff and eclat. To this end he often had to resort to a scheme to bring the sitter out of her affected self-consciousness. "Look into my eyes," he would sometimes command; and when all else failed, Pirie would assume wrath, and declare "Here, you—why in tarnation can't you do as I want you to!" and he would clap one hand on the beauty's head and the other under her chin and give her a few sharp turns to win'ard, and end by administering a sharp slap athwart her glutei maximus, to straighten her spine. By this time the woman would be simply furious, and speechless with rage. There she would sit bolt upright, ready to explode, but she was not given time to go off, for Pirie would step back three steps and shout exultantly, "Splendid! Hold that—hold that!" and then he would rush forward, kiss her on the cheek and back again he would spring crying, "Hold that! Hold that!" and the bulb was pressed. And when all was over the artist was so penitent, so humble and beseeching in his manner, so profuse in his explanations that it was all in the interests of art, that all was forgiven, for base indeed is that woman who is not willing to sacrifice her feelings on the altar of Divine Art. And thus did Pirie get that most wonderful "Salome," which was the wonder of the Paris Exposition, and was declared by the judges to be the strongest and most effective study in photography ever exhibited. In every line it showed such a fine femine rage—such pride and smothered passion—that people looked at it in amazement. No one knew that Pirie had tumbled the woman's hair in one fell grab, and had thus aroused her wrath, and then offered her insult by kissing her and so brought that fine look of burning shame and mingled rage to her proud face.

It's a great picture and will pay you to stop off at Albany the next time you are down that way and go to the State House and see it.

But the Ideal continually recedes, and Pirie having the true instinct of an artist was fired with an ambition to do still better. The opportunity came, and Pirie, looking through the peep-hole, beheld a woman, say of twenty-eight, five feet eleven, weight one hundred and sixty. Her beautiful and abundant hair was bleached, and she had the proud and self-reliant look of one who had conquests that lay behind, and others, greater still, within her grasp. Her neat-fitting jacket and tailor-made gown showed off her fine form to advantage. The strong features were pure Greek.

Pirie almost screamed with delight, and hastily he ordered his assistant to begone and leave the customer to him. "Oh! now we shall have a real Herodias, now—that Paris picture will be only a tintype to this. My! what a splendid tiger she is!"

. . . . . .

That is really all we know about the matter. The attendant improved the opportunity to go out on an errand, and when the neighbors in the law office across the hall heard the commotion and rushed out they caught the swish of skirts and got a glimpse of a tailor-made gown going down the stairway. Pirie was found, panting and helpless, in a corner of the studio, with the black cloth viciously knotted around his neck, and the tripod, camera, and sitter's throne on top of him. There was a bad scalp wound extending from one ear to the crown of his head and it looked as though he had been struck with the lens.

Pirie never made any statements about the matter, but now his card reads:

PIRIE MacDONALD,

PHOTOGRAPHIC ARTIST.

Portraits of Men Only.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

NOTES ON LANDSCAPE WORK.

When we look at a photogram we say almost at once that it either is or is not pleasing without ever giving a thought to the innumerable little details that make or unmake it. And yet those little details are all there and just as important, nay even more important than if they were the most prominent thing in the picture. But we never consider them. For instance, how many of us ever stop to think why it is that we make our photograms square, or if there is any good reason for so doing. Not many I'll venture to say. And yet there is a reason, for were we to only consider for an instant we would very quickly see that it is because almost every other line in nature with the single exception of the horizon is more or less curved and that the picture is made rectangular for the sake of contrast. And in speaking of the horizon it might just be well to say a word or two on it. There are constantly shown to us in almost every photogram that we see, the two different kinds of horizon, the high and the low line. Ordinarily in actual vision the horizon comes near the middle of the view, unless perchance we happen to look down as at the flowers or in a view from a hill side. The high horizon is by far more frequent for in almost every picture where the principal object of the view is to show off a fine cloud effect do we see it used. In such cases of course the cloudscape, with its piled up masses of rolling vapor, is the foremost point of interest, and it is by this use of the low horizon that it is given the necessary prominence. This type of picture was especially common among Dutch painters.

This speaking of the horizon calls forth the remark that there is no fixed rule to say where it is to be. It must be just wherever the subject calls for it, and if the principal object is in the foreground we will have a high line and the contrary if it is vice versa. In cases where the subject is all sea and sky it will be somewhat hard to judge which is the principal side of the line, and very often do we see the mistake made of leaving it in the middle so that it cuts the picture in two. Never do this—unless you want to kill your picture. Of course I have seen pictures where it would be a little hard to say just what the subject was. This seems to be a failing with some workers, and they appear to forget that unless the photogram has a subject and a reason for its existence, that no matter how pretty it may be, it is likely to be passed over for something only half as well taken but possessing more interest.

Another very common mistake we often see made is that of having the lines of the foreground, such as the wagon tracks in the road, or the lines of a small stream, etc., travel in one direction while the principal point of the picture lies at the other side, the consequence being that the eye is carried far away from the subject it is looking for and has to make a jump to get back. An excellent method of killing a picture, too. What we want to do is to place the main object at the culminating point of the line so that the eye is instinctively carried to that place before it gets a chance to take in anything else. This assists in giving the appearance of strength to the subject that is so necessary. It is, I think, hardly necessary for me to point out how much more effective is an object that breaks the horizon than one that is sunk below it. An excellent means of securing a half-a-dozen different effects without moving the camera from the one spot is to raise or lower it as is found necessary to the success of the photogram. To lower it will often do away with objectionable lines, or, on the contrary, if more lines are needed to give the appearance of distance or for any other purpose, all that is necessary is to lengthen the tripod. If you have never tried this you ought to put it into practice and see what a wonderful new control it gives you over your instrument.

It has been said that while the out of doors operator has not the same control over his lights, that if he chooses to only spend enough time over one photogram, he can secure almost any effect he wants; and it is so. From the long shadows of early morning, across the blazing noon to the soft twilight, there are almost a couple of dozen different lights, each distinct and each possessing its own value to a certain landscape. It remains for the amateur to decide which he shall employ. Frequently we are shown a picture that seems to correspond with all of the law of good arrangement and yet for some reason it will lack something that completely ruins it. What is it? It is hard to see. It may be that he made his foreground too dark and lost the fine balance that he ought to have had, or it may have been a half dozen other faults of lighting. The lighting of a landscape is an extremely important point, for it is by this means that we are able to secure for the picture the appearance of breadth and depth, as well as by it do we aid in bringing out a point that is desired to emphasize. In the lighting of a landscape the amateur wants to bear in mind that a number of splotches of light scattered over a landscape will never on any occasion suggest anything but just what it is, while a broad effect of sunlight contrasted by an equally broad mass of shadow will look like sunlight every time. Or if the sunlight and shadow be in unequal quantities the appearance of sunshine is at once more apparent. If it is desired to render the effect of a cloud passing over a sunlit landscape the view must of necessity be somewhat extensive and the exposure short. You should not show any near foreground as there is likely to be more or less wind on such a day and its effect would be apparent on the nearest shrubs. Shadows of clouds on the sea can be shown very well also.

The light that we use in our landscape is just what we need to give us the appearance of depth, and you will find that a dark tree trunk standing out bold and clear against the rays of the sun behind it will seldom fail to produce a broad and striking effect.

Perhaps there is nothing in landscape photography, saving only the subject itself, which plays so important a part in the making of a successful picture as this handling of light. Not that it is upon contrasts of light and shade, harsh and bold, that the beauty of the photogram is dependent, but rather upon the dexterous massing of the heavier shadows and high lights, and a smoothing of all the ground between these two extremes with all the gradation that it is possible to secure. To attempt to give any hard and fast laws upon the handling of this important subject in so confined a space as I have at my command would be little short of an impossibility, for it is a task of no small magnitude for even a whole volume, and to the worker who is interested it might be advised to make a study of the works of the late Mr. H. P. Robinson.

A fault, which I am glad to be able to say was a great deal more common ten years ago than it is to-day, is the habit of

making and seemingly being satisfied with what are commonly referred to as bald headed skies, otherwise skies without clouds. It needs no great argument to convince anyone that clouds are a decided advantage to a negative, and yet when you look at a photo and then ask its maker why it was that he did not have clouds in it, he will look at you and say that it was too much trouble or else give you some other equally rational answer. The fact of the matter is that despite all that is said on the subject half the amateurs one meets in a day's walk do not know how to get them on the plate. Yet with a ray screen and an orthochromatic plate there is really no trick about it, and with a little experience to teach us approximately the conditions essential to success, there should be no difficulty in securing the desired result. The principal characteristics of a good cloud negative are an image devoid of fog, the extreme high lights fairly intense, and that portion representing blue sky having hardly any density at all. Surely not a hard thing to get. In the developing let the aim be to bring out the high lights first, and secure in them a fair printing power by restrained (not weak) developer. When you print your clouds do not make the common error of over-doing it. Many amateurs fall into the error of thinking that in order that the clouds show up as they ought they must be printed until they are quite black. It is a serious mistake. It gives the sky portion of the photogram a value altogether false and totally different from what we see when we look at the heavens with our own eyes. Sunset is an excellent time for the catching of good cloud effects.

A short piece back I made a reference to that great master of the art who has so recently passed away, Mr. H. P. Robinson, and in dwelling on landscape photography it might not be amiss to just touch on his work and just consider for a moment wherein its particular charm lay. Robinson's pictures always seem to me to be the work of a man who was building up to some title that he had in mind instead of taking a stray snap shot because it happened to be there and then naming it afterwards. But, what is more, you want to note the persistency with which he advocated the use of figures. In fact, I think, it is to just this masterly use of figures in his landscapes that he owes his little short of marvellous popularity. What, let me ask, is better calculated to make a picture appeal to one than the introduction of a figure or two that is in keeping with the scene and has some little story of its own to tell? I know of absolutely nothing, and though as a rule it makes the work several times more difficult, the trouble is well repaid.

Now, in conclusion, just a word upon your choice of subjects to photograph. One of the greatest weaknesses of photography is its inability to select or isolate those portions of the view that one does not want from the ones that one does, or in the alternative devoting itself exclusively to one thing to the detriment of everything else in the picture, and giving us an uninviting and an unsightly representation. Photographing for a broad effect of light and shade, or to catch a broad and striking piece of country is all very well in its way, but such photograms will never retain their interest to outsiders that a picture showing some good reason for its existence, as for instance telling a story, will show in after years. This is worth remembering in your work.

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The Scrap Bag.

The Illustrating of Books.—The fallacy of the idea that it is not possible to illustrate books or magazines by photography, and not have the pictures look mechanical, has been thoroughly demonstrated by that well-known expert, Rudolf Eickmeyer, Jr., in some recent magazine illustrations. They belong to a story by Joel Chandler Harris, and are so excellent and so free from any suspicion of a mechanical atmosphere as to look more like reproductions of black and white than productions of the lens. There is one great advantage about this class of illustrating. While artistically these photograms are the equal of any artist's drawings, yet the reader knows that they are not the result of anyone's imagination, that the figures which appear in a field of cotton were not posed in a studio, but were actually secured on the plate in the middle of a cotton field and are the "real thing." This must of necessity give to the illustrations an air of reality which ought to enhance their value to the reader.

What Processes are You Using?—A while ago a friend remarked to me that he wasn't much of a photographer, that he had never gotten beyond the stage of making Solio prints. I don't know why it is, but when I see an amateur making Solio, prints I usually set him down as a sort of "no'ccount" chap. And there is no good reason in the world why he should not use a better process. I imagine I hear you say "How much more complicated the other processes are." Now, really my friend, they are *not* more complicated. It's just as simple to work, say even the carbon process, as any other, once you get used to it. And then think how much better your prints are going to look. As far as the extra expense goes it is not worth considering, a mere fraction of a cent on each picture. I want to advise you each and all to get to using the best, and nothing but the best this winter, and then in the spring, if you come to me and tell me that you think your winter's work is not an improvement over the previous winter's work, I shall, to say the least, be very much surprised.

A Marvellous Lens.—Man named Dr. Grun (name sounds as though he might bear the label "Made in Germany") has recently invented a new lens which, working at an aperture that is just about the size of the lens tube, will make snap shots by electric light. I know a chap who says he has seen some of its work, and if he is telling the truth it is certainly a wonderful thing. Just think how it is going to revolutionize the making of photograms of fireside and other scenes that fill in the long winter evenings—scenes that we have always been making by flash light. There is no telling what we are going to have next, is there?

Two New Cameras.—The Sultan of Morocco has had two new cameras made in England, one a 3½ x 4½, of which all the metallic parts are gold, and of which the cost was over ten thousand dollars. The other was meant to make cabinets, and I suppose was intended for everyday use as the parts are only of common, ordinary silver. It only cost about four thousand five hundred dollars. Edward W. Newcomb says, in commenting on it, "Being Sultan of Morocco must be a good job and I dunno if I won't keep my eye on the place if that's the way he supplies himself." You want to keep a pretty sharp eye on it Ed. I'm looking at it myself.

What is an Artist?—I have been intending for some time to quote a little paragraph that came out some time ago in one of the magazines, and which I think is the essence of the whole thing. Here it is:—"A love of nature is one of the things that you cannot buy at a department store, nor can it be acquired from text books. It must have origin and growth in ourselves. But if I am speaking to a lover of nature, he knows better than I can say that his joy in it is the result of communing, companionship and intimacy with nature. That clump of trees

upon the rising ground has a vigor of outline that long ago arrested his attention, but he has become so used to its features that he takes them for granted as we do the face of a friend. Meanwhile what interests him is their ever-changing play of expression. At dawn, noonday or twilight, under grey light or burning sunshine, when storm is gathering or everything is at peace, in countless other vicissitudes of local conditions, those trees, lighted up against the sky, make constant variety of appeal to his imagination, and always somehow fitting in with his own mood of feeling. In our ability to put ourselves thus at one with nature, we ourselves are artists—unable, however, to give utterance to the thought. The creative power is lacking, and this is the distinguishing characteristic of the artist. He is the creator."

On Buying a Camera.—Last month I had an article in Rod and Gun in Canada on this subject and wound it up by advising everyone who contemplated the purchase of an instrument to find out what he wanted to take, and then go and get some friend's advice on the matter. I hinted that anyhow I would prefer not to be asked my opinion on this important subject and that if I was I would probably not answer. Since then I have had two or three more requests for similar advice, and I want to say right here that I am not going to answer those letters or any more of a similar nature. Don't you think it's kind of funny to come and ask me which is the best camera made? I am not going to tell you. And anyhow I don't know. So there.

The Late Josiah Johnson Hawes.—The Boston Evening Transcript contains the following short account of the life of the late Mr. J. Hawes, who died on Wednesday, August 7th, and inasmuch as Mr. Hawes was one of the best known followers of the photographic profession in this country, we reprint the item.

Josiah Johnson Hawes was said to be the oldest photographer in America. He was born in East Sudbury, Feb. 20th, 1808, and was therefore in his ninety-fourth year. He received his education in the common schools, studied art without a teacher, and painted minatures, portraits and landscapes until 1841, at which time he became interested in the invention of Daguerre through Gouraud, his demonstrator, and in company with Albert J. Southworth opened a studio on Tremont Row, and for more than half a century conducted business in the same rooms which are to-day much the same as when he took possession. He was an ardent admirer of old Boston, and it was a delight to hear him tell of such beautiful places as the Gardiner Greene estate on Pemberton Square on which his back windows looked out.

Among those who sat before Mr. Hawes's camera were Daniel Webster, Charles Sumner, Rufus Choate, Louis Kossuth, Theodore Parker, Emerson, Channing, Jared Sparks, Alcott, Lyman Beecher, Thomas Starr King, Dorothea Dix, Lucy Larcom, Oliver Wendell Holmes, Longfellow, and many more whose fame still lives. Jenny Lind and her lover, Otto Goldschmidt, were taken while seated hand in hand, and she carried to her Swedish home many likenesses of herself by the new process, which was then attracting world-wide attention and admiration. Charles Dickens was a frequent visitor, although he never posed, but with James T. Fields as his companion he often used to climb the winding stairs. The studio or "saloon," as it was called then, was a meeting place for all Boston, and many a pleasant bit of reminiscence could Mr. Hawes relate to an interested listener. The picture that appeals most strongly to his artistic sense was the one he made of Fanny Carter, a Boston belle, now Mrs. Ronalds, of London. His pictures of Boston as it appeared a generation ago have always been much sought.

He was the inventor of numerous mechanical devices such as the swing-back camera, the reflecting stereoscope, the multiplying camera and the curtain plate holder, the weighted triple lens, a clamp for polishing the vignette, etc. Peace to his ashes.

What Have You Been Taking?—Here we are in September again and the summer almost gone. How the time does fly. I wonder how many of my readers have done work during the past few months that they consider really good, and that they intend to show during the winter. I hope you all have, at least something, which you think is a little better than anything of the kind that you ever attempted before. I suppose you forget that I am interested in seeing it and knowing how you have done it. I am *always* interested in seeing work that is the production of amateurs. Did you ever get the smell of the big fresh green woods in your nostrils when you are in the bush? Well, that is about the way I feel when I get hold of a really good collection of photograms to run over. I don't mean by a *good* collection one that possesses a lot of technical excellence, but rather one that shows that the artist has *felt*, so to speak, what he was picturing. Why, then, not send me some of yours to look at? I would like to see them.

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Correspondence.

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Johnnan G.—There are two methods of marking diaphragms, the first being by expressing the ratio which the diameter of the opening bears to the focal length of the lens as F-16, which means that the diameter of the opening is $\frac{1}{16}$th of the focal length. The second method of marking employs the Uniform System Numbers, which bear the same ratio to each other as the area of the diaphragm which they designate. Your stops are marked by the first method, which is perhaps the commoner of the two.

Tom.—The portraits that you enclose are very fair for an amateur. I would suggest that in future you have your sitter posed with the side of the hands toward the camera. As it is the enormous hands which are shown in your picture are the only serious disfigurement to be seen.

C. A. D.—In order to find how long you are exposing when making a snap shot I might recommend you to use a "Pickering Speed Tester," which will accurately determine the speed of a shutter to the $\frac{1}{100}$th part of a second. It may be procured of almost any dealer for half a dollar.

Finder.—Finders are seldom accurate in the amount of the view that they show. As, however, they usually err on the safe side and show less than will be actually taken, I think you may trust the one that is on your instrument. In case it shows too much the only thing that I can recommend you to do is to complain to the manufacturer who will no doubt see that the trouble is rectified.

Mavourneen.—A most excellent method of putting the title on the print in white lettering without inscribing it reversed on the negative, is to write it on with India ink (not the waterproof kind) before you print, and then before you tone to wash it off again. It will leave you the desired result.

Accuracy.—Hydrometers or, as you call them, actinometers, are very seldom accurate. Make up a set of your solutions

according to weight and then note the reading of the instrument, so that you may make your future solutions accordingly. In order to see whether the hydrometer is accurate when you are buying a new one, it is well to test it in clear water. It should then sink in the water to the figure 0.

John Pierson.—I am afraid that I cannot answer your request. Almost every month one of a similar nature turns up and I am obliged to turn it down. Awfully sorry, but you can see yourself that it would never do.

"Sweet Sixteen."—(1) The term neutral means not acid or not alkali. (2) Possibly, I am not certain. (3) No.

Troubles.—Write to the Cramer Dry Plate Works of St. Louis, Mo., and ask them to send you their book on the working of their plates. It would require too much space here to answer your questions, and besides the book will do it just as well, if not better.

A CARIBOU BATTLE

In the heart of the nor'land solitudes,
A bald, bleak barren lies;
Westward the ancient forest broods,
And northward grim hills rise.

Across its breadth the long year through,
Waifs of the wilderness,
The sombre moose and caribou,
Wander in storm and stress.

A lordly bull stood with his cows
Snuffing the frosted air,
When gutturally across the snows
The call of war rang clear.

Rearing aloft his antlered crest,
Threshing the birch and fir,
Pawing the earth like one possessed,
On came the challenger.

The herding bull with flaming eye,
Breasteth his cows aside,
And, bellowing defiance high,
Ruffles his neck of pride.

Now, battling in the rutting rage,
In frenzy, fierce and dire,
Eager for battle they engage,—
The son against his sire.

With clanging stroke their antlers crash,
Splintering their brow-tines broad;
Now here, now there, they furious dash,
While the lorn cows applaud.

The night resoundeth, harsh and loud,
With clang of horn on horn,
Till the herd-bull, his spirit cowed,
Was slowly backward borne.

* * *

A white wind from the hills did blow,
A fleeting, flying pall,—
The conqueror stood above his foe,
Giving the triumph call.

Then sudden from a darksome dell
Streamed a red spear of fire;
The conqueror roaring leapt—then fell
Across his dying sire.

Shelburne, N.S. COLIN MCKAY.

HOW TO BUILD A LOG CANOE.

This kind of craft is always made out of a single pine tree. It is rather hard to find a tree large enough and sound enough for the purpose. First you fall your tree on skids, choosing the soundest and best side of the tree for the bottom of the canoe. Cut the log the required length and roll it so that the canoe will rest on her side, one gunwale down and the other up. Strike a line on the bottom side, taking off enough wood to give her good bearings—that is to make the bottom wide enough. Then I generally measure from that to the centre of the log, all the way from ten to fourteen inches, according to the size of the canoe I want. That gives the canoe her depth, when she is on her bottom; next I line out the ends, giving her the proper sheer on top—that is, the raise for the bow and stern. When you have got the two sides hewed off, you cant her on her bottom and see that she is perfectly level. You strike a chalk line on top down the centre, and then you drop a plumb line on each end to the bottom and mark it. Of course your canoe is yet too heavy to cant right back and line the bottom. You have got to mould her on top, and get all the outside weight off you can. You simply mould the shape of the top, and you cut out a good lot from the centre of the canoe, in order to lighten her so that you can handle her, but without going too deep. Then you turn her over and strike a line on the bottom from these two plumb lines at the ends, making the top and bottom lines correspond, and be perfectly opposite each other. Then you mould your bottom whatever shape you want it. Besides the common woodsman's axe it is better to have a broad axe, and you also need a cooper's adze for digging out, and then a canoe knife—a large rounding spokeshave that you work inside the canoe with. When you have smoothly moulded the bottom of the canoe, you take a small auger, or brace and bit, about ½-inch, and bore lines of holes three in the bottom and two on each side, the lines being two feet apart the whole length of the canoe. Bore them in a couple of inches and drive in little plugs the length that you want your canoe's thickness to be. Of course you want the bottom thicker than the sides. An inch and a quarter is about right on the bottom, three quarters of an inch on the turn from the bottom and half an inch up next the gunwales. That would be for a very light canoe. The inner ends of the plugs are blackened with charcoal. After you have driven them in level with the bottom, you turn your canoe up, chop in with your axe and adze, being very careful not to chop too deep. Between the plugs especially you must be careful and work down to a level surface. The canoe knife is used for the finishing touches. A canoe twenty-eight feet long should have six pair of knees—the natural root of cedar or spruce—and then you want gunwale streaks of spruce, pine or cedar, about an inch and a quarter or inch and a half wide in the centre. You should now have a light and strong canoe. If oiled and painted she will last longer.

EMERGENCY KIT.—Jamaica ginger or cholera mixture and ammonia for insect bites, put up in convenient bottles, a piece of surgeon's plaster and a couple of bandages, all fitted in a canvas case. A house-wife, containing buttons, thread, needles, and safety pins. A small wooden box, 6 x 3 x 1 in., containing a pair of scissors, four twist drills 1-16 in., 3-32 ⅛ in., in. and 3-16 in.; files, 2 flat, 1 one-half round, 1 round, 1 mill saw, all dead smooth, with a handle for same; 1 jewellers' hand vise and a small pair of pliers—these for sharpening hooks, mending rods, etc. A piece of flannel for cleaning gun and reel, package of gun grease, small safety can of lubricating oil for reel, whetstone or file, compass.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association
The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association.

THE LATE HON. G. W. ALLAN.

It is with very deep regret that we have to chronicle the death of the Hon. G. W. Allan, who passed away at his residence in Toronto on the 24th of July last. Hon. Mr. Allan was born at York in the year 1822, and in that same place, now grown to the large and beautiful city of Toronto, he spent his last days. Through the many years of an active life he served in a large number of important official capacities, and his native city has especially felt the benefit of his breadth of culture and his liberality. But it is unnecessary for us to recall the high and well-merited praises which have been heaped upon his memory. It is our part rather to bring to mind the active interest taken by him in the work of the Canadian Forestry Association, of the Board of Directors of which he was a member from the date of its organization, having been one of the first to give the organization his support. Previous to the launching of the Association Hon. Mr. Allan had shown that the purposes for which it has been formed had his full sympathy and had taken the opportunity from his place in the Senate of calling the attention of our legislators to some of the questions in connection with our forest needs that he considered specially deserving of attention. His kindly assistance was ever ready in any way that could be of advantage to the Forestry Association, and his keen interest was shown by his attendance at the last meeting of the Board of Directors, though he was then but recovering from a severe illness. Those who had the pleasure of meeting him in connection with the business of the Association will feel very much the loss of his kindly and encouraging presence, and his advice and support, which it can ill afford to lose, will be very much missed by the Association.

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The Forest Fire at Temiscamingue.

And this most royal of all academies you have to open over all the land, purifying your heaths and hills, and waters, and keeping them full of every kind of lovely natural organism, in tree, herb, and living creature. All land that is waste and ugly, you must redeem into ordered fruitfulness; all ruin, desolateness, imperfectness, you must do away with.—John Ruskin.

We need not apologize for taking a text from Ruskin, in the words above quoted from his lecture on the "Future of England," when we wish to deal with a subject that has its esthetic as well as its practical side, though our purpose is to consider it mainly as a business question. But in this quotation a practical principle is laid down that we in Canada have evidently as yet failed to grasp, for instead of redeeming waste land, of which we have so much, to ordered fruitfulness, we are increasing its area with a light-heartedness and easy good nature that are hardly fitting qualifications for a country that aspires to the dignity of nationhood and to make its influence felt in the councils of the world. Indeed our careless wasting of the great natural resources, for the production of which we were not in any way responsible, has led to a somewhat less favorable estimate of our intelligence and foresight by those who are watching the future of the world's timber supply than we are inclined to place upon them ourselves.

Our attitude to this question is to a very large extent based on two premises which we have assumed to be indisputable. The first was that in sending in settlers to clear the forest districts we were redeeming to fruitfulness lands that were otherwise practically a waste and that even if fire assisted this process it was more or less of a blessing in disguise. Did not our forefathers have to struggle sternly with the forest before they handed down to us the wealth-producing acres now bearing their golden harvests, and has not that potent result settled the question for us for all time? But we have based too large an assumption on past history. What are the facts? Look at the figures given by Mr. J. C. Langelier. There are lands in the timber districts which have been settled upon and made wealth-producing (?) at the average rate of production of $7.40 per acre per annum, whereas under a properly managed timber crop the land would have produced at least $12.50 per acre. Is our assumption correct, then, or is it not rather the case that we are condemning such settlers to a useless struggle for a bare existence after they have removed the wood which forms the only wealth of such land? If the latter is the true statement, is it not time that we reversed our policy and that steps were taken by the Government to see that settlers are only placed upon such lands as a fair examination shows to be fitted to support them properly when devoted to agricultural purposes, and that settlement should not be permitted on poor and rocky lands which are only suited for timber production? We have spoken of this question at some length, for the mind of the public does not appear to be at all clear upon it, and, as the fire which did the greatest damage at Temiscamingue came from the vicinity of the settlements, and the testimony of the lumbermen is that most of the destructive fires have had their origin in the same direction, there are the strongest possible reasons for the Government deciding definitely where the line between forest and settlement shall be drawn, and seeing that it is properly protected.

The second premise is that fires cannot be prevented. Well, if we assume that, they certainly will not be prevented. If we assume that, what is the use of talking to lumbermen or making regulations about cutting trees of only twelve or fourteen inches in diameter? If fires cannot be prevented, what is the use of talking about forestry at all? Protection from fire is the very foundation stone of a system of forestry, and if fires can be prevented in Europe, in India, why cannot they be prevented in Canada? But, people say, the expense would make it impracticable here.

Let us look at the question. We have not yet been able to get full information in regard to this fire, but about the 20th of June a fire started near Baie des Peres, on Lake Temiscamingue, and burned eastward over an area of about thirty by forty miles and was only extinguished by the rains that came towards the end of July.

This is one of the finest pine districts in Canada, being part of the great Ottawa Valley forest. It has already yielded large quantities of lumber and has still an immense area of virgin timber, the wealth of which can hardly be calculated. It is a fact that in estimating the timber in this district the

most remarkable under-estimates have been made by even the sellers, who would naturally be expected to err on the other side. The fire worked through a forest that was ready for cutting and only a change in the wind and its final arrest by the rain prevented its sweeping on eastward over limits of mature timber, which probably could not be surpassed anywhere in the present pine regions, and the loss of which would have been an appalling national disaster. When a fire has gained such headway it is simply impossible to stop it by any artificial means, and the smoke from it is also a cloak for other fires which may start even at considerable distances, as has been exemplified in this very case, where the fire rangers went all round a fire which destroyed some 3,000,000 feet of timber and came out and reported that the smoke was caused entirely by the big fire. One firm of lumbermen, who were among the heaviest losers, estimate that on their limits there were twenty-five to thirty million feet of matured pine destroyed, while there was as much more that would have been fit to cut in fifteen or twenty years. Some of this pine may be saved but it will be a small portion, and sixty years is a low estimate of the time it will take to place this tract in anything like the same position again. The pine timber was mostly white pine, probably two-thirds, and $300,000 would not be an extravagant estimate of its value. While the lumberman would retain a good share of this sum, still he had already paid considerable in bonus or purchase money, fire tax and ground rent, and would have distributed a large proportion in wages and other expenditures, while the Government would directly have obtained in royalty at the rate of $1.30 per thousand on white pine and of 65 cents on red pine, the sum of $27,000. And this pleasant operation would have been repeated in fifteen or twenty years and so the crop would be coming in at intervals *ad infinitum*. And this is land which is, from the information obtainable, entirely unfit for agriculture. But what is the present situation? The land wasted and destroyed, a heavy direct loss to the lumberman and the Government, the prospect of revenue projected into the indefinite future. Is it worth the lumberman's while to pay ground rent on non-productive land, which will be of value only when he has ceased to take an interest in mundane affairs, and which is always in danger of again being devastated? But that is not the full extent of the loss. No account is here taken of other lumber than pine. Other limits have suffered, though less heavily, and the total loss will be a very large sum, though no definite statements can be given until the reports have been received from the men sent in to make an examination. A much more expensive protection system than that already provided would take a long time to consume as much as one such fire.

Devil Ri[illegible]

Now, has the Province of Quebec money to burn in this way, and has Canada so great wealth that she can permit so much of it to be destroyed with indifference? It seems clear, if the Canadian Forestry Association has any influence, that here is a case where it should be exerted and that the Government should not be permitted to know days of quietness until it has thoroughly investigated this fire and taken the necessary steps to prevent such occurrences in the future. Any increased expenditure occasioned would be more than offset by the saving that would be the result of the preservation of the forests, great stretches of which are now standing ready for harvesting.

We intend to go more particularly into the question of preventive measures at a future time, but for the present we wish to impress on all those who will soon be using rod or gun in our coniferous forests that in the handling of fire in any way the greatest care should be exercised. Before a fire is lighted a space around the place where it is to be started should be cleared, and it should be thoroughly extinguished when no longer required. Even experienced men have been deceived into believing fires quite dead, which afterwards showed such evident signs of life as to make a quite uncomfortably warm corner for them. Forest fires are not a matter of indifference to the sportsman. Such fires are undoubtedly the direct cause of the destruction of game birds and animals, and to a greater or less extent of fish when the waters are shallow, and this, in addition to the laying waste of the hunting grounds and the property of hunting clubs, is not a result that sportsmen are likely to view with equanimity. And the fire we have been speaking of occurred on hunting grounds that are resorted to every year by many huntsmen and have never failed to furnish such sport with moose and other deer as can only now be found in the wilds of Canada.

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A fire occurred near Thirty Mile Lake in the Gatineau district, which might have had serious results if the rain had not come opportunely.

The Trees of Manitoba.

In tree planting it is always well to follow nature, and the selection of trees for any particular district should, at least in the beginning, be guided by what has been shown by a natural selection to be most suitable to the climatic and other conditions. Anyone who refuses to look at natural conditions around him, and to govern himself from what his observation teaches him, is courting failure. It is of interest therefore in connection with tree planting in Manitoba to enquire what trees grow there naturally and under what conditions.

The records of explorations in 1858 show that coming into Manitoba from the east the country was covered with trees of various kinds growing in large clumps, balsam, poplar, aspen, tamarack, cedar and oak. The whole country had been burnt some years before but the remains of the timber found everywhere indicated that there was once a vast forest of large trees. In the valleys of the streams were elm, oak, poplar and ash, described as excellent timber large enough for building purposes. The tree growth of the valleys retained largely the same character going farther west, but the country was more open, the scattered clumps of trees consisting mainly of aspen and poplar until the hills of the Brandon district were approached, where the tree growth became thicker, the remains showing that the whole region was once upon a time an extensive forest of oak. On the Pembina Mountain tamarack was found. In the valley of the Assiniboine, from Portage la Prairie, was a forest of about thirty miles in length by four miles in mean width. On the outskirts of this wood were groups of aspen and poplar, but the main part consisted of the following woods: oak, two feet in diameter; aspen, two feet; balsam poplar, two feet nine inches; elm, one foot three inches; basswood, two feet six inches; ash, one foot. There was an abundant supply of oak, straight and tall, one foot six inches in diameter; and of balsam poplars, two feet. The ash-leaved maple was also found here and further north. The Riding and Duck Mountains supported heavy forests of white spruce, birch aspen and poplar, the trees being of large size, often exceeding one and one-half and two feet in diameter, with an available length of thirty to fifty feet.

Their investigations thoroughly convinced these explorers that if fires were kept out the whole country would soon be covered with a growth of trees; and even what remained was a valuable source of domestic supply, and sometimes of revenue, to settlers of a later date.

The information obtained from these early observations, and more complete and exact investigations made since, show that the Elm (Ulmus Americana), the Green and the Red ash (Fraxinus viridis and F. racemosa), the Oak (Quercus macrocarpa) and the Basswood (Tilia Americana) will grow in the river valleys, the last, however, only as far west as Brandon. The Oak does not confine itself to the valleys but is found on high ground, at least to the south of the Assiniboine. The White and Black Spruces (Picea alba and P. nigra) both take to the high ground, the Black Spruce giving up the preference for low, swampy lands which it displays farther east. With them is found the White Birch (Betula papyrifera). Although the Tamarack (Larix Americana) flourishes on low, wet land it also, like the Black Spruce, finds the higher lands quite as suitable, and grows well on dry, elevated soils.

The Balsam Poplar (Populus balsamifera) and the aspen Poplar (Populus tremuloides) will grow quickly and easily anywhere, and the Cottonwood (Populus monilifera) is found usually along river bottoms. The Ash-Leaved or Manitoba Maple (Negundo aceroides), sometimes also called Box Elder, is a tree of rapid growth and produces seed in a very few years. This tree was designated the Sugar Maple by the early explorers, as the Indians, and later the white settlers, used to manufacture a sugar from the sap. This sugar was stated to be very good though not at all equal to that produced from the Hard or Sugar Maple of the Eastern Provinces.

If therefore quick-growing trees are what are required either for shelter-belts or woodlots, the poplars or the ash-leaved maple would be the best species to start with, although none of them produce a wood of any very great strength or value, and, indeed, the maple is really of no value except for shelter purposes. Of the poplars the wood of the aspen is probably the best. The tamarack is a strong, firm wood specially suitable for firewood, and for shelter purposes nothing can be better than the spruces with their firm trunks and their evergreen foliage, but such trees may very well follow those of quicker growth. There is no more generally useful tree than the elm, but the mode of their occurrence under natural conditions does not give any warrant for expecting success with either this tree or the basswood except on low-lying lands. The oak appears to be at home on almost any soil, but it is a tree of such slow growth that it is hardly advisable to encourage its cultivation. But this is very far from saying that its growth should necessarily be discouraged, as such trees were found a very useful source of revenue by many of the early settlers, and an oak tree is an asset which will always have its value.

We can only repeat again that Nature must be the guide always, and that success can only be assured by understanding her and following the lines which she has mapped out.

✠

Forestry in Prince Edward Island.

Enthusiasm in forestry organization has at length reached all the provinces of the Federation. Ontario, Quebec and British Columbia were obliged to think of safeguarding the provincial heritage early, as a great proportion of their revenue came from timber limits; New Brunswick has had, and still has, much valuable forest, in a commercial sense, and Nova Scotia, while not absolutely a lumber country, has augmented her treasure by forest as well as mine and fishery. The Prairie Provinces, as we may call Manitoba and the Territories, while not dreaming of ever seeing the commercial side of forestry, have early turned to tree planting and tree protection, on climatic and hygienic grounds. And now little Prince Edward Island, after losing almost completely a forest as varied as it was beautiful and valuable, by governmental neglect, fearing the consequences to health, to the pleasures of life, to agriculture, is stirring intelligently in the missionary work of forestry which must always precede healthy legislation. At the Fruit Growers' meeting last spring the whole important question of forestry reserves and reafforestation was brought up in a thoughtful paper from Reverend Dr. Burke, who succeeded in making the distinguished auditory, and, indeed, the whole province, awake to the necessity of making some practical move to preserve a proper proportion between field and forest. Sir Louis Davies was present at the meeting and he and all the ministers of the Provincial Government, as well as prominent citizens from all over the island, highly commended Father Burke's efforts in behalf of a work so absolutely necessary to the general good. Legislation is asked for to reserve the vacant lands still under the crown—a comparatively small area—and

some system of reafforestation suggested, in order that the beautiful Prince Edward Island may not become a barren waste.

During the past session an Act, modelled on the Ontario Act, as to the setting out of fires, was passed, and it is not unlikely that its provisions may be soon invoked. Owing to the great drought fires have been raging, particularly in the western portion of the province, and, as a consequence, the already scant remnant of woods has become scantier. The railway which winds through the island is a fertile source of fires in dry times.

As the Department of Agriculture is, strange to say—for Prince Edward Island is an entirely agricultural country—only a product of the last session of parliament, no organized effort has yet been made in the way of distributing and planting the seeds of forest trees. The Canadian Forestry Association has been approached by Rev. Father Burke, with a view to the procuring of seeds and their proper planting; but until the Government take hold of this important problem manfully little can be practically done. We shall be glad to do all we can, as an association, to assist the patriotic gentlemen who are interesting themselves in this important work, however, and trust that the ministry will not longer delay in seconding in some practical way their efforts.

*

A forest fire, supposed to have been started by lightning, is reported from Cumberland County, Nova Scotia. It has apparently swept a considerable area of the best timber lands in that district.

*

The summer meeting of the American Forestry Association was held at Denver, Colorado, August 27th—29th. The meeting was announced as a distinctively western one, which would be of special interest to all concerned with the forest problems before the Western States—fires, grazing, relation of forests to water supply, etc. In the States and Territories west of the Mississippi the Federal Government has established forty forest reserves, containing nearly 47,000,000 acres. Many of the questions discussed are similar to those which have to be dealt with in the Canadian West, and therefore the proceedings will be of special interest to our Western members.

*

It is but just to say that for the information contained in our article on "The Trees of Manitoba" we are indebted largely to Professor Macoun, though in doing so we do not wish it to be understood that he is to be held responsible for all the statements made therein. In fact we may make this a general confession and say that in attempting to deal with any question relating to the trees of Canada we, as all others, must take advantage of the work that has been done by Professor Macoun in systematizing our knowledge of the forest flora of the Dominion.

*

We are in receipt of a copy of a report of a Forest Working Plan for Township 40, Totten and Crossfield Purchase, Hamilton County, New York State Forest Preserve, by Ralph S. Hosmer and Eugene S. Bruce, which has been issued by the Division of Forestry for the United States; and also of the report issued by the Crown Lands Department of the Survey and Exploration of Northern Ontario. These reports we hope to review in a future number.

There is trouble at Helena, Montana, through the Flathead Indians killing game out of season. Several have been arrested.

CORRESPONDENCE.

To the Editor of Rod and Gun:

I notice in your June number of Rod and Gun an article headed, "Amendments to Quebec Game Laws." The item I was most interested in, was that relating to ducks, reading: "Widgeon, teal or wild duck of any kind are protected between the 1st of March and the 15th of September."

Now, Mr. Editor, I think if the dates read 1st of April to 15th September, there would be some little sense in it. The close season in Ontario for duck has long been a sore spot with me, and I have no doubt with a great many others interested. I often wonder if the men who frame our Game Laws know anything at all about the habits of the different game birds. I know, positively, from personal observation through some few years, that the winter duck, or golden eye, does not arrive as far south as the St. Lawrence River in any considerable numbers until after our open season has ended. We are by law compelled to stop shooting, while Americans, on the American side of the line, and further south slaughter our game wholesale.

As nearly as I can figure out, the winter duck arrives here about Christmas time, and I have known and seen them come in countless thousands. These birds naturally belong to us, breed in our country, but we rarely get one of them. This is not protection. It is prohibition. Do these brainy (?) law makers of ours know or care anything about this? Apparently not.

My plea for extending the time till April 1st is for the following reason: Because no white man can sit on the edge of the ice to hunt ducks through the months of January and February. It is anything but comfortable to do so until about the middle of March. Even then the degrees of comfort are merely comparative. But this would give us some two weeks shooting—no more—at the winter duck.

I have heard it said that the birds are in poor condition at that season, but I know differently. They are in the very best condition, being fat and of good flavor. After 1st April the ducks migrate from the Southern States (where they have been hammered at all winter) when of course all shooting should cease.

To tell the truth, Mr. Editor, I am heartily sick of the Game Laws. There are no laws so idiotically framed; none so feebly enforced. I made a personal effort, quite recently, to get a few choice localities protected, but was officially advised there were no funds. On the first of last September a party of four of us from here went to Constance Creek, about 23 miles up the Ottawa. We sat around all the evening of August 31st, watching the ducks and listening to the cannonade. I have never seen so many ducks as on that evening. Next morning they were gone, and we had our trip for nothing. I have lately joined the St. Hubert Gun Club, of this city, and intend to try to get them to take some action as a club, for better game protection. Couldn't you stir them up a bit and help? Can't you go for these provincial governments of ours, and as students of game birds and animals, convince them of the proper close seasons; *make* them provide funds to *enforce laws which they enact*, and thus preserve the game for all time? You are in a position to be a month-piece for all sportsmen and they'll all back you up. Can't you do something and oblige all true sportsmen?

Clarence G. H. Horwood.

Ottawa, Ont.

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THE HABITS OF THE OTTER.

By the late Frank H. Risteen.

A prime otter skin is worth from $10 to $15, and as it is so much lighter and easier to handle than the bear skin, it is really the best prize that rewards the eastern trapper's toil. The silver grey fox doesn't count, for it is many years since a genuine specimen was taken in New Brunswick. A veteran Miramichi trapper who has stretched more otter pelts than any of our local woodsmen lately, thus describes some of the habits of the otter and the most approved methods of capturing him:

"Unlike most fur animals the otter is a poor house-keeper and seldom builds a house of his own. Being unable to lay up any large amount of food for himself he becomes a sort of tramp, rambling about through the woods wherever lakes and streams abound and levying toll on the way. When he needs a shelter he usually appropriates some old muskrat or beaver house, especially the burrow of a bank beaver. He will not hesitate to turn a muskrat family out of doors, in fact they will be lucky if they do not figure on the otter's bill of fare. The animal has usually a number of wayside resorts in the shape of holes and burrows at which he tarries in his travels. If the menu isn't up to the standard the otter moves on. He knows how to build himself a snug, warm bed and that is about as far as his domestic instincts go. When the snow is deep in winter he sometimes makes a temporary den by burrowing. In the dead of winter I have known an otter to remain at a lake for a month, but that is unusual; he is most always on the move, gliding over the ice-bound streams and lakes, or worming across the intervening ridges. The fact that he is so constantly in motion makes him a very difficult animal to trap. I have never caught over twenty of them in a single season. They are found more commonly on small lakes than large ones.

"At all seasons of the year the otter's main item of grub is fish, with muskrats, frogs and mice on the side. He has a decided hankering for rabbits, but bunny has too much speed for him. On stormy or windy days I have known an otter to still-hunt a fox and pounce upon him like a flash. The only show reynard has then is to exercise the functions of his feet. As soon as the woodland lakes are well snowed under, the heat from the water opens one or more air holes in the ice, either out in the middle or along the shore. These are a great help to the otter in his winter fishing. Lightning swimmer though he is the otter often misses his mark. The capricious trout and the reminiscent chub keep both eyes peeled for him and dart under rocks and roots beyond his reach. Still the otter is a very successful fisherman and very destructive to all members of the finny tribe found in inland waters, up to salmon five pounds in weight. One of the few virtues possessed by the otter is that he wages unceasing war upon the eel. When an otter meets a big eel the policy of the otter is one of benevolent assimilation. The sucker, too, often supplies a dinner for the otter. About the only chance he has to fool the otter is to make a previous deal with some friendly kingfisher. The ultimate result, in either case, is about the same so far as the sucker is concerned.

"The biggest otters I have ever taken have weighed about fifteen pounds. As a fighter the otter is more than a match for a dog of twice his weight, as he is as lively as a cat and can bite ten times to the dog's once. His jaws work as slick as a sewing machine and this makes the dog howl. I have on several occasions seen an otter on coming out of the water start after a dog just as if the dog was his meat. There seems to be no limit to his pluck. I was once going over my line of traps on Bathurst waters in the month of February when I heard something that sounded like one of these portable mills squalling and squawking on a little pine knoll a few rods ahead. I hustled up the hill and arrived just in time to see two otters running off that had actually tackled a lynx in a trap. There was almost enough fur scattered round on the snow to pack a pillow case, most of which belonged to the lynx, who was still fanning the air with all the loose paws he had. I gave chase to the otters and managed to nail one with my axe under a blowdown; the other got away. When I got back to the lynx he was dead. His skin was worthless, being torn and bitten through in more than twenty places, while the otter skin hardly showed a scratch. So I lost $1.50 on the fight and made $10.

"I never knew but one case of a fight between an otter and a beaver. A family of beavers had plugged up the gateway of an old driving dam on the Dungarvon, making the dam water tight and flooding the pond to a depth of four or five feet. This was about the latter part of October, I had seen an otter fishing in the pond, so thought I would try the effect of letting down the dam. The water ran out rapidly and in about half an hour there was not more than six inches of muddy water left in the pond. The otter started to run through the gate, but when he saw me standing there he whirled about and darted upstream and into the beaver house that stood about twenty rods away on the bank of the pond. The house had been unoccupied during the summer and I guess the otter didn't know the beavers had returned. Anyway the otter came out of that in less than ten seconds with his head almost

bitten off. One old beaver then came out and dragged the corpse through the mud out into the centre of the pond and left it there. I found out afterwards that the house was occupied by two big beavers and a pair of kittens. Two nights later the beavers had the dam repaired and the pond restored to its former level.

"The female otter brings forth her young about the latter part of May or first of June. I have heard of six kittens being found in a litter but have never seen more than three. I should judge that their mating time is in October or November, as I have often seen the trail at that time of five or six big otters travelling together. While the otter is a playful, affectionate animal, he is very unsociable at times. The old males will often be found alone, while the female, accompanied by last year's cubs is left to shift for herself. The otter is one of the easiest animals to tame in the world. After he has concluded that he belongs to you he will follow you around everywhere, until he becomes a thorough nuisance. The male otter is slightly larger than the female. Their pelts, like those of all small fur-bearers, are at their best in the winter and early spring.

"The nose of the otter is fully equal to that of the fox. I have seen their tracks in the deep snow, where they have turned about and made off on account of catching the scent of my trail two hundred yards away. Where they have been much hunted an otter will travel a long way rather than cross a human trail. Where they have not been disturbed the trail excites their curiosity and they will follow it quite a distance. I was going up the ice on Renous one winter's day, the wind blowing down stream, when I saw an otter a few rods ahead of me acting in a very peculiar manner, running up on a snowbank, sniffng the air and finally diving plump into an air-hole. There was a second air-hole further down stream and, thinking it likely the otter would make his appearance there, I laid for him and shot him with a rifle as soon as he came out. Resuming my journey up stream I met my partner, Pringle, half a mile above, coming down the ice, so I concluded that the otter had smelt him when he must have been about a mile away. I suppose everybody is aware of the funny habit the otter has, in the course of his travels, of coasting down the bank of a lake or stream. It seems to be a sort of picnic they indulge in to add variety to their long journeys from place to place. I have often seen them amusing themselves in this way. They will roll around awhile on the bank sparring and tumbling over each other, then sliding down the chute on their bellies, one after the other, and splash in the water. This is their favorite sport as long as the lakes and brooks remain open. They hardly ever ascend the slide, generally climbing the bank perhaps a yard or ten feet to one side of it, where it is easier to get up. Then they will gambol about again previous to taking another slide. I have seen the whole family of old and young ones playing in this way for five or ten minutes.

"Some trappers set their traps at the head of the the slide, carefully covered with earth or moss, or else under the water at the point where the otters start to climb, care being taken to place the trap a few inches to one side of the centre of the trail, because the otter's legs are very short and planted seven or eight inches apart on the body. If the trap was placed in the centre of the trail it would be sprung by the otter's body and he would surely escape. When coasting down the slide the otter's legs hang limp by his sides, so it is no use to set the trap at the bottom of the slide. I have never found it profitable to set my traps at or near the slide. You have got to disturb something in doing the work and as otters are nowadays mighty wide awake they will be sure to notice it. Up on my grounds, which are as good as any in the province, if any change is made in the vicinity of the slide—such as the displacement of a stick, or even the blazing of a tree, the otters will go shy of that particular slide. When a trap is located at or near the slide no bait is necessary, except to rub a little castoreum on a stick or sliver placed a few yards away up the bank, with the scent side down, so that it will not be washed out by the rain.

"If a man knows his ground he can figure out pretty closely the otter's line of travel up or down the stream. The best plan is to select some place where there is a run of moderately deep water and where a root or rock projects from the bank. Place your trap alongside of that, using the castoreum in the ordinary way and also some stale fish for bait hung a little to one side of the trap, so that when the otter turns about to see what it is he will spring the trap with his foot. The trap, as well as the pole to which the chain is attached, should be placed under water, and so rigged that it will swing the otter out in the stream and keep him there, where he is soon drowned by the weight of the trap. He will keep afloat for a little while but will sink as soon as he gets tired. The question of where to set your trap is even more important than that of how to set it. With the sliding pole, used so much by old-time trappers, I have had very poor success. It is always a suspicious looking object. If you catch a beaver he is very likely to nip off the pole and get away. Otters can some times be taken through holes in the ice by setting the trap on what is called a crow's nest, that is a stick with three projecting prongs. But an otter that is up to snuff will not go near so clumsy a rig as that.

"I once knew of a yearling otter being caught in a most remarkable way. A Frenchman named Damien Gutro was fishing for sea-trout on Bathurst river when a big fish carried away his line. The trout went downstream about half a mile where the line became fast to a snag. An otter came along and made a grab for the trout but the hook in some way worked through the gills of the fish and entered the otter's neck. He splashed around at a shocking rate for a spell, finally winding himself up on the snag, where he was drowned. Gutro coming downstream in his Micmac canoe, noticed the rumpus in the water and recovered his line as well as the otter and the trout.

EXPLORATION IN NORTHWESTERN CANADA

By H. G. Tyrrell, C.E.

In the early summer of 1885 I had made preliminary arrangements with my brother Mr. J. B. Tyrrell, of Ottawa, to accompany him on a Geological Survey expedition to the Canadian Northwest. The country that we proposed exploring was that lying north of the Canadian Pacific Railroad for a distance of one hundred and fifty miles, and bounded on the east and west by the fourth and fifth principal meridians.

The starting of this and other survey expeditions had been delayed a month or more on account of the Indian rebellion that was then going on. Riel, the leader of the uprising, had not yet been captured, and the troops were still in camp, awaiting the settlement of affairs. But after the battle of Batoche, which seemed to be the final defeat of the natives, it was decided that exploring parties might safely proceed to the field.

After an interview with my brother at the Rossin House in Toronto, I took a train from that city at noon on June

4th for Calgary. The journey of eighteen hundred miles or more across the continent was but an ordinary one, and need not be dwelt on to any extent. The route lay by way of Owen Sound, up Georgian Bay, through the Sault Canal, across Lake Superior to Port Arthur, and from there on to Winnipeg. We spent two days and nights in crossing the lakes, and arrived at Winnipeg at three o'clock on Sunday afternoon, June 7th. Here we fell in with Prof. McCowan and Mr. McConnell, also members of the Geological Survey, who were going westward on their summer trips.

Early Monday morning a start was made westward across the plains and shortly after noon on Thursday, June 11th, arrived at Calgary. The journey by boat and rail had thus occupied seven days and two hours. Besides Mr. J. B. Tyrrell, the leader of the expedition, and myself, the party contained four other members. Mr. Harry Hamilton, a recent graduate of McGill College, Montreal, served as geological assistant, and Mr. J. J. McKenzie, an undergraduate of Toronto University, assisted in making the zoological and botanical collection. The writer was engaged as topographer for the expedition. Mr. Henry Granger, a Scotchman who had recently gone to the Northwest and who had served many years in the English artillery, was cook, and Thomas Maloney, a well known man from Ottawa, who was then roughing it in the west, was teamster to look after both horses and supplies. These six men composed the party.

The costume worn by the mounted men was similar to that used by cow boys in the west. A tight-fitting buckskin jacket girdled around the waist and ornamented on the front and arms with fringe, falls loosely below the belt, over a pair of corduroy riding breeches, which with leather leggings, protect the lower limbs. From a belt that is stocked with cartridges, hangs on one side a hunting knife, and on the other a long barrel revolver.

A delay of six days was caused at Calgary in getting an outfit together, purchasing horses and wagons and making all arrangements for an absence of three months or more. One large double wagon, built extra strong for prairie service and provided with a canvas top, a buckboard and a cart, were found sufficient to transport our supplies. A portable canvas canoe to assist in crossing streams and later for descending Battle River was also taken. This canoe was built in such a way that the bottom boards and gunwales could be removed and the whole compactly stored into canvas bags. There were in all seven horses, three for harness and four for the saddle.

Much amusement was afforded the other members of the party by the efforts of Henry Granger to ride a western horse. These horses were selected from a corall outside of Calgary, and Granger, who boasted of his skill in horsemanship from his long experience in the artillery, was invited to choose his own beast and break it in. He had been in the western country only a short time, and had expected to find the horses there somewhat similar in nature to those in England. Having selected one that appeared to suit him, he bravely mounted its back, and for the next few days carried his arm in a sling as the result of the broncho's bucking. He was hardly seated in the saddle when the beast hunched up its back and threw Granger to the ground. It was the intention at first that Granger should be the horseman of the party but this incident led us to change our plan and henceforth he was the cook. Maloney now took his place and for the rest of the summer was responsible for the horses. One or two of these had been used by my brother during the previous summer, but the rest were all new to him and as will presently be seen, it took a few days for horses and men to become acquainted.

A Catch of Trout near Mattawa

The second day out from Calgary one of our horses showed signs of balking. For some time he stood still in the harness, but on applying a black snake whip he lay down flat between the shafts and refused to rise. Many forms of persuasion were tried; food held before him; but still he would not move. Another horse was hitched before him; but the stubborn beast only allowed himself to be dragged along the ground. In desperation a fire brand was repeatedly applied to the horse's belly and haunches, which finally brought him to his feet. One of the men now mounted his back and holding the

heaviest revolver above the horse's head discharged it several times, thinking in this way to scare the animal into action, but instead of this he again lay down and was dragged along the trail by another team hitched ahead of him. It became evident that the balky Indian pony would die before he would again pull the load, so after three hours delay he was taken out and saddled, one of the other horses being put in his place. This one, however, did not prove much better than the last. It was thought unwise to punish this spirited beast too much for he had already broken the cart shafts twice. Thinking that persuasion might succeed, he was left alone with his driver and load while the rest of the outfit moved off. When finding himself alone we hoped he would follow, but not a step would the pony move. My brother's saddle horse, Jack, a fine roan, was then hitched to the cart and with a jump away he went down the trail, Maloney and I following on horseback. Near the top of the hill a bag of pork was found and further on another, while just over the summit a little off the trail lay the broken cart. The buckboard and wagon were by this time far ahead, and after them Maloney was sent on horseback with instructions to overtake them and bring them back. Stretching a rubber sheet to shade us from the blazing sun, my brother and I opened a can of fruit and another of tomatoes, both of which were eagerly devoured without either plate or spoon. I then mounted my horse and started back over the trail for the sacks of pork but Jack becoming nervous on finding himself alone, with a plunge pulled up his picket and made off down the trail at full gallop back towards Calgary. Although much exhausted, my brother followed him on foot, overtaking him about two miles away in company with a government freight team, on its way north with supplies for the troops at Edmonton.

It was decided now that some one should return to Calgary for another cart, and this errand my brother selected for himself. One of our balky saddle horses he traded for another trained to pull in harness, and taking the cart harness with him he started back to Calgary. On the return of Maloney and the outfit the contents of the broken cart were transferred to the buckboard and the wagon, and we again started northward, making eight miles or more before nightfall.

The next day being Sunday was spent in camp, and a relief indeed it was after the excitement of the one before to have a day of rest. Several times through the afternoon I rode to the top of the nearest hill, looking for our returning cart, but it was not till after nine at night that my brother came, tired out and sick from exhaustion. Inside of thirty hour he had ridden back to town, selected and purchased a new cart and harness and returned again to us, covering in that time a distance of fifty-eight miles.

About noon on Monday, on reaching the summit of a little hill, we saw before us in the valley what appeared to be a ranch of cattle. It was, however, a prairie caravan camped for lunch. The sixteen covered wagons were fastened together in twos, each pair of wagons being drawn by nine yoke of oxen. There were eight teams of eighteen oxen each, making in all one hundred and forty-four oxen, to pull the sixteen wagons. These wagons were heavily built, especially for prairie use, with wide wheels to prevent their sinking in the soft ground. They were also provided with breaks, for use in going up and down steep hills and were covered over with canvas tops. They belonged to Mr. I. G. Baker, a large store-keeper and trader, who was going southward for a new supply. The average ox, I was told, would dress about one thousand pounds, and many of them weighed eighteen hundred pounds or more. They were indeed fine powerful looking animals, and were worth a hundred and fifty dollars each. Thus the oxen alone of this caravan were valued at about twenty-one thousand dollars. After lunch was over it was very interesting to watch the oxen and see each one walk intelligently to its proper position in the team. The heavy yokes were then adjusted to their necks and all made ready for a start. The whip carried by the driver had a lash forty feet in length, fastened on a two foot handle. It was interesting to observe the slow deliberate movement of the oxen. Up hill or down hill, their speed was the same, about two and a half miles per hour. When crossing brooks, or other difficult places, with wheels sinking to the hubs in mud, where horses would become excited, plunge and pull by jerks, these coo.-headed oxen proceed with the same deliberation as they would on hard or level ground. The cracking of the wagon wheels as they moved away could be heard far in the distance.

Towards evening we reached a place called Forty Mile House, a log shanty of one room, where we found the Edmonton mail coach stopped for the night. I took this last opportunity of sending out one more letter to civilization. Leaving the trail here we turned westward towards the foothills of the mountains, passing through a country thickly grown with willows and coursed by frequent coulees. While at lunch camp two of our horses became frenzied from the incessant attacks of mosquitoes and bull dog flies, broke their ropes and galloped off through the bushes. One was found that night, caught by his picket rope in the woods, but the other remained away for several days. A smudge was made, not only for the comfort of the remaining horses, but to attract the lost one in. It was pitiful to see the horses in bull dog season. Men could cover their heads with netting, and smear their hands and face with mosquito oil, but the horses having no protection, would stand around the smudge, till their skin was scorched, and one young pony actually laid himself across the fire till his flesh began to burn. This poor brute was so tormented with the flies that for a week or more he was unfit for work, running idly behind the wagon.

The country at this season of the year was in many places very beautiful, wild roses and other flowers covering the ground everywhere in great profusion. Down in the coulee bottoms, streams were often found and sometimes open places free from bushes, while lakes scattered here and there give great variety to the landscape.

On the evening of June twenty-sixth we reached the Little Red Deer River, which runs through a thickly wooded valley. The banks at this place were very steep, so steep indeed that the cart and wagon were lowered down by means of ropes, a height of eighty-five feet or more. A camping place was found among the spruce trees in the bottom, and here we pitched our tents. An amusing accident happened on the following day to the cart, while travelling on a sloping hillside. It was loaded with about nine hundred pounds of baggage and provisions, including two boxes of canned goods, when suddenly the down hill wheel dropped into a badger hole, upsetting the cart and rolling the cans down hill to stop only when they reached the bottom. There lay the horse on his back, between the shafts, pawing the air in his effort to regain his feet. Fortunately no great harm was done, though both horse and driver were somewhat shaken up and frightened.

Near the foothills of the mountains it frequently occurs that storms come up more quickly than they do in the open

country, and on the afternoon in question no sooner had the cart been righted and started on its way, when black clouds rolled up from the horizon and indications of a severe storm appeared. A tent was pitched, but not before a storm of hail had broken over us. The morning had been extremely hot, and this sudden hail storm was indeed a great surprise. It came along with a driving wind and after it had passed I found beside my tent a pile of hailstones enough to fill a large sized cask. This was kept in a shady place under the wagon, and for a day or two, camp was provided with luxurious ice-water.

A few miles further on we reached the valley of the Red Deer River, and as my brother planned to make a week's trip into the foot hills the rest of us encamped, where we remained for five days. Maloney accompanied him on his trip and beside two saddle horses, they took another, loaded with provisions. These five days I spent principally in making a survey of the surrounding district, while some of the others fished and hunted. At the end of this time we again turned east to the Calgary-Edmonton trail. Over this we travelled for several days, passing Red Deer village and arriving at the valley of the Battle on July fifteenth. From here eastward, for a month or more, the party would be divided. Two were to descend the Battle river by canoe, while the balance of the outfit would proceed overland, meeting us at a point where this river crosses the fourth principal meridian, a distance of about two hundred and fifty miles to the eastward.

On the afternoon of July 7th, 1885, our little party, quitting the Calgary and Edmonton trail, over which we had been travelling for several days, embarked with our necessary outfit in a canoe, and started on our long voyage down the Battle River.

Were the reader standing on the river bank he might have seen to the southward our approaching party, the white top wagon standing out conspicuously on the landscape. As we reach the river a halt is made, and the leader after surveying the crossing, gives orders to the men to prepare for dinner, while he, with others, selects from the wagons a supply for the river party. This supply must be as small as possible. It consists of such things as blankets, provisions, a few cooking utensils, arms and amunition, scientific instruments, and some personal baggage. Two bags containing the portable canvas boat are taken out and carried to the river, where the pieces are fitted together, and the canoe launched in the water.

About four o'clock in the afternoon the rain cleared away and all arrangements being made for meeting at a point two hundred and fifty miles to the eastward, where the river crosses the fourth principal meridian, we gave a cheer to the men and shoved off to penetrate the unknown country.

To all appearance the recent Indian uprising had been subdued. The last encounter between the militia and the Indian, fought at Batoche about a month before, had resulted in the loss of many lives on both sides, and the utter defeat of the natives ; and yet, doubtless, there were many roving bands of red men ready for revenge.

The Battle River was so called from its having been, many years ago, the scene of a bloody battle between the two great Indian nations of the north, the Crees and the Blackfeet. It lies almost entirely within the territory of the Crees, the Neutral Hills being an approximate dividing line between their countries. It rises in that swampy region surrounding Pigeon and Battle Lakes, two hundred and fifty miles north of the national boundary, and eight from the foot of the Rocky Mountains. Between its source and the mountains, flow the Saskatchewan River to the north, and Red Deer to the south, intercepting all mountain streams and compelling the Battle to be entirely of prairie origin, But the low lying, boggy country surrounding its head waters, into which the surveyor can penetrate only when the frost of winter has formed him a solid footing, is of itself sufficient to produce a fair sized river. After flowing through three hundred and fifty miles of valley it enters the Saskatchewan at Battleford, and by way of Lake Winnipeg and Nelson River, its waters flow into Hudson Bay.

The crossing of the River with the fourth principal meridian where our voyage was to end, is about fifty miles from the Hudson Bay Company's trading port, Fort Pitt, thirty-five miles from the reservation of Chief Poundmaker on whose ground the battle of Cut-Knife Creek was fought, and sixty miles from Battleford.

How pleasant it was after jolting in a wagon across the plains or riding a half-trained broncho, to sit in the bottom of a canoe and glide quietly over the water. Yesterday on the open prairie exposed to the heat of a schorching sun ; to-day floating in the shadow of the overhanging evergreens, on the bosom of the quiet river.

On the afternoon of the day following our departure we neared a neat-looking little log house, and from its general appearance concluded that its occupant was no Indian or half-breed, but a white man. On climbing the hill we were very kindly greeted by the Methodist missionary to the Stony Indians, who was busily engaged in repairing and rebuilding his house after the Indian raid a few weeks before. He had escaped, with his family, to a place of safety only a few hours when Bob Tail's band came down, pillaged his house, drove his horses and cattle away, and after exhausting their means of destruction, rode away, leaving the place a complete wreck. Three years had Mr. Glass spent in building this rude little home in the wilderness, and in as many hours the result of all his labor was destroyed. Any article of particular value was made the target for a bullet. His handsome collection of books were to be found anywhere within a hundred yards of the house. Things that would not break were otherwise destroyed. His winter supply of potatoes in the cellar had been carried down the hill and emptied into the river. Under a clump of trees, down by the water's edge, my eye chanced to fall on a piece of broken iron, which, when pointed out to Mr. Glass, he recognized as part of his wife's new sewing machine. A beautiful marble clock that had graced the mantle piece of the sitting room had shared the fate of other things, and was now lying in pieces on the floor. How they grieved at the loss of their favorite timepiece. It had already marked off ten years of their married life, having been given on their wedding day by friends in New England. During our stay of a few hours here a friendly chief, Sampson, rode over to the missionary's, telling him to make no further repairs, that later in the autumn there would be a general uprising of the Indians. It was talked of, he said, not only in his own tribe, but also among the Crees and Blackfeet. The prospect now of starting off with so small a party to penetrate a hostile country did not seem the most inviting. Our plan, however, was for peaceable relations with the Indians as far as possible, and at the same time it was considered a wise provision to be well armed. It was very gratifying to Mr. Glass to know that these outrages had not been committed by the Stony Indians. His own teaching, as well as that of the beloved George McDougal, had shown its good effect. I found through all the Indian uprising the Stony Indians had taken no active part.

On the afternoon of the 19th we reached one of those large swamps frequently found on the low-lying prairie. The mosquitoes here were so numerous that they resembled clouds floating above us. We worked hard at the paddles to try, if possible, to part company with them, but they seemed pleased with their eastern friends, and suited their speed to our own. From a dead pine tree on the river bank I took an observation, but returned, having seen nothing but a vast stretch of swamp, grown up thickly with water willows. Six, seven and eight o'clock came, and yet no dry ground had been seen. Still on and on we went in the darkness, till the river opened into a shallow lake, so shallow that sometimes the canoe would drag along the bottom. It was one of those loathsome places, the home of snakes, lizards, and all sorts of water fowl. At every dip the paddle would drag up from the filthy water a mass of weeds and leaves, making our progress very slow. Yet continued efforts of paddling and poling brought us to the further shore in a cold and drenching rain. The darkness was intense, and the continued howling of prairie wolves made our condition still more uncomfortable. It was ten o'clock, and we were in a thick woods, groping our way among the fallen timber and through the drooping branches. Add to this the effect of being cold and wet and without food, and the condition of the travellers can be imagined. By the light of a fire of wet wood a tent was pitched, and then the weary ones lay down to rest. How little do those who always stay at home know of such an experience as this!

TO BE CONTINUED.

Mr. I. G. Ogden, of the Canadian Pacific Railway, has been having great sport at Rideau Lake, Ont. One day last month he showed a creel of black bass, several of which weighed upward of 5 lbs. Mr. Ogden is president of the Anglers' Club.

AN EXPLORATION TO THE HEIGHTH OF LAND.

By St. Croix.

That elevated, lonely region, which divides the waters flowing into the St. Lawrence from those feeding the icy tide of Hudson's Bay, has always had an irresistible fascination for me. Last autumn I was almost on the divide, at a point north north-east of Kippewa Lake, but this summer I had an opportunity of visiting this same boundary further west

That I stood, eventually, where the waters flow each way, was really rather the result of a happy chance than of any deep laid plans of my own. On August 8th, I left the head of Temiskaming, accompanied by one Indian and his fifteen-year-old boy, with the intention of going up the White River, portaging over into the Montreal, halting a day or two at Matachewan, and then making my way up the south branch of the said Montreal river, returning to Haileybury by way of Gray's River, Lady Evelyn Lake, and the Mattawabika. This was the programme, but owing to a prolonged spell of dry weather, the White River was so low that I found it almost impossible to get across from the head of its south branch to the Montreal River, and, somewhat reluctantly, I turned the canoe's bow up the north-east branch, determining to explore the tract of land lying immediately westward of the interprovincial boundary. Now I am glad that my original plan was not carried out, for I never found myself in a more interesting country, nor one about which less is known to the outside world. No land surveyor had ever been through it, and on the large scale map of Ontario issued last year by the Crown's Land Department of that Province the country I visited is represented by a blank space.

CHAT'S FALLS

These superb falls are capable of yielding 111,000 horse-power, being, however, but a small component of the 900,000 horse-power available within a radius of fifty miles of Ottawa.

But to begin at the beginning. I left Montreal by the Soo Express on the night of Aug. 5th. Picturesque, sleepy Mattawa was reached in due time next morning, and the only fact of interest that I remember connected with it was that there I ate a breakfast of which I was sorely in need. After a couple of hours' run over the branch line leading to Kippewa I alighted at the platform of the Bellevue Hotel, and so keen is this northern air that I found myself in admirable condition to do justice to an early dinner. Some of my readers may think that I am giving too much prominence to these matters, but I do not think so. I have always found that in the Canadian bush one's appetite is always with one; it is a friend to be

cherished, and very often it is the only friend you have in the world, so that it would be unpardonable egotism to leave it out of the story.

The new manager of the Bellevue is a Mr. White, and his treatment of his guests seems to be of the whitest description (please pardon the pun, but I want to get even with him for his kindness during my short stay, and this seems to be the only way to do it).

I forget the hour at which the gallant S.S. Meteor was advertised to start, but no matter. In course of time she did actually get off, and not only so, but she made such satisfactory headway that we anchored off Ville Marie, forty-eight miles from the foot of the lake by dusk. She was as usual crowded to the gunwale, the tide of tourist travel being in its flood, and the rush to the lumber woods having already begun. Of course a stateroom was out of the question; even if one had been long-headed enough to have secured such a thing in advance, it would have been impossible to have kept it, for there were many women and children on board whose claims could not have been overlooked. However, the old traveller becomes very crafty; his wisdom is as the wisdom of a serpent. So it came to pass that at 10:30 p.m., just as the northern lights were getting in their fine work, and turning the heavens into a tapestry of golden and coloured threads, I possessed myself quietly of the bag which held my blankets, and shunning observation, reached the pilot house unobserved. Thus I escaped passing the night beneath a table in the saloon, and slept most soundly until the noble Norseman who holds the proud office of first mate of the Meteor jerked the rope of the steam whistle sharp at 5 a.m. next morning. I never hated a steam whistle so much in my life; but there was no help for it, and I had to bundle out and make way for the man at the wheel.

Shortly after leaving Ville Marie we came to a halt off Brown's Castle, the residence of a gentleman whose name it bears, a sportsman and lover of unsophisticated nature, who comes from far away Philadelphia each year with the swallows —of course I don't mean to say that he travels in company with the swallows, because I would not be so understood for one moment. What I wish to make plain is, that he leaves the city of Brotherly Love just about the time all other wise people, whose bank accounts permit it, are doing the same thing; only wiser than they, instead of going to some dusty, glaring summer resort, he proceeds without loss of time to his castle on the shores of noble Temiskaming, and fishes and enjoys life during the long northern summer.

And now my old enemy the steam whistle is making the welkin ring—that is, supposing there are any welkins so far north—and every citizen of Haileybury, who is neither absent nor bedridden, is flying madly down to the beach. There they are, all of them. Almost a whole year has passed since I last saw them, but the men are apparently just as brave as ever, and the young women, if possible, even more beautiful, and three minutes after landing I feel as much at home as if I were a registered voter of the place.

I have a very warm corner in my heart for the inhabitants of this enterprising little Ontario town, because I have always been received there with the greatest hospitality, and everybody has helped me to the extent of his power in getting my outfit together. Of course, by so doing they were really performing a kind action towards themselves, as evidently the sooner I got my modest wants satisfied the sooner I should take myself off. But if they wanted to get rid of me they certainly disguised their feelings admirably, and my experience has been that whether you arrive at Haileybury spick and span from the centres of civilization, or wondrously unkempt and travelled stained from the wilderness which doesn't howl, it makes no difference to the people of Haileybury, who one and all unite in welcoming the coming and speeding the parting guest.

After a hasty consultation with Mr. Paul A. Cobbold, without whose assistance few undertake to penetrate the unknown north, I decided to continue on to the head of the lake in the Meteor and secure my canoemen, as there was a decided scarcity of the genuine article, "the silent, smoky Indian that we know," owing to a large influx of tourists, who had hired nearly all the available smoky manhood of the place.

The distance from Haileybury to North Temiskaming, where a large village of the silent, smoky ones exists, is about twelve miles. In the ordinary course of events this should not have taken more than two hours, but the same low water which was to cause me so much trouble later on interfered with us here. The White River is well named, for even at the end of a dry summer it discharges a chalky flood into the lake, and I can quite believe that in spring time its waters are about as limpid as the contents of a can of preserved milk. This stream is gradually filling up the head of the lake, and in course of time may eventually turn the whole of Temiskaming into a site for market gardens, but that will be long after our heads have done aching, if ever. The present effect is that the narrow channel caused by the current of the Quinz river is being continually silted up by the mud brought down by its sister stream, so that even the Meteor, with a modest draught of six feet or so, cannot always get in to its wharf at North Temiskaming. We proceeded gaily, though cautiously, until we reached the first of a long, sinuous line of tree-tops placed to show the channel by some of the silent and smoky young men of the village. Then we ran aground, and the prospect seemed good of passing the night on board—and I had left my blankets in Haileybury! However, after many complicated nautical manœuvres, and much prodding of the bottom with long poles, which stirred up such quantities of white mud that all the fishers in the neighborhood must have had a bad time, we wriggled over the bar, and as the sun was slanting in the west, tied up alongside of the wharf at North Temiskaming.

(TO BE CONTINUED)

We publish in this issue a little fishing scene, for which we have to thank Dr. C. W. Henschel of Mattawa, Ont. It shows the result of a morning's fishing for speckled trout near his home. The doctor, himself an ardent sportsman, was accompanied by Mr. W C. Leheup, also of Mattawa, a taxidermist of more than local reputation. Mattawa is the centre of an excellent fishing region, and such baskets as here shown are the rule and not the exception. In order to enjoy fully, however, Mattawa fishing the fisherman should camp out and arrange for an absence of two or three days from headquarters.

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The annual report of the Board of Regents of the Smithsonian Institution for the year ending June 30, 1897, has been issued. It is, as usual, a deeply interesting volume, being in fact a *précis* of the advancement of human knowledge during one year. Those papers likely to particularly interest the readers of ROD AND GUN are: The Truth about the Mammoth, by Frederick A. Lucas; Have Fishes Memory, by L. Edinger; On the Sense of Smell in Birds, by M. Xavièr Raspail, and the description of the United States National Zoological Park.

FISH AND FISHING

Wonderful tales of the fearlessness and greed of the pike are common in Europe, as well as in this country, but a case in point happened the other day which lends probability to many of them. A fisherman trolling in one of the lakes on the northeast branch of the White River—an Ontario stream which runs from the heighth of land to Lake Temiskaming—hooked a pound and a half doré, which in its turn was seized by an enormous pike, the latter fish being almost secured owing to the bull-dog tenacity with which it held its prey.

The angler who had this remarkable experience tells the tale as follows: "I had caught several doré, none of them weighing more than two lbs., without anything extraordinary happening, but as I was pulling in another I felt a sudden tug at the line, so powerful that I thought at first I had hooked the elastic limb of some waterlogged tree. However, it turned out to be a fish, and a big one into the bargain. As I reeled him in I could tell by the play that I had on a very heavy pike, and as soon as he came into view we were delighted to see a fish whose length, in the water, appeared almost gigantic. Just as we got him up to the canoe his hold gave way, to our sorrow. I had on my hook a doré weighing about a pound and a half, almost cut in two by the jaws of the big pike, which had taken him as I was reeling in. Knowing that a fish of such fearless determination might have another try if given the opportunity, I let out a long line, the doré still at the end of it, and we paddled slowly back over the same ground. Sure enough, the pike came at the bait with a rush once more, and this time I worked him up to the canoe, and although his head was at one time raised above the water by the strain of the line, he showed no indication of letting go his grip. The Indian slipped a landing net under him and lifted him almost into the canoe, but unfortunately we were not prepared for so big a fish, and the landing net, though eighteen inches in diameter, and proportionately deep, would only take in the head and shoulders of this pike, leaving the heavier portion of the fish outside the rim, so just as he reached the gunwale his slimy body slipped back again into his native element, and as he had by this time opened his jaws, we lost him for good and all. At no time had this great fish been touched by the hook, yet we had nearly secured him, owing to the tenacity with which those long, curved teeth had held on to their prey."

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It is not often that even in Canada that we hear of the capture of a trout of twenty-two and a half pounds, that is to say with the exception of specimens of Salvelinus namaycush, so that the following description (which we extract from the London Field) should prove of interest. The fortunate captor was Mr. Walter Langley, an English gentleman now living in British Columbia. The fish was of course a rainbow trout:

"A road leaving Ashcroft (a station on the Canadian Pacific Railway) in British Columbia passes northwards up the valley of the Bonaparte river for fourteen miles, when it turns to the west up the valley of Hat Creek. Some fourteen miles further it enters a most picturesque pass known as the Marble Canyon, traversing a mountain range, which otherwise would block the way. This Marble Canyon, so called because of the limestone rock and quartz cliffs which tower almost perpendicularly above the road to a height of some 2,000 feet, affords one of the most beautiful sights to be seen even in this land of magnificent landscapes, and nothing can exceed its beauty on a summer's day morning, when the early rising sun first gilds and brightens the summits of the cliffs; and in the valley lie two lovely lakes. The first and smaller one is fed by a waterfall of perhaps 250 feet in height, which pours in one bright stream almost perpendicularly into the lake. This lake has no surface outlet, but probably its waters flow underground into the next and larger lake, which (some six miles in length), in the transparent purity and peculiar colouring of its waters, offers one of the prettiest sights imaginable. Many years ago both of these lakes, being fishless, were stocked by the late Capt. Martley, whose residence was near by, with small trout taken from the Hat Creek. In the smaller lake they throve and multiplied exceedingly and its waters are now full of them. From the larger lake all the fish escaped down its outlet to the Frazer river, but subsequently, a mill being built upon the stream, a dam was put in, over which, by the use of wire netting, the escape of fish might be prevented. So Capt. Martley repeated his experiment of stocking the lake with Hat Creek trout, and this time successfully. For some years past many and large fish have been taken from the lake.

"The fish of Hat Creek, from which this lake was stocked, are little fellows, the largest of which seldom attain to half a pound in weight. They are dark in colour, with many spots, and would invariably be classed here as 'brook trout.' Some of them are transferred to this unstocked lake, and in a few years enormous trout are taken from it, utterly unlike their progenitors in every particular. The fish taken from the large lake are bright and silvery as a fresh run salmon, have the well-defined pink line running down their sides, and are, in fact, what is known here as the 'rainbow' trout. So with the fish from the smaller lake, but still they are again quite unlike those from the larger lake, and both are in every way distinctly different from the trout of Hat Creek from which these lakes were, as I have described, originally stocked. So we may note what a change of locality and a liberal supply of food will do for trout, and we may take it as an assured fact that no mere difference of outward appearance will stamp trout as of different sorts, and that, unless some structural variation can be shown, they may all be considered of one kind only. I have fished much in British Columbia and in other parts of the world, and nowhere have I noted such variations in outward appearance as there is here in fish taken from different lakes and streams, although in many cases such lakes and streams are separated from each other by only short distances. The fish are identical in kind, though varying in outward appearance, in size, and in edible value."

Mr. Thomas Donley, of the Grand Central Hotel, St. Thomas, Ont., will hold his fifth annual tournament on October 9, 10 and 11. Live birds and targets.

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In the Montreal Gazette of Sept. 5, a paragraph appeared, under a Toronto date line, telling how a certain pair of "sports" (not sportsmen) had taken 83 bass in less than two hours at Henry Harbour. It was headed "Sport or Destruction." We fancy most of the readers of Rod and Gun would have cut that title down to one word.

CORRESPONDENCE.

Some Requisites for Canadian Shooting.

Perhaps the simplest way to make out a list of requisites for a hunting trip into the Canadian bush, would be to check off the articles in some of the awful outfits taken by tenderfeet into the woods, making up one's own kit from the few articles they had omitted. As a matter of fact nine-tenths of the things taken by nine-tenths of the sportsmen into the wilderness are superfluities. No wonder that the poor guides often come to look upon their employers, or perhaps we ought to say their task-masters, as belonging to a race of idiots. I have seen with my own eyes cooking stoves, iron coffee grinders, cane bottomed chairs and all sorts of other rubbish taken into a country where every foot of progress had to be won by the hardest muscular effort. So thoroughly do such employers handicap their men, that voyageurs who think nothing of reeling off their 35 or 40 miles a day, when travelling light, are barely able to cover five miles in a dozen hours with the most tremendous exertion.

This subject is a big one, and it has been estimated that a series of volumes equal in content and number to those of the Century Dictionary would not exhaust it. Therefore, I only intend to touch upon a few elementary facts. Most men begin by discussing the rifle a man should take into the forest; I prefer to begin at his boots. Almost any rifle will do at a pinch, but in the way of boots you don't want any pinching, in fact you are looking for something easy and comfortable. Now the perfection of footgear, as soon as you get away from pavements and macadamized roads is the moccasin. "Oh! but," say you, "my feet are too tender for that sort of thing. I should be lame for a week were I to take a short walk over stony ground with nothing but a thin moccasin on my feet." You only think so; don't you remember my friend, when you were a small boy, and your indulgent parents took you to the seashore during the holidays, with what impunity you learned to walk over the rough, barnacle-covered rocks? A foot which has been allowed to become tender may be nursed up to the requisite hardness in about two weeks. After that you could tramp about in moccasins all day without your feet paining you. For canoeing there is nothing like the moccasin. And it is almost equally indispensable when still-hunting, and, of course, you could not snowshoe at all in any other foot-gear.

But if you must wear boots (English) or shoes (American) for goodness sake have them cut off at the ankle. What, in the name of common sense, is the use of weighting yourself with a lot of superfluous leather all the way up to the knee? If you do this thing you will be almost as foolish as the British War Office, which swaths the calves of its soldiers in long strips of woollen material, yclept puttees, for the sole purpose, apparently, of handicapping as much as possible that unfortunate person, the British soldier. If you have been wearing high, heavy boots take the advice of a friend, and have a pair of shoes made according to the following specifications: uppers to be light and pliant, lacing up to the ankle: a broad sole with a low flat heel, the sole to be only just thick enough to carry a few Hungarian nails. Don't try and keep your feet dry, for that is quite impossible in the wilderness, as in any case your socks will be wet through before nightfall, whether it be by water or perspiration. If you change on reaching camp, or if not able to change, you unloose your shoes and dry your feet at the fire; you will never take any harm. I think that a man whose feet have been properly hardened to the work will walk thirty miles in moccasins as easily as he will walk twenty in ankle jacks, or ten in high boots, and he is far less likely to be lame next day.

Another matter about which I should like to say a few words is the supply of underclothing and shirts necessary for a trip of somewhat long duration, say a month or two. I don't consider any man who takes his sport seriously need be bothered with more than two suits of underwear, two flannel shirts, and three pairs of socks. This is really a very generous allowance, because, as a matter of fact, by choosing a nice warm day on which to do your washing you could get along nicely with one flannel shirt, and one suit of underwear. But I would never go with less than three pairs of socks, and I want them all wool, though not necessarily a yard wide.

I look upon the man who discovered the overall as one of the greatest benefactors of the human race. This marvellous garment is equally adapted to summer and to winter wear, in the former season it may well be worn sans culottes, and in the winter drawn over that garment which the Highlander does without. Then, the overall is moderate in price, ordinary brands not costing more than 65c. down by the docks, while even the most fancy articles, bought in an extortionate up-town store, cannot possibly retail at over $1.25. In summer they are light; in winter almost windproof, and although sopping up wet like blotting paper, may be dried by five minutes' exposure to the camp fire.

Perhaps the most useful garment that the wilderness traveller can own is an all-wool sweater. Personally, I prefer a light, openly knitted one for summer and autumn work, as the others are almost too warm, except in the depth of winter. I should never think of going to the bush without one of these kitted jerseys.

Almost anything in the way of a coat will do. Those I wear are generally old ones that have seen better days, and it is many years since I was recklessly extravagant enough to spend money on a regular shooting coat. I find it better, and more satisfactory in every way, to do the shooting and let the coat look after itself. But of course, as the waiter said, some likes beef and some likes onions, and if a man feels that his happiness is increased by perambulating the northern forests in a well-cut garment, having innumerable cute little pockets, by all means let him have one made according to his soul's desire; only let me tell him that the Indians are poor judges of fashion, and the bears, and moose, and caribou won't look at him long enough, if they can help it, to tell whether his coat was built by a first rate-tailor or is merely a cheap hand-me-down garment. I trust that these few hints will be accepted in the spirit in which they are tendered, and that no exasperated outfitter will wreak vengeance upon me for what I have written.

Montreal, P. Q. ANGLO-SAXON.

An old Maine woodsman thinks he has discovered the secret of "bird's eye" maple. He noticed that where the woodpeckers had been striking into the trees in his sugar bush small red spots were left after the scars had healed. If the trees had suffered badly the marks were more numerous while there was no trace of them on trees the woodpeckers had not visited. He therefore has determined to experiment on the question. His plan is to make a paste of the ants on which these birds feed with pulp made from elm bark and smear it on thrifty maples, with the expectation that the birds when obtaining food will at the same time be transforming ordinary hard maple into bird's eye maple.

ROD AND GUN IN CANADA

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Some months ago the opinion was expressed editorially in these columns that the Lee-Enfield was a better rifle than it is thought to be by those whose conclusions have been influenced by the daily newspapers. This opinion has been vindicated in a striking manner by the success of our Canadian riflemen at Sea Girt last month. Armed with the service rifle they inflicted defeat upon the eight picked shots selected from the riflemen of the United States to defend the Centennial Palma Trophy. The ranges were 800, 900 and 1,000 yards, and out of the 28 points by which the Canadians led at the finish, 21 were put on at the longest range. A day or two later the Dominion shots met and defeated the team of the Ulster Rifle Association, which in its turn had just beaten the New Jersey State Rifle Association, so that indisputably the Canadian riflemen carried off the honours of the meeting.

The Americans shot with the Krag and the Irishmen with the Mannlicher, each a later pattern rifle by a good many years than the Lee-Enfield, yet the latter rather more than held its own. Our men say the American sights were, however, undoubtedly superior to those on the British service rifle, as they had a Vernier and sliding bar attachment, with an aperture sight, so that the ballistic qualities of the Lee-Enfield must be better than those of the Krag, and cordite has shown itself quite the equal of the U. S. service powder, the Peyton. Cordite may be a trifle rough on the inside of the bore, but it gets there just the same; moreover, the German powder in the Mannlicher cartridge is even more destructive, the accuracy of a barrel, when it is used, being but 300 shots.

✣

Another good man has been called away. A. N. Cheney, State Fish Culturist of the State of New York, died suddenly of heart failure at his home, Glen's Falls, that State, in August. The September issue of ROD AND GUN was in the printers' hands when the sad news reached us, so that no mention of Mr. Cheney's death could be made last month.

Mr. Cheney was the most pleasing writer on fish and fishing that the United States has yet produced; moreover, he was, toward the end of his career at least, a practical fish culturist, and when he received the appointment he held up to his death, he soon proved himself the right man for the position. He had found his life's work at length, but pity it was he found it so late.

Several of the American sportsman's papers have been filled with correspondence discussing the killing powers of the high velocity small bore rifles. To those who are practical sportsmen and have used these weapons on American game, some of these letters appear very absurd. The truth is that the modern small bore is sufficiently powerful to kill any American animal in workmanlike fashion. This statement is made deliberately, after having seen the effect of its bullets upon the toughest and largest game we have in Canada. For eastern shooting the 30-30 Winchester is an admirable gun. It will kill moose, caribou, deer and black bear with a single shot at any sporting range, if the animal be hit in a vital spot. More than this no rifle short of the calibre of a small cannon should be expected to do. Even when the game is hit in the flank, at long range, the terrible, soft-nosed bullet is fully as likely to pulverize a bone as the larger bullet from a 45 or 50 calibre, and its chances of reaching the vitals of an animal are very much better. Moreover, owing to its lightness, accuracy, and freedom from recoil, it makes the pursuit of big game a pleasure instead of a toil. If men would only shoot at sporting ranges, and not blaze away at impossible distances, they would be perfectly satisfied with the effect of a 30-30 Winchester upon game. Those who contend that the 38-55 is a better rifle for any of the deer tribe are simply advertising their own ignorance. Each year sees a larger proportion of 30-30's used in the northern forest, and we believe that in another ten years or so, the black powder rifle will be rarely seen in the hands of a sportsman.

For western shooting the 30-40, or the .303 British, are better cartridges, and so firmly is their merit recognized in the Rockies that the best Indian hunters, from the international boundary to the Arctic Sea, are replacing their 45-90 and 45-70 rifles with the more modern high velocity small bore.

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While all members of the Salmonidae make fit sport for a king's fishing, none of the species found in fresh water excels the rainbow trout, to our thinking. Of the strictly river trouts it is undoubtedly the gamest. The rainbow has this further advantage, that it grows to a huge size and without losing any of its gameness as it increases in weight. Although an American fish, its native habitat being west of the Rockies, Englishmen seem to have appreciated its merit more than ourselves. In a recent issue of the London Field, mention is made of a rainbow trout weighing 19½ lbs., which was taken in Rotorua Lake, New Zealand. This noble fish was 33 inches in length and 21 inches in width. The gentleman who sent the information to the Field states: "They are a superior fish in every way to the brown trout, especially in the matter of their sporting qualities, for they fight like salmon." Another correspondent, writing from Mold, North Wales, tells how two years and a half ago he turned 150 yearling rainbow trout into four small ponds covering, perhaps, half an acre. Notwithstanding that a more unfavorable looking place for trout could hardly exist, this summer he caught six trout in less than an hour, the combined catch weighing 6¼ lbs. A third correspondent relates how he caught, in a Gloucestershire stream, five rainbow trout, the heaviest of which weighed 2¼ lbs. and the lightest 1¼ lbs. These fish were turned in as yearlings last February year, of an average weight of less than a quarter of a pound at that time.

It is to be hoped that the day is not far distant when this superb fish will be planted in all suitable waters in eastern Canada. When this shall have been done our already unrivalled fishing will be even better than it is to-day.

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KENNEL DEPARTMENT

Conducted by D. Taylor

During the past month there has been a plethora of dog shows. First we had the Pan-American at Buffalo, then Chatham, N.Y., and Toronto (concurrently), Sherbrooke, Burlington, Vt., St. Thomas, Ont., Rhode Island Kennel Club, etc., which gave handlers and fanciers a busy time. In point of time and importance comes the

Pan-American.

This was a most successful affair, and crowds of people who never saw a dog show before took advantage of the free exhibit, which was not the least attractive feature to sight-seers of the many to be seen at the great Exposition. The weather was extremely hot, and judging in the melting rays of the sun had some disadvantages. However, the rings were extremely well-served by a most energetic corps of ring stewards, whose duties were made more difficult from the fact that the attendants were unused to the work, and the distance of the rings from the three barns which were occupied by the dogs.

The high quality of the exhibits in nearly every breed was frequently remarked and this was especially the case with Pointers, Setters, Bulldogs, Fox Terriers and the different breeds of toy dogs. For the latter the Swiss Mountain Kennels were mainly responsible, while the excellent exhibit of Pointers, Setters and Bulldogs of the Vancroft Kennels made such a display as was never before accomplished by individual owners, the entries of these two formidable kennels reaching the neighborhood of two hundred.

Several local exhibitors figure in the prize list, amongst them being Mr. D.W. Ogilvie, with his now famous wire-haired fox terrier Bank Note, which won everything in his classes and was only beaten for the best terrier in the show by Dusky Don II, an imported smooth terrier. This order was kept at Toronto. In Skyes, Mr. Geo. Caverhill was pre-eminent and Mr. Reid's King Edward VII (shown very much out of coat) was placed third.

Toronto Show.

The usual fall show under the auspices of Toronto Industrial Association was held September 2, 3, 4 and 5, and as usual was a prominent feature of the big fair. The entry list was not quite up to that of 1900, which was a record one, but the quality of the exhibits was uniformly good and equal to anything ever seen at this annual function. The interest taken in the show by visitors to the exhibition was evidenced by the large number who paid for admission. As usual, under the direction of Mr. W. P. Fraser, the ring service was all that could be desired. The following are some of the prize-takers in Montreal district :

St. Bernards, bitches, open—1st. F. & A. Stuart, Montreal, Lady Hereward.

Russian wolfhounds, limit, dogs and bitches—3rd, E. C. Short, Montreal, Sir Roswald.

Gordon setters, open, bitches—1st, E. Bjorkelund, Compton, Que., Nellie.

Rough collies, novice dogs—2nd, W. H. Gibson, Beaconsfield, Que., Minto.

Rough collies, open, sable and sable and white—3rd, Jos. Reid, Montreal, Logan's King Edward VII.

Rough collies, novice, bitches—1st, W. S. Elliot, St. Lambert, Blair Athol Lassie ; also third in open class for bitches of any color other than sable or sable and white with Blair Athol Patti.

Rough collies, open, bitches—1st, Joseph Reid, Logan's Farm, Heather Blossom. She was in half coat and was only beaten as the best collie in the show by her sire, Woodmansterne Conrad, who was shown in the best of condition and in full bloom as to coat. Heather Blossom's winnings besides the open class are : Collie Club Trophy, value $300, for best American bred collie ; Industrial Exhibition Association's medal for best collie bitch in show.

Bull terriers, puppies, dogs—1st, Sidney Britcher, Montreal, Newmarket Bendigo ; 2nd, R. H. Elliott, Ottawa, Gen. Grant.

Bull terriers, novice, dogs—1st, Newmarket Bendigo.

Bull terriers, limit, dogs, under 30 pounds—1st, Sidney Britcher, Newmarket Baron II.

Bull terriers, limit, dogs, 30 pounds and over—1st, T. A. Armstrong, Ottawa, Ottawa Major ; 2nd, Newmarket Bendigo ; 3rd, W. Rankin, Ottawa, Lord Strathcona.

Bull terriers, open, dogs—1st, Ottawa Major ; 2nd, Newmarket Bendigo.

Bull terriers, puppies, bitches—1st, Mrs. J. O. Walters, Ottawa, Golf Queen ; 2nd, Sidney Britcher, Newmarket Baby.

Bull terriers, novice, bitches—2nd, C. D. Carriere, Ottawa, Edgewood Dawn.

Bull terriers, limit, bitches, under 30 pounds—Sidney Britcher, Newmarket Baby.

Bull terriers, Canadian class, dogs—1st, Sidney Britcher, Newmarket Baron II.

Airedale terriers—1st, Joseph Laurin, Montreal, Dumbarton Lass.

Boston terriers, open, bitches—2nd, J. H. Smith, Montreal, Cricket.

Skye terriers, puppies, dogs and bitches—1st, Geo. Caverhill, Montreal, Moorland Lad.

Skye terriers, limit, dogs and bitches—1st, Geo. Caverhill, Silver Queen ; 2nd, Geo. Caverhill, Highlander ; 3rd, Geo. Caverhill, Prince Royal.

Skye terriers, open, dogs,—1st, Geo. Caverhill, Moorland Lad ; 2nd, Highlander.

Skye terriers, open, bitches—1st, Geo. Caverhill, Silver Queen ; 2nd, Geo. Caverhill, Diamond Queen.

Dog Show at St. Thomas, Ont.

The Dog Show held by the St. Thomas Kennel Club on September 10, 11 and 12 was a very successful one both in point of entries and attendance. Mr. H. W. Lacy, of Boston, was judge, and A. McDonald, of Deer Park, Toronto, ring steward. The committee having charge, and to whose efforts the success of the show was due, was composed of W. T Collins, superintendent, Joseph Ferguson, Walter Ross, J. H. Price and Dr. King.

John Phelan, of Toronto, showed a fine lot of Yorkshire terriers, among them Brandy, the sire of a number of prize winners.

The string of wire haired fox-terriers and red and black cockers shown by J. Herbertson, of Detroit, were a fine looking

POWELL RIVER

A typical British Columbian mountain stream. These sparkling torrents are the home of the game rainbow, the peer of any trout in the world. Fishing amid such scenery has a charm old Izaak Walton never knew.

lot. Mr. Theodore Coleman showed a nice lot of Bedlington terriers, among them six puppies. Geo. Bell, of Toronto, had a good exhibit of black and red cocker spaniels and Boston terriers. Among the noted dogs were Bayview Baden-Powell St. Bernard), a winner at the Pan-American and Toronto; the great Dane, Fordham Cyrano; Russian wolfhound Rezada; and Director, a prize winning greyhound. The pointers were well represented.

Cocker spaniels were many and the quality good, among them were Perfection, winner at Chicago last spring, Tick Tick and Standard.

*

Burlington, Vermont, Dog Show.

The first annual dog show of the Champlain Kennel Club was held on Wednesday, Thursday and Friday, 11, 12 and 13 September, in the Green Mountain Rink, Burlington, Vt., and although the entries were not as numerous as might have been expected, the quality of the dogs that were on exhibition was of a very high order. This was made apparent to the veriest tyro in canine knowledge when the special prize offered by the club for the best specimen of any breed was being judged. A collection composed of the winners in the different breeds at this show made a group of high-bred dogs that were unusually attractive and would have been a credit to a much older organization than the Champlain Kennel Club. The judging, which was done on schedule time, was watched with the keenest and most intelligent interest by those who ventured out in the cold, drizzling rain which marked the afternoons of the first two days, and the spectators did not hesitate to manifest their approval when an award was made that was in accord with their particular fancy; especially was this the case when Mr. Jarrett's Collie, Wellesbourne Hope, was awarded the special for the best specimen of any breed.

The officers of this latest addition to the American Kennel Club are:—Dr. H. Nelson Jackson, president; Robert Noble and Miss Amy Proctor Bingham, vice-presidents; Chas. H. Mower, secretary; Robert J. Ross, assistant secretary, and E. J. Spaulding, treasurer.

*

Amongst the aftermath of the Montreal show is a protest considered at a late meeting of the Canadian Kennel Club —from Mr. A. M. Duckworth, against the award of a special prize in the Irish terrier classes, which read: "for the best local specimen shown by a lady." The meeting, while expressing the opinion that there might have been less ambiguity about the conditions, upheld the secretary in his disposition of the award.

*

Turf, Field and Farm says: There are rumors of queer doings in connection with the Chatham show, and Toronto is said to be the loser thereby in entries. Cutting entry fees and paying transportation from Buffalo and hotel bills for handlers is some of the things credited to Chatham which we trust the Bench Show Committee can refute.

*

At a meeting of the Council of the L. K. A. of America, held on September 11, there were present: Mrs Kernochan, Mrs. Smyth, Mrs. Mayhew, Miss Bird, Mrs. Vatable, Mrs. Foote, Miss Shippen. Mrs. D. W. Evans was appointed delegate to the Council. At the regular meeting held on the same day, the secretary reported that since the last regular meeting it had been decided by the Council to hold a bench show, during the week beginning December 15, at the Madison Square Garden, with Mr. Mortimer as superintendent, that all classes should have prizes of $15, $10, $5, excepting winners, in which the Association's medal would be given, and that there would be team prizes of $20 for the best four in each breed. Specialty clubs heard from have been very generous in the offering of their specials, and that it was hoped that the show would prove most successful both as to size and quality. The secretary-treasurer's report was read and approved.

Rhode Island Kennel Club Show.

Labor Day was a flyer for the Rhode Island Kennel Club. The third annual one-day summer show was held at Crescent Park, the star resort of the many shore places on the Providence River. The many attractions brought to the Park an unusually large number and it is estimated that thirty thousand people were on the grounds. The weather was grand, as were the dogs in point of quality. The novel method of chaining them to the building where they could lay down on the spacious balcony was to the dogs a heaven, being cool, shady and free from flies. The judging began on time and the rings were never better served.

The judges were: Mrs. A. L. Evans, Brockton, Mass., St. Bernards and Mastiffs and Great Danes; Nelson McIntosh, Setters; J. H. Phelan, Pointers; Thomas Shallcross, Beagles, Fox-hounds and all other hounds; J. H. Phelan, Collies and Spaniels; P. J. Brickley, Boston, Boston Terriers and English Bulls; W. C. Codman, Fox Terriers and all other terriers, French Bulldogs and miscellaneous classes.

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Mr. James Mortimer, Hempstead, L.I., spent a very pleasant day in the city last month on his way to judge at Burlington. In recording his visit Mr. Mortimer says: "A drive over Mount Royal and then to the Montreal Hunt's famous club house and kennels made the time pass very pleasantly. The Montreal Hunt is fortunate in having a thoroughly skilful huntsman in William Nichols. The kennels, sleeping apartments and cook house were as clean as a new pin, and the hounds were in excellent working condition."

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Manitoba Field Trials

The running of the trials began Wednesday, 11th September, with the Derby stake, for which the drawing was made on Monday night. Of the eighty nominations which had been made in this stake, twenty-four qualified for the start, nine of these being pointers and fifteen setters. The first series of thirty minutes heat was run through the first day, but owing to a rainstorm during the forenoon of the second, which delayed the starting until afternoon, the stake was not completed until the evening. While much of the work done by the puppies was of an unfinished character, the class and quality of the stake when judged by the natural qualities shown, were very high indeed, and it is very certain that many of the starters who run unplaced in this, will lay claim to the more honored position in stakes of later dates. As it was there was no perfectly clean work done and a decision had to be reached by comparison. The judges handled the stake very skilfully and so well-recognized was this fact, that there was little or no difference of opinion from them—none at all so far as the winner of first place was concerned, though there were some, possibly, who had not followed the work so closely, who thought some of the minor places might have been changed to advantage. But those who did not agree with the judges in these places were decidedly in the minority. Winners: First—Pretti Sing; Second—Nebraska Ben; Third—Robs; Fourth—Tankas.

On Saturday, after being delayed by the rain, the last brace of the first series of the All Age Stake was completed, the second series immediately following. Twelve were carried over—Prime Minister with Dick Stamboul; Pink's Nellie with Silver Lace; Clip Wind'em with Cam; Tony Man with Zuleika; Star Bondhu with Uncle B; Dum Dum with Verona Wilhelmina. All except the last brace were run off before noon, when rain again delayed the running till late. So many failed to maintain their records during the second trial, only four were carried into the third series—Pink's Nellie with Tony Man, and Prime Minister with Zuleika. After these two heats the winners were placed, Prime Minister, first; Pink's Nellie, second; Zuleika, third; and Tony Man, fourth. The decision gave good satisfaction.

Monday morning, in the face of a very strong and cold wind, the championship stake was begun with eighteen starters—Tony Man with Nebraska Ben; Verona Cap with Zuleika; Uncle B with Clip Wind'em; Pink's Nellie with Clyde; Harwick's Nellie with Manitoba Blythe; Prime Minister with Verona Diablo; Senator P with Peach Blossom; Dum Dum with Sioux; Dot's Roy with Cam. Owing to the high wind and the cold little bird work was anticipated, but in this all were greatly surprised, as much very superior work was done, Prime Minister, Clyde, Howick's Nellie, Pink's Nellie and Tony Man standing out the most clearly.

The championship stake and the trials were ended at noon Tuesday, 17th. This day was also cold and mostly cloudy, with some snow in the air. The running began with the commencement of the second series; Pink's Nellie with Harwick's Nellie; Prime Minister with Clyde, and Tony Man alone. At the conclusion of these braces a third series was found necessary, Pink's Nellie running with Prime Minister, and Clyde with Tony Man. The different braces were all thoroughly tried out, both on birds and for range and speed as well, and at the conclusion of the running, the Judges, on account of his consistent range and speed as well as his performances of birds under most trying conditions, gave the run to Clyde. The judging of this stake was done by S. C. Bradley and Dr. W. H. Hutchings, and their awards gave very general satisfaction.

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At the Chatham, N.Y., show, Mrs. A. Belasco, of Prince Arthur street landed a first and second with her St. Bernard, Prince. She also got first in the puppy class with a seven and a-half months' old son of Prince—Lord Mount Royal. He is a grand fellow for his age, weighing 115 lbs. and is perfectly formed and marked. There was a large entry list, some three hundred and fifty, but a good many were for exhibition only. The show was under the auspices of the Columbia County Agricultural Society, so that large crowds were at its exhibition and of course went to the dogs. Mr. H. W. Lacy was judge.

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Everyone interested in Collies will hear with sorrow of the serious illness of Mr. T. H. Stretch, at Vine Cottage, Ormskirk, Eng. The dogs he has bred are all of the finest quality. At least three continents can boast of representatives from the famous Ormskirk Kennels, whence came Ormskirk Emerald, Southport Perfection, Ormskirk Commander and many dogs of fame bearing the honored prefix Ormskirk.

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A meeting of the Sporting Spaniel Club was held the first of the month, at the Toronto show, and the following officers were elected: H. Parker Thomas, Belleville, hon. president; Geo. Douglas, Woodstock, president; C. T. Mead, Toronto, vice-president; Harry Tremble, secretary and treasurer. Executive Committee—Geo. Bell, Toronto; F. T. Miller, Trenton; Geo. Dunn, Woodstock; Allison H. Irwin, Montreal; L. Farewell, Toronto. The club is in possession of several valuable cups and the treasury is in good condition.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

ON HAVING FIGURES IN OUR LANDSCAPES.

H. McBean Johnstone.

The last annual exhibit of the New York Camera Club could hardly have failed to convince the observing onlooker of the fact that figures ought to play a much more important part in the make up of the landscape than appears to be the case. In all the landscapes displayed (and when one considers that the American is the school of portrait photography, there were a surprisingly large number) there were very few indeed that could be said to owe their interest to the introduction of a figure. The few that did have figures in them were of such a nature that the figure was either the subject of the photogram or was all dwarfed out of proper proportion to the view. In the first case it could hardly be called a landscape with figures, but rather a portrait, while in the second, it would appear that the artist was afraid of his ability to properly pose the subject and so had the model stand a goodly distance from the lens.

Suppose we deal with the subject under three heads, viz: Why, Where and How.

Now for a start at number one, *why* have a figure at all? Surely it may be possible that our picture possesses a charm that lies entirely apart from human interest, so that if admitted at all, a figure is apt to detract from the result, and if admitted must be of entirely secondary importance and subordinate to the principal idea. In this case a figure may often be employed to advantage in intensifying the meaning of the subject and bringing out more clearly the idea that it is intended to impress, as for instance a man depicted struggling before a storm will convey the idea of a fierce gale of wind. Much can be learned on this point by a study of the engravings of paintings by Turner.

Passing on from this point, which can only be decided by the artist himself, we come to the query *where* is the figure to be placed? Here, intuition is oftenest looked to as a guide, in spite of the fact that the artist is so badly handicapped by the relative value of the objects being miscalculated on the ocussing screen. In addition to this the object being upside down, makes this means of determining the position of the figure a very uncertain one. A suggestion has been put forward from time to time in the photographic press, that the landscape be photographed first by itself and a print taken, which could then be examined at leisure and the question of just in which spot the figure should come, be thought out. While this plan is troublesome, it will nevertheless prove very efficient and give to the operator an opportunity of showing of just how much or how little of the artistic temperament he is the possessor. The worst place for a figure, the spot in which it will bear the very least weight and at the same time the spot most used by those who know no better, is the very middle of the picture, for the result is that the field is too finely balanced on either side. In order to find the most expressive parts of a picture divide it into equal squares by two horizontal and two vertical lines and the points where these lines intersect will always be more easily composed and always expressive. The placing of an object in the centre raises, so to speak, a conflict of interest on both sides, so much that if there be an object of interest on either side, the eye is tortured and distracted. By having the lines referred to, drawn on the focussing screen, the photographer is enabled to place the intersection on the part of the scene that he most desires to and so give point to his principal object. The best place for the figure is between the middistance and the near foreground of the landscape, though a

RABBIT POINT RABBIT LAKE ONT.

Rabbit Point is one of the most beautiful spots on the canoe trip from Temagaming to Temiskaming. This view was taken from it late one September afternoon. The famous Rabbit Rock is near by.

figure in the distance, if judiciously introduced, may often be the making of an otherwise pointless scene. For instance, the picture of a man in the extreme distance on a country road is frequently the making of a photogram. You will usually notice, however, that the photographer seems to be afraid to allow his figures to look larger than dwarfs. Surely this cannot be because there are technical difficulties in the way, for if you think so all that is necessary is to turn to the work of the late H. P. Robinson, (almost the chief care of whose work lay in the figures which he introduced), and to look at the size of them. You will find that in almost every instance they are of a fair size, the size being of course relative to the size and topic of the picture.

Then we come to the question of "How" which is really after all a part of the preceding paragraph. In posing your models don't over do it; in fact don't do it at all, but rather learn to know the power of restrained suggestion and simplicity and aim to always leave something to the imagination of the spectator. But by this it is not to be inferred that you may let anyone who happens to be at hand wander into the view and stand with his hands in his pockets and stare directly into the camera or gape about as though to give emphasis to the fact that there is a fine prospect spread before him. It *is* quite possible to create an idea in this manner, but in nine cases out of ten, unless the figure is specially posed for the subject in hand, the effect will be detracted from rather than improved. However, in defiance of the fact that so very little is said on this extremely important matter, the sins against fitness are daily becoming fewer and anything that can be really said to be vulgar is extremely rare, for almost all those who are capable of producing work that is up to the average in other respects, are sufficiently endowed with good taste to prevent the making of any very serious error along this line. You are going to find that as a rule you will have considerable trouble in the instruction of your models, though it is true there are some who will at once grasp your ideas and at once get about putting them into execution. But whatever you do you must avoid the commonplace and try to instil into your pictures some individuality of yourself that will attract attention and distinguish them from the mass. Do not try to tell all of your story in the photogram, but rather let your object be to provoke a certain amount of enquiry and curiosity and depend upon it, your pictures will produce a fascination. Seek for simple and unaffected positions for your figures and make a study of variety in the posing of your models, letting the models rather, so to speak, pose themselves at your instruction. They are then more apt to strike an easy and graceful position and will wear less of a look as though the artist had said "stand so," or "pose yourself this way," accompanying the order by grabbing the head or arms and putting them into some strained and unnatural position. Remember that if you want your figures to be supposed to be in motion, it will be necessary that you have the greater amount of space behind them. In concluding this paragraph, let me say to shun the conventional and to remember that a sympathetic model is alone the kind to employ, and that in the posing that if the position is easy it will be graceful. With these points firmly impressed upon your mind so that you will have them to fall upon when you need them, you cannot well go astray.

The main point in studying the introduction of figures into a landscape, is to try it on half a dozen different plates in different positions and decide for yourself what is right and what is wrong. If for any reason your are unable to do this, or even if you are able to do it, you will find it an excellent scheme to fall back on a study of the works of eminent painters and cultivate yourself by a study of the works of fire and love and gentleness, that the great artists have wreathed about their ideas. Hours spent in such study are far from being wasted, and though maybe you will not see at the time that you have gained anything by ten minutes spent in looking at some well known picture, you will find that the impression made during that short time, will have taken a root upon your sub-conscious mind that will blossom forth in your next production, with work full of energy and originality.

Now, in conclusion, the question, "Are figures beneficial to the appearance of a photogram?" has not been asked. They almost invariably are. But the reason that so many landscapes are spoiled by them is owing to a lack of fitness perhaps in the position or dress of the model. These are the two prime factors to be considered and once they are thoroughly understood, you have opened up a way by which it is possible for you to give life and feeling to what would otherwise be dead and pointless mechanical productions.

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Correspondence.

Correspondence should be addressed to H. McBean Johnstone, P. O. Box 651, Sarnia, Ontario.

M. R. G.—Bromide of Potassium and Sodium Carbonate need no special precautions in keeping and will not deteriorate in solution. Sodium Sulphite if kept in a full tightly corked bottle will last some time. Perhaps two or three months. The best temperature is about 60° F.

Boy Blue.—Iron or lime in developer is injurious to plates or films. Pure water is a necessity. Filter the water before using it.

Photogram.—Half-tones take their names from the fact that they show the gradation between the high lights and shadows. Other kinds of photo-mechanical processes do not.

Broken Glass.—To make a ground glass when it is impossible for any reason to secure one, coat a piece of plain glass with the following: Sandarac, 8 gr.; Mastic, 4 gr.; Ether, 200 minims; Benzole, 80 to 100 minims. It is better to use the genuine article when it is possible to secure it, though this makes a very fine grain and is excellent for fine focussing. Coarse ground glass is almost worthless for fine work.

Magic Photograms.—I gave a way of making magic photograms in Rod and Gun in Canada, in the issue of Feb., 1900. I repeat it. Make a print in the usual way on albumen paper, fix and wash thoroughly without toning and then immerse in a saturated solution of bichloride of mercury until the image disappears, after which wash and dry. To make the invisible image appear place the photogram in contact with a moistened piece of blotting paper, previously soaked in a saturated solution of hypo-soda. The image will reappear in all its pristine vigor as if by magic.

George R. Anlell.—If you want to photograph ducks in motion it is going to be necessary for you to invest in a shutter and give up exposing by hand. Your lens may not be fast enough either to admit of your using a fast shutter and it would be well for you to ascertain just how fast it is before you go to any expense. I would suggest that you aim to use a fast lens and rapid shutter rather than try to use a fast plate. If you use a plate of medium speed your results will be considerably better.

Thos. G. Reynolds.—To take a photogram of a room of the size you mention, i. e., that of a concert hall, you will require a charge of flash powder at least four times as large as the packages put up by dealers for an exposure on an ordinary room. In fact if I were you, I would use a charge *eight* times as large.

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The Scrap Bag.

On Remembering the Names of Photographic Chemicals.—I never could remember the names of half the chemicals that are employed in the various processes in photography. Don't think that any one else can either. But it's getting worse and you will all do well to join me in laying up a store of sympathy for coming generations of photographers, for in the American Chemical Journal I learn that Prof. Holmes has discovered and named a new acid by the alluring title of "paranitrobenzoylureaorthosulphonic." I am hoping that this will not reach the Professor's eye, for I may have misplaced some of the letters. In commenting on the name, Anthony's Bulletin says that it is quite possible that it may enter the dark room, being as it is, composed of silver, potassium, sodium, etc. The silver salt will then masquerade under the appellation of "parantiroben—(No, hold on, I've got it wrong,) "paranitrobenzoylureaorthosulphonate of silver." I offer a valuable cash prize to the first man to say it correctly (and prove it is correct,) barring only the Professor, who has had a head start.

A Finishing Touch.—It is remarkable how a little thing will often create a vast improvement in a photogram. For instance, only the other day, my attention was called to a simple little scheme whereby a print mounted on a piece of plain white cardboard might by a few seconds easy work be made to look a hundred per cent better. It consisted in taking some blunt instrument, as, for instance, the smooth point of a nail, and drawing a line round the print and about a quarter of an inch from its edges. The indentation thus made was a most excellent set-off for the whole thing.

A Good Scheme.—Mr. R. W. Paul, of London, England, has recently issued a little leaflet for the use of photographic tourists who visit that city and whose time to hunt up the historic and interesting scenes is limited. The subjects are arranged in groups, each representing work that may be done in about a day. The idea is a most excellent one, and may be followed to advantage in other cities. Why not get the camera clubs to take it up, each club in its own city, for the benefit of others from other clubs who come to visit them. The trouble with our photographic societies in this country is that there is too little of a feeling of fraternity among them. In connection with this idea I might just mention that under the head of "Canadian Beauty Spots" Rod and Gun in Canada tried a short time ago to induce the various amateurs throughout the country to write up their own districts, with their picturesque portions, for the help of others who have only a short time in the locality and who desired to reach the best that is to be had in the short time. Each man would thus be helping his neighbor. Sorry to have to say that we were obliged to give it up for lack of support. Everybody likes to get the good out of a thing of that kind without giving any assistance to it.

Composition.—Allow plenty of margin around the edge of your future picture. Compose only as far as the general motive and main objects are concerned. Leave questions of shape and size till later on. This came out in 'Photography" a while ago. It is a good thing and worth remembering.

The Latest Thing in Mounts.—Some of the leading photographers are showing in their windows a mount that ought to be extremely useful to amateurs for Easter or Xmas cards. The mount is a cream-tinted, thin, pliable board with a vellum finish, and is made folded in the middle so that the print is inside a cover. Of course it could be produced in other colors, but professionals seem to be running on the cream at present. A pretty little landscape or portrait mounted in this way would be a dainty gift for a friend.

The Largest in the World.—The largest photographic dry-plate in the world was recently manufactured at "Papa" Cramer's dry plate works in St. Louis, Mo. The plate, which measures eight feet in length by four feet eight inches in breadth, is to be used to make a photograph of the cities of St. Paul and Minneapolis from a balloon. It is to be hoped that the first shot is a success for to have to make many "sittings" with photos of that size would soon bring anyone but a millionaire to the verge of bankruptcy.

Pan-American Photography.—A striking instance of the advances that the art of photography has made within the past eight years is to be seen in the small attention that is paid to the wonderful photographs of the electrical display that are on sale at the Pan-American exposition. Had these pictures been shown at the World's Fair of '93, they would in all probability have been heralded by the photographic press as the beginning of a new era in the art-science. As it is, almost no notice is taken of them as anything out of the ordinary and they are reproduced with as little comment on their making as would be the commonest landscape, all of which is due to the little short of marvellous strides we have been making.

AUTUMN MORN.

The serried lances of the light
Are marshalling 'neath the morning star;
They charge the sombre hosts of night,
And hurl their shattered ranks afar.

Then while the skirmishers of morn
Sweep westward on their silver way,
With flaming swords before him borne,
In triumph comes the Lord of Day.

A moment on the mountain head
He cast a crown of gleaming gold;
Then flung his mantle, warm and red,
Adown the hill-sides, bare and cold.

O'er frost-decked barrens rolling east,
Like silver altar cloths, he shone
Till each tall bush, a mitred priest,
Swung sapphire incense to the dawn.

Up from the brake curled the white mist,
Quivering over down and dale;
And lo, the lake by sunbeams kissed,
Smiling drew back her shining veil.

The hunter rouses from his dreams,
Breathes deep and strong the dawn wind cool;
And, bending where the soft light streams,
Bathes his flushed face in sparkling pool.

His hounds, sniffing the bracing air,
Impatiently pace back and forth,
Eager to track the timid deer
In the lone runways of the north.

Shelburne, Nova Scotia. —Colin McKay.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association.

THE RISE OF FORESTRY IN EUROPE.

(C. A. Schenck, Ph.D., Biltmore, N.C.)

To the student of American forestry, no literature can be more interesting than that dealing with the early stages of European forestry.

Primeval forests are not found any more in any of the East European counties, save Scandinavia. In Germany and France, the virgin forest has finally disappeared from the lofty mountain heights, where it had found a last refuge.

At Cæsar's and Tacitus' time, the forest in Germany must have closely resembled the American Appalachian Forests of say 1820. The undergrowth was impenetrable during summer, the corpses of gigantic oaks and beeches lay on the ground. The swamps—which have now disappeared from the section in question—were passable in winter only. Game was abundant. No economic use was made of the woods, and still the woods were furnishing all that the inhabitants required.

A few centuries later, the monasteries spread Christendom and agricultural knowledge over the country. Fire and axe extirpate the woods, where the soil is fit for agriculture. Still it does not seem that fires were ever allowed or ever had a chance to destroy vast forest tracts.

The forest was furnishing, at the time of Boniface, pasture for large herds of swine feeding on beech nuts and acorns. In addition, we read of the importance of wild-bees-industry, supplying the monks with wax for candle sticks, and with sweet honey for such earthly pleasure, of which monks are said to be pre-eminently fond. Charlemagne began to set aside, as imperial forests, huge tracts unclaimed by anybody. Some nobles were appointed as foresters, their duties consisting mainly in keeping hounds and falcons in good shape for their imperial master's pleasure. There was no possibility of forestry, because trees had no value. Forestry could be established only when timber got scarce. One of the first vestiges of practical forestry is reported from near Erfwit, in 1400, an important mining centre. When the miners had consumed all nearby timber for charcoal and for props, the value of a tree rose rapidly, and it was found remunerative to reproduce them. This the monks controlling the mines did, by dividing their woodlands stocked with second growth hardwoods into twenty coupes, of equal size, and by annually making a clean sweep with one of them, allowing it to reproduce, in the course of twenty years, from coppice shoots a forest of similar composition.

In the mountain forests, the backwoods, nobody thought of forestry until, say, the time of Frederick the Great. Working plans were prepared for the forests owned by the crown. The leading idea pervading these plans was invariably: "Cut no more timber annually than the amount annually produced by the forest." In many a case, however, reckless lumbering was permitted, as in the Black Forest by the Dukes of Wurtemberg where the stumpage, on large tracts, was leased to Dutch lumber dealers who floated the logs down the Neckar and Rhine into the Netherlands. In the Spessart Mountains, the Archbishop of Mayence allowed Bohemian glass makers to invade the woods, who, fortunately, had no use for the oaks of the virgin forest, of which a few hundred thousand are still left, each tree worth standing in the woods from $50 to $300.

The scare of a fuel famine was what drove Europe, in 1790, rapidly towards high stumpage prices and hence towards conservative forestry. At the leading universities, notably Mainz, Leipzig and Heidelberg, forestry began to be taught by botanists and economists. The introduction of quick growing timber species, notably of the American Black Locust, was strongly recommended. Laws were enacted preventing private wood owners from converting forests into farms. In addition, afforestation was indulged in by states and towns.

Towards 1820, the scare of a fuel famine had vanished. But the idea of conservative management had impressed itself so firmly on the ruling minds, that the main principle of forestry could not be shaken any more.

Additional help came when the royal or princely forests, under the pressure of public opinion, were ceded to the people by the ruling "monarchs," under conditions which made any extravagant use of the forests thereafter impossible.

The German nation cannot claim that the existence of forestry is solely due to their—or rather to their ancestors—sublime wisdom and foresight. A number of lucky circumstances—the absence of forest fires—introduction of railroads after that of forestry principles—large forests owned by families, towns, institutions in place of short-lived men—is that which has preserved their forests, aside from the undeniable fact, that the far-looking paternal forethought of government is nowhere more cheerfully accepted as forming a necessary part of governmental functions than in Germany.

Since 1820 forestry has expanded gradually at a rate exactly coinciding with that at which public roads (stone and clay roads) and railroads were developed, simply because cheapened transportation of timber means increased prices of trees,—and hence of seedlings and saplings, which are the trees of the future and which henceforth have a prospective value. When this condition of affairs arrives, money invested in second growth is remuneratively, and—with proper protection from fire—very safely invested. Then, and only then, forestry feasible on a large scale, be it on private or public account.

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The World's Timber Supply.

The International Congress of Sylviculture was one of the first of the long series of International Congresses which took place at the great Paris Exhibition, and it is, it is hoped, to be the first of a long series of important Forest Congresses to be held at short intervals in the future. There were delegates present representing most of the countries of the world, but, naturally, the great majority of those who followed the discussions were French, mostly gentlemen connected with the forest service.

The proceedings of the Congress opened with an introductory speech by M. Jean Dupuy, the Minister of Agriculture. He began with a welcome to the foreign members, and then proceeded to discuss the position of the Exhibition as "not only a marvellous spectacle offered to the word, but also presenting, for all civilized people, a powerful interest as being the resumé, the synthesis, the relief map, so to speak, of human

progress." He then proceeded to show how Sylviculture, so important in the economy of nations, could not fail to take a place, a great and honorable place, in the Exhibition. The Minister was followed by the Director-General of Forests, who, after thanking him for presiding and opening the Congress, pointed out the importance of an international understanding on this subject, so as to take stock of the forest resources of the world, in view of the probable wood famine which, before long, may be expected to be a serious difficulty.

These preliminaries were followed by what was the most important paper read before the Congress, that by M. Mélard, Inspector of Forests, on the insufficiency of the supply of building timber in the world. In an able discourse, he pointed out that the supply of such timber was already diminishing, that most countries actually at the present day were importing more timber than they exported, and that in those few countries where the exports still exceeded the imports, there were serious signs of the supply falling short before long. Taking the nations in order, he discussed the question as regarded each of them ; and gave statistics, both of the quantity of material imported, and of the value of the excess of one or the other. The following average figures of the values will be found interesting. They are in millions of francs :

	Excess of Imports.	Excess of Exports.		Excess of Imports.	Excess of Exports.
Great Britain	471		Sweden		198
France	99		Finland		89
Germany	344		Russia		134
Belgium	102		Roumania		5
Holland	18		United States		100
Denmark	31		Canada		127
Spain	30		British India		14
Portugal	5		China and Japan	4	
Italy	31		South Africa	9	
Switzerland	15		Mexico	12	
Greece	3		Argentina	26	
Bulgaria and Servia	3				
Austria-Hungary		199		1193	913
Norway		47			

He went on to point out how the excess in Austria-Hungary, Russia and the United States was much threatened, partly by increase of population and partly by industrial development ; and how the excess in Norway was menaced by the deterioration of the forests ; so that there only remained three countries where the forest resources were capable of helping in the future, viz., Sweden, Finland and Canada, but that what they could produce was quite insufficient, in presence of the increase in population and the development of industrial work, not only in Europe and America, but in China, Australia, South America, and South Africa, so that it was clear that we were on our way to a timber famine. He gave us fifty years only before such a catastrophe should take place. His recommendations were : (1) that the destruction of forests should be stopped, partly by strict legislative measures on the part of governments, partly by making private forest owners understand that their interests lie in taking care of the capital stock, and only exploiting so much as may be calculated to be the interest on it ; (2) that forest property should be helped by not being too heavily taxed ; (3) that measures should be at once taken to utilize all available waste land by replanting and restoration.

From this survey of the wood supply of the world it appears that Canada is looked to to assist in making up the deficiencies which exist in other countries and therefore the probability, indeed we may say the certainty, is that the demands upon our forests and their monetary value will increase so that the forest resources of this country will become more and more one of the most valuable of its assets How long a time will elapse before lumber in Canada reaches the value which it now has on the Continent of Europe may not be easy of exact estimation, but the time cannot be far distant when the full productive possibilities of our forests will not be any too great to meet the demands upon them, and when that period arrives values must inevitably rise. Various estimates have been made as to the time when the supply of trees for lumber in particular countries or in general would be exhausted, but most of these have been falsified by the event, as either the increment of growth or some other necessary element to the calculation was not given due weight, or else a subsequent change in conditions or a more accurate survey of the existing forests has changed the whole basis for the formation of an estimate. A change has sometimes been made in the conditions by the opening of new fields, as when teak was discovered to be a very satisfactory substitute in ship building for oak, the supply of which was becoming very scanty, or by a change in manufactures, as when iron displaced wood so largely in the building of vessels. The cutting of smaller logs has also in recent years very much increased the available supply. There is not now, however, with our present knowledge of the resources of our globe, any likelihood of hitherto unknown tree wealth being discovered, and the development of manufactures is now in the direction of making a much larger use of forest products, of which the pulp industry is a specially prominent instance; while the cutting of the trees has generally been carried well to the limit and sometimes much beyond the limit which must not be passed if reproduction is to be provided for.

However the question may be viewed from special aspects there is no possibility of denying that, while the demands on our forests are bound to increase, on the whole their capability of meeting these demands is steadily decreasing, while at the same time there are large areas of land which are practically useless except for the growing of trees and which are now entirely unproductive. Our present resources may be sufficient for present demands, but what will the condition be in thirty, forty or fifty years, or more? That is the question the forester has to answer and provide for. However varied the answer may be, there is one aim that should be always kept in view—that is, to make our timber lands which are useless for other purposes produce the largest possible quantity of the most valuable material, the same thing that we are striving for with so much care in agriculture. Surely no one can object to the reasonableness of such a proposition, or to the Government's taking the steps which may be possible or necessary at the present time towards the attainment of that object.

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Physiology of Tree Growth.

From "Forestry for Farmers" by Dr. E. B. Fernow.

Root and Foliage are the main organs of the tree. The trunk and branches serve to carry the crown upward and expose it to the light, which is necessary in order to prepare the food and increase the volume of the tree, and also as conductors of food materials up and down between root and foliage. A large part of the roots, too, aside from giving stability to the tree, serve only as conductors of water and food material ; only

the youngest parts, the fibrous roots, beset with innumerable fine hairs serve to take up the water and minerals from the soil. These fine roots, root hairs, and young parts are therefore the essential portion of the root sysem. A tree may have a fine, vigorous-looking root system, yet if the young parts and fibrous roots are cut off or allowed to dry out, which they readly do—some kinds more so than others—thereby losing their power to take up water, such a tree is apt to die. Under very favorable moisture and temperature conditions, however, the old roots may throw out new sprouts and replace the fibrous roots. Some species, like the willows, poplars, locusts, and others, are especially capable of doing so. All trees that "transplant easily" probably possess this capacity of renewing the fibrous roots readily, or else are less subject to drying out. But it may be stated as a probable fact that most transplanted trees which die soon after the planting do so because the fibrous roots have been curtailed too much in taking up, or else have been allowed to dry out on the way from the nursery or forest to the place of planting ; they were really dead before being set. Conifers—pines, spruces, etc.—are especially sensitive ; maples, oaks, catalpas and apples will, in this respect, stand a good deal of abuse.

Hence, in transplanting, the first and foremost care of the forest grower, besides taking the sapling up with least injury, is the proper protection of its root fibers against drying out.

The water, with the minerals in solution, is taken up by the roots when the soil is warm enough, but to enable the roots to act they must be closely packed with the soil. It is conveyed mostly through the outer, which are the younger, layers of the wood of root, trunk and branches to the leaves. Here, under the influence of light and heat it is in large part transpired and in part combined with the carbon into organic compounds, sugar, etc., which serve as food materials. These travel from the leaf into the branchlet, and down through the outer layers of the trunk to the very tips of the root, forming new wood all the way, new buds, which lengthen into shoots, leaves, and flowers, and also new rootlets. To live and grow, therefore, the roots need the food elaborated in the leaves, just as the leaves need the water sent up from the roots.

Hence the interdependence of root system and crown, which must be kept in proportion when transplanting. At least, the root system must be sufficient to supply the needs of the crown.

The growing tree, in all its parts, is more or less saturated with water, and as the leaves, under the influence of sun and wind and atmospheric conditions generally transpire, new supplies are taken in through the roots and conveyed to the crown. This movement takes place even in winter, in a slight degree, to supply the loss of water by evaporation from the branches. In the growing season it is so active as to become noticeable ; hence the saying that the sap is " up" or "rising," and when toward the end of the season the movement becomes less, the sap is said to be "down." But this movement of water is always upward ; hence the notion that there is a stream upward an one season and in one part of the tree, and a stream downward at another season and perhaps in another part of the tree, is erroneous. The downward movement is of food materials, and the two movements of water upward and food downward take place simultaneously, and depend, in part at least, one upon the other, the food being carried to the young parts, wherever required, by a process of diffusion from cell to cell known as "osmosis."

These food materials are, by the life processes of the active cells, changed in chemical composition as need be, from sugar, which is soluble, into starch, which is insouble, and back into sugar, and combined with nitrogenous substances to make the cell-forming material, protoplasm.

In the fall, when the leaves cease to elaborate food, both the upward and downward movement, more or less simultaneously, come to rest (the surplus of food materials, as starch, and sometimes as sugar, being stored for the winter in certain cell tissues), to begin again simultaneously when in spring the temperature is high enough to reawaken activity, when the stored food of last year is dissolved and started on its voyage. The exact manner in which this movement of water upward and food materials downward takes place, and the forces at work, are not yet fully understood, nor is there absolute certainty as to the parts of the tree in which the movement takes place. It appears, however, that while all the so-called "sapwood" is capable of conducting water (the heartwood is probably not), the most active movement of both water and food materials takes place in the cambium (the growing cells immediately beneath the bark) and youngest part of the bark.

The deductions from these processes important to the planter are : That injury to the living bark or bast means injury to growth, if not destruction to life; that during the period of vegetation transplanting can be done only with great caution ; that the best time to move trees is in the fall, when the leaves have dropped and the movement of water and food materials has mostly ceased, or in spring, before the movement begins again,the winter being objectionable only because of the difficulty of working the soil and of keeping the roots protected against frost. All things considered, spring planting, before activity in the tree has begun, is the best, although it is not impossible to plant at other times.

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The Maple.

The maple is the tree which has been chosen as the emblem of Canada, and there could have been no fitter choice. The beauty of a grand old maple standing up proudly against the sky, and spreading its sheltering leaves abroad, the glory which this tree gives to the autumn woods, and the contributions which it has made to the pleasure and comfort of the Canadian people, whether crackling cheerily on the hearth in winter, or yielding up its store of sap in the springtime to be converted into maple sugar, have given it a pre-eminent place.

The scientific name for the maple genus is *Acer*, being the older classical name, and it belongs to the order *Spindaceae*, an order which is largely tropical, and takes its name from *Sapindus* (Indian Soap) or Soapberry, growing in Florida and South America, the berries of which were used as a substitute for soap. The genus *Acer* includes a number of species, but the maple of Canada is the Rock, Hard or Sugar Maple (*Acer Saccharinum*, Wang). The specific name requires no explanation to those who have had opportunity of testing its appropriateness by tasting the delicious maple sugar which this tree produces.

The maple may be easily distinguished by its five-parted leaf and double fruit or samara, and the hard maple is clearly differentiated by the sinuses or indentations in the leaf being rounded and the edges entire, that is, lacking the serrate or saw-like teeth that are characteristic of the leaves of the other native species of the maple. The white-blotched bark of the younger trees is also a marked feature. The greenish flowers,

drooping on slender pedicals appear in April or May when the leaves are expanding, and the seed ripens in September. Seed for planting should be collected after that time and sown that fall or the next spring, but not later, as the limit of the vitality of maple seeds is not more than six months. The best method of keeping it over winter is by burying it in sand in alternate layers. The habitat of the hard maple is the Eastern and Central Northern States, and in Canada it spreads from Nova Scotia westward to Lake Superior, and north to the Laurentian divide.

This is the shade tree *par excellence*. Growing in the open it spreads out into a beautiful rounded canopy, and on the streets of our cities its compact body of leaves forms a grateful shelter in the heat of summer. It is, however, useful in many other ways. Hard maple firewood is always the best and commands the highest price. The wood is light in color, hard, close-grained and strong, and this makes it suitable for furniture and other manufactured articles, and particularly for flooring, for which purpose it is much in demand. It exhibits a great variety of color and fibre arrangement, the two varieties most prized being "bird's eye" and "curly." These are mostly cut into veneers, the latter being cut on the line of the diameter of the tree, and the former, the peculiar spotted variety, on the line of the circumference.

The spring sugar-making was a great event in the history of the early settlements, and was made the occasion of lively celebrations, especially by the young people. We have not so far passed into the prosaic age of patent appliances that the days are not yet remembered when the tree was tapped by making a cut with the axe, slanting downward into the tree, and lower at one side so as to form a small receptacle for the sap which would direct it to the cedar spile placed under the lower corner in a hole made by axe or gouge from which it ran into the hollowed out troughs of split basswood placed beneath. It was then collected and boiled in large iron pots till it reached the proper consistency, which was easily tested by dropping some of the boiling sap on the snow. A piece of fat pork, sometimes suspended over the pot, was used to prevent boiling over, and the impurities, which the careless method of handling made sufficiently numerous, were skimmed off as they rose to the top. The apparatus is now very much improved, metal spiles being inserted in holes, usually $\frac{3}{4}$ of an inch in diameter, and penetrating one or two inches into the wood, over which are hung covered pails, shaped so as to fit closely to the tree. The boiling is done in a specially prepared apparatus consisting of a series of tin pans, under which the fire passes, and the heat of which is carefully regulated by a thermometer.

The sap runs best during a season of clear sunny days and frosty nights. Trees on wet ground usually produce the most sap, but containing a large quantity of water. The average production for one tree is about twenty-five gallons of sap for the season, three per cent. of which is sugar. Thirty-five gallons of sap will make one gallon of syrup, or four gallons, one pound of sugar. Each tree would therefore produce about six pounds of sugar in a season, which at the rate of ten cents per pound would give a return of sixty cents. With even a small number of trees to the acre this would make a good revenue. If the tapping is done carefully with a view to a steady yield rather than an excessive one at any time, it does not appear to injure the trees materially, cases being known where sugar bushes have been yielding steadily for twenty-five years without apparent detriment.

There is a variety of hard maple called the Black-Barked Maple (var. *nigrum*) which is distinguished from the type by its darker bark and the leaves which are more pubescent beneath and have wider and less deeply marked sinuses. This variety is considered by sugar makers as the best for producing sap.

✠

Mr. Stewart, Dominion Superintendent of Forestry, has returned from the West and reports that great interest is being taken by the settlers in Manitoba and the North West Territories in the tree planting scheme. Meetings were held at different points as far west as Alberta, which were well attended. Exhibits of forest trees, tree seeds, etc., were shown at Winnipeg and Brandon Exhibitions which attracted much attention and brought forestry interests very graphically to the notice of those in attendance. Since the spring there has not been much danger of fire in Manitoba or the Territories, but recent dry weather has resulted in many fires in British Columbia, which will probably do much damage to the timber. Through the exertions of the Dominion fire rangers a fire in the New Westminster district was extinguished before it reached the standing timber. It is reported that the fires are even more serious in Washington Territory.

✠

The Boston Herald called attention to the utterances of Vice-President Roosevelt on the devastation caused in the United States by forest fires, the movement for the stoppage of which he calls "the greatest internal question of the day." The loss to the country by forest fires, largely preventable, has been estimated at $50,000,000 a year, not taking into account the losses by unfavorable climatic conditions which are much more. The need for such a movement is no less great in Canada than it is in the United States.

✠

In a review of the situation of eastern spruce the "American Lumberman" suggests as the primary cause of the dullness of the trade the demand for this wood created by the pulp business and the prices paid by wood pulp operators for spruce logs. Unless sawmill owners have lands of their own they have to go into competition with the pulp men for logs, and as the price has been forced up to $11 to $16 a thousand there is little profit in its manufacture, for any special rise in price would throw spruce out of the market in competition with other lumber. The condition is likely to be intensified in the future, and a remedy which "The Lumberman" thinks might be applied in order to save the spruce lumber business of the New England States is to make an arrangement with Canada so that spruce pulp wood should be admitted at a reduced tariff or free from the provinces of Quebec and New Brunswick, and thus leave the lumbermen the native spruce which they need for their mills. This is rather a naive suggestion, and, although Canada is always ready to consider any plan for the utilization of her resources, we can hardly be expected to sacrifice our own interests to advance the prosperity of either the pulp wood or spruce lumber industry in the New England States. The whole trend of recent legislation in Canada should have shown "The Lumberman" that, in so far as the matter is under government control, we prefer to arrange that the manufacturing should be done as much as possible on this side of the line. We want to have the raw material and the factory sufficiently close together to ensure that the relation between the preservation of the productivity of the forest and the prosperity of the factory may be so clear as to impress the necessity for proper forest management.

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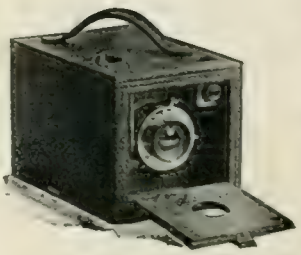

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EXPLORATION IN NORTHWESTERN CANADA.

By H. G. Tyrrell, C.E.

Continued from our October issue

Six miles further down the river is Todd's Crossing, a small half-breed settlement of some half-dozen families, all of whom depend for a livelihood on fishing. The method these people have of catching fish seemed to me very cruel and inhuman. Two lines of closely set stakes are driven into the river bottom, forming two sides of the letter V, vertex down stream. One of these sides is made longer than the other, so that the point can be more easily reached from shore. At the apex is a gap of three or four feet in width, and about two feet deep, around which, on the down stream side, is worked a basket of willow boughs. To guide the fish into the trap an inclined plane of poles is placed, with its high end toward the gap and leading up to it. The various poles and stakes are all set with sufficient openings that the water may freely pass, but all large fish are excluded. The night of our stay at Todd's Crossing the trap caught about two hundred fish, principally gold eyes, suckers, and jackfish, with an average length of twelve to fifteen inches. Too often, however, the improvident owners of these deadly traps will go off on a two or three weeks' hunting expedition, leaving the basket still catching its victims, and on one occasion the writer found as many fish in one of these willow cages as would half fill an Indian cart, all decomposing in the sun. "Take no thought for the morrow," is certainly a principle of the uncivilized Indian. It is strange how quickly these poor creatures learn the vices of the white man. When in fits of anger they will give vent to a mixture of oaths in French, English, and Cree. At other times their conversatfon is wholly in their own language.

PATCHING THE OLD CANOE

A birch-bark canoe is fragile, and part of the regular routine of a Laurentian wilderness trip is "fixing" the canoe. The photograph reproduced above was taken by the shore of Osterboining Lake (Kippewa), Quebec, in October, 1900.

The Indian, like St. Patrick with the snakes, has forever sworn vengeance on the hornet and all his kind. In all my dealings with the dusky red men, I can not recall a single time when they would pass a nest of hornets without destroying it.

Just below Todd's Crossing we had a thrilling experience. Being anxious to learn something of the condition of the river, we inquired of a half-breed at the settlement, who assured us, in the most friendly manner, that we would meet with no difficulty, that the river was free from rapids and waterfalls, and that there was nothing at all to impede our progress. This was indeed good news, and feeling greatly relieved, we proceeded at once, with light hearts, to make the best of our time, and travel, if possible, another ten miles before nightfall. We had gone between two and three miles on our way, when we

reached a place where the river widened out, and swept in towards the left bank, which was void of timber, and thirty feet or so above the river. On the right was a pebble beach, and beyond that a cluster of trees. So quiet and apparently forsaken was the place that we did not suspect danger. But there was danger enough, for the canoe, that was gliding rapidly along, suddenly ran its bow high on the concealed poles of a fish trap, and the lowered stern began to fill with water. As quick as thought I sprang into the water and supported the sinking end, while my brother hauled the canoe on shore. Attracted by the sound of voices, we looked up, to see a party of six mounted Indians, who, to our surprise, were headed by the honest looking half-breed that so earnestly declared the river to be clear. They were clad mostly in their own skin, their only clothing being a pair of native trousers each. One, however, wore a shirt of doeskin, beautifully ornamented with colored woods and beads. In their long hair, reaching to their shoulders, were a few bright feathers, and the gaudy painting on the upper part of their bodies gave them a hideous appearance. As we stood for a few minutes watching their movements, we conferred as to what had better be done. It took a while for us to explain that we were a party of explorers, making a peaceable survey and examination of the country, and were not in any way connected with the troops that were still encamped about the settlements. To prove our sincerity and friendship, we took from the canoe a pound of tea and a cake of tobacco for each of the warriors, and invited them to come over and receive them. Yet they were suspicious of the white men, and consulted for some time before the young chief came riding down the hillside, and fording the river, crossed to where we stood. On receiving our present the chief was still dissatisfied, and asked for more. He said that his party being larger than ours he should have more than half our supply. This arrangement seemed a little one-sided, to be sure, but to satisfy the chief we cut off another half cake of tobacco for each of his men, at which he was greatly pleased, and grasped my hand with both of his, shaking it heartily. His trouble now was how to carry his burden back to the village. Looking about for something in which to wrap his presents, and seeing nothing, the native startled us by pulling off his beautifully embroidered shirt and taking from beneath it an under garment, replaced the outer one to his person, and carefully wrapped his treasures in the other. This incident can best be appreciated by those who know the flavor of an Indian's clothing. He was not long in recrossing the river and mounting the hill to where his companions were. After examining the presents they brandished their rifles in the air, galloped away over the hill and were seen no more.

The river which up to this place had been flowing in a general direction eastward, now turns to the north for about twenty miles. The dip of the new valley becomes swifter and the water less deep. Throughout the entire course the valley of the Battle varies in width from a half to two miles, and this flat is for the most part overgrown with poplar, spruce and willow. In this wide valley the river meanders backward and forward in tortuous windings, so that often we found ourselves only a few rods from where we had been an hour or more before. Whenever the turns in its course are sharp, the current side of the bank is worn away, and trees and bushes, having their foundations swept from under them, are precipitated into the river. In this condition, with the roots still clinging to the shore, a jam is formed, under which the water rushes. When nearing such a place as this on the evening of July 22nd, we saw, when too late, our danger, and notwithstanding our utmost exertions with the paddles, were swept down with the current and dashed against the bushes. The writer, who occupied the front position in the canoe, seized the fore-line and sprang to a broken limb. I threw the other end to my brother, who was struggling in the water, and pulled him ashore.

Below the rapids, where the river widened and became shallow enough for fording, we waded in. Two bags of blankets, the paddles, a small sack of oatmeal, and some other things came floating down and were passed ashore; the rest, including arms and ammunition, instruments, and notes of the expedition, and even our coats, the pockets of which were filled with cartridges, had sunk in the rapids and were lying somewhere on the bottom of the river. It was already becoming dark, and to see into the water that day in search of sunken treasures was impossible, so a consultation was held as to what should be done. Any heavy baggage, such as guns and ammunition, had gone directly to the bottom and might be recovered, but the provisions were hopelessly lost. And even should the cartridges be found, who could say if the powder would be dry. It was useless to think of continuing the journey on what we had or could recover. It was resolved, therefore, that one of us should cross the valley and reach the prairie, where perchance a camp of Indians, or some wandering hunters might be seen, from whom we could get relief. My brother selected this errand for himself, and as there was scarcely time to cross the wooded valley and reach the plain before nightfall, he started off at once. As is usually the case in that northern latitude, the night was cold, and it is little wonder that I had fears for the safety of my comrade, who had so bravely set out on foot, wet, cold, and hungry though he was, and without a weapon for protection. On going to the canoe, which was still swinging in the rapids, to my surprise and great delight I found the little camp-kettle caught beneath the stern seat. With this and the sack of meal I thought to have some supper, and make things as comfortable as circumstances would allow. But a new difficulty arose, for the matches in my pocket-case were wet. Burying them in my warm hair, I paced up and down the beach till they were dry, and then with my hunting-knife cut into the side of an old dead tree till I came to dry wood, and on this scratched the matches into flame. Supper of oatmeal, eaten from the little kettle with the aid of flattened sticks, tasted very fine. To add to my discomfort a pack of prairie wolves made their way through the woods towards me, and at times came so near that I could see the light of my fire gleaming on their eyeballs, but when they felt the heat they would not venture nearer. I was too exhausted to think of staying awake to watch the fire, so piling on enough logs to make a good blaze till morning, I wrapped myself in wet blankets, and having entrusted all to Providence, threw myself down on the river bank and was soon fast asleep.

The morning dawned bright and promising, and with the first streak of light the forlorn traveller, who had been dreaming of his cheerful home, proceeded to spread wet blankets in the sun, and prepare another repast from the remaining meal. I had not been busy long when I caught a sound from up the valley. I listened intently again, but the only sound that broke the awful stillness of the valley was the noise of the running water and the cry of a lonely eagle in search of prey. Yet I listened as only those can whose lives depend on catching a sound. Again the call was repeated, and this time I recognized

it as the voice of my brother. Scanning the edge of the bordering prairie I saw the forms of two mounted men, and immediately my exultant breast sent forth a cheer which caught the riders' ears. Half an hour later the two horsemen, who had been guided to me by the smoke of my fire curling above the trees, appeared on the opposite bank of the river. Never till his dying day will the writer forget the grasp of my brother's hand as he sprang from his saddle that summer morning in the far off valley of the Battle, saying, "Well, Grattan, I guess that's the roughest night you ever spent"; and, indeed, I think it was. They had searched for me between one and two that night, but could not attract my attention.

On reaching high ground on the previous evening my brother saw in the distance a party encamped down by the side of a little lake, about five miles away. It was a long and cheerless walk through the darkness. He reached the camp as they were concluding supper, and to his surprise and great delight he found himself among the other members of his own party. On leaving us a few days before, instead of taking the trail to the north, they had fortunately gone on a wrong one, which led down to the river, and in place of being fifty miles away, were near at hand, ready to give relief.

The greater part of two days was spent in searching the river, and many valuables were found. After repairing the canoe and replenishing it with provisions, we again bid our friends adieu and started the second time on our journey.

On reaching the Indian village at Salvays Crossing we found most of them away, and among others the owner of the ferry. On inquiring we were told that he was visiting at Edmonton; visiting, however, rather from necessity than from choice, at the Edmonton jail, to account for his action in the late rebellion. The ferry is the kind commonly used on the western rivers. A cable is stretched about twenty feet above the water, and the ends are securely fastened on either shore. On the cable run two trolleys from each end of which ropes lead to the two ends of the ferry. To operate it, the ferryman goes on board his barge, or ferry, and by hauling in one of the ropes leading from the trolleys, sets the ferry at an angle to the stream, and the force of the current carries it across. They are often quite large, so that horses and carts with heavy loads can be driven on and carried across with safety.

Up in the settlement we bought some spruce gum with which to tighten the seams of our canoe, the bottom of which was all gone over and put in water-tight condition. As we were having dinner at the ferry a half breed came along telling us that a party of white men were encamped about three miles up the river. This we knew must be the men with our wagons. Accordingly, my brother walked over to their camp, and soon returned on horseback bringing the outfit with him to the ferry.

KANANASKIS FALLS

These remarkable falls are on the Bow River, Alberta near its junction with the Kananaskis River. Their roar is heard for miles

In attempting to bring the outfit across the river on the ferry the load proved too great for its capacity and it filled with water and sank, which caused us to camp for the night part on one side of the river and part on the other, and as rain came on tents were put up. The next morning, July 28, the wagons and cart were floated over and the outfit again started on its prairie journey.

On July 29 we reached a place called Dried Meat Lake, which is nothing more than the wide valley of the Battle filled from side to side with water, the bottom of which is somewhat lower at this place than elsewhere in this vicinity. This lake is about ten miles long, and as a stiff breeze sprang up a tarpaulin was hoisted as a sail, which carried us along at a good speed. The river bank here is not less than three hundred feet in height behind our camp. A seam of coal four feet in thickness was observed standing abruptly out of the north bank at the lower end of the lake, for a description of which see the

report of the Geological Survey of Canada for the year 1887. All through the following night the prairie wolves kept up their dreary howling outside our tents, sometimes not more than a few yards away. Whether they would attack a camp or not, their dismal noise in such a lonesome place makes it difficult for a traveller to sleep.

Five miles below Dried Meat Lake, by the edge of a little grove of maples, there was a signboard posted in a conspicuous place. Going ashore to examine it I found on it the following inscription: "I Moisekenipi kweyn, took possession of these maple trees thirty years ago and claim them as mine."

At the lower end of this lake, where it gradually narrowed down to the width of the river again, it contained a large quantity of reeds and rushes, and here ducks were observed in great numbers. We succeeded in shooting twenty-seven of these, as also some geese, which kept the pot boiling for a day or two. I very well remember how delicious the meat of these ducks tasted, after living as we had for the most part on salt pork. But an old goose that has been for several years on the wing is hardly fit for eating. One of them we boiled several times, day after day, but the meat was still too tough for use and it was thrown away. On July 30 ducks appeared in great numbers, flocks flying overhead and frequently alighting on the river. Sometimes it seemed as though the sky was filled with birds. There must have been at the least estimate many thousand of them.

Our latitude was now fifty-three degrees, and in July at this place ordinary print can be easily read by natural light at ten o'clock in the evening.

A little above the village of Salvays the Pipestone River enters the Battle as a tributary from the northwest. While the Battle is much the larger river of the two, the Pipestone has a wider valley, and from the high north bank, two hundred and fifty feet above the water, the Battle River could be seen to flow a mile or two in the wider valley before joining the Pipestone.

(TO BE CONTINUED.)

AN EXPLORATION TO THE HEIGHT OF LAND.

By St. Croix.

(Continued from our October issue)

In the olden days the Algonquin had no fixed dwelling. He moved his belongings here and there as the whim seized him, earning his existence by hunting and fishing, and having no thought for the morrow. But at North Temiskaming there are some forty families who have cast off their primitive habits, and settled down to farming. As farmers they are not particularly successful, the men breaking away now and again and taking to the bush for indefinite periods, during which times the farms have to care for themselves; but these people are living out their simple lives in a way which is entirely satisfactory to themselves, and one of the most contented communities I have ever been in is that of North Temiskaming.

I had been told to make my way, in the first instance, to the store of one Angus Wabie, a particularly intelligent Indian who speaks three languages, English, French and Ojibway, and keeps a store. Captain Redmond, however, warned me not to go very far away, as owing to the lateness of the hour his stay would be a short one; so I hired a young Indian, fleet of foot and long-winded as a race horse, to go in search of Argus, and while he was gone the fates were kind enough to send me an old friend to keep me company. Years ago, during my first expedition to the Canadian wilderness, I had as hunter—we did not speak of guides in those days—a well-known backwoodsman whose nickname was Jimmy the Duck. His right name is James B. MacDonald, and, although he is now over sixty years of age, there are few better men either in the bush or on the water. Jimmy has married into one of the leading families of North Temiskaming. His wife is one of the McBrides; her brother, John James McBride, the village constable. We talked over old times, and the changes that had taken place since we first saw Temiskaming, until my messenger returned, bringing with him the breathless but radiant Angus. Captain Redmond wanted to be off, but, like an obliging fellow, hung on for a few minutes longer while I made my arrangements, and the upshot of it all was that I carried off one Frank Lemire, together with his canoe, the idea being that he was to bring me back next day to North Temiskaming. Lemire had not been on board ten minutes before he sidled up to me, and told me confidentially that he was very, very hungry; so I had to arrange with the stewardess to give him something to eat. He proved to be a rattling good man at the table, and occupied the better part of an hour in storing away grub where he thought it would do the most good, and when we arrived at Haileybury he followed me into the dining room of the hotel in the most natural way in the world, and proceeded to polish off a second meal without turning a hair.

But if Frank could eat he could also sail a canoe, as he proved next morning, and if I wanted to go down a bad river I would willingly try my best to satisfy his enormous appetite, provided I could have his cunning paddle steering the canoe. And now I am going to make a confession: for years I have advocated travelling light, omitting superfluities; and yet I backslided, and added a lot of canned stuff to my outfit, for which I paid dearly in aching muscle before I got through with the trip. Oh, how easy it is to backslide! After practising what I preached for years, in one weak moment I yielded to the seductions of those cans of Bartlett pears and California peaches, and green peas, things which no man should take into the woods if he wants to be really free of the wilderness—and I promise never to do it again. Next time it will be pork and beans, and beans and pork, and mighty little else besides, excepting the fish and game I can secure by the way.

An epidemic of matrimony was about to strike Haileybury, and preparations for the ceremonies were already under way. In fact, the talk was almost entirely of marriage and giving in marriage, as on the following week two of Haileybury's most charming spinsters were to swear love, honor and obedience to the youths of their choice. So it came to pass that I was asked out into society that evening, to meet some of the high contracting parties, together with several beautiful bridesmaids, and did not get back to my cubicle until after midnight. Consequently, I was inclined to expostulate with Frank when he tried to kick down the door at 5 a.m. next morning. We argued the matter at some length, and eventually, as he seemed to have somewhat the best of it, I yielded myself to my fate, and donned the shirt of flannel and the overalls and moccasins which signified that I would that day bid adieu to civilization. By seven o'clock we were ready to start. The wind was favorable, though showing a suspicious increase every minute, and there was little doubt we should have enough of it ere we reached the sheltered mouth of the White River. Frank rigged up a wonderful sail out of the tent, and immediately we drew from under the lea of the land and began to feel the weight of

the breeze, the birch bark simply flew. We covered the six miles intervening between Haileybury and Windy Point in three quarters of an hour, by the watch; but really we were entitled to no credit for so doing, because after we got fairly started the only chance was to crack on sail, and keep ahead of those whitecaps that always seemed to hang close to the quarter of the little canoe. As it was, two of them caught us, and lapping over the low gunwale converted the bottom of the canoe into a hip bath, in which I sat more or less unhappily. Windy Point served as a breakwater, and after that the voyage was not remarkable for excitement. We reached North Temiskaming during the morning, and there Angus Wabie introduced me to his brother John, who he said was a good man and anxious to enter my service. John and I lived together in the bush for three weeks, and I am willing to certify that Angus did not overstate the case; for John *is* a good man, and you will go a long way before you find a better. He can hunt like an Indian, cook like a woman, and never gets cross or sulky. More to oblige John than anything else, I consented to take his fifteen year old boy to assist in keeping camp, paddling, portaging and the other things which have to be done when you are travelling in the bush. Bernabie was a bright lad enough and proved useful; where he especially shone was on the portage. This Indian boy, whose weight did not exceed 100 lbs., could carry a load of 75 lbs. over a portage of half a mile, and it was evidently his ambition to inure himself to the hard work of portaging as early as possible. His father told me, on more than one occasion, that the boy begged to have something added to his load, as he wished to become good at carrying.

(TO BE CONTINUED)

HUNT STEEPLECHASES.

By C. J. Alloway.

The two great events of the sporting year, the fall steeplechases of the Canadian and Montreal Hunt Clubs, took place on September 28th and October 5th respectively. In no year of their previous history have the conditions been more favorable and satisfactory. Both places of meeting were within easy access of the city, which made it possible for greater numbers than usual to patronize the events. Not only were there large numbers of the members' friends and general public present, but all the morning the roads were dotted with vehicles from the farming district adjacent, heading for the scene of the races.

Passing along with them, in the utmost good-fellowship, rumbled the stately four-in-hands, without which would be lacking one of the most attractive features of the day. Jaunty little carts drawn by shining cobs, victorias, stanhopes, pony carriages and every vehicle, from the correctly-appointed equipage of the private citizen, to the well-polished harness and hack of the cabman, delighted that for him profit and pleasure could be so happily combined,

Pedestrians, who thought the miles to be traversed on foot well covered with such a goal in view, were prominent for their numbers. There was also in evidence the usual complement of the ubiquitous and enterprising small boy, whose knowledge of loose spots in the fences and gaps in the walls was exceedingly useful on the occasion.

The exceptionally beautiful weather allowed of one feature which is always expected, that is the handsome costumes of the ladies, whose dark furs and rich attire they well know appear nowhere to better advantage than on a stylish drag with a background of the blue skies and crimsoning woods of our Canadian autumn.

Although a commodious grand stand is usually a convenience, it cannot be denied that it has a certain business-like and circus appearance that offends the artist eye. There being no such accommodation on these occasions, the whole environment was suggestive of a rural holiday, and gave to those not familiar with a hunting scene a pleasing sense of its atmosphere, only the absence of the hounds among the riders in "Pink" giving evidence that it was not a "meet" that was in progress.

The Canadian Hunt held their meeting at St. Lambert, over a level, farming country, containing jumps of a varied character, which included stone walls, post-and-rail fences, sod banks and ditches to the number of eight in the circuit, which was a trifle over a mile in length. The day was a perfect one, and the lovers of this kind of sport were there to the number of at least five thousand. Not for many years has so large and appreciative a gathering been seen at a Hunt meeting. There were six events on the card, every one of which was hotly contested.

The first race on the programme was the Polo race for ponies, which was won by Dr. Mignault's "55," Pinto second, and Dewey third.

The second race was the Green Steeplechase, won by Duc, owned by Dr. Gauthier, M.F.H. The rest of the field went the wrong course and were disqualified.

The Open race was won by King Top, Wild Arab second, and King Bolt third.

The Farmer's race, which was the most interesting event of the day and which caused great amusement, was won by Emile Brosseau, Louis Gravelle second, and W. St. Marie third.

The Hunt Cup, for qualified hunters, was won by Mr. Decarie on Wexford, Mr. Sector's Squire second, and Mr. Tancred Trudel's Sir W. third.

The Consolation race was won by Sleepy Belle.

A week later, October 5th, under equally auspicious conditions of weather and patronage, occurred the Montreal Hunt Steeplechases, held at Petite Cote, which began at the unusually early hour of half-past twelve. Luncheon was served between the first and second races, which was somewhat of an innovation to the customary procedure.

The first race on the list was the Hunter's Handicap Steeplechase, and was won by Jim Lisle, ridden by Mr. Murray Hendrie.

The second was the Farmer's race, won by King Top, also ridden by Mr. Murray Hendrie.

Race number three was the Jorrocks' Steeplechase, for members up in "Pink."

This race was won by Mr. A. E. Ogilvie on his mare Maggie May.

The fourth event was the Open Handicap Steeplechase, won by Mr. Penniston's Burnap.

The one following was the Hunt Cup, to be ridden by members, and was won by Mr. Watson's Round View, ridden by Mr. Murray Hendrie, Dr. Charles McEachran's Pal second.

The sixth and last race was the Qualified Hunter's Steeplechase, which was won by Sleepy Belle.

The enthusiasm and interest evinced in the entire programme on both these occasions were a proof of the popularity of the methods employed in the conduct of the Hunt races this year, and their continuance on similar lines will probably characterize meetings in the future, as there are a large number in the city and its environs who enjoy this kind of sport. The popular taste is generally an excellent guide as to the wisdom of such measures.

KENNEL DEPARTMENT

Conducted by D. Taylor

MONTREAL CANINE ASSOCIATION.

The regular monthly meeting of the Montreal Canine Association, preliminary to the annual general meeting, was held in the Natural History Hall, on Thursday evening, October 3rd. The Executive held a meeting previous, and endeavored to straighten out some matters for some time in abeyance, but were only partially successful; and, to say the least, the reports submitted were somewhat of a disappointment to a number of those present. At the general meeting Mr. Joseph Reid occupied the chair, and promptly announced the principal business of the evening, namely, that of nominating officers for the ensuing year, at the same time declining emphatically to stand for re-election for another year. The following are the nominations:—Hon. patron, Lord Strathcona; hon. president, Geo. H. Gooderham, Dr. Chas. McEachran, Dr. Wesley Mills, George Caverhill; hon. vice-president, C. W. Rodman, H. P. Hungerford, G. M. Carnochan, Jos. Reid, Dr. Wesley Mills, Dr. Drummond, A. A. Macdonald, John G. Kent (Toronto); president, D. W. Ogilvie, James Lindsay; first vice-president, Mr. Lindsay, A. F. Gault, jr., A. H. Hersey, Mr. Pitt; second vice-president, F. Stuart, A. F. Gault, Mr. Hersey, Mr. Pitt, Mr. Laurin, S. Britcher; treasurer, F. Stuart, A. H. Hersey, Jos. A. Laurin declining re-election; secretary, E. C. Short. For a position on the Executive, which is composed of eleven members, there were a large number of names submitted, and it is altogether likely that some new blood will be on the Board for the ensuing year. The following are the nominations in order: Alexander Smith, D. Taylor, W. O. Roy, A. F. Gault, John Cumming, Jos. Reid, S. Britcher, W. C. Finley, A. E. Coleman, W. S. Elliott, Jos. A. Laurin, Josh. Stanford, Jos. Quinn, D. Crawford, A. H. Hersey, F. Stuart, Wm. Henry, John A. Pitt, D. W. Ogilvie, Jas. Lindsay, S. P. Howard, W. Rattray, W. Kenenhan, A. H. Sims, W. Stuart, D. Robertson, A. Brosseau, H. H. F. Hughes, H. M. Walters, Geo. Caverhill, Scott Ives, A. G. Robertson, C. P. Simpson, Dr. Drummond, Dr. Mills, W. Buckingham, Chas. Thomson, G. Coulson, J. H. Smith, W. Kearney. After the meeting got through with this business, it was found so enervating that those present decided to adjourn.

The Bloodhound.

For stateliness of appearance hardly any breed of dog is comparable to the bloodhound, while the marvellous tales attending its unerring pursuit of its quarry have furnished the novelist and dramatist with material of the most exciting character. But it is a pure fiction to associate the bloodhound with ferocity. He never worries or mangles what he tracks down. His vocation is to find, and to find only, whether in pursuit of man or wounded animal.

The bloodhound has figured in history from time immemorial, and no breed of dog has preserved its characteristic points so persistently. The high, pointed cranium, the long, pendulous ears, the ample dewlap, the wrinkled forehead, the overhanging flews, and even the red haw or third eyelid (commonly called by dog fanciers the sealing-wax) may be traced more or less in the modern foxhound, the otterhound, the bassett, the dachshund and in the beagle of Sweden, which last is in fact a miniature bloodhound, though of lighter build. In the border history of Scotland and England bloodhounds were compulsorily maintained by almost every hamlet for tracking the moss-troopers after their raids, and until comparatively recent years the rural constabulary of England employed bloodhounds to trace sheep and poultry stealers. In this connection it has been asserted that the bloodhound, even as a pup, will pick up and follow the trail of a stranger quite readily, and perhaps more eagerly than that of his master. Another interesting fact is that the bloodhound, when alone, hunts mute, but when hunting in a pack he makes music of a most delightful melody. His tracking instinct is so keen that he hunts the "clean shoe" as well, if not better, than when the foot of the fugitive has been purposely fouled, and it is a pretty sight to watch a trained hound following his quarry over a fence, or under the rails, whichever course was taken. The training of bloodhounds has not been so persistently followed of late years, but time was when "man hunts" were common in several parts of England, and it is noteworthy that some of the trials took place when snow lay thick on the ground, and that while snow was actually falling the hounds laid on were equally persistent in tracking the quarry. A well-trained bloodhound will follow for miles, even after the lapse of several hours since the fugitive started, and although many other trails may have crossed the track. But he is frequently at fault over stone flags, and it was for this reason that the pursuit of the notorious "Jack the Ripper" in London by bloodhounds, at one time mooted, was after a trial discarded. Several one-time prominent bloodhounds on the show bench will go down into history. It was

A Bloodhound Puppy.

the late Countess which served as a model to Landseer for his bloodhound in "Dignity and Impudence," and also for his "Sleeping Bloodhound," whilst the late Sir John Millais' Cromwell figured in more than one of that artist's pictures.

The bloodhound's aristocratic appearance, his invariable good temper and his watchfulness commend him to social notice, while the vulgar idea regarding his ferocity renders him an invaluable companion for ladies and children against the annoyances incidental to the genus tramp.

✤

The Gore Kennel Club, of Hamilton, Ont., will hold a bench show on Friday and Saturday, November 8th and 9th. Mr. Joseph Kennedy will judge spaniels, wolfhounds, bull, black and tan and Yorkshire terriers, and Mr. Lacy the rest of the show. The Rev. Thos. Geoghegan is the honorary president of the Club. The classification provides for nearly every breed, as leash prizes are restricted to specials, of which there are a great number and variety. Entries close on October 25th, with Mr. George H. Carley, secretary, 139 Duke Street, Hamilton, Ont.

✤

From Mr. George Raper's letter to *Field and Fancy* we take the following: Matchmaker has been sold from the Richmond Grange Kennel, and sails for his new home in Canada a day or two after the Kennel Club show. He has not been the show success anticipated when purchased at the sale of Mr. C. McNeill's stock a couple of years ago, but on account of his blood he will be a decided acquisition to Canada, where he goes on leaving Gomersal. It is not by any means a pleasing reflection that so many good dogs of all varieties are continually being picked up for export. Some we can very well do without; others, and Matchmaker is most certainly one of them, we shall miss.

✤

For the Philadelphia show in the latter part of November there are 216 open classes and 96 local. The prizes are $15, $10 and $5. Entries close November 11th.

✤

Our Dogs (Eng.) says:—A somewhat unusual incident cropped up at Ilkeston show, in the fox terrier ring, where Mr. Tom Ashton was picking out the winners. It appears that this well-known judge some time ago had the misfortune to lose a good smooth puppy, for which he had refused a tempting offer, and whilst officiating at this show he recognized the truant being shown under him in the nomination of Messrs. Beck and Bottomley. Inquiries naturally followed, with the result that Messrs. Beck and Bottomley placed the puppy in the hands of the show committee, and all parties being satisfied that it is the "long lost one," the truant has been returned to its rightful owner.

The Duchess of Newcastle, in withdrawing from our stud list her well-known smooth fox terrier, Claude of Notts, imparts the intelligence that the dog has been sold to Mr. W. Douglas, to go to America, and adds that, in all likelihood, Americans will declare him to be Claude Duval over again, only with more substance, which is, of course, to the emigrant's advantage. Claude of Notts is in grand form, we understand. Her Grace has also sold to Mr. Douglas a very promising wire-haired youngster by Cackler of Notts, ex a Christopher bitch, but adds that it is a moral impossibility to divine the best pup of a litter at two months old, which we emphatically indorse.

English Sporting Dogs.

Of the number of men who attend dog shows and criticise the retriever class, how many are there who realize what an invention of modern times the retriever is? No field sport has altered in details as shooting has in the last hundred years. Such a breed as the retriever was unknown until well into the nineteenth century. All the old works upon shooting dilate on the best "cross" out of which to evolve a dog that would retrieve. A certain number—decreasing every year—of sportsmen will take the field next Monday who can recollect a preference for shooting partridges over dogs. Some forty years ago the fashion was much in vogue, though beginning to die out, chiefly on account of alterations in agriculture. In those days the sportsman took the field with a brace of pointers or setters, but without a retriever. Most setters, and many pointers, would retrieve; their talent was only exercised in the case of a towered bird or a runner, the latter being usually gathered in the nearest hedge. A clever dog would point a dead bird with an action which spoke for itself. A runner was more of a difficulty, as it might be ground game, in turnips especially. In Scotland, to this day, where setters are used, in many cases the retrievers stay at home. Of course, a running grouse in heather cannot travel like a partridge up a turnip drill. The retriever came in with modern covert shooting, and he was at first a cross of setter and Labrador, or setter and water spaniel. Now, for driven birds, the spaniel is coming into vogue as a retriever, while the "tracker," the retriever of the deer forest, is generally a collie. As for the deerhound, like Othello, his "occupation's gone."—*London Field.*

✤

By an unfortunate clerical error we were led to say in last month's issue that Mr. E. C. Short's wolfhound, Sir Roswald, was awarded third prize, instead of first, which was the case.

✤

This case of extraordinary fecundity in an Irish terrier bitch, reported in *Our Dogs*, will interest Canadian fanciers. Mr. Charles Browne, of Strabane, Ireland, owns a very noted brood bitch, Saraband, dam of Mourne Princess, Mourne Star, Mourne Wonder and many other winners, and in the five litters she has given birth to there have been 66 puppies, an average of over 13 per litter. Thirteen in a litter is not an unusual number for a bitch to give birth to once in a way, but to keep up that average for five consecutive litters is very exceptional.

✤

A bench show was held in connection with the Simcoe County Agricultural Society Fair at Barrie, Ont., September 26-27. The entries numbered about 75, purely local dogs, with the exception of a couple of nice quality young dachshunds from Sid. Saunders' noted kennels. In bloodhounds Dr. Wallwin's Longworth, by reason of his better head, beat a good-bodied son, plainer in head, both nice hounds. In foxhounds Dr. Morren showed two couple by a hound owned by the Toronto Hunt some years ago, called Jimcrack, from the Grafton Hunt. The winner in dogs was the novice winner at Toronto. In collies, the judge found a sweet-headed one by a son of Laurel Laddie. The best of the cockers was a nice-headed daughter of Red Kaiser, but light in bone and on the leg. Our Bobs, a winner of first at Toronto, was the best beagle, sour in expression and open in feet, nice body and good coat. In fox terriers, a nice pup by Endcliffe Banker, out of a daughter of Meersbrook Bristles, won easily in his class. This pup will make history with luck. He is owned by Mr. Bowley, a very

keen fancier from across the pond. Mr. Jos. Smith, of Guelph, Ont., handed out the ribbons in all classes and gave splendid satisfaction.

✱

Mr. James Walters, proprietor of the Primrose Kennels, Ottawa, has recently imported several fine bull terriers, which are attracting considerable attention in the Dominion capital.

✱

Mr. Tawse, the secretary of the Guelph Club, has quite a large kennel of fox terriers, a number by Champions Go Bang, Endcliffe Banker, Norfolk Victorious, etc.

✱

Mr. Sid. Saunders, another member of the Guelph Clubt has a few dachshunds that he expects to surprise the talen. with in Canada. Satisfaction won three firsts at St. Thomas, and in addition Mr. Saunders has three by Importation, dam the Shrew of Venlo, that he thinks are comers. He has taken a fancy to bulldogs, and is after a good bitch. There is room for some good ones in the breed, and Mr. Saunders hopes to help by supplying a few.

✱

Mr. S. Britcher, Newmarket Kennels, reports the following sales: Newmarket Baron II., to Frank F. Dole, New Haven, Conn., and the bitch Newmarket Baby, to E. E. Thomas, jr., Providence, R. I. At the same time he refused a handsome offer for Newmarket Bendigo from the former gentleman.

✱

Miss Markham, of Ottawa, has lost her prize-winning fox terrier Stein by poison, the work of some malicious person. Several valuable dogs have recently been done to death in the city by the same means.

✱

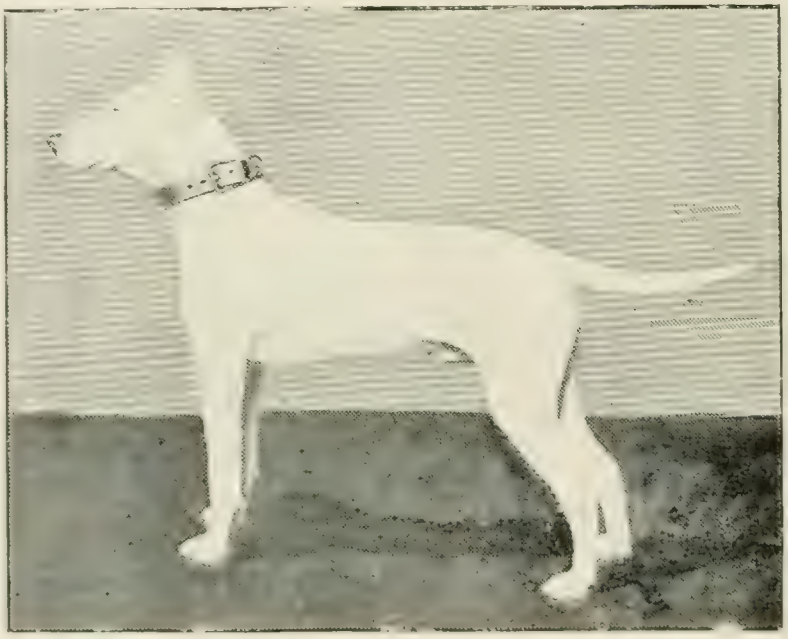
Mr. Joseph Reid has sold his brood collie bitch Apple Blossom for $100, with a "luck penny," to Mr. Adams, London, Ont.

✱

There is every indication that a dog show will be held at Guelph, Ont., during the progress of the Provincial Winter Show (cattle and poultry) the second week in December. If the show is absolutely decided on, it will be a ribbon event with a list of cash specials, and the entry fee will be 50 cents.

Newmarket Bendigo.

The accompanying photo is a fine specimen of the bull terrier, Newmarket Bendigo, owned by Sydney Britcher, of the Newmarket Kennels, Montreal. He is a puppy, 10 months old, 40 lbs. weight, and was sired by Edgewood Dick ex Newmarket Midget. He was exhibited at Buffalo for the first time, and won 2nd novice, 2nd limit, 2nd open, and was placed reserve to the winner. At Toronto he was still more successful, being awarded 1st puppy, 1st novice, 2nd limit, 2nd open, and special for the best Canadian-bred in show. At Danbury he won 1st open in a hot class.



Newmarket Bendigo.

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Whippet Racing in America.

Richard Croker, jr., of New York, whose kennel of English bulldogs, with its champion, Rodney Stone, made even Britishers admit its superiority, has gone in for another dog fancy, and has purchased a large number of those little streaks of canine greased lightning known as whippets, a sort of small greyhound that can run faster than any other animal, and he will try to introduce dog racing in America.

Young Croker has become quite a favorite among English dog fanciers, who generally speak of him as "Young Dick Croker."

One of the leading dog experts informs a correspondent that a rich New Yorker commissioned a London fancier to obtain at any cost a bulldog to be at Rodney Stone at the next Madison Square Dog Show, but no purchase has been made yet. Croker himself is in the market, but has not picked up anything equal to Rodney. He has desired to breed a bulldog in America which will beat his own English bred.

"It's a laudable desire," said Will Sprague, England's best expert, "but I fear he is taking a big task, for bulldogs are queer cattle to breed, even by those who have made them a lifelong study and gone crazy over them. Like does not always produce like in bulldog breeding. When Mr. Croker sailed for America recently he took with him two females, Little Witch and Bit O'Bluff, whose wants and toilets he personally attended to *en voyage*. This shows the spirit of a true fancier. His love of bulldogs has won him golden opinions in England."

Croker's racing whippets were recently shipped to New York. After they get in training they will probably be set to racing, which ought to become popular. At present in England

whippet racing is principally carried on by the working classes in the Midlands and Northern counties. The dogs are handicapped down to inches at the start, sometimes according to weights, at other times height or sex.

These immature greyhounds run 200 yard courses as straight as arrows and seem to know what to do. They can be seen letting out pace at the right time, and their speed is tremendous, 200 yards inside of 12 seconds, faster than any horse or sprinter. The dogs require the finest care and training. They run on a cinder track and enjoy the sport.

By the kindness of Dr. C. A. Schenck we have been furnished with the following interesting notes from the Cologne Gazette:—

"The revenue obtained from the sale of wood and timber in the Prussian State forests has been as follows:

In 1887	52.7 millions	In 1888	54.4 millions.
1889	60.7	1890	63.2
1891	60.5	1892	62.4
1893	58.7	1894	58.4
1895	64.5	1896	68.5
1897	75.2	1898	79.4

The sudden rise of revenue in 1890 was due to an increased output necessitated by the ravages of insects

The temporary increase in 1892 is explained by extraordinary wind-falls and snow-breaks, again causing an increased yield.

On the whole it appears that since 1897 the annual revenue obtained from sales of firewood and timber has grown by 50%. As these returns are considered to be safer than any other revenue obtainable from any other source imaginable, it is easy to see that the value of the source of the revenue, namely, of the forest, has increased at the same ratio, to say the least. Consequently, the government, aside from enjoying increased revenue, is now 50% richer than it was twelve years ago."

✠

BOOK REVIEW.

Mr. C. E. M. Russell, an officer of the Indian forest service, has brought out a second edition of a work he published a year or two ago upon Indian shooting.

"Bullet and Shot" is the title of this capital little book of sporting adventures. His aim, as he states himself in his preface, is to help the rough road of the tyro, and we think he has succeeded. He says: "It was frequently brought home to the author in the case of numerous beginners whom he personally assisted to obtain sport, how unfavorably situated such are in a strange country unless so aided, and he has endeavored in the present volume to supply what he believes to be a want." In addition to chapters describing the habits and haunts of the various species of Indian game, this book contains others upon camp equipment, arms and ammunition, and hints on skinning and the preservation of trophies. As the author was assisted in the preparation of these latter chapters by such well known authorities as Mr. Henry W. Holland and Mr. Butt, there can be no question as to the trustworthy information they contain. The book is published by Thacker & Co., of London and Calcutta.

✠

Mr. George H. Ham, of Montreal, has been staying at Sicamous, B.C. In the course of a letter, recently received, he says the fishing in Shushwap Lake is the best he has ever enjoyed.

THE GUN

To what extent the enthusiasm as to rifle shooting which was aroused by the initial reverses of the South African campaign will permanently improve rifle shooting in Canada is a question the future must answer. In Great Britain it is said that the formation of civilian rifle clubs, with their leavening of volunteers, have increased exceedingly rapidly in numbers and in membership. According to the London Field, a thoroughly trustworthy authority, British rifle clubs have developed steadily from small beginnings.

The National Rifle Association, notwithstanding its onerous duties, eagerly welcomed this new trend in rifle shooting, and encouraged it in every manner possible. Competitions have been set aside for the exclusive benefit of members of clubs affiliated with the parent association. These, as a rule, are competed for with miniature rifles and under conditions differing widely from those governing ordinary target shooting. In one class of competition there is a miniature range, a miniature rifle and its miniature ammunition; in others there is shooting with miniature rifles at distances often fired over with a service rifle, thus serving a useful purpose, since they permit the use of ranges which would be condemned as dangerous for the service rifle and ammunition. The third class of shooting which is indulged in by the affiliated clubs, includes the use of service rifles and ammunition at the shorter ranges. The object aimed at, and seemingly attained, by these classes is the bringing of target shooting attractively before a larger class than is represented by mere membership in the volunteers.

This, it would appear, is precisely what is needed in Canada. In the scheme outlined by the Militia Department, and published a few weeks ago, there seems a disposition to force every man who uses the range to become, at least nominally, a member of the militia. This has undoubtedly had a deterrent effect upon many who would otherwise have wished to join, and is probably responsible for the lukewarm interest exhibited so far by the great mass of Canadian men.

With the lessons of the Boer war before us, we must be blind indeed if we do not see the vital need in a country where conscription does not exist of every able-bodied man being somewhat of a marksman. The drill of the barrack square, the tinsel and blare, we can, perhaps, do without. What Canada needs most is 500,000 men of Anglo-Saxon and Celtic descent who could at short notice use their rifles to good effect.

The time to train the hand and eye in shooting is in youth. Instances are, it is true, on record showing that men of mature years have now and again learned to use the rifle and shot-gun, but in the vast majority of cases the only time to master any field sport is during those years when the receptive faculties are most on the alert. Every Canadian lad should have it in his power to become a marksman, if his bent lie in that direction.

✠

We are often asked for the names and addresses of men fit to guide hunting parties in the mountains. A correspondent whom we have heretofore found trustworthy writes that T. Martin, of Field, B.C., and E. McDougall, of Penticton, B.C., are hunters who have given satisfaction to numerous employers.

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Excellent accounts continue to reach us from the sporting grounds of the Northwest. Northwestern Manitoba is yielding some fine trophies this year. Three distinguished foreign sportsmen, the Marquis de la Gandara, a Spanish nobleman attached to the embassy in Rome; Baron Wulff von Plessen, a captain in the Imperial German navy: and Count Hadelin d'Oultremont, of Brussels, had extraordinary sport in the region surrounding Lake Winnipegosis. They accounted for five big bull moose and one black bear, in a fortnight's shooting, and they picked their heads. This is almost a record shoot, and shows what can be done by good sportsmen who make their preparations in an intelligent manner.

Another big game hunter who was successful—Mr. Hough, K. C., of the firm of Hough and Campbell, of Winnipeg—also made a most successful trip into the Manitoban bush. He bagged two fine moose and found game extremely abundant. These are but two instances out of several. For many a long year Manitoba and the Northwest Territories have been famous for the sport they yielded to the wing shot, but it is only lately that outsiders have began to realize that on the edge of the prairie there is a debatable land, part forest and part open country, wherein many species of big game are to be found. In a few years a great many sportsmen will set their faces annually toward the setting sun, about the time the leaves of the mossy-cup oak begin to turn brown, and they will have their reward.

✣

Experiments in acclimatization have shown very positively that no one should introduce a foreign species of beast, bird, or fish without first ascertaining beyond a shadow of a doubt that the new species will be wholly beneficial. One genius introduced the rabbit of Australasia: as a result the colonies have lost millions of pounds; for some of the finest grazing tracts in Australia and New Zealand were rendered sterile and unprofitable by the inordinate increase of the few couples of rabbits imported from Europe.

Another well-intentioned individual, seeing that a plague of rats was on the island, brought to Jamaica some mongoose from the East Indies; and these mongoose found Jamaica so much to their taste that they increased and multiplied most prodigiously. It is true that the rats were soon almost annihilated, but, as the mongoose had to live, he next turned his attention to the quail, and they went the way of the rat, and after that it was the turn of all the feathered songsters of the island, together with the henwife's poultry. Now the islanders shudder at the very mention of the mongoose.

A third experimentalist brought over from Europe a few couple of the house sparrow, which was endeared to him by sentimental recollections of his boyhood: and a few years later the legislatures of half the states in the Union were voting considerable sums annually, as head money, for the destruction of the descendants of those same sparrows which made the Japanese ivy of a certain church in New York so homelike to the exiled Britisher.

And now the Dominion government is incurring a very grave risk of adding yet another to these classic examples of energy misdirected. According to the daily press: "A car of spawn and young fish went west to be distributed in the different lakes in the mountains. These are being sent out by the Dominion Government. Bass constitutes the largest portion of the shipment." Now, it is by no means a certainty that the bass will thrive: this fish spawns in the spring as soon as the water attains a certain temperature, and it is quite possible that the parent bass may have to wait a weary time before the waters of the Rocky Mountain lakes reach a temperature which will permit the egg to hatch out in a reasonable time, if at all. These are matters which may only be decided by experiment. But this much is sure: if the bass ever do increase, and find the waters to their liking, it will be all up with the game, black, spotted and rainbow trout now inhabiting those waters. The bass is almost as destructive as the pike, and it is very much to be regretted that the Dominion Government should have been so ill advised as to attempt the introduction of a comparatively coarse fish—although a game one—into waters which hold the peerless salmonidae.

✣

Our frontispiece shows a young white Rocky Mountain goat (*Mazama montana*), together with his two captors, Christian Häsler and Christian Börlin, C.P.R. Swiss guides, who were stationed in the Rockies last summer. The animal is quite tame and very intelligent and affectionate. It was sold to Mr. George Vaux, of Philadelphia, who, we understand, has given it to the zoölogical collection of his native city.

✣

The annual meeting of the Province of Quebec Association for the Protection of Fish and Game was held in Montreal last month. A new constitution was adopted, and the following officers elected:

F. L. Wanklyn, president.
Colin Campbell, vice-president.
Thos. C. Brainerd, treasurer.
G. W. MacDougall, hon. counsel.
Wm. J. Cleghorn, secretary.

Committee—H. W. Atwater, Geo. Boulter, L. A. Boyer, E. T. D. Chambers, T. M. Craig, James Cochrane, M. L. A.; W. H. Drummond, M. D.; T. A. Emmans, D. Hatton, J. T. Finnie, M. D.; H. R. Ives, R. Kiernan, W. L. Maltby, Chas. Meredith, Peter McKenzie, W. H. Parker, J. B. Payne, Jos. Riendeau, J. P. Roche, T. Roy, jr., W. P. Scott, A. N. Shewan, J. B. Sparrow, J. H. Stearns, C. W. Wilson, M. D.

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His Royal Highness the Duke of Cornwall and York enjoyed some excellent shooting while in Manitoba last month. At Poplar Point, as the guest of Senator Kirchoffer, he brought to

bag 52 duck during the morning flight on October 7. Next day he did even better, and the total bag was more than 600 ducks. The guns were, in addition to His Royal Highness, the Governor-General, Sir Charles Cust, Prince Alexander of Teck, Major Maude, Commander Fawcett, R. N., and Lord Crichton.

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An unusually fine head was among the earliest arrivals from the famous Kippewa district last month. Mr. F. N. Southam, of Montreal, shot a bull moose on October 1st, northwest of Lake Kippewa, whose antlers have a span of sixty-two inches. Moreover, one of the spikes from which the measurement has to be taken is broken, and had this accident not happened the measurement would have been at least an inch and a half more than is now the case. This bull with average luck should have carried a sixty three and a half inch head, which we believe to be the record so far for the Kippewa district.

A party, consisting of Mr. E. L. Russell, general counsel of the Mobile & Ohio Railway, Mrs. and Miss Russell, Mr. E. M. Robinson, of Mobile, and Mr. Hatcher, spent a couple of weeks this autumn in Manitoba. Travelling in Mr. Russell's private coach, the party visited in succession Lake Winnipegosis, Plumas, Dauphin and other places, where excellent sport among the ducks and chicken was had. After a fill of shooting, the party spent a few days at Banff and Glacier before returning southward.

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Mr. L. H. Smith, of Strathroy, a sportsman whose frequent contributions to Rod and Gun are most welcome, is shooting "chicken" at Cypress River, Manitoba.

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For several years the bluebird (*Sialia sialis*) has been a rare visitor to its old breeding grounds in Ontario and Quebec. It suffered severely from a March blizzard which swept the Southern States, and seemed on the verge of practical extinction; but last year, and more particularly this summer, the species is becoming much more abundantly distributed. Ere long this little beauty of the field and orchard will be as familiar as it was ten years ago.

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It is very generally believed that there are few good guides to be had in Manitoba. We are informed, however, by Mr. Chas. A. E. Harris, of Ottawa, that the demand is creating the supply, and that he was able to obtain the services of several good half-breed or Metis guides in Manitoba during a hunting trip he made there in the fall of 1900. This will be welcome news to many men, who would have turned their faces westward long ago had they been assured of finding good guides awaiting them in Manitoba.

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AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

LANTERN-SLIDE MAKING BY CONTACT.

H. McBean Johnstone.

I rather fancy that it is more or less of a problem with every amateur photographer to find the most satisfactory method of keeping his picture, so that they are easiest shown to his friends when he may so desire. The scheme of putting them in an album is all right, only it is sort of hiding one's light under a bushel. Another objection to the album is that when a photogram is wanted it is never to be found : and I never heard of an indexed album. The really good way, the ideal way, of showing the picture, is to make a lantern-slide of it and throw it up on the screen where every one can see it at once, and you may depend upon it, the criticisms that will be pronounced upon it when it is under the gaze of all together, will be far more enlightening to you than you would ever be able to get by showing to one at a time in an album.

Apart from the really nominal cost or buying your lantern, you are going to be under no great expense to take up lantern-slide work. As far as the question of labor and cost are concerned, I figure that they are about the same, on the average, as making a good print. There are prints that can be made for far less than a slide, but the fellows that make them are not usually the kind who take enough interest to bother about a lantern, so we may safely say, I think, that the cost is about the same. The time employed is usually a secondary consideration, and after one once masters the art it is no longer a question of rush, but of going steadily, and you will get through very quickly. There is just one thing that it is necessary to say to the tyro : Never try to do the next thing in making a slide until you have finished the last. Then your slides stand a chance of being almost uniformly good.

Then it is necessary that the worker realize what a good slide looks like, in order that he be not working in the dark. The absolutely best slide, of course, is the one which when thrown up on the screen, most closely resembles nature, though that is hardly placing before the slide-maker any precise directions as to what he is expected to look for. The great majority of people want a bright, snappy thing with an abundence of clear glass and strong, hard shadows. Now, don't *you* make that kind. Aim rather to impress upon your audiences the beauty of delicate tonal values and the charm of the bewitching transparency which possesses its counterpart only in nature, and you will soon be able to make them feel that, instead of looking at a mere picture, they are in the great meadows in the valley where they can smell the great, fresh, air of the open. But still this does not tell you what a good slide is like. Here is what "The Lantern-Slide Manual," by J. A. Hodges, says on the matter : "A technically perfect slide should possess deep shadows and clear high lights and every possible range of gradation between the two extremes. At the same time, the shadows must not be so opaque as to lose translucency, nor the high lights so clear as to be devoid of detail. The thinnest slide when laid upon a sheet of clean, white paper, should show not the slightest discoloration or veil." In short, what we want to get in a slide that we can call good is the extreme amount of tonality, — half tones and

full tones,—and then combine that with the most perfect and delicate transparency. Such a slide would be perfect. Just as in a photogram, are a strong fore-ground and a distance displaying atmospheric perspective desirable; in fact, even more necessary than in a photogram, for we have to bear in mind that the slide, though in the original smaller than the original of the paint, is to be enlarged many, many times, and every defect will of course be correspondingly magnified. Slides in which sky, water, grass, in fact, anything but a white sheet, show absolutely clear glass, are fit only for the ash barrel. In fact, I have seen slides where even a white shirt showed its own shadow and gradation.

It will readily be seen that upon the quality of the negative is the quality of the slide dependent, just as is the print. A plucky negative possessing a lot of detail is inclined to be better than one of the heavy, dense sparkling order so much affected by many workers. We must bear in mind that it is an impossibility to get from a negative what it does not possess, in relation to which the advice given in one of the books on lantern-slide making is really worth noting: "At first, we advise the beginner to pick out his very best negatives and stick to them until he has learned to make a technically good slide."

Now, regarding the actual working details of the contact process, the most simple one, there is really little to say. First back your plates with ordinary lamp black backing, in order that you may secure the finest detail that is to be had. It is also a good scheme to mark your plates with a number on the corner in lead pencil. The number will stay there and will serve to identify the negative afterward for cataloguing purposes as well as to remember the time of exposure and development. If you keep notes on your work it is going to be of inestimable benefit to you, far more than any amount of reading on the subject could ever be. The developer recommended by the plate-maker is always good. Personally I have been employing the one recommended by Osborne I. Yellott, in his "Lantern-Slides and Sliding Making." It is as follows:

A. — Water, (cold)	10 oz.	
Metabisulphite or potash, (crys.)		35 gr.
Ortol		70 gr.
B. — Water,		10 oz.
Carb. potash,		½ oz.
Sulphite soda,		1¾ oz.
Bromide potash		10 gr.

For use take one part of A., one part of B. and four parts of water.

Referring to this developer, Yellott says it is very important that the temperature be kept high in the winter, about 70 degrees Farh., and that it should not be allowed to drop below 65. Having tested it, I can vouch for the importance of that statement; and as it is in winter principally that slides are made, you will do well to bear it in mind. He also advises that in order that uniform results may be had, fresh developer be used for every three or four plates, and that either a fresh hypo. or an acid fixing-bath be employed.

You will be able to work by a pale yellow light or a faint ruby, as the lantern plates are slower than ordinary plates. Now take the negative and place it in the printing frame with the mat you intend using on the top of it, and then put in your lantern-slide plate in the same manner as you would a piece of paper for making a print, film to film. It it well to dust off both plates first, as a certain amount of dust is almost sure to creep in. If you don't, you must remember that each piece will show on the screen through the lantern as almost a boulder. Then place a foot rule down with one end reaching to your light, and after deciding what distance you are going to hold the frame at from the light, measure the distance on the rule and holding it there open the door of the ruby light, You will not want to hold it less than six inches from the lamp, for if you do you cannot secure an even illumination. With a negative of fair printing qualities about a foot is the proper thing. This, with the exception of the developing (which is practically the same as in the case of a negative), is about the whole of the extremely simple process. Of course, a slide should never be developed as far as a negative, for it has to show all its gradation on the sheet, and must show it at once; whereas the negative, if it happens to be a bit thick, can be allowed to print a while longer. Let it go just a little farther than you want it to be when fixed. Just the same as when you are making a Solio print. But this is, after all, really the whole secret of slide making, this knowing how far to develop, and it is the man who, by dint of careful experimenting in this direction, finds just what he wants and gets it, who will be known as the best slide-maker. The average slide ought to develop satisfactorily in about five minutes, though of course this will vary with the exposure and development that you give.

You will want to bear in mind that it is almost altogether upon the exposure and development that the making of a good lantern-slide is dependent, and if you do not get the result that you are looking for in the first shot, you want to vary the distance of exposure and keep on trying till you find out which part of the foot rule produces the best results with the light you employ. Perseverence in this direction will get you the very best that is to be had.

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The Scrap Bag.

An Advantage of Pyro.—In spite of all that may be said against pyro as a developer, it will always have its defenders. Perhaps the strongest claim that can be made in its favor (as well as against it) is that it gives to the negative a slight yellowish tinge, which in nine cases out of ten, by making it print slower, secures prints with vastly finer detail and gradation. This is particularly the case in the instances where the negative is at all inclined to be thin.

A Memorial to Robinson.—It is with no small amount of pleasure that we see a large and influential society, the Liverpool Amateur Photographic Association, to wit, moving in the matter of a permanent memorial to the late H. P. Robinson. While his published works are likely to keep his name in the minds of photographers for many years to come, it must be the wish of all who have come under his influence, directly or indirectly, that so remarkable a man and so great a pioneer in pictorial photography should receive some such recognition. We hope that the movement started by the Liverpool society will be taken up by others all over the empire, and that the Royal Photographic Society will extend to it its influential support. Mr. Robinson was one of the greatest benefactors which that institution ever had, both in the ungrudging support he gave it while a prominent office-bearer, and in the vigorous criticism which he did not spare when separated from it. Both profited the society as nothing else has ever done, and the largest contributor to any fund in recognition of the

services of the "Grand Old Man of Photography" should be the organization which owes no small amount of its influence to his labours. We commend the proposition of the Liverpool Society to clubs and associations all over the empire, and shall be happy to do anything that lies in our power to assist in promoting so worthy an object.

The Use of Flash Powder.—In the photographing of interiors by the use of flash powder, the most common mistake made is that of placing the powder in a little pile above and to one side of the instrument, and firing it from that position. This is not the best way to do it, though it is true that the majority of professional photographers will tell you that it is. Instead, try spreading the powder out on a piece of gun cotton about six inches long and place it not more than a foot to either side of the lens, keeping it slightly above, and slightly behind. This will insure your having no harsh shadows in your photogram. If the powder is placed in a pile and then fired, those particles which ignite first will, in burning, blow some of the other away, so that a part of the charge is lost. Flash-light photograms (paradoxical as it may seem) are better when made in day time than at night, and if made at night are best made with a light in the room, though, of course, not in front of the lens.

Another Book by W. S. Lincoln Adams.—The Baker & Taylor Company, New York, published this fall another book by W. S. Lincoln Adams, of the firm of Scovill & Adams, the author of "Amateur Photography," "Sunlight and Shadow," and "In Nature's Image." "Woodland and Meadow" is a series of charming country sketches on a New Hampshire farm, dealing with the phases of life in various seasons. These papers are grouped about and illustrated by a rare lot of photograms taken by Mr. Adams and others.

A Snowstorm Effect.—"To produce a snowstorm effect in any picture, take some Indian ink on an old toothbrush, and, with a stick, spray the film side of the negative. A test should first be made on an odd piece of paper. When the negative is sufficiently covered with the small spots, it may be printed from in the usual way." The foregoing appeared in "Photography" some time ago. You will find that if you spray the glass-side of the negative, it will answer almost as well and you run no risk of making a botch of the job.

She Would Wait.—An old story that once went the rounds of the photographic press is again on its feet and is being told on a well-known Toronto photographer. Whether or no it has any real connection with the photographer in question would be a trifle difficult to say. But here is the story: A lady comes into the studio and asks the price of photograms. "Five dollars a dozen," answered the artist of the lens. "Well," replied the lady to the astonished picture man, "I was going to have my children photographed, but I only have eleven. I'm afraid I'll have to wait awhile." At latest bulletin she was still waiting.

The Photographic Convention.—The Photographers' Association of America held their annual convention during the month of August, in Detroit, Mich., and a highly successful one it was in every respect. One notable thing about it was that it was the first convention that had ever been held where there were no prizes or medals to be given to the leading exhibitors, and, on this account, there was considerable doubt expressed as to the quality of the work that would be displayed. It was proven at the exhibition, however, that those who doubted had little cause for their fears, and, on the whole, the photograms shown ranked away above those put up any previous year. Indeed, the feeling throughout the whole thing seems to have been that the association as a whole has risen above so paltry a thing as a medal or prize, and that the aim is now purely the art and its advancement. That is the right spirit. President Core and the other officers of the association are deserving of a great deal of credit for the masterly way in which they handled the whole affair and the highly successful manner in which they manipulated every feature of it.

The Ladies' Home Journal.—The September issue of the Ladies' Home Journal contained the last of the prize-winning pictures of its recent competition, and devotes the whole middle page to their reproduction. They are undoubtedly very fine, though somehow or other not exactly of the class we are used to seeing reproduced in the *photographic* journals' prize competitions as winners. Another curious fact in connection with the pictures is that not a single one of them is by anyone who is well known in the field of landscape photography. They are every one by someone who was never heard of before. A number of the other leading magazines of the month devote more or less space to the subject of photography.

What Does it Mean?—One of the leading photographic journals is responsible for the following advertisement in its last issue, and though the meaning of it is somewhat obscure, it is possible that some of the readers of Rod and Gun in Canada will be able to decipher it. Any such who wish to apply for the position (and are eligible) can send their letters to me and I will see that they reach their destination. Here is the ad:—

> "Wanted: A lady retoucher, having an established business and a widower. I want an A1 retoucher: view, matrimony: one of middle age. Send photo of self in first letter. References exchanged. Address Business, this office."

On Being Pleasant.—Following is one of the good things that were said at the convention held in Detroit recently. It is worth remembering by the amateur as well as the professional:

"What we get out of people depends a great deal upon what we put into them. When they come into the presence of a pleasant fellow they will feel they are pleasant too, and they will at once think better of themselves. We need to know a little of everything to be able to put ourselves in touch with the people we come in contact with. We must hold ourselves free to enter into the thoughts and the lives of the people we meet, so that we can draw them out; make them enjoy being in the room with you, and they will go away feeling better. Make a pleasing impression upon every man or woman. Don't talk to them about their corns, but help them to bear them by paying no attention to them."

Biographing a Duèl.—The Buffet-Déroulède attempted duel was full of those theatrical elements that go to show how lacking are the French in any sense of the ludicrous. Amongst the other incidents of thfs burlesque, we learn from the *Pall Mall Gazette* that the Nationalists, or supporters of M. Déroulède, engaged a photographer to secure a kinematographic record of the duel that never came off.

By Electric Light "While You Wait."—Photography by electric light has become so common at Coney Island, the notorious New York beach, that at night, the barkers calling attention to the fact that if you will only step inside, you can get your likeness made by means of artificial illumination for the small sum of ten cents, are very numerous. A common arc light is employed.

He "Kinder Suspicioned" It.—While in the Catskills, last summer, Falk, the well-known photographer who occupies the studio in the top of the Waldorf-Astoria, New York City, and his wife stepped into a rural "studio" to have their pictures taken. The artist posed them as awkwardly and stiffly as such "artists" usually do, and stepped aside to get a plate. As he turned to make the picture he was discomfited to find the pose of the sitters changed completely, Mr. Falk explaining that he thought the new pose more effective. Then he told who he was, and the gawky "artist" drawled out:

"When you shifted I kinder suspicioned you was runnin' a photograph gallery som'eres."

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Correspondence.

Correspondence should be addressed to H. McBean Johnstone, P. O. Box 651, Sarnia, Ontario, Canada.

Weak Negatives.—Extra pyro will give you more contrast in your negatives. You will find, however, that the very best negative for making enlargements from is one which is inclined to be thin and possesses plenty of detail. In fact, I often reduce negatives that I want to be extra careful with.

C. H. I.—"Stopping down" is a term used in photography referring to the use of the smaller openings of the diaphragm in order to increase the sharpness of the image on the ground glass. If you experiment with your camera and find that a certain stop,—say F 16, covers your plate to the edges, use that stop as the largest to make an exposure with. Focus with the lens wide open and get the objects in the middle of the plate as desired, and then stop down to F 16. Expose accordingly and your resulting picture will be, everything else carried out correctly, as good a picture as your camera will produce.

Alex. Owen.—The picture is not worth copyrighting in my opinion, but if you really want to have it copyrighted, would advise to write to Minister of Agriculture for instructions. Correspondence with the Department is carried on free.

Fog.—With films there is no visible halation except in those cases where the over-exposure in a certain part of the negative is so great that the light is refracted by the molecules in the emulsion to a sufficient extent to cause the diffusion of a light which is strong enough to affect the sensitive salts. Even in such cases, however, the halation is vastly less than it would be with glass plates, because the film negative is affected by refraction only, whereas the negative on glass is affected by both refraction and reflection. Film needs no backing or double-coating as a preventive of halation.

J. H. Hanna, Vermont.—Glad to learn that we have so many American readers. You are right: Canada *is* God's country as far as the camerist is concerned. It is possible to give a glossy surface to blue prints by enamelling. Take an ounce of white wax and the same quantity of spirits of turpentine, and after melting the former, and while it is still hot, add the latter. Rub over the surface of the print with a piece of flannel and then burnish with a clean, dry piece of the same. Let me hear from you again.

NEW HUNTING GROUNDS IN ONTARIO.

The following detailed information regarding the game resources of the Province of Ontario has been compiled from the reports of the surveyors who conducted explorations and surveys for the Provincial Crown Lands Department during 1900.

DISTRICT	AUTHORITY	REMARKS
Township of Sifton. District of Rainy Riv	James S. Dobie. O. L. S.	Game is plentiful including moose, partridge, prairie chicken and rabbits. Beaver are numerous in the northwestern portion of the township, along the branch of the Pine River.
Township of Harty, District of Algoma.	C. D. Bowman, O. L. S.	The township abounds in large and small game, such as moose, red deer, bear, mink and a few beaver, and the lakes in pike.
Township of Mutrie, District of Rainy Riv	Jos. M. Tierlan, O. L. S.	Game is very scarce in the township but the rivers and lakes abound with beautiful fish, such as pike, pickerel and black bass; and I was told by a fisherman that the whitefish were very plentiful in Eagle Lake.
Township of Hoskin, District of Nepigon.	Dumorest and Silvester, O. L. S.	Bass, trout, maskinonge and pickerel are abundant in the lakes. Deer, moose and bear are also quite numerous. A few indications of mink, marten, fisher and otter were found, but none of beaver.
Township of Miscampbell, District of Rainy River.	D. J. Gillon, O. L. S.	The northern part of the township is simply a deer park, moose, caribou, and red deer being very plentiful.
Survey of Base Line, District of Nipissing.	T. B. Speight, O. L. S.	The fur-bearing animals of this territory include moose, caribou, red deer, bear, wolf, lynx, fox, beaver, otter, marten, fisher, rabbit, mink and muskrat. Of these, wolf, mink, rabbit and fisher are scarce. The feathered tribe includes duck (chiefly black duck and redhead), loon, crane, partridge, hawk, owl and many small birds. Fish were found in abundance, among the varietes being pike, pickerel, whitefish, tulabie, white and red sucker, and (below the falls) sturgeon.
Survey of Base Lines, District of Algoma.	A. Niven, O.L.S.	Signs of moose and caribou and bear were often seen, and beaver, otter, marten, rabbit, mink and muskrat are the principal fur-bearing animals of the country. Partridges were very plentiful, and the rivers contain fish of the usual kind, viz.: pike, pickerel, whitefish and sturgeon (below the falls).

According to a press despatch from Vancouver, B. C., Dan Rice, of Nelson, was killed by a grizzly during a hunting trip in the Selkirks.

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We are always glad to hear from our friends who live in good hunting and fishing districts. Style and composition are mere secondary matters, and, provided the "meat" is there, we are only too glad to correct any angularities of diction, and make the orthography agree with Webster. But there is one kind of story we don't want,—and that is the kind that finds its way into the columns of the "yellow" journals about once a week. We don't believe in moose that weigh 2,000 lbs., and charge a man at sight, etc., nor do our readers, for they are sportsmen. Just plain, unvarnished facts will do nicely,—and the more of them our friends send us the better. We will make room for such stories, even if we have to use a rubber "chase."

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry

Edited by the Officers of the Canadian Forestry Association.

TREE PLANTING AT CALGARY.

The following notes are from a letter written by a gentleman living near Calgary who has had considerable experience and success in the growing of trees:—

"In planting out trees for ornamentation or shade, I think a good deal of attention should be paid to the non-deciduous varieties. In winter, when the ground is white with snow or russet from the brown grass, the eye requires some relief, and nothing is so satisfying as the beautiful green of our native non-deciduous trees, and for this our spruce cannot be excelled. They make nearly, if not fully, as handsome a tree as the Norway spruce of the East, and a much more handsome one than the spruce of the Eastern Provinces. For the first year or two after planting out its growth is so small that it is rather discouraging, but after that the growth is very rapid. Altitude has a great deal to do with tree growth. Elms, oaks and many kinds which grow readily at moderate elevations will not grow with us. Mountain ash, Scotch pine and native birch will grow well. Probably the Douglas fir obtained between Calgary and the mountains would do well. There is said to be a balsam in the Rockies which would also probably do well. The Eastern Canada balsam has not been a success with me, though I am not positive it would not if properly transplanted prove such. It is probable the Bull pine obtained from high elevations in British Columbia would be a success. The ash obtained from the Indian Head Experimental Farm has been a decided success. White pine, white cedars, tamaracks and many of the non-deciduous trees cannot be successfully grown at Calgary.

To be successful in transplanting trees, it is advisable that they should be removed as short a distance as possible, and that the conditions should be as nearly similar as possible. Never remove trees from a lower to a higher elevation if it can be avoided; the reverse may be adopted without incurring much loss. You can obtain any number of varieties of trees of the poplar family and also of the spruce where the conditions are very nearly similar, and whatever change would be in favour of Calgary. These could be obtained just for the cost of taking them up and transporting and planting them. Avoid, until you have shelter belts, experimenting in eastern trees; and when you have plenty of shelter there is no doubt many of the more delicate trees can be successfully grown. If anyone will take the trouble to go down to my place he will see thousands of trees growing, varying in height from one to five feet, which have been propagated by this means within the past two years. Spruces from four inches to four or five feet in height to be planted out close in even rows far enough apart to be cultivated with a horse hoe, at least four feet apart; and by mixing thoroughly the large with the small every year, the larger ones will furnish a supply for transplanting, thus leaving room for the smaller ones to grow rapidly and of good shape. Also top-dress liberally with good manure."

THE "HARD MAPLE (Acer saccharinum).

This is the symbolic Canadian tree, and is found from Nova Scotia to the prairie, and from the southern border of the Dominion northward to the height of land.

The suggestion is made, and it is one worthy of consideration by other towns as well as Calgary, that, as no doubt the corporation and the citizens of Calgary and vicinity will in the future be planting trees in more or less considerable numbers for some years, and it is desirable that tress should be available for all at a minimum of cost, the corporation should start a small nursery for supplying such trees, a plan which has been very successful in other places. The plan outlined is that a

lease of four or five acres of land tributary to an irrigation ditch in the vicinity of Calgary should be procured, and a plentiful supply of the different branches of the poplar family propagated from slips, seed, or by burying the green live poles in the spring of the year. It will be necessary to give such poles a liberal supply of water, which causes them to sprout in profusion, each sprout forming a tree. After two or three years they are sufficiently large to be available for transplanting.

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Tree Planting on Sable Island.

Sable Island is a name well known to every navigator on the Atlantic Coast of North America, and its reputation is not an enviable one, for, although small in extent, it has been the cause of disaster to so many vessels, as far back as there is any record of its history, that it has well earned the epithet sometimes applied to it of "the graveyard of the ocean." Lying in a south-easterly direction from the Nova Scotia shore, from the nearest point of which, Whitehead, it is distant about eighty-five miles, it rises in two parallel ridges of loose, gray sand, about twenty miles in length by one in breadth, from the level of Sable Island bank, one of the great banks in which, from Newfoundland, round the south of Nova Scotia almost to the coast of the United States, the ocean bed is elevated to a depth of from fifty to seventy fathoms, and which form the great fishing grounds of the North Atlantic. The eastern end of the island is in latitude 43° 59′ north and in longitude 59° 45′ west. In the irregular valley between the two ridges is a lake, now not more than eight miles in length, although it was formerly much longer. The early charts issued in 1775 represented the island as forty-two miles in length and two and one-quarter in breadth, and a special survey made by the Admiralty in 1799 showed a length of thirty-one miles and a breadth of two miles. These records show that the island is steadily diminishing in size, and this is confirmed by the records kept by the superintendents since the establishment of the life-saving stations in 1801. The main station was at that time located five miles from the west end, and was well sheltered by sand hills; but in 1814 this building had to be moved to prevent its falling into the sea, and this work of destruction has been going on steadily at the west end, making it necessary from time to time to remove the station farther east, often at great expense. The island is now equipped with two lighthouses, one at each end, life boats and other necessaries for saving life, together with a superintendent and staff of men.

The island is rendered specially dangerous by the winds and uncertain currents, as well as by the fogs which often envelop it, while the sand bars reach out on every side as if to grasp the unwary navigator. Even in fine weather vessels may be carried so near it before they are aware, that it will be a difficult matter to escape, for the island lies low and is not easily distinguishable against the ocean.

Besides the destruction caused by the waves, the wind, which often blows a gale, reaching at times a velocity of forty to sixty miles an hour, keeps sifting the sand away, mostly toward the east, or sometimes in its fury it hollows out great cavities in the sand.

Wild ducks, gulls, divers, plover and curlew are found on the island, and specimens of land birds common on the mainland are sometimes seen. The walrus was formerly found, and seals still resort thither in large numbers. The common or harbor seal is a permanent dweller. There are also on the island the domestic animals belonging to the stations, including a number of herds of half-wild horses. In the interior, round the lake, are seen wild roses, asters, lilies, and an abundance of strawberries, blueberries and cranberries.

With the object of trying to bind the sands of the island and also to make it a more conspicuous object on the surface of the ocean, the Department of Marine commissioned Dr. Wm. Saunders, Director of the Dominion Experimental Farms, to look into the question of tree planting on shifting sands, and see what steps could be taken to forest this disastrously important part of Canadian territory.

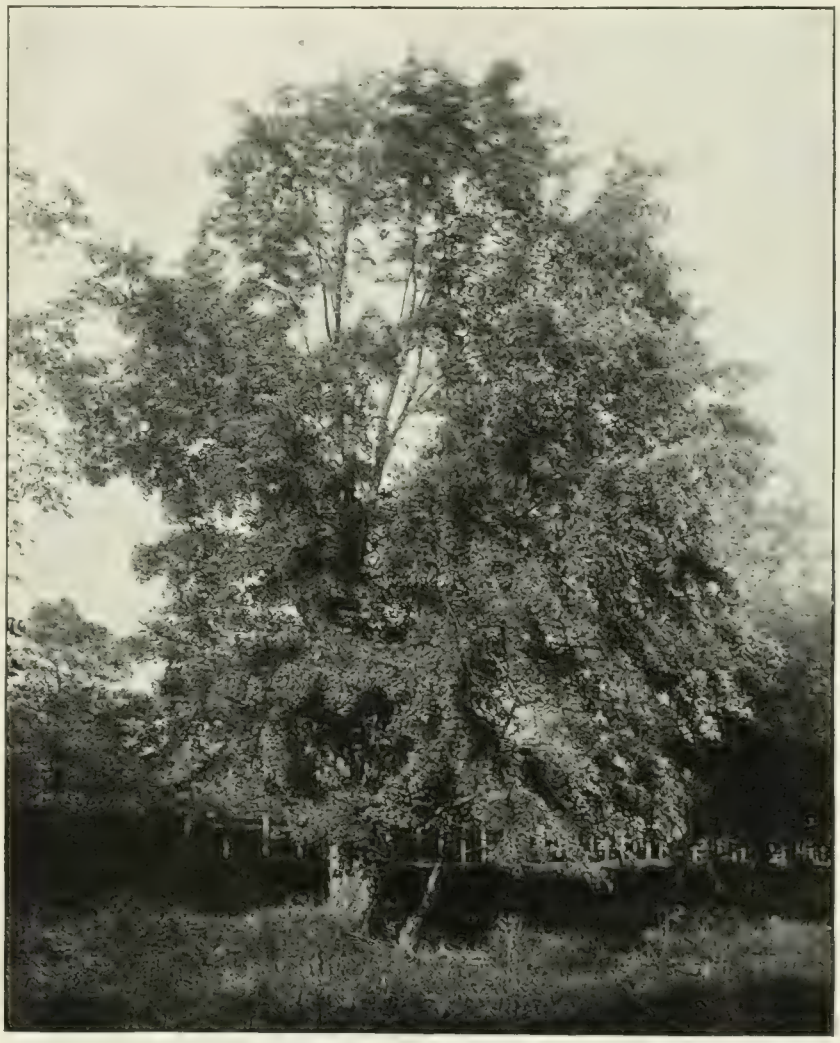
With this purpose in view Dr. Saunders took the opportunity, when visiting the Paris Exposition last year, to make some enquiry into the methods adopted in France, and particularly in Brittany, in dealing with conditions of a similar nature. The method generally employed was to erect a barrier in the way of the moving sand until a drift was formed, and on the leeward side to set out such trees and plants as were suitable for growing in sandy soil and for binding such soil together. The tree which has been most largely used for this purpose in France is *Pinus pinaster* or *maritima*. As the trees could not be cut away in any large quantities, the chief source of revenue in such forests has been from the turpentine in which this pine is very rich.

In selecting the trees to be set out on Sable Island, Dr. Saunders considered it advisable not only to try those which had been found satisfactory in France, but to experiment with a considerable number of species, so that the results might be as generally useful as possible, and also in order to avoid the possibility of failure which might occur from a too close following of the French example, owing to the climatic differences. About 82,000 trees were taken to the island, 68,000 of which were coniferous trees, including 10,000 each of maritime pine (*Pinus pinaster*), Scotch pine (*P. sylvestris* and *sylvestris*, var. *Rigaensis*), black pine (*P. Austriaca*), and smaller quantities of mountain pine (*P. montana*), dwarf mountain pine (*P. montana mughus*), and white pine (*P. strobus*); 16,000 spruces, including Norway spruce (*Abies excelsa*), balsam fir (*A. balsamea*), white spruce (*A. alba*), black spruce (*A. nigra*); 1,000 each of red cedar (*Juniperus Virginiana*) and common juniper (*J. communis*), and 500 of white cedar (*Thuya occidentalis*). The deciduous trees, about 24,000, are mainly represented by the following species: White birch, (*Betula alba*), honey locust (*Gleditschia triacanthos*), ash-leaved maple (*Acer negundo*), Norway maple (*Acer platanoides*), white elm (*Ulmus Americana*), European ash (*Fraxinus excelsior*), black walnut (*Juglans nigra*), sea buckthorn (*Hippophae rhamnoides*), spindle tree (*Euonymus viridis Japonica*), matrimony vine (*Lycium Europaeum*), Amur privet (*Ligustrum amurense*), common broom (*Genista scoparium—Cytisus scoparius*); of the willows: *Salix argenta, S. Japonica, S. laurifolia;* and of the poplars: *Populus alba, P. balsamifera, P. Canadensis, P. monilifera, P. pyramidalis.* In addition, fifty pounds of the seed of *Pinus pinaster* were sown. Seventy-three other varieties of deciduous and evergreen shrubs and trees, comprising almost all those more commonly grown as ornamental trees in parks and gardens, such as Syringas, Loniceras (honeysuckles), Rhamnus (buckthorn), Berberis (barberry), Spiraeas, Viburnums, Thuya (white cedar), etc., were also set out. The main object in this latter part of the planting has been to ascertain how far such shrubs and trees will succeed under the conditions of soil, temperature, etc., which prevail on Sable Island.

The location chosen for the main plantation was a depression now called Lake Park, toward the western end of the

island, which is not only sheltered from the wind, but which, from the growth of grasses and small plants, has a more or less irregular deposit of from two to four inches of humus. Commencing from the centre, the land was ploughed in a circle, and the trees were planted in this form, some of the deciduous trees being planted first, commencing with the willows, and the coniferous trees mixed with the remainder of the deciduous sorts being placed towards the outside. This plantation will have the advantage of shelter from the wind and also of the small proportion of mould, but other plantations have been made in more exposed situations and in pure sandy soil, so that the test will be as varied as possible. To a large proportion of the trees in the several plantations a mixture of artificial fertilizers has been applied, leaving a portion of each plantation untreated, so as to ascertain how the growth will be affected by such application. An analysis is also being made of the mould which was found already in existence. The last word received by Dr. Saunders from the Superintendent was that the trees were so far getting on quite satisfactorily.

This experiment is one that will be watched with interest for its own sake and also for the sake of the bearing it will have on efforts to deal with tree planting on shifting sands generally in Canada. The field chosen for this experiment presents greater difficulties than perhaps any other, and if they can be overcome in this instance, then assuredly they can easily be conquered elsewhere. It is gratifying to know that Dr. Saunders is making this test so wide, and the Department of Marine may be congratulated on having placed the management of it in the hands of a gentleman who has had the foresight and experience to grasp the broad significance of the solution of the problem in this particular case.



THE "SOFT MAPLE" (Acer dasycarpum).

While not so valuable as the hard or sugar Maple this species is nevertheless a most useful tree, and one which flourishes further north than the other

The Soft Maple.

What is called generally the Soft Maple includes two distinct species: the Red or Swamp Maple (*Acer rubrum*) and the White or Silver Maple (*Acer dasycarpum*).

The wood of these trees is white and, compared with the hard maple, is soft and brittle, but is employed where a light and not very strong wood is required. No distinction is made between them commercially. These, with the Hard Maple, are the species which reach such a size in Eastern Canada as to be properly described as trees.

Acer rubrum (*rubrum*-red derives its specific name from the red flower buds which appear before the leaves in April or early May. The twigs are also of a reddish tint. The popular name of swamp maple is given it on account of its preference for wet locations. It is found in Canada from the Atlantic to the western boundary of Ontario. The leaves of this tree are distinguished from those of the hard maple by acute sinuses and serrated edges. They vary in shape, the three-lobed shape being the distinctive one, although five lobes are quite common. This and the Silver Maple are the trees which put on the most gorgeous tints in autumn in our lowlands and along our river banks. Flaming into brilliant scarlet or crimson, glowing with a beautiful golden light, and displaying all the varied tints between, with the background of more sombre colors and under the hazy light of the dying summer, they form such a picture of brilliantly harmonized coloring as Nature alone can paint, and give to the Canadian woods a beauty which can hardly be surpassed, even by the lavish color displays of tropical scenery, and which lends a charm to the passing of the summer whose influence none but the most insensible mind can fail to feel. *Acer dasycarpum* is the earliest flowering species, the

blossoms appearing in March or April. They are greenish-yellow, and when the fruit appears it is covered with a woolly coating. This latter characteristic gives the specific name, derived from the Greek words *dasus*, woolly, and *carpus*, fruit. This is an example of an appropriate name. An example of an inappropriate name is the adoption by some botanists of *Acer saccharinum* for this tree, changing that of the Sugar Maple to *Acer saccharum*. The name Silver or Silver-Leaved Maple calls attention to the fact that the under side of the leaf is covered with silvery-white down. The leaf is always distinctly five cleft, with deep sinuses, and the margin is not so closely serrate as that of the Red Maple. This tree is usually found growing on the margins of rivers and reaches sometimes a height of 120 feet. It occurs most frequently in Ontario, but is found sparingly farther east.

*

Methods of Estimating Timber.

By Abraham Knechtel, Forester with the N.Y. State F., F. & G. Commission

General Method.

The oldest and crudest method of estimating a forest consists in going through the timber and forming a general opinion of its quantity. On account of the many factors to be considered—density of the timber, average volume of the individual trees, defective material, area, etc.—the method is very unsafe, and is rarely used by trained foresters. It is still frequently used by woodsmen and timber merchants, and the forester also occasionally resorts to it to ascertain the volume upon an area unit—the acre, for example—while from estimates thus obtained he draws a conclusion with regard to the timber in the whole forest as to species, age, quality, etc.

To be sure, with a great deal of practice, one may in this way reach quite good results, although with even good estimators errors of fifty per cent. are by no means exceptional.

In woods where the results of felling have been accurately recorded, the products from an area unit, the acre, *e. g.*, offer a good basis for the estimation of timber on other areas in the same district. One must consider, however, the relative age, and the other factors forming the volume of the timber, such as the height and the form of the trees, the density of the timber, etc. The method can therefore be used with good results only by such persons as can recognize accurately the conditions of the forests estimated.

The products from the fellings of roads and trails may also be used as a basis for comparison.

The Circle Method.

This improvement in procedure consists in estimating the timber on numerous one-quarter acre areas in the forest. A one-quarter acre circle has a radius of 58.86 feet. To ascertain, therefore, the quantity of timber on a quarter of an acre it is necessary only for the estimator to stand in the woods and count the trees within a radius of 20 yards, a distance which he can, with a little practice, easily estimate.

These sample areas may be chosen in straight lines through the forest, and be placed at equal distance by pacing; or they may be chosen irregularly, in which case the estimators should guard against the temptation to follow the best timber. The areas should be chosen so as to give a good general average as to quantity, quality, species, etc.

From these sample areas is figured then the average quantity of timber per acre, which, when multiplied by the number of acres, gives the estimate for the whole forest.

The method is very useful when a large tract of timber is to be estimated in a short time, as is frequently necessary in time option. It is applicable also where the timber is not very valuable, or where for any other reason wide limits of inaccuracy are allowable. For valuable timber a better method—in fact, measurement, should be employed.

The Strip Method.

This method was first employed by Zanthier, a German forester, about the year 1760. It consists in going through the forest at regular intervals, taking a narrow strip, for instance, two rods wide, a rod on each side of the estimator. The sound trees of each species are counted and a tally is kept.

The area of these strips is then calculated. For example, a strip two rods wide and a mile long contains four acres; or a strip two rods wide across a square forty-acre lot contains one acre. Knowing then a, the total area of the strips, A, the area of the whole forest, n, the number of trees on the strips, the number of trees for the whole forest can be obtained by the proportion

$$a : A :: n : N.$$

An estimate is then made of the average number of logs per tree of each species, the number of logs for 1,000 feet of lumber, the number of trees per cord for pulp or firewood, or the number of ties, telegraph poles, etc. From these estimates the total product of the forest is ascertained.

The following notes obtained from woodsmen in the Adirondack Mountains of New York will give an idea of the nature of such estimates. These estimates would probably be applicable to Northern Ontario, the Algonquin Park or the Muskoka region, for instance, or wherever the conditions are similar to those of the Adirondacks.

White Pine.

3 medium trees = 10 logs = 1,000 feet B. M.
2 trees, if excellent = 1,000 feet B. M.
4 trees, if very poor = 1,000 feet B. M.
Very large scattered trees should be estimated separately.

Spruce.

If good, 5 trees = 15 logs = 1,000 feet B. M.
If poor, 6 trees = 18 logs = 1,000 feet B. M.

Spruce logs are now cut down to 8 inches at the upper end, and the remainder of the tree is used down to 4 inches for pulp.

Pulpwood.

By Doyle's rule, 1,000 feet B. M. = $1\frac{5}{8}$ cords of pulpwood.

By Dimmick's rule, 1,000 feet B. M. = 2 cords of pulpwood.

Pulp.

1 cord pulpwood = 1,800 lbs. pulp.

Balsam.

Balsam is used chiefly for pulp, being generally despised as saw timber on account of its defects and its small size.

Cutting to 4 inches at the upper end, 8 trees = 1 cord of pulpwood.

Hemlock.

Hemlock is cut mostly into lumber. A small amount is cut into ties, and a very small amount, as yet, into pulpwood. It is difficult to estimate the lumber on account of the shake to which the tree is subject. Hemlock trees are very variable.

In New York, 5 trees = 1,000 feet B. M.
In Pennsylvania, $2\frac{1}{2}$ to 3 trees = 1,000 feet B. M.
In Wisconsin, 3 to 4 trees = 1,000 feet B. M.

Pulpwood.

4 to 8 trees = 1 cord.

1 tall tree, 18 inches inside the bark = 1 cord.

CEDAR.

The thickest cedars are used for shingle bolts, the longest for telegraph poles. The smallest stuff is used as fence posts. For railroad ties, cedar is objectionable, as it does not hold the spikes well.

Shingle Bolts.

6 trees = 1 cord.

Telegraph Poles.

Dia meter at top, 4 to 8 inches, and sound.

Length = 25 to 40 feet.

Fence Posts.

Length = 6 feet.

BIRCH.

In a general way birch, above 14 inches on the stump will run about as follows:—

6 trees, if cut down to 12 inches at base = 1,000 feet B. M.

8 trees, if cut down to 10 inches at base = 1,000 feet B. M.

1 tree = 1½ logs 16 feet long.

MAPLE.

10 to 12 logs = 1,000 feet B. M.

1 tree = 1½ logs 16 feet long.

For All Species.

1 log, 13 feet long and 19 inches under bark = 1 standard.

5 standard logs = 1,000 feet B. M.

Weights.

1 cord hardwood = 3,500 to 4,000 lbs.

1 carload = 20,000 lbs.

Carloads.

Green and Half Dry

Heavy hardwoods and hard pine, 5,000 feet B. M.

White pine and other light woods, 6,000 to 7,000 feet B. M.

Dry.

Heavy hardwoods and hard pine, 6,000 to 7,000 feet B. M.

White pine and other light woods, 8,000 feet B. M.

In Logs.

Heavy hardwoods and hard pine, 2,000 to 2,500 feet B. M.

White pine and other light woods, 3,000 feet B. M.

The degree of accuracy reached with the strip method will depend upon the distance between the parallel strips, the less the distance the greater the degree of accuracy. Where only a small degree of inaccuracy is allowable, the strips may be run adjacent to each other, in which case all the trees of the stand would be counted. Each strip may then be from 10 to 20 rods wide.

Many estimators, instead of counting the trees and then estimating the number of logs and finally the volume, estimate the volumes of the individual trees at once.

According to trials which Ihrig has made in Germany in estimating volumes in adjacent strips, the maximum errors of individual estimators were +11.5 and —3.8 per cent., the arithmetical mean of which being 3.8 per cent. Ihrig believes that under favourable circumstances (much practice, uniformity of stock, familiarity with the respective species and local growth conditions) very satisfactory results may be reached.

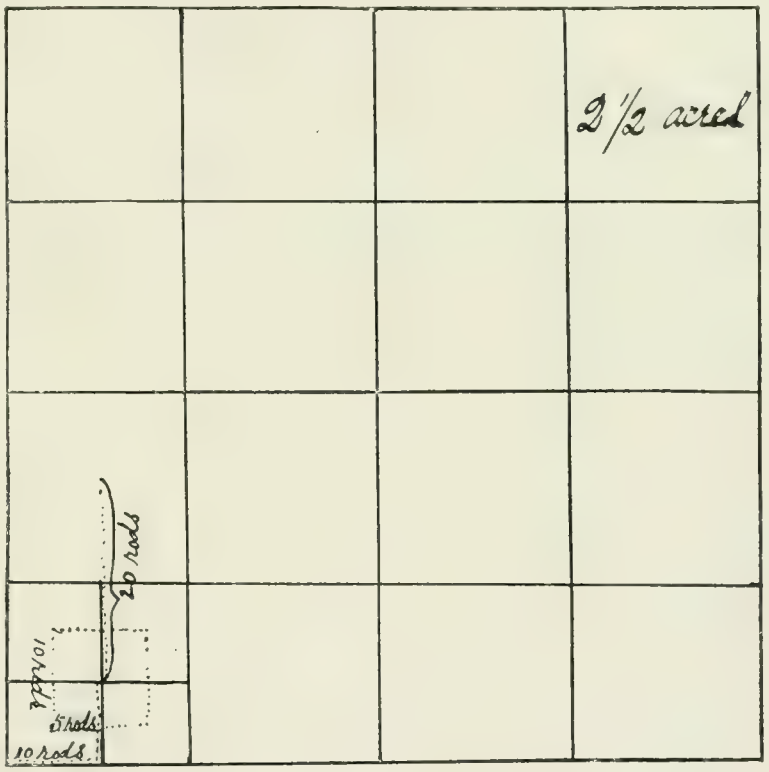
These requirements, however, can seldom be satisfied, and since it takes nearly as much time to make a thorough estimate as it does to actually measure the trees, measurement will be preferred, as it is much more accurate.

THE SQUARE METHOD.

By this method the estimating is done in squares, containing generally 2½ acres. Thus, a 40-acre lot would be divided into 16 squares.

40-Acre Lot

The estimator begins, for example, at the south-west corner of the 40-acre lot. He paces 10 rods east, then 10 rods north, which brings him to the centre of the square. He stands here



and locates, as well as he can, by means of trees, logs, etc., the boundary lines of the square, and estimates the timber upon it, either by a general estimate, or by counting the trees, or by estimating the volumes of the individual trees.

In dense stands, where the trees cannot readily be counted, a flag may be placed at the centre. The estimator then paces south 5 rods and west 5 rods, which brings him to the centre of the south-west quarter of the square. He estimates this part, then paces 10 rods north, where he estimates the north-west quarter, then 10 rods east for the north-east quarter, and finally 10 rods south, where he completes the estimate of the 2½-acre square. He then goes to the flag and carries it 20 rods north, to the centre of the second square, which he estimates as he did the first. Thus he goes through the stand, estimating 2½ acres at each station.

In stands that are not dense, where the timber is all to be estimated, this method will be found quite satisfactory. In dense timber the estimator feels the difficulty of estimating different distances for the corners of the square and the centres of the sides. When there is necessity of pacing a square within the 2½-acre square, as described, the method has no advantage over the strip method and is more cumbersome.

If numerous small separated areas are to be estimated, the circle method has the advantage in that the distance of the boundary line from the centre is constant, and hence less perplexing.

The Michigan Method.

In this method it is customary to estimate strips 40 rods wide. The estimator is assisted by a line man, who runs a compass line along one side of the strip and measures the length of it by pacing. The estimator passes back and forth across the strip and counts the trees. The distance from one side to the other he measures by pacing whenever his direction is away from the compass man. By means of a police whistle he signals to the line man to move forward, or halt, as necessity requires. Whenever the strip reaches the length of half a mile a record is made of the fact that 40 acres have been estimated. As the method is intended to be somewhat thorough, the strips are run adjacent to each other, the compass man running his lines 40 rods apart.

There are two or three other methods in common use in Germany, but as they are not at present applicable to our forests, a description of them is scarcely necessary. Those who wish to read a description are referred to Adam Schwappach's excellent little book entitled "Leitfaden der Holzmeskunde."

It should be remembered that the methods described in this article are methods of estimating. To ascertain the quantity of timber in a forest, foresters use methods of measurement, which, of course, do not come within the scope of my paper.

✠

Mr. A. Knechtel, to whom we are indebted for the article in our present number on "Methods of Estimating Timber," is a native of Canada who has been making a special study of Forestry in the United States. He had the opportunity before doing so of becoming practically acquainted with the manufacture of lumber in Canada, having learned the wood-turner's trade and worked at carpentering for some time, besides being engaged for nine years in the sawmill business in Muskoka, Ontario. Wishing, however, to gain a larger knowledge of the subject, he took a four years' course at the Michigan Agricultural College for the degree of Bachelor of Science, and a further course of the same length at Cornell University for the degree of Bachelor of the Science of Forestry, both of which degrees he now holds. He taught botany and mathematics for eight years in the High Schools of Chesaning and Leslie, Michigan, and was instructor in mathematics for one year in the Michigan Agricultural College. At present he holds the position of Forester with the New York State Forest, Fish and Game Commission, and is engaged in making a survey of the forest conditions in the Adirondack Preserve. Previous to this he was in the employ of the Bureau of Forestry for the United States, for which he made a study of the regeneration of the commercial trees of the Adirondacks. Mr. Knechtel has kindly undertaken to furnish some additional articles in the future.

✠

Any member of the Forestry Association who has not received a copy of the Second Annual Report may obtain one by applying to the Secretary, Mr. E. Stewart, Dept. of the Interior.

THE MAPLE.

All hail to the broad-leaved maple,
With its fair and changeful dress,—
A type of our youthful country,
In its pride and loveliness.
Whether in spring or summer,
Or in the dreary fall,—
'Mid Nature's forest children,
She's fairest of them all.

Down sunny slopes and valleys
Her graceful form is seen,
Her wide, umbrageous branches
The sun-burnt reaper screen;
'Mid the dark-browed firs and cedars
Her livelier colors shine,
Like the dawn of a brighter future
On the settler's hut of pine.

She crowns the pleasant hill-top,
Whispers on breezy downs,
And casts refreshing shadows
O'er the streets of our busy towns;
She gladdens the aching eyeball,
Shelters the weary head,
And scatters her crimson glories
On the graves of the silent dead.

When winter's frosts are yielding
To the sun's returning sway,
And merry groups are spreading
To sugar woods away;
The sweet and welling juices
Which form their welcome spoil,
Tell of the teeming plenty
Which here waits honest toil.

When sweet-toned Spring, soft breathing,
Breaks Nature's icy sleep,
And the forest boughs are swaying
Like the green waves of the deep;
In her fair and budding beauty,
A fitting emblem she
Of this our land of promise,
Of hope, of liberty.

And when her leaves, all crimson,
Droop silently and fall,
Like drops of life-blood welling
From a warrior brave and tall,—
They tell how fast and freely
Would her children's blood be shed,
Ere the soil of our faith and freedom
Should echo a foeman's tread.

Then hail to the broad-leaved maple,
With her fair and changeful dress,—
A type of our youthful country,
In its pride and loveliness;
Whether in spring or summer,
Or in the dreary fall,
'Mid Nature's forest children
She's fairest of them all.

—Revd. H. F. Darnell.

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A TRIP TO MATACHUAN.

By C. C. Farr.

"When the red gods call." Thus spake Kipling, and to those of poetic temperament is probably made manifest what he meant by it. I, with my prosaic soul, interpret it to mean blood. I hate blood, and slaughtering to me is an abomination, therefore my prosaic soul would rise up in judgment against the implication, and would urge him to find some better phrase to express the longing which all men feel for that communion with nature, which to my mind can best be found in the primæval forest. Whatever it may be, the fit of restlessness, of which he was so evidently aware, came over me, and abandoning my duties, the daily worries for the daily bread, I set forth to hold that communion with nature, and, as a fitting setting for such a quest, I chose as my companions nature's own children, a family of untutored savages, whose ways, though familiar of old to me, were part of nature herself.

My wife, who in her affinities out-Herod's Herod, accompanied me, and we made Matachuan the objective point of our journey.

The Indian family to which we attached ourselves was that of Meechell Batist, chief of the Matachuan Indians. With him were his wife, his sister, of doubtful age, and just now unattached, his daughter Soosan, just sixteen, his son Noowi, aged twelve, and little Harry, barely four.

The last received his name from the fact that Harry Woods, now residing at Temagamingue, in charge of the Hudson Bay Company's post there, arrived at the home of the Batist's one stormy day in December, a few hours after Harry's birth.

It is the custom amongst Indians to give a child the name of the first living thing that comes to the wigwam, or even in sight of it, after a child is born.

Sometimes it is a fox, a beaver, or a bear. I have known an Indian called "Mess-es-ack," "Deerfly," or "Bulldog," simply because a big "bulldog" came buzzing into the camp a few minutes after his birth.

The priests, however, fight against this system of nomenclature as being heathenish and unholy. They insist that no name shall be given a child unless it is that of a saint.

The consequence is that the original custom of naming is rapidly becoming obsolete, and we have now nothing but Cyrils, Jean Baptistes, Pierres, etc., *ad nauseam*.

In addition to the Meechell family there were Bazil Peeshеekie (Buffalo) and his wife, the latter three times his age, and known amongst the irreverent as "The Bald-headed Eagle," but active withal, and a faithful slave to Bazil.

When we arrived at Sharpe Lake, the first thing that Moowi, being a boy, felt called upon to do was to start up a wasps' nest, and then came running into our midst as we sat at our meal with a dozen wasps circling around his hat. A white boy would have been soundly rated, perhaps licked, but all his parents did was to laugh and protect themselves from the wasps.

We distributed ourselves and our impedimenta into the two canoes which Meechell had provided for us, and then paddled away for the next portage, on the other side of which we intended camping for the night. Bazil constituted himself our knight of the bedchamber. He put up our tent, culled the sweet-smelling bracken, and spread our blankets in a neat and inviting fashion. My wife objected in that they were laid crosswise, so that I had partly to undo all this beautiful work; but I assured her that it must have been done in compliment to herself, as I was long and thin.

The Bald-headed Eagle acted as cook, and we found the old lady remarkably clean (for an Indian) and very conscientious. She would not touch any of our delicacies unless bidden, and would cheerfully eat her bread and grease while we fed on ham, eggs, and other delicacies (in the bush), had we allowed her so to do.

Our presence put no restraint on these Indians; we had known them many years, so they laughed and chatted amongst themselves, and with us (for their language is no sealed book to me), practically accepting us as of the family.

These relations established, the journey was delightful, and just what we wanted.

After we had again eaten (Indians never go hungry long if they can help it), I saw the old woman gathering a plant having a white flower, and carefully stowing it away with her other treasures. I asked her what she did with it; she said that it was a good medicine for weak lungs, and that it was somewhat rare. Unfortunately, my botanical lore is too defective to give a scientific description of it, but I marked it well and the place where it was growing, so that at some future time I can investigate it. Next morning, at break of day, I was awakened by the report of a gun, and when I turned out somewhat later, I saw an object with a large head sizzling in a frying-pan. It was an owl which Meechell had shot. I asked what kind of owl it was. One said "kook-kook-koo-hoo," another said it was "mo-hom-osi," and the old woman swore that it was neither, but that it was "was-a-kon-aysi," a smaller owl than "mo-hom-osi" (the big-horned owl), and larger than "kook-kook-koo-hoo" (the mottled white owl), and then they all agreed that she was right. I saw the wings of it afterwards, and they were

brown, mottled with black or deeper brown. It looked a ghastly object in the pan, nearly all head, and having a pained expression in its large eyes. This was the last I saw of it, for they eat it amongst themselves. I remember eating owl myself in days long gone by. I lost a friend by it, and yet it was done in all innocence.

I had caught an owl which had been robbing my rabbit snares. I asked my housekeeper to cook it, which she did, roasting it, even as a chicken is roasted, but the head was lacking. Just as I was about sitting down to eat, a friend came along, and I naturally asked him to share my meal. He saw the beautifully browned bird on the dish, and he jumped to the conclusion that it was chicken, so he gladly accepted my invitation, for he was partial to chicken. After he had got away with the bigger half of my owl, I incidentally informed him that what he had been eating was owl. Then he began to curse and to swear, and he tried to get rid of the owl, but he could not; and from that day to this we have never spoken. But to continue—we were in our canoes and off, before the sun had dissipated the mist which hung over the water. It was a perfect summer morning. The white water lilies, magnified by the mist, dotted the surface of the water like large flecks of foam. A large flock of black ducks rose from behind the first point that we passed, and quacking loudly, flew to greater security. Kingfishers screamed notes of warning of our approach, while a large fish eagle lazily flew into a bay, to perch upon the topmost bough of a dead pine tree awaiting our departure before further continuing his fishing operations.

I noticed that Soosan could not resist plucking the white lilies as we passed them. Few girls can resist them, be they white, or black, or red. Soosan is an excellent type of the Indian maiden; she has all the delightful insouciance of youth, and the irresponsibility of her sex. She would paddle just when she felt inclined to do so, was very self-contained, and was thoroughly satisfied with Soosan.

Much to the amusement of us all, when we arrived at the next portage, the first thing that attracted our attention was a piece of birch bark set up in a conspicuous place, neatly folded, and stuck into a cleft stick. It was evidently a letter, and Meechell, who was the first to land, laid hands upon it. With a laugh he read the address aloud. It was addressed to Soosan, and we all guessed that it was a love letter. Poor Soosan could not turn much redder than she was, but she would have done so if she could, for she was unmercifully chaffed by all.

When we came out on to the Montreal River we prepared a mighty meal, and we did eat, with appetites that only the bush can give. Then we set our faces up stream, paddling with a will against the stiff current.

"Look at the moose tracks," said Meechell, pointing to the clay banks of the beaver meadow.

"They are like the tracks that your cattle make in your yards;" and indeed it was the truth. It was like a cattle trail. There will be good sport for those who like it some day in these regions.

When we struck the rapids the Indians put out some of the load, and proceeded to drag, pole, and tow the canoes up the rapid. Little Noowi wanted to carry a bag of flour over the portage, so his mother put one on his back. It was certainly a good deal heavier than the boy, and yet the little chap walked off with it, while his mother laughed with pride to see her boy thus acting the man, and she herself picked up a bag, handling it with the ease of one to whom the feat was no novelty, and putting something else on the top of it to keep it down, walked away with it, for was not it "part of the day's work."

And so we made our way to the last of the three rapids, where the river ceases and Bay Lake begins. Here I wanted to try for a bass, so I suggested that a dish of tea would do us no harm, a proposition readily assented to, for we had laboured diligently in the rapids.

I always find that bass bite best when the bait used is something they are hunting for themselves. I noticed several small green frogs hopping about on the shore, and I surmised that bass were probably swimming about close by, watching

A Hunting Morning.

Many of our best sportsmen [illegible] believe in "hounding" deer; but, nevertheless, it is a recognized Canadian sport, and takes hundreds of men into the bush in Ontario and Quebec during October, who other wise would not go there

their opportunities, so I despatched Master Noowi into the bush to cut a rod while I secured some frogs.

He came back bearing a pole that would have done for a mast, but as I did not wish to lose time I was fain to make use of it.

I had some Kirby bent hooks and a piece of line, but no reel. At the first throw I landed a beauty, nor did I cease until I had seven fine bass kicking on the shore. Noowi was in raptures. This was a new experience for him. The troll and the net were the appliances to which he had been accustomed, and he yelled to his parents that I was teaching him a new way to catch fish. I gave him the rod and let him try his luck, or skill. He soon landed one, but he broke my hook, for his method was clumsy and begotten of main strength and ignorance. Luckily I had more hooks, so I replaced the broken one, and I left him to thresh the water by himself, for the Bald-headed Eagle had screamed the summons to eat, a summons that I quickly obeyed, for I was hungry, and the incense of frying bass had risen into my nostrils, enhancing my hunger.

When we had eaten we once more embarked, but Boy had been so enthusiastic about his fishing that he had missed gastronomical opportunities, and was now consoled by munching a big chunk of "deadly dodger"* in the canoe. And thus onward and upward we skimmed across the glassy surface of Bay Lake. It was perfectly calm ; there was not wind enough to bend the rushes through which we had to pass before we reached the open water of the main lake.

I had difficulty in restraining my Indian friends from starting a loon hunt. They were sorely tempted, but I pleaded haste, and the motion carried. Though victorious, I checked the vivacity of my companions, for Indians rarely pass a loon unmolested on a calm day.

When conversation ceases the paddles work better, consequently we made good time. We passed the portage which leads to Am-en-ip-i-sany, the home of the bass and of the lake trout, and, I might add, the home of that Highland Indian, Malcolm McLean, a man born in the Highlands of Scotland, but who can tell more yarns about Indians and the Hudson's Bay Company than any man living in the Temiskaming district. For over fifty years has this faithful adherent of the great company served them. He married into the Whitebear family (the family that has supplied a succession of chiefs for the Temagaming Indians), and has become even as an Indian in his manner of living. Here, as the great poet sang, he has raised his dusky brood, entirely assimilating himself to the ways of his wife's people ; reversing the order of things that held with Naomi and Ruth. Her ways were his ways, and her people became his people. And now we pass the house where first the electric girl of Matachuan began her manifestations.

She was an Indian maiden of about fourteen or fifteen summers. She was fetching a pail of water from the lake ; a dark ominous cloud hung o'er the north-west—a black mass of electricity ; suddenly a brilliant flash of lighting rent the cloud in twain, and then she knew no more until she awoke, to find herself lying prone upon the beach with her pail lying empty beside her. Agitated and unstrung, she rushed to the house, unable to discharge the small domestic duties which were her daily task.

That night strange noises were heard, scratchings and rappings upon the walls, so that the simple natives were afraid. Night after night these uncanny noises frightened the poor souls so that they marvelled greatly. They even cut a hole in the wainscotting to assure themselves that nothing normal was there ; but the "thing" mocked them, and rapped away at the very edge of the hole which they had made. The hole in the wall is to be seen this very day.

Finally the guardians of the girl moved to Matachuan, and there the super-normal manifestations became more frequent and varied. "It" told of strangers on their way to the post. Some sort of rough code of signals was established with "It," and "It" would rap off answers so correctly that those who heard them became awed, while "creepy" sensations affected their scalps.

"It" would rap off the numbers of the particular kinds of furs collected at a far distant outpost, and when the opportunity came for verifying, the numbers were found to be correct. "It" played the violin ; "It" ground axes on the grindstone in the outer shed ; "It" drew heavy loads across the floor, as if an Indian had arrived with a heavily loaded toboggan and was dragging it inside the house ; "It" finally took to whistling, not melodiously, but very loudly.

And thus a great fear fell upon those who heard all these things, and they sought for a solution, but found none. So they asked the priest to lay the "ghost," but he could not. Then the priest begged the bishop, who happened to be paying a pastoral visit to this portion of his distant flock, to exercise his authority upon "It," but the bishop rebuked the little priest for thinking that such a thing could be done. He was wise enough to allow that we cannot understand these things, and that it is better to leave them alone.

I mentioned these matters by letter, to Mr. Andrew Lang, and he told me, in answer, that these manifestations would pass away as mysteriously as they had come. He was right, for they have now practically ceased, and we know no more about these mysterious sounds than we did before they occurred.

But I have digressed, and our canoes have been moving all the while. As the sun was setting we came abreast of the Mattawabika Falls, where the waters from Lady Evelyn Lake plunge into the Montreal River, and bearing east we ran our canoes on to the shallow beach at Mr. Mowatt's little farm, and forthwith proceeded to camp for the night.

Here we met other Indians, like ourselves bound for Matachuan, and the meeting seemed to afford much pleasure to our friends, especially to the women, who exchanged gossip and chaffed each other with that light and happy good humor which is peculiar to Indians in their intercourse with each other, but which is suppressed by shyness before strangers, and hence the white man's idea of the silent, smoky Indian.

One by one they all dropped asleep, and peace and quietness reigned o'er the camps until the morning. How pretty the place looked in the morning. The grass, heavy with dew, shone and sparkled in the slanting rays of the sun ; everything looked so fresh, so cool, so green, and, above all, so restful. I thought, as I watched the lazy preparations for breakfast, that it was good to be here, that the inhaling of that ozone-laden atmosphere was more health-giving and life-prolonging than all the nostrums of pharmacy combined.

By the bye, any tourists travelling by this route to Temagaming or elsewhere can always procure from Mr. Mowatt all the potatoes they need, and thus save a long, inconvenient carry of such heavy stores.

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* Deadly Dodger.—A compound of flour, water, and perchance baking soda, baked in a frying pan—a substitute for bread.

In fact, I might say that Mr. Mowatt, or rather let me say Mrs. Mowatt, intends growing vegetables of all kinds this next coming season, so that those who have need can procure some garden produce, which comes as a very welcome adjunct to the commissariat in the bush.

(TO BE CONTINUED.)

EXPLORATION IN NORTH-WESTERN CANADA.

By H. G. Tyrrell, C.E.

(Continued from our November Issue.)

The next day, August second, being Sunday, was spent in camp, which was pitched close to a grove of poplars on a beautiful little plain. Heavy thunder-storms had been breaking over us the last few days, accompanied by high winds. Where the river is clear these do not occasion any great delay, but when portaging is necessary, and the goods in our boat uncovered, a halt must be made till the rain is over. Ordinarily when a storm comes up one naturally thinks of seeking shelter. Floating as we were on the river in a canoe, the coming of a storm meant only the spreading of a rubber sheet over our boat and proceeding as before.

On the evening of August third we found ourselves in a place where the banks on either side rose abruptly to a great height above the water, so abruptly that no camping place was found. We paddled on till long enough after dark, but the valley continued about the same. It was evident, therefore, that if we were to sleep on land, some unusual arrangement must be made. Selecting the flattest portion of the hill, we climbed the bank, prepared to sleep on sloping ground, with stakes at our feet to prevent our sliding down into the river. These were cut and driven, and across them poles were placed. It seemed much like sleeping leaning up against a tree. There was no opportunity here, either to erect a shelter or to make a fire. The coyotes again kept up their dreary howling, and either followed us next day or else we came upon a new pack of them, for when rounding a curve of the river we saw a large number of the animals frisking about on a sandy beach. As they had not yet observed our presence, I pulled the canoe ashore, and cutting off the branches of some spruce trees, piled them on the bow of my canoe. Concealed in this way, we floated down the stream without alarming the wolves. When within a few yards of them, my brother opened fire on the brutes with a charge of buckshot, which sent them yelping through the bushes, and a few continued howling up the hill. Though their skins are of very little value at that season of the year, it seemed a satisfaction to be revenged for their having kept us awake so often at night.

A very interesting natural feature of the country was the appearance of buttes. These are great mounds of earth rising from the valley, and formed by the action of the river on a narrow isthmus, which in time it wears a passage through, leaving what was before a high ridge stretching out into the valley now a lonely mountain. These occur in a great variety of shapes and size. Some, in the form of cones, tower from the valley to a height of several hundred feet; others, wedge-shaped, are so well formed that they resemble the roof of some ancient temple.

At the most southerly bend of the river, now known as the elbow, the view I had was really entrancing. What land is to the sailor, or shelter to a traveller in the desert, so was the sight of the expansive prairie after travelling for weeks in the narrow valley. Standing on the summit of an almost perpendicular wall of ground two hundred and fifty feet above the valley, behind me lay the prairie, flat and boundless as the ocean, and in front the beautiful wooded valley of the Battle, the river winding tortuously among its knolls and buttes, appearing here and there like a silver band, and then fading away in the tree-tops. A picture with more beautiful contrasts I have never seen.

The river still continued to wind back and forward through the valley, so that a day's journey of thirty miles or more by water might not measure one-third of that in a direct line.

On the morning of August sixth a fine large deer made its appearance on the south shore. It was grazing among the bushes, but it saw us before there was an opportunity for a shot. We followed it, however, for a mile or more, and while we did not secure our game, we discovered quite a treat in the way of service berries, with which we filled our hats before returning to the boat.

In the evening of the following day we came to the government cache at the southerly bend of the river, where an old trail crosses that was probably made two years before. Here we found a pile of ten dozen iron pins, half an inch in diameter and three feet long. These are used by surveyors in staking out the land, and had probably been left there for use at some future time. Each one was fitted with a thin metal plate at one end, on which the section numbers were stamped as the posts were set in the ground. Though they were of no possible use to us, we were always glad to see even signs of civilization. This cache marked the limit of the surveyed country, so from here onward we kept a close track survey of the river. On this account it was necessary to camp as often as a storm came on, to avoid spoiling our note books and instruments in the rain.

From this point down to Battleford we could not reasonably expect to meet with any travellers, or to find camps or houses from which to secure provisions, so a careful use was made of what we had. Our outfit was by this time at the Fort Pitt crossing, seventy-five miles to the north-east, and Calgary, where our original stock of provisions was bought, was one hundred and fifty miles away.

We were quite cheered on the morning of the tenth by finding several long straight stretches of river ahead and were in high hopes of making a good day's progress. On climbing the high hill, however, as was our custom whenever opportunity offered, to survey the landscape, we observed that the river would very soon become crooked as before. The straight stretch was probably owing to the valley having a more decided dip in this location. From lunch time till evening the shore was thickly covered with bear tracks, which seemed to increase as evening came on. We continued in our boat rather later than usual, hoping to find a place where bear tracks were not so numerous, but instead of improving the prospect grew worse. About dark we reached an open place, and concluded that if we must camp among bears we would rather meet them in the open. Here we landed and brought our goods ashore. The place looked like a veritable play ground, or den for bears. Not only was the ground trampled down, and the grass worn off, but the trees had the bark scraped off, and some were actually smooth from the bears climbing up and down. However, here we were, and here we intended to stay for the night. There was plenty of dry wood about, enabling us to make a fire, which we knew would not attract the bears even if it did not

frighten them. We built a fire around us, leaving the water side clear, and lay down in our blankets with our rifles beside us; but, strange to say, while the presence of bears was so clearly indicated, not a sign of one was seen. Some thirty miles or more down the river our maps showed a place called Grizzly Bear Coulee, and our minds were filled with thoughts of grizzly bears. We would not have been much frightened by a black bear or two, but the grizzlies we did not care to meet.

As no tent had been pitched, we were able to make an unusually early start the following morning. But alas! for our rapid progress of yesterday, the straight river course was at an end. It again took to winding back and forward through the valley, and was often very shallow, with numerous sand-bars across it. We had been fortunate in securing a lot of ducks, and were preparing some of these for dinner at our camping place close beside the water, when I dropped my sheath-knife into the river. Ordinarily a knife is an article of no great value, but, located as we were, where a new one could not be had, I felt it a serious loss. As the water had not seemed very deep, I stripped myself to wade in after the knife, but found the water here not less than ten feet deep, with a rapid current. Several dives were made in the cold, deep stream, searching for the knife, and still it was not found. Possibly the current had carried it away, or it had been covered in the mud. As I was becoming cold and stiff from exposure, I decided to let it go; so reluctantly we gave up the search, and proceeded on our way. Ducks were always welcome as a change from salt meat, and yet I was glad to get back again to more solid food. Breakfast as heartily as we could off any other meat than pork, and we were tired out and ready for dinner long before noon came; so, for this reason, I always kept a stock of pork on hand.

The only beavers that were seen on this journey were found here. They were busily engaged in building their houses of sticks and mud. And strong, indeed, their houses are. Frequently in other parts of the country the writer has met with these industrious little animals, and found their houses so strongly built that they would bear the weight of several men. On one occasion, with two half breeds Indians, I made an effort to see inside of one of these houses by cutting through the roof. We knew the houses to contain beaver, for they had been seen swimming in the water, and had dived as we approached. But before an opening was cut into the beaver house the Indians had both become fatigued and were willing to let the beavers alone. I have frequently found stumps of trees as large as eight inches in diameter gnawed off by these hard-working beavers. Those found on the Battle we made no effort to molest, leaving them to enjoy their newly-built houses.

First Lake, Devil's River, Quebec.

This small lake is in the centre of a very good game country,—deer, ruffed grouse and duck being more than usually abundant. In the lake itself there are some very large pike.

Towards evening on the thirtieth two fine black bears came down the hillside to the water a short distance ahead of our boat. They apparently did not see us, for they at once entered the river and began swimming to the other side. The larger bear had waded in, the cub still standing on the bank, when my brother fired. At the sound of his gun they both turned, and as they disappeared into the bushes we fired again. Landing our boat, we gave chase through the thicket, frequently having to crawl on our hands and knees. After a few hundred yards we reached an open place that was apparently the home play-ground of the bears. Here again the ground was tramped and the grass worn off. They had not waited, however, at their usual play-ground, but had gone on through the woods, there being a path leading out, which they had no doubt taken. We continued to follow them for an hour or more through the woods, but found Mrs. Bruin and her cub very much too rapid in their flight to be overtaken, so reluctantly we gave up the chase and returned to our canoe.

We were, however, somewhat compensated for this disappointment on finding a flock of geese on the water quite near our boat. As we approached they swam away some little distance but still remained on the water. I could not understand and do not now, why these geese refused to fly. They may have had their nests in this vicinity, but for some reason or other the whole flock remained on the water, even after we

had fired. There were twenty altogether, and as game was very plentiful and we could not waste our ammunition, it was a rule that no shots be fired unless we were sure of securing some game. In the case of these geese, we used altogether five charges of ammunition, and killed two birds. The wings and breasts of geese we found to be very tough and poor eating, unless they happened to be young birds, and for that reason preferred ducks when we could get them.

On the following day, when passing a small island in the river, I observed a black bear standing on the beach. This one again immediately headed for the woods, and while we gave chase for a mile or so it was plainly useless, as he had, a start of us. At this time year food is plentiful. Berries were growing in the woods, so the bears could easily find all the food they needed. In this condition they are only glad to escape, and will not, unless cornered, show fight.

On arriving at the mouth of Grizzly Bear Coulee we found hanging from the tree, in a very conspicuous place, a flag to which a letter was attached, written by Hamilton and stating that they had passed this place on August sixth, which was nine days previous to our arrival.

On August eighteenth the river proved to be very crooked again, and we made slow time. There was not a breath of wind, the air was filled with smoke and the sun was pouring down on our heads, so that the canoe was like an oven. Lunch camp was made on a stony beach, but we were off again in half an hour, hoping to reach the end of our journey by nightfall.

A few minutes before six o'clock about four hundred yards ahead, and just as we were rounding a bend in the river, we came in sight of camp. The prairie party had reached this crossing about a week before and been anxiously waiting our arrival. The river all day had been very shallow with numerous sand-bars in the wider parts, stony rapids and bends, so that in many places there was very little more than enough water to float us over. The valley was open from the river bed and the banks were fringed with willows and broken by coulees. As has already been described, wild fowl, principally ducks and geese, had been seen in great numbers. They were found feeding among the reeds along the river, and in large numbers at Grattan Lake, and were tame enough to be easily shot. Rabbits and other small animals were also numerous. Here were seen also eight black and cinnamon bears, a red deer, two herds of antelope, a lynx, and several packs of wolves. No buffalo had been seen. It is likely the last ever seen in that region was a herd of twelve seen by my brother the previous summer, and as they were going south were probably killed by the Blackfoot Indians It was now the nineteenth of August, and the first white man's voyage down the Battle River was at an end. We had been on the way thirty-two days, during which time we had come, including the rivers diversions, a distance of seven hundred and fifty miles.

The river journey being over, our plan was to proceed overland on horseback and in wagons again to Calgary. The route laid out was away to the south of the Battle River, passing by way of the Neutral Hills and Sounding Lake, on to the Hand Hills and up to the Rosebud River, from thence skirting the Blackfeet reservation on to Calgary.

The morning was occupied in getting our party in travelling order. The wagons were packed in the most convenient way, placing lunch kettles and such articles where they could be easily reached. The party was now complete again, having three men on horseback and one each with wagon and buckboard. The starting day for the overland trip was ushered in with heavy rain which delayed our moving till the afternoon. To climb the high south bank of the Battle valley and reach the elevation of the plain was our first task. A coulee with gradually sloping sides was followed. Up this valley we made our way till overtaken by darkness, when we camped beside fresh water. The country was covered on the slopes with buffalo grass and clumps of poplar, and in the hollows with sloughs fringed with willows. There was an Indian fish trap in the river near the crossing we had left, and from this we took about sixty fish, which lasted several days. While the wagons were making their way across the plain, it was the custom of the leader to take the fastest horse and make flying trips to one side and the other for the purpose of examining the country. The prairie in this immediate vicinity had recently been burned over, and was a black and desolate place indeed.

On the morning of the twenty-first, taking the best saddle horse with him, my brother started eastward to make an examination of some geological exposures, and was not seen again till late in the afternoon, when he caught up with the wagon, and after taking a fresh horse and leaving his tired one to run behind the wagon, he started off again on a second side trip away from the rest of the party. No fresh water could be found by which to camp at night, so that travelling was often continued till after dark. On this particular night, which was clear and fine, the evening was very much enjoyed and especially by the writer, who had for so long a time been confined in the narrow limits of the valley. Coming to a little stream of fresh water on a part of the prairie that had not been burned, we pitched our tents in the bright, clear moonlight, and enjoyed a sentimental hour after supper by our camp, fire in conversation and story-telling till bed-time came.

While on the plains a very common article of diet consisted of bannock ; and as we were now entering the prairie country, where wood was scarce, a large supply of these was made sufficient to last a week or more. Bread was a luxury that we did not often have. Numerous side trips were made in the vicinity of Sounding Lake and down Sounding River. And then the party turned westward through the Neutral Hills. As a general thing, the lakes or sloughs found on this part of the prairie were alkali, and entirely unfit for drinking purposes, so that much care was taken in selecting camping sites.

On the morning of the twenty-third, instructions were given that the wagons and two horsemen should start westward through the Neutral Hills, while two others went eastward around Sounding Lake to the Battleford trail. Near the lake was found a very fine black pony, without brands, but with a white diamond on his forehead. It was running loose and had doubtless strayed from some other camp, or possibly had wandered down from Battleford. No effort was made, however, to catch this horse, for the reason that it did not belong to us, and also because we had enough of our own.

Provisions were now running very short, and there was little expectation of replenishing our supply before reaching Calgary, which was at best ten days, travel distant. It became, therefore, necessary to make all haste on the way.

An amusing incident occurred one day in the Neutral Hills, when the writer saw at a little distance what he took to be a fine white badger sitting on his haunches. Having a rifle on my saddle, I hastened towards it, and on killing the little fellow I found him to be a beautiful black and white skunk. My horse was a spirited beast, and when I undertook to carry the skunk upon the saddle the horse took a decided objection. He had

been fairly well broken in, but still knew most of the tricks of the western horses, such as bucking, lying down with the rider, rearing, etc. At first my horse thought he would run away from the fragrant odor, and accordingly set out on a gallop with the rider and the skunk still on his back. Finding that this did not free him from his new companion, he tried some other means, and finally succeeded in throwing the skunk from the saddle, though the writer still held his seat. He galloped for half a mile or more before I could bring him to a stop, but finally I turned him around again and went back after the skunk. But do what I would, the horse concluded he would not keep company with that kind of animal. Beating and other kinds of persuasion were useless, so I was finally obliged to give up that means of carrying the skunk, and threw the creature in the wagon. But I soon found from the cook that it was not wanted there, so it was suspended from the wagon axle, where it remained till night.

Lac Superieur, near St. Faustin.

This view was taken late one September afternoon from the Pioneer Farm, where the widow of a French general officer has settled. The lake itself holds quantities of trout, and among the hills shown in the picture the ruffed grouse shooting during September and October is hard to beat.

We again travelled late before reaching water, and as the night was very fine we lay down on the open prairie without tents or other protection, and beneath the starlit sky went off to sleep. There are very few who appreciate the beauty of the heavens so much as those who make a custom of sleeping on the open plain. Night after night when thus rolled up in our blankets, with no tents over us, I have lain awake with other members of the party talking for an hour or more, admiring the brightness and beauty of the sky, watching the position of the various constellations as they move onward in their course. After a few weeks or months of such experience it becomes an easy matter on waking at any time of night to tell very closely the hour by the position of the stars. A few of the more prominent ones can easily be remembered, and as the position of these at certain hours becomes known, the ability to thus tell the time is easily acquired.

Proceeding onward through the Neutral Hills, one of the highest points was climbed, from which a fine view of the surrounding plain was seen. On the summit of this hill was a cairn of stones, nine feet across at the base and six and one-half feet high. Under another smaller cairn I found the blade of a paddle buried? It is said that the Neutral Hills were the boundary line between the territory of the Crees to the north and of the Blackfeet Indians to the south.

From this high elevation the topography of the surrounding country could well be seen. Numerous lakes and sloughs studded the landscape, and here and there were coulees with little streams running through them. Sounding Lake stood out quite clearly to the eastward, and to the west was the Nose Hill, beyond which is the valley of the Ribstone Creek. Near the watercourses and fresh lakes were numerous clumps of poplar trees, and at other places there were frequent groves of willow and other bushes. The only camping place that could be found on this occasion was by the shore of an alkali lake, with its treacherous, shiny surface. On approaching one of these lakes it was the practice of the writer to consider the water good, provided birds or frogs were seen in or around it. On the other hand, when a slough was found in which a frog could not live, and through which a bird would not dare to wade, then it was certainly not suitable for a camping place. By a little practice one can usually tell by the appearance of the water's surface whether it is salt or not. The alkali lakes have a peculiar greenish appearance, though frequently the water itself when taken up is clear enough.

I remember once on a previous expedition, after travelling all day past alkali lakes on a sweltering hot day in summer, finally coming to a pond, the surface of which was covered with a thick green skum. Numerous frogs and reptiles were sunning around the edge, that jumped with startling cries as we approached. Sand-pipes, too, were feeding around the lake, so I concluded that the water was good for a man to drink. Brushing away the green skum from the surface, I indulged in a heavy draught, and though at other times it might not have seemed so good, on this occasion it was delightfully refreshing. Some others of the party, however, who indulged too freely after a whole day of thirst suffered during the night with severe attacks of vomiting.

On climbing to the summit of the Neutral Hills the mounted men only made the ascent. Even then it was so difficult to climb that it was necessary for the riders to dismount and lead their horses. My barometer here showed an

elevation of four hundred and fifty feet above the surrounding country. From this elevation I distinctly counted not less than seventy-five different lakes and sloughs.

As no drinking water could be found on the night of the twenty-sixth, it was necessary to camp without it, and make an early start the following morning before breakfast, when a large lake was found about ten o'clock. The water of this lake was milky in color, but it was found to be fairly good. A number of ducks were seen on it, three of which Maloney killed with his horsewhip, and several others he shot with a revolver. This water we named Hamilton Lake, after one of the members of our party.

TO BE CONTINUED.

AN EXPLORATION TO THE HEIGHT OF LAND.

By St. Croix.

(Continued from our November Issue.)

This, to my mind, is the whole secret of the wonderful power the adult Indian possesses. His aim and object is to inure himself to hardship and to develop his strength, no matter whether it be walking, or paddling, or portaging, and in the end, should he live through his apprenticeship, he will be a strong, hardy man. Of course, a great many of the young men and boys die owing to their neglect of themselves, and I am quite sure that if we white men who dwell in cities took the same liberties with our health, we should die off to the last one; it is only the wondrous healthiness of an open air life which gives the stamina to resist. After hours spent wading in icy water the Indian will cast himself on a bed of wet boughs, covered, either by a well-worn blanket, or even, perchance, by none at all, and sleep as soundly as we do in our beds at home.

It was late in the afternoon before we got away from North Temiskaming. Frank Lemire was very anxious to accompany me, but unfortunately the poor fellow's eyes are so weak that he has to wear green glasses, and if there is one point I insist upon in an Indian, it is that he shall have good eyesight. We only succeeded in reaching a point on the White River five miles from the mouth, and six from North Temiskaming, just before sundown. We made a good camp, but I could not sleep towards morning owing to the cold. That night the thermometer fell to 38° Far., but there was no frost, and, so far as I know, the wonderful crops raised by the settlers on the lower part of the White River were nowhere touched by frost this summer. When we passed up the river the fields of oats were fast ripening, and, as I learned on my way out, most of the settlers began harvesting on August 24th. But fine as were the oats, I think the great fields of potatoes, with their dark green vines almost knee-high, beat them.

At low water, such as existed when I went up the river, this stream for the first twenty-two miles resembles a canal, excepting that, instead of being straight, it turns and twists like an adder. There was absolutely no current; the water was turbid, and every few rods the greasy clay banks had broken away in land-slides. This may not seem an attractive country, but my experience has always been that rivers of this description are the haunts of game, while the clear, rocky, picturesque torrents have only their scenery to offer you. Of course, in the matter of fishing the White River is an inferior stream. There are pike, and doré, and eels and other things in it, but they are all of muddy flavor and not worthy of a fisherman's attention. Yet the whole valley of the White River is a game preserve, and moose, bear, the fur-bearing animals, and innumerable ruffed grouse make it a most desirable place from the point of view of a sportsman. For the first twenty-two miles the river is navigable at ordinary high water by a steamboat having a draft of four feet; then it becomes shallow, rocks appear, and a couple of miles further on the first rapid is reached. At the head of steamboat navigation an old Englishman has carved a home for himself out of the forest. Uncle Tom is known far and wide, being very popular amongst his fellow settlers. Between his log house and the north pole there is none, save a few scattered Indians, Hudson Bay officials, wandered Innuits, and every now and then the members of some Polar expedition. Uncle Tom is possessed—though he probably does not know it—with the old Anglo-Saxon spirit of adventure, which more than any other force, under Providence, has been the civilizing factor in the world's progress.

The oldest settlers on the lower White River moved in but five years ago; in fact, until a couple of seasons back there was hardly anybody there. Now the axe is being swung right and left, and it will not be many years before all that part of Northern Ontario will be a well-settled region. And, unfortunately, in the wake of the axe comes the fire; and then, where all was green and pleasant, is a wilderness of blackened rampikes waving grimly over the charred remains of the wild things of the woodland. This summer the fire fiend has played great havoc with hundreds of square miles in Northern Ontario, and from the east of Liskard to the west of Kippewa Lake, a tract of burnt land now extends with hardly any interruption. This embraces the first nine miles of the White River. From its mouth to Otter Brook there was hardly a settler's house left standing after the flames had passed. Driven by a furious west wind the flames leapt enormous distances—in one case I noticed the blackened beams of a destroyed homestead which had stood more than 400 yards from the nearest woodland.

However, this was not an unmixed evil, because, now these lands are half cleared, and as they are of first-rate quality, level, rich, and free from stone, they will become farms perhaps sooner than they would have in the ordinary course of events. Yet much distress and suffering was caused, and had not the government stepped in and provided work by which the men could support their families, things would have been at a pretty pass.

It seems to have been the fate of this country to be ravaged by fire at irregular intervals through the ages. These clay lands cake, and become very dry during the long, hot summer. The streams shrink into their beds, and the smaller brooks dry up completely; at such times lightning, or a spark from a hunter's fire, may kindle a blaze which will spread far and wide ere it is extinguished. As I stood upon an elevation near the mouth of the North Fork, on my return journey, I overlooked a great extent of country; I could see twenty-five miles in any direction—and this is what I saw: A great, gently-rolling land, the highest hills of which did not exceed 150 feet in height, covered by a heavy second growth of aspen and white birch. It had evidently been burned over, though undoubtedly long ago. John said that the fire swept it one hundred years ago, but this is an elastic expression with the Indian, and means, simply that a certain thing happened before the speaker was born. I think, however, that there is every evidence that the same fire which undoubtedly swept the shores of Temagaming continued onward in its course, at least, to the Height

of Land. It was probably driven by a strong west wind, just as was the case this summer; for at that season easterly winds are uncommon, and when they do come bring rain.

Of course, this blaze must have had a great effect upon the game supply. Fifty years ago the country had entirely recovered itself as far as the fur-bearing animals were concerned, but of big game there were only bear and caribou and some

deer. Twenty-five years ago there were few, if any, moose on the White River, and the Indians did not begin to kill them in any numbers until the end of the eighties—mind you I am only giving the story as I heard it from John—but since that the moose have become more numerous each year, but the Virginia deer have decreased, while the caribou have almost disappeared, and the bear are getting quite scarce. The fur-bearing animals have been trapped far too closely, so that the Indians may only make starvation wages where he could once upon a time rely upon the returns from his line of traps.

While we were in camp below the first rapid I noticed a peculiarity in the Indian's method of measuring the rise and fall of a stream. In the morning John came to me with a long face, and said the river had fallen six inches. This was bad news, because six inches of a fall would add considerably to our difficulties, so I went to investigate. I soon found that John's idea of a six-inch decrease was founded upon the fact that the water's edge had retreated by about that amount, but, as the measurement was made on a hard clay bank, which was almost level, the surface of the water had certainly not fallen more than a scant inch. The lumbermen make the same mistake. They will often tell you that such and such a river is twenty

(Continued on page 11)

ROD AND GUN IN CANADA

DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

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We publish elsewhere in this issue a letter from Mr. John McAree, of Rat Portage, in which he states that the protection hitherto accorded the "wood" buffalo of the North-West is about to end. It seems that there is good reason to believe the buffalo in the Mackenzie River basin number several hundred, as one band was seen in which there were 250 animals. This shows the beneficent effect of protection; a dozen years ago careful census taken by numerous hunters in the Hudson Bay Company's employ gave the number of animals in the herd as between 70 and 80, hence the buffalo on the Mackenzie River have more than trebled in a single decade.

Should the protection hitherto afforded by the Dominion Government be withdrawn, within five years, perhaps within two, there will not be a single wild buffalo left alive in Canada. The pelts and skeletons of each of these buffalo would be worth, on an average, $500 to any skin hunter who slaughtered them, and we may be very sure that the skin hunter will make it his own particular business to convert the values of these pelts and skeletons into bad whiskey just as soon as the fear of the mounted police is removed.

On the other hand, should Canada continue to protect her "wood" buffalo, it is quite possible that where we now have hundreds we shall in a few years have thousands. We cannot afford to follow the example set us by our great neighbor at the south, and the sportsmen of Canada should do their best to impress upon the Government that adequate protection must be afforded the buffalo of the Mackenzie Valley.

✣

It seems a pity that on this side of the Atlantic we have followed the lead of the early settlers in the nomenclature of game, for they were, as a rule, uneducated, and set a very bad example. We have in the Virginia deer one of the most graceful of known species—and to this beautiful animal we apply the term buck or doe, names, which, however admirable they may be in the case of a Belgian hare, are singularly inappropriate to designate the male and female of the Virginia deer. In venery the male and female of the deer kind are known as stag and hind, and we should do well to cure ourselves of the bad habit into which we have fallen, and forget as quickly as possible such unsportsmanlike words as buck and doe.

A very large black bass of the small-mouthed species was caught recently in Belmont Lake, Ontario. It weighed 6 lbs. and 4 oz.; the captor was a young farmer of the neighborhood, John King by name. The fish was 23 inches long by 16 inches girth.

✣

A valuable addition was made last month to the zoological collection in the National Park at Banff, Alberta. Three yearling moose were purchased by the Crown Lands Department from the Indians living at Lac du Bonnet, Manitoba, and forwarded to the corrals under the shadow of Mt. Peechee. They will, of course, be separated from the buffalo, as otherwise there would be some battles-royal between the bulls of the two species.

✣

The International Forest, Fish and Game Association of Pennsylvania is holding its first exposition as we go to press. The closing has been set for December 21st.

This Association was recently organized for the purpose of promoting interest in the preservation of forest, fish and game, especially in the United States and Canada.

Sixteen acres at the exposition are available for the exhibits of forestry, live game, fishes, game birds and animals, with all accessories thereto, artificial lakes, Indian villages, sportsmen's camps, log cabins, Indian tepees, canoeing, boating, swimming, diving, water polo, roller polo, basket-ball, indoor base-ball, tennis and other features.

✣

Our frontispiece this month shows a charming scene on the Devil's River, Quebec. The point chosen for reproduction is about a mile below the mouth of the gorge, or canon, through which the river runs after plunging over the Stair or Devil's Fall. The scenery is most magnificent, and as the lumberman has not yet appeared, the forest is still in its primitive beauty. There is good fishing and shooting to be had in the neighborhood. This delightful wilderness is easiest reached by way of St. Faustin, Quebec. The Devil's River flows through the heart of the Laurentians.

✣

Mr. W. A. Bowell, superintendent of Indian affairs, and Mr. Ashdown-Green, surveyor for the Indian Department, recently visited the country tributary to Lake Cluskus, B.C., which is reached by a trail from the head of Burke Channel. Like so many other parts of British Columbia, this region was absolutely unknown to all save a few wandering Stick Indians and prospectors. The explorers found abundance of caribou and goat, and in the lakes trout and round fish, the latter being a species of whitefish.

✣

According to an American exchange, the carcasses of the white goat are so scarce in the United States that scientific men are awaiting the early decease (something which is confidently expected) of the nannie which was pictured in last month's *Rod and Gun*, and which is now in the Philadelphia Zoo, so that they may study its anatomy. There is something rather amusing in this statement, because from the mountains of the Boundary District all the way up to the northern border of British Columbia, the white goat is the most abundant animal we have, the blacktail and mule deer only excepted. The market price of skins is not more than $1.50, and as the flesh of the full grown animals is too strong for the average white stomach, most men leave them severely alone. It is surprising that more scientific sportsmen have not been

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venturesome enough to take a four-day ride in a comfortable sleeping car, with a certainity of a shot at the white goat a few hours after leaving the train.

*

We have been told that the principal scientific institutions of the United States, and of several European countries, would like to have specimens of the white goat of the Rocky Mountains in the flesh, in order to study its anatomy. This animal is very abundant in certain parts of British Columbia, and as *Rod and Gun* has many friends in that province, we think that we could obtain freshly killed specimens of the animal for scientific institutions. We shall be very happy to do this in the cause of science, and will make no charge for our services. In the depth of winter there should be very little difficulty in transporting these animals to any part of the United States; and now that cold storage chambers are provided by most of the Atlantic Lines, there would hardly be any more in sending them to Europe. It seems a pity that such an interesting animal, and one so typically Canadian, should be so little known to scientific men.

*

The growth of interest in rifle shooting has been very marked of late in the Dominion. Since July ninety rifle associations have been formed in Canada. Of these, sixty-five are civilian clubs, and twenty-five military organizations. The membership of these new bodies is 4,000. Among the new ranges being constructed are those of Fredericton, N.B., and Lunenburg, N.S.

There is no reason why Canada should not rank as one of the leading countries in the world in rifle shooting. The natural temperament of the people inclines them toward field sports and feats of skill; the Dominion holds more game suitable for the rifle than almost any other country, and that great drawback under which the United Kingdom suffers—lack of vacant space—does not certainly exist here. The ground for suitable ranges is unlimited, and there is hardly a village or town in the Dominion which could not lay out a 2,000 yard range, and we hope that the day is not far distant when the ratepayers will insist upon this being done. In addition to fixed targets at known distances, there should certainly be disappearing and moveable ones at unknown ranges. Should such provision be made we think rifle shooting will become at least as popular as skating, or lacrosse, and give our young men a training which will be far more valuable to the country than mere skill in any game.

*

Mr. A. C. Bertram, the fishery inspector for Cape Breton, seems to be doing good work in opposing poachers, dynamiters, and out-of-season fishermen. It is said the salmon are more than holding their own in Cape Breton.

AN EXPLORATION TO THE HEIGHT OF LAND

(Continued from page 9)

feet higher in the spring, and what they mean is that there is a difference of twenty feet between the edge of the water at summer level and in spring time.

The morning of August 10th was wet, and we did not break camp until midday. The first rapid was soon reached, and after a portage which only occupied a few minutes we launched the canoe in the slack water above the rapid. The rain apparently had done but little good, the dry ground soaking up what fell like a sponge, and I was reluctantly forced to the conclusion that our projected voyage up the south branch, and portage over into the Montreal River, must be abandoned. In the spring the Indians pass from one river to another by a portage not exceeding two and a half miles in length, using a small brook up which they drag their canoes for many miles after leaving the south branch proper. I felt sure, however, from the pitch of water in the main river that we should find this brook dry, and should therefore be confronted by a portage of at least fifteen miles, and as we could not hope to carry everything over in one trip, this would mean thirty miles loaded and fifteen light—which was something I did not care to undertake for the fun of the thing.

So I listened with a ready ear to John's tales of a wonderful lake which was at the head of a tributary of the north-east branch, and very near the height of land. This unexplored sheet was, he said, known to the Indians as Te-gou-sie-wabie, meaning the Storehouse or Larder. It seems that whenever an Indian was out of meat, and happened to be within a day or two's paddle of Larder Lake, he lost no time in making his way there; its shores were said to teem with game, and its waters to be absolutely stiff (as the Irishman said) with trout. No surveyor had ever been there, and only one or two white men. A certain William Judge, lately of Montana, had visited it searching for gold, and ignoring the old name by which it has been known for centuries, called it President Lake. But we have no presidents in this country, and I trust we shall not permit Larder Lake to change its name. All this sounded good enough, so when an hour or two after leaving the rapid we came to the north-east branch, I told John he could turn up it.

The main river had been sluggish and deep; the branch was rapid and shallow. For a couple of miles all hands and the cook had to get out and wade. The bottom of the canoe suffered somewhat severely, and as she was leaking like a sieve, we halted for the night at the first rapid on the branch—a most picturesque spot—four miles from the mouth.

Fresh moose tracks had been abundant on either bank all day, and we saw a great deal of bear sign. This summer the blueberries were a complete failure in that part of Ontario, and, in consequence, all the bears in the country were along the streams feeding on the high bush cranberries. In some places it would hardly be an exaggeration to say the bushes were broken down by the acre. I remember one low point where for hundreds of yards the bears had smashed everything down to get at the fruit. But master Bruin is a very cautious fellow and kept out of our way with remarkable success. We passed on the way up the remains of a moose which an Indian had killed a week or two before—for close seasons are not observed near the height of land—but of this I shall have more to say later on.

We had a very comfortable camp overlooking the rapid, which is short but dangerous, the river falling seven feet in

one hundred yards. I was awakened by the cold on Sunday morning, August 11th, just at daylight. The thermometer in my tent stood at 38 Far., yet no touch of frost was visible even in the hollows. The river was so low that I cached half my stuff, making a bundle of it, and swinging it from the limb of a big pitch pine, and to make matters doubly sure I shot an over-inquisitive squirrel and tied him to the bundle as an object lesson to his brethren. It is strange, though true, that all the wild creatures of the woods are inordinately fond of salt pork. If you leave any of this indispensable article on the ground the rabbits will find it out, and if you tie it to a branch the squirrels and Canada jays will make the most frantic efforts to get at it. The only remedy which I have been able to discover is to kill one of the robbers and hang it near the cache. This sometimes keeps the rest away, as, by the bye, it did in this case.

We left camp about 8 a.m., and after a mile and a half's paddling against a moderate current and between high clay banks we came to a rather stiff piece of water, which, however, we manage to pole up. Half a mile beyond we were halted by some superb falls, past which we portaged. Then another half mile, and we had to go ashore on account of a log jam, which necessitated our carrying our stuff fifty yards through the bush; and three quarters of a mile higher up we landed at the foot of the Long Portage. Here we had luncheon, afterwards tackling the carry of one and a half miles to Narrow Lake. This is a very stiff portage, as a steep ridge 120 feet high has to be climbed. One can hear the noise of falls, though they are not visible from the portage, and John said there were four of them between Narrow Lake and the foot of Long Portage. Half way along the carry a faint trail turns off to the right, and if this be followed for half a mile it will lead to a small pond where the moose feed, and where the Indians get one occasionally. The lower part of Narrow Lake is not so picturesque as the upper part. At the narrows the scenery becomes almost grand; on the south side a tremendous cliff, known as the Eagle's Nest, is a conspicuous landmark. The lake itself is full of pike and doré, and, of course, holds nothing else. We reached the head of the lake at half past three, and then carried all our belongings three quarters of a mile S. S. E. to Hardwood Lake, which bears a good reputation for moose. Between these two lakes is a heavy growth of Norway pine, the only bunch of pine, with one exception, which we saw during our expedition, and this growth cannot contain more than 200,000 sq. feet. We paddled leisurely up Hardwood Lake, and near the head came upon our first moose. It was a two year old bull snatching its supper from the lily pads, and although the wind was unfavorable, we got within 150 yards before he winded us. Then we had a fine view of him as he made away. We could follow him as he trotted through the rushes, making the water and the mud fly as he did so, and we watched him cross a small bog and enter, presently, the edge of the forest. It was growing dark when we pitched our camp a mile up a dead water which comes in at the head of the lake. We had travelled fourteen miles against the current and had made five portages, so that the reader will understand there were no complaints of insomnia next morning.

The weather had now turned warmer, and next morning the thermometer stood at 52 Far. when I arose at 5 a.m. The August temperature in the region between Temiskaming and Abbitibi is almost perfect. Earlier in the season the flies are somewhat too attentive, but after the first of the month they need not be dreaded, although it would not be true to say there are none, because, as every woodsman knows, there may be an hour or two in the day when they are troublesome, even as late as the middle of October; but, practically speaking, there are no mosquitoes or black flies in the northern woods after August 1st. We started down the lake at 7 o'clock, and along the shores saw numerous fresh tracks of moose which had visited the lake during the night. At this season of the year, although the cows and calves come out to feed late in the afternoon, the young bulls rarely do so before dusk, and the old fellows hardly ever leave the forest until midnight. They feed until about 6 a.m., when they again wander off into the bush. In summer the bulls are generally, if not always, found apart from the cows. I believe this is on account of the savageness of their disposition; they are so bad tempered that were the cows not to take the calves away the old bulls would kill them. In spring it is otherwise, for the habits of the moose vary with the seasons. Just after the ice has gone out of the rivers it is no uncommon thing to see moose in broad daylight, either singly or in bunches. An Indian saw seven in one band last spring on the White River. These are all bulls, however, the cows having young calves by their sides keep very much in retirement.

As we paddled quietly down the lake, John told me of an adventure he once had, which explains the absence of caribou wherever moose are numerous. He was hunting on the north branch of the White River, toward the end of November. There a sprinkling of snow on the ground, just sufficient for good tracking, and he was following the trail of a big bull moose which he thought not very far in front. As he followed cautiously in the wake of the animal he heard a great noise in the bushes ahead, and advancing cautiously found that a tremendous battle was raging between a bull moose and a bull caribou. But it did not last long. The moose was too much for his adversary, and the caribou staggered away a defeated animal. After going about twenty yards he lurched forward, and died. John then shot the moose. This shows that the moose will kill caribou, as they undoubtedly do the Virginia deer; in fact, the big bull moose is a savage fellow, and the only time that he meets his match, and rather more than his match, is when he runs up against a two-year-old of his own species. The younger animal is much more agile, and owing to his horn being a long, sharp double spike, it is a very much more efficient weapon than the blunt, palmated antler of the other.

There were great numbers of ducks upon Hardwood Lake, and among them I noticed several species which are generally comparatively scarce in Northern Ontario and Quebec. I saw several mallards and a few widgeon and one or two pintail. We were bound for a small lake lying south from Hardwood, and reached by a good portage not over one hundred and fifty yards long. On this carry we ran into one of the largest packs of ruffed grouse I have ever seen. The woods seemed full of them, and there were also many rabbits. The lake upon which we were now paddling was only of moderate size but very clear. We left it near its eastern extremity, and portaged half a mile S.E. to a third lake, a mere pond, from which we carried a quarter of a mile to a fourth lake. This was almost round, and about a mile in diameter. It is a famous feeding place for moose, and John had often shot them there. At one o'clock we ensconced ourselves upon a rocky point, from which we could see the whole lake, and proceeded to watch for moose.

The sun was warm and the air balmy, so that I was soon asleep; and I have good reason to think that John also took forty winks, but, as the boy was very much awake and had eyes which were very little inferior to an average telescope, it would have been perfectly impossible for any moose to have visited the lake without our knowing it.

But no moose came that afternoon, and at dusk we began our return journey to camp, which was seven long miles away by the road we had to travel. At half-past nine we reached the tent, and after making a brew of tea turned in. As we were paddling up the dead water we heard a moose splashing about among the lily pads, but he got our wind and we did not see him.

On Tuesday, August 13th, we moved our camp back to Narrow Lake, and after an early lunch I sent John and the boy back to our cache at the first rapid, to bring on the rest of the stuff we had left behind. It was fine when they went away, but at half past four a terrific squall struck the lake from the S. W., and I felt anxious as to the safety of the men. It did not last more than fifteen minutes, and was followed by rain, which lasted all night. My principal amusement while they were away was watching the black and white striped hornets catching flies. The inside of my tent was almost black with flies, which had gathered to escaped the rain, and the hornets soon found this out. Until dark they made regular visits, and each time that a hornet came he carried a fly away with him. They never seemed to miss their blow, and so quick were they that the eye could not follow them. The hornet would settle upon some object in the tent, and appear make up his mind as to what particular fly he would go for; then followed a dash of inconceivable rapidity—and another fly was being carried off to the hornet's larder. It rained all night, a steady drizzle; but nothing disturbed my rest, excepting that toward morning a fox came prowling round, and caused a great clatter as he made away at speed along the shingly beach. The men got back at noon, and, as luck would have it, had escaped the fury of the squall on the previous afternoon, as they were on the portage at that time. Before lunch I went out for half an hour with my trolling line, and soon had all the pike and doré that we could make use of.

(TO BE CONTINUED.)

Our readers will miss the Dog department this month. Mr. D. Taylor, our Canine Editor, was captured by the sheriff and empanelled upon a jury, consequently we have been unable to obtain from him the dog copy which undoubtedly is secreted somewhere upon his person. We trust that our readers will forgive him and attribute the loss of this month's dog copy to the peculiarities of the British Constitution. Long Live the King!

*

Answers to Correspondents.

CHASSEUR—You would find good shooting and fishing in the region reached from Ashcrof, B.C. Ashcroft is a four-day railway journey from Montreal. By making a trip lasting a month you could enjoy eighteen days first-rate sport in the Lillooet district. The game consists of grizzly and black bear, sheep, goat, and blacktail deer. You would get shots at the latter the first day out. There is very good wing shooting, and most wonderful fishing. We know of no better place on the continent.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association

A MERRY CHRISTMAS.

The part which is borne by the plants of the forest in making merry the Christmas season is not small. From very early days in the old land it was the custom to decorate the houses with evergreens, a practice which was derived either from the Romans, who were accustomed to send boughs to their friends at the festival of the Saturnalia, which occurred about the same period, or from the Druids, in whose time the houses were decked with branches in order that the spirits of the forest might seek shelter from them during the bleak winds and frosts of winter. Whatever be the exact origin, the decoration of houses and churches has become firmly connected with Christmastide, and has had wrought into it, sometimes most fancifully, a Christian significance. Holly, Rosemary, Laurel, Bay, Arbor Vitæ and Ivy are hung in churches and houses, but the Mistletoe is interdicted from places of worship on account of its connection with the Druidic religion. There may possibly be other reasons also why the presence of the Mistletoe would not be compatible with that spirit of reverence which is proper to a sacred edifice.

The Holly was soon designated the Holy-tree, although the derivation of the two words is entirely different, and around it grew up traditions of special virtues it possessed from its associations. In Germany the Holly is known as *Christdorn* —the thorn woven into the crown placed upon our Saviour's head at the time of the Crucifixion, and the thorny foliage and blood-red berries are suggestive of the most Christian associations.

The Mistletoe, which grows as a parasite on the oak and other trees, was from very ancient times considered as a plant having magical properties, and it was specially prominent in the ceremonies of the Druidic worship.

A legend of the old Scandinavian mythology explains the origin of the particular privilege which the Mistletoe permits. Baldur, the Apollo of the North, was rendered by his mother Freya, proof against all injury by the four elements, fire, air, earth and water. Loki, the evil spirit, however, being at enmity with him, fashioned an arrow out of Mistletoe, which proceeded from none of these elements, and placed it in the hands of Hödur, the blind diety, who launched the fatal dart at Baldur and struck him to the earth. The gods decided to restore Baldur to life, and as a reparation for his injury the Mistletoe was dedicated to his mother Freya, whilst, to prevent its being used again adversely to her the plant was placed under her sole control so long as it did not touch the earth, the empire of Loki. On this account it has always been customary to suspend Mistletoe from ceilings, and so, whenever persons of opposite sexes pass under it, they give one another the kiss of peace and love, in the full assurance that the plant is no longer an instrument of mischief.

The Yule Log was the special feature of Christmas eve. On that evening a log of wood, usually of Ash, was brought in

with great rejoicing and cast upon the open hearth, whence it spread its joyous light and warmth over the scene of happiness and merriment with which the occasion was always celebrated.

But the contribution to the Christmas cheer which makes the greatest drain upon the forests of the present day is the furnishing of Christmas trees. When the first faint echoes of the Christmas chimes send out their message on the throbbing air, the youth of the forests, obedient to the signal, take up their march citywards, there to make happy the youth of the human race. And how many bright memories cling about the Christmas tree!

The tree which is employed for this purpose is the Fir, usually the Balsam Fir (*Abies Balsamea*), which is easily distinguished by its small, flat evergreen leaves, with a white under surface, cut across by a green midrib. But we may, perhaps, since we have already wandered away from the domain of science, be permitted to leave a more technical description of the fir tree to some future occasion.

And so we bid you a Merry Christmas!

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MEETING OF THE FORESTRY ASSOCIATION BOARD.

At a meeting of the Board of Directors of the Canadian Forestry Association, held at Ottawa, on the 27th September, a resolution of sympathy with the family of the late Hon. C. W. Allan, who had been a member of the Board, was passed. Mr. C. E. E. Ussher, General Passenger Agent of the Canadian Pacific Railway, Montreal, was elected to the vacant position on the Board. The following resolutions were also carried:—

Resolved, That the Committee desires to call attention to the great loss sustained by certain of the provinces through forest fires, and especially to that caused by the recent fire in the Temiscamingue district, in the Province of Quebec, which apparently owed its origin to the settlements in the vicinity, and would urge upon both the Provincial and the Dominion authorities the wisdom of withholding from settlement land which is better adapted for timber than for agriculture, and of increased efforts to guard the valuable timber districts.

Resolved, That the Committee desires to draw attention to the necessity for a revision of the "Bush Fire Act," of British Columbia, and especially with reference to Section 9 of said Act. They are of the opinion that the penalties therein mentioned are too light, and would suggest that all after the word "exceeding," in the fourth line thereof, be struck out and the following substituted therefor: "Two hundred dollars nor less than twenty dollars, and in default of payment thereof shall be imprisoned for a term not exceeding six months, and in addition to such penalty shall be liable to civil action for damages at the suit of any person whose property has been injured or destroyed by any such fire; and any railway company permitting a locomotive engine to be run in violation of Sections 7, of this Act, shall be liable to a penalty of two hundred dollars for each offence, to be recovered with costs at any court of competent jurisdiction, and shall also be liable to civil action for any damages that may have resulted from negligence in this regard.

Resolved also, That a copy of this Resolution be sent to the local Forestry Association of British Columbia, asking their co-operation in the matter, also to the Honorable the Commissioner of Lands and Works for that province, and to His Honor the Lieutenant-Governor of British Columbia.

LOOKING BACKWARD.

White River, Ont., September 9th, 2001.

In looking over the old records of this important district we have happened upon the following newspaper paragraph, which is of interest as illustrating the careless habits of the somewhat primitive people of that day:—

White River, Sept. 9th, 1901.

"This village has been in considerable jeopardy for a week past from bush fires. No rain of any importance has fallen for a month, and a spark from a locomotive started a fire about the west end mile board several days ago. This fire, *not receiving any attention*, crossed the White River and travelled round till it took in the wooded slope which overlooks the settlement from the south. Southerly winds, ranging from 12 to 20 miles per hour, occurred daily through the week, and despite all effort the fire crossed the river on Thursday last and captured the stock-yard of the C.P.R., destroying some fencing. The sheds and hay building were only saved by persistent hard work and careful watch. By continued vigilance and labor the fire has up to the present been prevented from crossing at other points, but to all intents and purposes we are hemmed in. No immediate danger is apprehended except in case of high winds, the district being to some extent cleared. There is a large acreage of small pine of about five years' growth on the edge of the village to the north, which may be reached before another day passes, but which can be easily fought off."

It may seem strange to us that such fires should "not receive any attention" in their inception, but that they should have been left to meander over the country at their own sweet will, with no one to give them the courtesy of consideration until they forced themselves upon the attention of the indifferent inhabitants by an uncontrollable desire to make of themselves unwelcome guests, whose chief purpose was to possess themselves of the homes and goods of their unwilling hosts. Yet the records of that time are from year to year filled with reports of such fires in almost every part of Canada, threatening and destroying villages and towns. Some of these fires may not have been preventible, but the great majority of them were treated by a policy of masterly inactivity whose principle is propounded in the words "not receiving any attention." It seems incomprehensible that an intelligent people, such as were the people of Canada at that time, should have failed so signally to deal effectively with this matter, but it is a clear evidence of the primitive state of civilization of the period that, in spite of the immense loss and suffering entailed by frequently recurring conflagrations,—in spite of the fact that the Governments were making strenuous efforts to attract immigrants to their unsettled districts,—in spite of the fact that to most of the provinces the forests were the principal sources of revenue, neither Governments nor people appear to have wakened to an idea that anything but a *laissez-faire* policy could be adopted. The individualistic theory was carried to an absurd length. No man felt it his duty to take action until his own property was endangered. And so fires "received no attention" until they were past control, and the beautiful clear days of autumn, which we now enjoy, were shrouded in a smoky pall of mourning for the ruin they had looked upon, till at last the agriculturists suddenly awoke to the fact that they had no longer the control of their fuel supply, but, to use the picturesque language then characteristic of the stump orator, must bind themselves to the chariot wheels of yet another of the combines which they so strongly denounced, and become tributary to the coal barons as well as the coal oil magnates, till at last it burned itself in upon the minds of the legislators that Canada had been pursuing a policy so short-sighted that, in the face of

an increasing demand upon her timber resources, from which she had drawn such vast wealth, she found her forests depleted and destroyed to such an extent that it is only at the present day that by painful effort we are beginning to recover the lost ground, and to make useful and valuable the land which was swept clear so unceasingly and so unprofitably. Perhaps we should not be too harsh in our judgment of our forefathers, but we could have pronounced our blessings on their memory with greator fervor if their policy of "paying no attention" had not created so many unnecessary difficulties to vex succeeding generations.

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RESOURCES OF NORTHERN ONTARIO.

It may, perhaps, be considered that we are a little late in reviewing the Report of the Survey and Exploration of Northern Ontario, issued by the Government of that Province, but there is so much information of a permanent nature in the report that it will probably furnish material for reviews for a long time to come, and the knowledge of the northern districts which has been gained by these expeditions has such a direct bearing upon the future of the forestry policy, primarily for that district, but also for Canada in general, that it would be an unpardonable oversight not to bring it to the notice of our readers.

The field of explorations covered practically the whole of the Province of Ontario north of the Canadian Pacific Railway, extending to Albany River and James Bay, and ten expeditions were started out from different points along the railway to work north over this vast territory. The principal officers in each party were a surveyor, a land and timber estimator, and a geologist, and the method of exploration followed was to run a base line, sufficiently defined by observations, from which an examination of the country was made up to fifty miles on each side. A conservative estimate of the result shows that north of the height of land in the districts of Nipissing, Algoma and Thunder Bay there is an area of good, mostly clay, soil, covering an area of 15,680,000 acres, or about 25,000 square miles, which is as well suited for agricultural purposes as the Province of Manitoba, as is well evidenced by the results of the efforts in this line made at the Hudson Bay Company's posts throughout that region. The most eastern and southerly outline of this belt is along the Blanche River, at the northern end of Lake Temiskaming, where there is already a considerable settlement. Running north-westerly, at a distance of about forty-two miles, this tract joins the great clay belt, the southern limit of which takes a westerly direction, but tending north, coming within a distance of a little over twenty miles of the Canadian Pacific Railway at Grasett Station, which is about forty miles north of Michipicoten Harbor, on Lake Superior, and near where the Algoma Central Railway proposes to connect with the Canadian Pacific. From there it bends more northerly till it passes north of Lake Nepigon. The eastern portion of this district is low and wet, and as it is consequently covered by moss, which keeps the ground cold, the timber is not of a large average productiveness, while the land would need to be well drained in order to ensure the successful growing of crops. Spruce and tamarac, averaging eight inches in diameter, are the prevailing trees, but there are also poplar, balm of gilead, white birch, cedar and banksian pine. The average of pulpwood it would be possible to obtain in that district is estimated at seven cords per acre, cutting to four inches in diameter. Farther west the land rises and fewer muskegs are found, so that there would be no difficulty in commencing agricultural operations on perhaps seventy-five per cent. of this land as soon as it is cleared, while the pulpwood on the average timbered area rises to forty or fifty cords. Practically no pine was found, although there was evidence in some small scattered patches that a large pine forest may have existed before it was swept away by the fires, signs of which are everywhere seen. The quantity of pulpwood for the whole district is estimated at 288,000,000 cords.

But this still leaves two regions of great extent which are found to be mainly of a nature unfit for agriculture. There is, first, the Lake Temagaming region, west of Lake Temiskaming, which has an area of pine equalling about three billion feet. The soil is mainly rocky and agriculturally unproductive, and is clearly best suited for timber. A very similar district as to soil is that lying west from Lake Nepigon, but the timber at present on the land is not nearly of as great value as that in the Lake Temagami district, though at the western extremity there is a considearble area of pine. Small and large game, including moose, caribou and deer, are found in all these districts, and the waters yield to the sportsman's harvest salmon, trout, bass, pickerel and pike.

The great objects gained by this examination from a forestry point of view are, first, that we are in a position to know more definitely what our timber resources are, and it shows that, though we have a very large quantity of pulpwood yet available, we have practically no further areas of pine, our most valuable timber, beyond those already in reach, and we can therefore estimate with some degree of certainty what the future of this industry will be.

The second object gained is that we are in a position to direct settlement to the districts best suited to it, and to hold for timber production the lands unfitted for agriculture. The Government has already taken an important step in this direction, by setting apart the pine lands in the Lake Temagaming district as a forest reserve. Indeed, the Government has evidently adopted definitely this policy—and it is one in which they should be strongly supported—for they have refused to open for settlement the Township of Lorraine, on the west side of Lake Temiscamingue, although strongly urged to do so, as an inspection made by officers of the Government showed that not twenty per cent. of its area was good agricultural land.

The country lying to the east of Lake Temiskaming, in the Province of Quebec, is very like that reserved by the Ontario Government to the west, and if an examination of its northern districts were made by the Quebec authorities, it might be found advisable to adopt a somewhat similar policy. The whole question is one worthy of the serious consideration of all the Governments. If lands are best productive when devoted to agriculture, he would be lacking in sagacity who would not use them for that purpose. But if, on the other hand, there are—and we are prepared to maintain that such is the case—lands that are best fitted for timber production, and which are only settled upon to the destruction of the timber and the disappointment and poverty of the settler after the timber is swept away, then surely it is the part of wisdom that such lands should be devoted to the purpose for which they are best suited. And if settlement is to be properly directed, the Government must know where her good lands and her poor lands are.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

NEXT TO GODLINESS.

H. McBean Johnstone.

There was once a certain wise old king who, among other numerous wise utterances, said, "Cleanliness is next to godliness"; and it always seems to me on looking at this little phrase, that Solomon must have been even more than we give him credit for, for have we not here almost proof positive that he foresaw the ultimate discovery of photography? Certain it is, at all events, that in no kind of work is it more essential that absolute cleanliness prevail. From A to Z, from the most important to the minor details upon which the attainment of success may turn, is purity necessary, for filth of one sort or another, sometimes in one place and sometimes somewhere else, and oftenest everywhere, is responsible for at least half of the difficulties that beset the amateur. Dust gets in every part of his apparatus, from the carrying case to the dry-plate itself; gets on the lens and reflects just enough light to cause a faint general fog, which, while not amounting to much of itself, destroys most effectually any possibility of brilliancy; gets in the bellows and dark-slide, and settling on the surface of the plate, makes millions of pin-holes; gets in the trays and graduates and causes chemical fog; gets on his fingers and thence to the dry-plate itself, or perhaps on the print, and gives us those charmingly exact reproductions of the human skin so frequently to be found in amateur work; gets between the negative and paper and leaves mysterious and unaccountable little white spots on our deepest and densest shadows, or mars the incomparable gradation of some carefully handled halftone; gets in the toning bath and sends the gold down in a black precipitate that causes the formula to be wrongfully found guilty of failure to do its work; gets on the mount or in the paste, and punches holes through or raises mountains on the surface of the mounted print; gets into a dozen other different places and does things it has no right to do, or rather, hat have no right to be done. In fact, the description of dirt that is given in the dictionary—matter in the wrong place—while occasionally to be doubted as to correctness, is in the art-science of photography as nearly right as can be, for it is invariably in the wrong place. And that wrong place is almost everywhere, a statement which may be easily proved by taking a small spirit lamp and setting it on a table at some little distance; then take some object that belongs to the place and gently tap it against the wall, when the passage of the dust from it with the sodium it contains will at once cause the flame to temporarily burn yellow.

Yet, with all its faults, there is about filth one great redeeming feature—the comparitive ease with which it may be abolished. In spite of the fact that like vice, it "to be hated, needs but to be seen," no laboriously acquired technical education, no familiarity with geometry or anything else, is needed to assist in obviating it. Once its power is neutralized by a realization of its greatness, nothing more than a slight manual dexterity with soap and brush and the ability to properly manipulate a dusting cloth, is needed to be rid of it.

First there is the equipment to attend to and, for a start, suppose you set your camera upon the table in front of you and make ready to take it apart. To begin with, look inside your carrying case. It is a curious little fact that even those workers who are most careful about the other parts of their paraphernalia are usually found to be lax in this direction. They never stop to think that whenever the camera is set up outside, the case is left on the ground and standing wide open, so that every stray breath of air may blow coating after coating of dust into it, to catch and lodge on the fuzzy lining that is commonly used. Then, in due time, this dust finds its way into every crack and crevice of the apparatus, and no matter how carefully it be looked after, it is more or less a waste of time, unless the inside of the carrying case be gone over regularly with a whisk-broom.

The next important point to be looked after is the bellows, for it is inside its folds that the most dangerous dust collects and finds rest until the critical moment when it is drawn out to focus. Then it rises in a fine cloud, and as the light rays find their way through the lens to the surface of the plate, dims their lustre in no slight degree. Particularly is dust to be found here when the camera is stored in the dark-room,—a most improper place, by the way,—where such chemicals as hypo., etc., are constantly evaporating and leaving in their place a fine dust which the slightest jar will stir up and send floating through the air. Some workers advocate the smearing of the inside of the bellows with a thin coating of vaseline to catch and retain all these particles, and, so long as the vaseline will stay, the plan is an excellent one. The trouble is, however, that it will not stay. Like any other substance of a similar nature, it evaporates, and then there is merely a resumption of the old complaint, and owing to the time it has had and the amount that has gathered, the dust is even thicker than before. It is to be regretted that vaseline evaporates so, but until there is invented something of the kind that is equally harmless to the leather and that will stay permanently sticky, the only really safe method is to go over the bellows periodically and get rid of the accumulation in a good old-fashioned way. A very efficient manner of doing this is to take an ordinary household blower or bellows, and tying a piece of cotton-wool over the nozzle, run it through the lens opening and turn it this way and that, so that every remote corner, no matter how inaccessible, is effectually cleaned out. The object of the cotton-wool over the nozzle is to prevent the dust that is put in circulation from being sucked back in when the bellows are opened, and then blown out again and lodged as before. An examination of the quantity of dust on the cotton-wool after the operation will prove this. Then, though the dark-slide should be gone over regularly with the dusting brush, it is well to subject it also to this wind cure occasionally, to remove any particles that the bristles may have been unable to reach.

After going over all this caution about keeping clear of dust, it ought to be superfluous to mention the brushing off of the plate before putting it in the holder, though perhaps it might be safer to just mention the proper way of doing it. Very frequently the dusting off does more harm than good, for it is done quickly, and the rapid passing of the brush across the sensitive emulsion of the film so electrifies it that it causes any particles which may chance to be floating nearby to be immediately attracted and to adhere to its surface. The operation ought to be performed slowly and evenly. Again, in nine cases out of ten, when the brush is not in use, it is left lying on a nearby shelf, no apparent thought being given to the fact that there is probably more or less dust there and more settling

every minute. When it is used, that is all transferred to the plate—every grain of it. A fine grain on a negative is a nice thing and to be sought after, but not the kind that dust leaves, where half the time each spot, comet-like, has a long tail to it. The way out of the difficulty is to hang the dusting brush up by a string.

Dust on the shelves seems somehow to be as natural to a dark-room as stars to the heavens on a June night, and very largely it comes from the drippings of the various bottles that are set there after using. There is no excuse for dripping from bottles, anyway, any more than there is spilling in pouring. A thin coating of the vaseline previously referred to, if smeared round the top, will prevent a drip and make your labels last and preserve their sightly appearance much longer. Before starting to clean the dark-room, if it has been left for any time, a slightly dampened duster ought to be passed along the surface of the shelves and benches where there is any possibility of dust accumulating ; and if the room be used daily, this should be done every morning. And be sure to remember to wash your dusters occasionally, else the cure is likely to become worse than the disease. White-washed ceilings in such places are an abomination, not alone from the fact that they are strong reflectors, but also because they are apt to precipitate small particles, which, being of a strongly alkaline nature, will invariably cause spots if they fall on a plate or print during development. This, however, is a comparatively uncommon trouble, and it is to be advised that you look rather to dirty tables and shelves for the cause of the many mysterious troubles that are prone to vex the worker. Hypo., pyro., and innumerable other kinds of chemicals evaporate and leave dust, which accumulates invariably where it is most dangerous,—just above the work table and sink, for that is where the bottles are most frequently kept. Only the slightest disturbance, either from a draught or moving a bottle, stirs it up, and then, with the perversity of inanimate objects, down it comes right where it is not wanted. To again state the remedy is unnecessary. You know it.

Now for just one word on the care and cleaning of the most important part of the outfit—the lens. If there was a case provided with yours, you are lucky ; if there was not, you must get one, for it is absolutely essential that you have a covering of some sort for it. Something stiff, that will serve as a protection against chance knocks, is best; but in default of procuring that, a small leather pouch lined with soft chamois will answer very well. This, of course, ought to be turned wrong side out and cleaned from time to time. If the tube be fitted with Waterhouse stops, more dust will find its way in than if it have an Iris diaphragm, and it will be more often necessary to take it apart to clean. For this purpose a very soft cotton cloth is preferable to chamois on account of the grease that the latter is apt to leave on the surface, though it is true that the use of rectified oil of turpentine will remedy this trouble. Care must be observed in the use of the oil, however, on account of the Canada balsam with which the lens glass is cemented together being soluble in it. In polishing the lens surface be careful to always dust it off carefully first, else a small particle of dust or grit is apt to be drawn across the surface and more or less impair its usefulness Hours were probably spent in finishing that little bit of glass, but it is astonishing how quickly you may spoil it.

Regarding clean chemicals and dishes, it ought to be necessary to say but little. Their importance cannot be overestimated. Hydrochloric acid diluted with an equal volume of water, is a most excellent solvent, and dishes, measures, bottles, etc., if once rinsed out with this solution are, as a rule, quite clean. Do not, however, spill any of it on clothes or furniture, for it leaves a rotten patch wherever it falls as well as making a nasty stain. To cleanse a dish that has been used for hypo. it is pre-excellent.

To avoid all the evils that have been enumerated here, nothing short of scrupulous cleanlinses is sufficient : cleanliness in washing and dusting, in pure chemicals and pure, fresh water. There is no trouble more common than those that can be traced to dust and dirt, and at the same time none so easily remedied ; as a consequence of which there is none for which it is so difficult to excuse failures.

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STRENGTH AND SIMPLICITY.

In the pursuit of landscape photography, when it is desired that the results be something more than mere photograms, that they possess a pictorial value that will render them valuable for decorative purposes, and that they will have in them that subtle quality which makes them worthy of study for hours at a time, and then over again, an important element in the attainment of success is that the picture possess, in degrees as large as possible, simplicity and strength. In fact, these two qualities are absolutely necessary to the success of the picture, for without them a photogram will hardly be worth the paper on which it is printed.

Perhaps the meaning that you are wanted to catch will be clearer, and the idea more forcibly impressed, if an exact analysis of these two words be given ; though to set forth in cold, hard words, how the *spirituel* quality of a picture has been evolved, is no mean task. In considering the subject, simplicity ought to come first, for unless the picture have this quality it cannot well amount to anything. And to show you more clearly what is meant, it will be necessary to ask that you turn from the subject of photography and bend your thoughts toward the works that the great masters of poetry and prose have given to the world. It is not necessary to particularize —any really great work will do ; only take it and consider for yourself wherein lies its peculiar charm that has endeared it to the minds of a hundred thousand people. You will not find it is a work that amuses, for there may be many that will do that much better ; it is not that it be sad, for there may be a great many that are more sad ; and it is not a dozen other things that would only appeal to a certain minority and not touch the rest. The secret lies in the fact that in every one of its little details the great work comes right down to the every day life of the people, and gives them something they themselves have realized from experience to be truth, and something they are thoroughly capable of understanding and appreciating. Tell me, do you think the laughing verses of—say, well, Lewis Carroll or Gillett Burgess, for instance, would ever, *could* ever, have touched that inner hidden chord of sympathy and feeling in the breast of the masses that was reached when "The Man with the Hoe" was published? Yet, not that Carroll did not do his work well. But he only reached a few ; only the percentage of the people who were able to laugh with him. He did not come right down to the soil that the people live on ; talk to them of those things they knew, and feel with them as they felt.

Now, why not put that simplicity of purpose into a photogram ; come right to the very thing that we are looking for, photograph it as the people see it, and in the exact atmosphere

that they understand it. I used to think that when a "simple" picture was referred to, it was meant that that photogram must have very little in it; and that, for instance, in a landscape there could not be more than two, or at the outside, three trees, and that these three must be set well apart and not on any account allowed to overlap. Why, to overlap would have made the subject very complex! But since then the realization has come to me that my trees and bushes may be bunched in just as thick a mass as they grow,—if they grow that way in the scene that is being depicted; and to attempt to take them in any other manner would not only be no improvement to the simplicity, but would be a positive detraction. The main point to bear in mind in looking for this quality, which I am afraid I have defined but badly, is that your aim is to get on the plate, not the actualities of the prospect spread before you, but the soul of it, if you can understand what is meant by that.

In defining the other word, strength, it is almost necessary to fall back on simplicity, for a picture that is not simple can not be strong. On the other hand, it is possible that the photogram may be simple and not have the strength it ought; for bear in mind that strength in a picture is, after all, only the excellence of the manner in which you express its simplicity. Supposing Markham had had his idea for his famous poem, "The Man with the Hoe," without having the ability to put it properly into words,—had felt the great thought come surging through his brain, without being able to give proper utterance to it (and we feel that way at times), what would have been the result? Certainly no one else was capable of taking his idea from him and making anything of it; perhaps no one even knew that he had the great thought in mind, and the world would never have had it. He simply had to be able to finish it off himself, and in the strongest way ability could do it. And he dit it. Now, that is what you all have to be able to do with your photograms in order to make successes of them. You must take the germ of the idea and conceive for yourself the picture that is going to express it to others, so that they will see it as you see it, and so that they can feel it as you feel it.

The Scrap Bag.

A Merry Christmas To You.—This is December; astonishing, isn't it, how old Father Time does hustle the years along? Why, this little photographic department has its second birthday this month, and here's "Rod and Gun in Canada" itself, attaining the ripe age of two and a half! Well, I wish you all a very Merry Christmas, and trust that when old St. Nicholas comes down your chimney he will drop into each and every child's stocking a camera of the finest make, and to the elders who don't know of it, an order from some of those who do, of a year's subscription to this Canadian sporting publication. "Here's lookin' at ye!"

Trays That Will Stand Acid.—When you are buying a tray for photographic purposes, it is always best to inquire whether or not it will stand acid. Some trays won't, though it is a fact that this is a trouble met with less frequently to-day than it was several years ago.

A Remedy For Crinkling.—When the prints that you want to use for slip-in mounting show a tendency to crinkling, you may avoid the difficulty by first mounting them on a thin piece of pliable cardboard, and then mount them in the slip-in mount.

The "Kala-tech-no-scope."—Went to an entertainment the other evening where they advertised that they would show some moving pictures with a "Kala-tech-no-scope." That's a new one on me. I've heard it called a "Biograph," a "Cinemetograph," a "Vitascope," and almost everything else that different combinations of letters will form, but I must say that this is the first time I ever ran up against a "Kala-tech-no-scope." What's coming next?

On Finding One's Way About.—Amateur phographers when visiting a strange city are often handicapped by not knowing where the principal points of local interest are, and as a consequence their pictures are frequently sadly lacking in those distinctive features which people familiar with the place usually associate with it in their minds. This is not only the case in the larger cities and towns, but holds good anywhere. Now, I think you will find that the easiest way is to go direct to one of the leading photographic dealers and have a little talk with him (of course, it may be necessary to buy a roll of film or something), and in nine cases out of ten he will be able to put you next, not only to the places you ought to see, but also to the best light to get them under and the quickest way to get there. Don't be shy; he can help you.

Halation and Its Cure.—Sometime ago one of the journals advocated the use of putty dabbed on the back of a plate as a means of curing halation. This advice has to be taken with a grain of caution. As linseed oil, one of the constituents of putty, has been proved to have the power of fogging plates, together with turpentine and various other oils and extracts, the plate must not be so treated very long before use. Again, the majority of careful workers who back their plates as a preventive of reflection from the glass side, seem to be unaware that much of the halation obtained on both backed and unbacked plates is very largely due to the method of development. If the image is kept well on the surface of the plate and not allowed to penetrate to the back, halation is almost entirely eliminated. The "density first" method of development will have this effect, or a preliminary soak in the restrainer alone, followed by the usual development, will be found effective.

A Cheap Retouching Desk.—To those readers who want a retouching desk and are unwilling to go to the really unnecessary expense of purchasing one before they have learned anything about its use, the following little scheme may be of more than passing interest. Secure a printing frame that is somewhat larger than the size of plate you are using, say a five by eight for a four by five negative, and a sheet of clean ground glass to go in it. Sit at a table facing the window, and place the frame in front of you at an angle of about forty-five degrees, supporting it by props of some sort. Then lean your negative in it, and lay on it a piece of black paper with a hole an inch in diameter, in the center. Now you are ready for business.

The Point of View.—The young amateur who starts in to photograph nature just as he finds her, and desires to catch those phases of her that will best convey to others the impression of the scene as it really is, will find that the first thing which must be considered is the point of view from which he is going to work. After he has made a couple of exposures he will come rapidly to a realization of the fact that two feet one way or two feet the other, or a raising or lowering of the instrument, even only six inches, is going to produce on the dry plate results so different, and some so much better than others, that it would be almost hard to believe that the standpoint was

not altered by yards and rods instead of only feet and inches. While I am writing this there comes to my mind a picture of a swampy bit of ground that I have many times crossed and re-crossed and pictured in a dozen different ways, where the whole thing consists of merely water broken in every direction by tufts of long rank grasses and surmounted by a broad expanse of clear sky, unless, perchance, it be spotted by an occasional duck or mud hen. When first I went to photograph it, I took the picture from the ordinary height of the tripod, and secured a very ordinary looking thing such as anyone might get by merely setting the instrument in place and blazing away. I was not satisfied. Then I took it again, and this time I lowered the camera to almost two feet from the ground, so that a broad stretch of uninteresting water was cut off and with it a lot of superfluous foreground, while at the same time there was a small stream left in the lower part of the picture which was effectively broken by a tall tuft of bulrushes. Then, too, the distance is thrown farther back by the bold foreground. In fact, water fenland and meadows may often be dealt with to advantage in the same way, for the foreshortening turns all but the widest of these streams into effective lines for the foreground, and by a very little thought they can be made to take strangely parallel courses, which by their harmonious blending are an inestimable benefit to the composition. But this, I think, will show you what I mean when I say that a difference of a very few inches will make a vast improvement in the print.

A Suitable Camera For Carrying Purposes.—During the winter the amateur who is desirous of snow-shoeing around the mountain, skating across the bosom of the lake, wandering down beside the ice-hung hedgerow, or where not, is presented with the question of which camera is best suited to his purpose and easiest to carry. He knows there are many that will answer, but that there must be one best, and that one he wants to find. It must not be bulky; it must be compact. This is what makes so many amateurs use a magazine, fixed-focus, hand-instrument. Now, there is really no reason for using a fixed focus or a hand camera in landscape work; certainly no advantage; fact is, I contend, that it is a positive disadvantage, for to have a camera in one's hand seems somehow to inspire a desire to take shots at everything that comes along. Instead, suppose you take with you one of those instruments of the "cycle" variety; one that fills half a flat sole-leather case, and leaves the other half to accommodate three or four double plate-holders. One seldom wants to take more than six photographs in one day's outing. As to the size of picture, I prefer a 5x7, though if you think that the extra weight is too much, a 4x5 will answer very nicely. Another thing, it is possible nowadays to get cameras that are so made that the front combination of the lens may be removed at will, and the bellows being so made that they will pull out to about three times the usual length, you have a long-focus instrument with a long-focus lens. This takes up no more room, weighs only a couple of ounces more, and costs so little extra as to be well worth having. It is true you will require a tripod to get the very best that is to be had with this style of camera (though it is possible to work without one), but that may be put in a tripod case and strapped right to the carrying case. Then, when the whole thing is slung over the shoulder the bother of carrying it is almost entirely obviated, and the additional weight amounts to so little as to be beneath consideration. With such an instrument one feels no inclination to be forever making exposures on subjects of no account, for with the necessity of setting it up for each shot there comes a closer studying of the picture contemplated, and half the time a decision to leave it alone.

So far I have been assuming that you only wanted to picture inanimate nature as you found her. But perhaps you want to do more: to photograph the poise of the hound; the running deer; the convulsive dying leap of the bull-moose; the quick rush of the sportsman, or a dozen other hurried movements that necessitate speed and dexterity of action. There is no time to go through a lengthy operation of setting up the tripod, screwing the camera on top, focussing under a black cloth, putting a plate in and then drawing the slide. It takes too long. Why, by the time you are ready to make the exposure your subject is miles away. Here it is necessary to use a hand-camera, and the best is of the very type that I have just been warning you against for simple landscape work. You do not want one to make photograms larger than 4x5, else it will be too heavy and bulky. For quick action you want it to be fitted with one of those magazines that require only the turning of a little handle half round and back to have another plate in position; that has a brilliant view-finder (not ordinary, but brilliant); and to have a pneumatic release for the shutter. This last is important, in fact, I might even say more important, for everything I have mentioned is important. You have no idea of the number of good photograms that have been hopelessly ruined and blurred by pressing the button a little too hard when one is all aquiver with the excitement of the chase. Be sure to have a pneumatic release. This camera, of course, can be carried just as easily as any other type, by a strap over the shoulder. But, on the other hand, the idea that it is more easily carried just because it is a "hand" camera, is erroneous; and I want it most emphatically understood, because of the careless style of work it leads to, that I advise against its use except where absolutely necessary.

Christmas Post Cards.—To those desirous of sending pretty little remembrances to their friends at this "Peace on earth" season, the idea of the sensitised postal ought to appeal particularly, for by its use it is possible to let our acquaintances see those spots with which they are familiar, instead of merely sending to them some insignificant card that has no earthly use, unless it be to act as a reminder that we are alive, and which in all probability is only consigned to the W.P.B. after being looked at. A photographic Xmas card not only fills all the conventional uses and meanings of the regular card, but does something more. It recalls pleasant memories. Why not use it?

A White Edge on Prints from Films.—Frequently there is trouble experienced in getting a white edge on a print where film has been used instead of glass plates in the taking. In the fact that a print is improved in appearance by a white edge, there is little room for doubt. But it is difficult to get the mask on the film straight, owing to the tendency to curl. To get round the difficulty, take four pieces of black paper and cut a straight edge on them; then paste them on a sheet of glass—preferably an old negative that has been well cleaned off. Take care to have the corners perfectly square. The result is a nice mask. By putting this in the printing frame with the negative on top, prints can be made in the usual way. Several of these masks of varying sizes may be made, the one which best suits the negative being employed.

Amateur and Professional.—An amateur photographer is one who makes money by the pursuit of the art; a professional, one who tries to.

Those —— Stoppers!—More poor results than one would think for can be traced to the using of the wrong stopper in the wrong bottle, when you are through in the dark room. Tie the stopper to the bottle it belongs to, and you will not notice all the unique results in the chemicals that you have been growing accustomed to. Hypo. as a developer will not produce much of anything, you know, unless we count language. As a developer of the vocabulary it is, perhaps, unexcelled.

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Correspondence.

Correspondence should be addressed to H. McBean Johnstone, P.O. Box 651, Sarnia, Ontario.

Horace MacPherson, Camlachie, Ont.—You say that you are trying to do enlarging with a long-focus camera by removing the front combination of the lens, and that it will not work as you want it to. Now, tell me, will you, why you want to remove the front of your lens? Did anyone tell you that that was necessary to make copies. If they did they are wrong. Try it by using the lens just as it is and drawing the bellows out as far as they will go. Then focus by moving the whole camera back or forward, and not by shifting the bellows. Of course, when you have secured an approximate focus by this method, it will be necessary to use the bellows for fine focussing. Regarding your difficulty in securing an even focus, pin your copy to a bit of board or the wall, or anywhere you like, but be sure you have something for a backing that is perfectly horizontal, or rather that both plate and copy be on precisely the same angle. You may pin the copy upside down for convenience in focussing; this will make it right side up on the ground glass.

C. O. S., Allentown, Pa.—Your specialty appears to be railroad studies, and, so far as I have seen, your powers of selection and the judgment you display in handling appear to be fairly well developed. Your Pan-American work is also fair, though bearing evidence of hasty execution, possibly the result of failing to rest your instrument on something when you made the shots. I think you will find that if you confine your attention more exclusively to those subjects with which you are familiar, instead of dividing it here and there, the chances are that you will have more to show in the end for your labour. Concentration, you know, is what makes a man. You must keep pounding away in one spot to achieve anything.

"What Plate?"—I do not like the plate you refer to as the one you have been using, for I find that owing to some fault in the emulsion it is so very frequently full of pinholes. Stop using a fast plate as you are doing. Plates of medium speed have a thicker coating of emulsion and give negatives with much fuller gradation in the half tones and shadows. Use the developer recommended by the maker of the plate for the very best results. He ought to know better than you or I what his own plate requires.

A BRITISH COLUMBIAN WATER.

The beauty of Shuswap Lake in British Columbia is not its only charm. This mountain water has a great attraction for the angler, for here during May and June fly-fishing that is not excelled elsewhere can be enjoyed. The waters teem with rainbow trout, which rank amongst the gamest of fish, and at the mouths of the numerous creeks and streams flowing into the lake the fisherman is always in these months rewarded by excellent catches. A favorite spot is at the mouth of Eagle River, a short distance from the Hotel Sicamous, which forms an ideal headquarters for sportsmen, being located on the water's edge, and affording the most comfortable quarters imaginable.

During last June, two English clergymen, Rev. Mr. Armitage, of London, and Rev. Mr. Marshall, of Cambridge, stopped over for a day, and being ardent anglers remained a week. In a few hours each day they caught from twenty-five to thirty trout which averaged two pounds. Amongst the catch were some that went as high as five and six pounds. But this is not regarded as anything particularly extraordinary. Anyone can rival it, and eight and ten pounders have been landed.

There is a fish story which is not fishy, but is actually vouched for by Mr. Padmore, the host of Hotel Sicamous; and he knows it is true, because he partook of the victim himself for lunch. In crossing the lake in September last, Mr. Irvine, a miner, who was not on a fishing expedition, captured a three-pound beauty. It jumped out of the water about three feet, and landed fairly in his boat. He managed to secure it before it could jump out again, and no angler was ever prouder of his catch.

During July and August, when the salmon run, the trout disappear; but in the fall they are again pretty plentiful. It is then that trolling replaces fly-fishing.

Sicamous is on the Canadian Pacific Railway, where a branch line runs down the Okanagan valley to Okanagan Lake, by which the best hunting grounds of this great game country can be reached. Around about Sicamous is excellent wild fowl shooting—ducks, geese, swan, grouse, etc.—and there is big game in the mountains, but the lack of trails makes it difficult to reach the caribou, bear and deer, which, however, can be easily got at by a trip to Vernon, near Okanagan Lake, where Indian guides and complete outfits can be procured.

Sicamous itself is a delightful resort, never overcrowded, and the fishing being within easy distance of the hotel by row boat will attract those disciples of Izaak Walton who thoroughly enjoy the sport for the sport's sake.

Siwash.

Vancouver, B.C.

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THE "WOOD" BUFFALO.

To the Editor Rod and Gun:

A recent item of North-West news makes reference to the "wood" buffalo in the Mackenzie River country, stating that they are multiplying, a band of 250 having been seen lately, according to this account. But that to which I wish to call your interested attention, is the further statement that the close season for "wood" buffalo is about to expire, or has actually expired. Surely this "remnant" of noble game should be protected, for many years to come, from any attack on their numbers from all and sundry of head, pelt and pot-hunters? The close season for this peculiarly valuable stock of wild animals should be indefinitely prolonged. They should receive as complete and rigorous protection as the cattle on any of the Government Experimental Farms in the North-West.

Again bespeaking your interest and that of all Canadian sportsmen in this matter.

John McAree.

Rat Portage, Ont.

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A TRIP TO MATACHUAN.

By C. C. Farr

(Continued from the December issue.)

This part of the Montreal River is simply beautiful, white waterlilies, and yellow, grow in great profusion along the shore, and in the grass fringed bays.

Bold hills arise beyond the level valley of the river, at times approaching the very banks, at others receding into the distance, so as to become invisible from the river.

As we paddled along, little Harry became restless, as children will, and to keep him quiet his father told him to watch for partridges on the trees, while his mother assured him that if he would only stop his tears he would certainly see a marten come out of the bush.

I thought how all humanity is akin, all doing the same kind of things, modified alone by the conditions that surround them.

Meechell pointed out to me a beaver house built in the bank of the river. In fact, he showed me two.

He assured me that these bank beavers were not idle bachelors, but that they lived a most respectable life in pairs; raising a family every year, as all good beavers should. I noticed that these beavers had certainly not been idle, for they had cut many good-sized trees, and had evidently commenced to lay in their winter stock of provisions.

I noticed, and indeed it is now a well-known fact, that all the tamarac has died or is dying.

I asked Meechell if he could explain the reason why.

He told me that some four or five years ago a late frost cut the trees when they were first out in leaf. Any other tree but a tamarac could stand this, and live; but a tamarac could not, hence the phenomenon. I have suggested this theory to lumbermen, but by them it has not always been accepted as valid. They say that some worm has done this, a worm that bores into the wood, commencing at the topmost branches.

I am inclined to favor Meechell's theory, and to believe that the lumbermen are accepting the effect for the cause. Of one thing, I feel convinced, namely, that the cause is a climatic one. Be what it may, the fact remains that we have lost our tamarac, a loss that will take over a hundred years to make good.

At the Odush-koon-i-gam we went ashore to eat. Boy cut a rod, and went off to fish. I followed him, and we sought for frogs, but finding none, we made use of a mussel, from off which Boy had crushed the shell. I let him do the fishing, while I hunted better bait. As I wandered further on, I saw a monster bass leisurely swimming along the shore, evidently on the feed. Back I rushed to Boy, who had missed a fish, and was vainly trying to induce the fish to bite again.

I had him collect some mussels, and kept an eye open for a frog as we walked back to where I saw the bass.

It was there, and hardly had my bait touched the water when it made a rush for it. I struck too soon, and though slightly turning it, I missed it.

At the same time, Noowi rushed up, having secured a diminutive frog. Quickly I popped him on to the hook, and this time I thought I had my fish, but alas, after playing it a few seconds, it got away. Then was I filled with grief and rage. In vain I dangled the lacerated remains of the frog in the water. It heeded not, and, as a forlorn hope, I bade Boy strip the shell from off another mussel. This I threw far out into the deep water, and then, oh joy, the line began to tighten. Once more I struck my fish, and this time I had it. I felt it in my very bones. Boy wanted to grasp the line and haul in by main strength. Luckily, I caught on to what he was at, and stopped him, for he would have smashed my frail hook like a pipe stem.

Long we fought, I and the bass. I had no landing net, nor gaff. My only chance was to tire him out, and then slide him up the gently sloping bank. This I succeeded in doing, so that Boy could rush in between the water and the bass, which he did, throwing up the monster high and dry. He was a happy boy He danced and shouted. I felt like doing the same thing myself, so I couldn't blame the boy, for it was a beauty. I know that there is no use talking weights of fish without the truth compelling scales, but I have caught many bass which I have weighed, and I certainly would put this fish at six pounds. It was the largest bass that I have ever seen. One may say that, when cooked, it nearly made a meal for the whole party.

After eating, into the canoes again. The sun was very hot. We had eaten a good meal, and, as the Indians said, "we were lazy to paddle," but the canoes pushed steadily on. I must confess that this part of the river was uninteresting. That is, after we left the lakes, and wended our way up the narrow, tortuous river. Not a bad showing from an agricultural point of view, but tedious to the tourist. At the rapid, which is at the foot of Round Lake, we eat again, but the sun was still high, so we pushed on.

When we turned the point into Round Lake, the wind was fine, so we hoisted sail, and rested our weary arms.

There is something very attractive in canoe sailing. The motion is so essentially a gliding one; so restful and conducive to sleep. The gentle wash of the water adds to the soporific effect.

I must confess that I myself indulged in forty winks, as we smoothly sailed along; not before, however, Meechell had pointed out to me the ancient burial ground of the Indians, a promontory jutting out into the lake, a breezy, restful spot, where the dead are serenaded by the gentle zephyrs of summer, and the howling blasts of winter. A fitting home for the dead children of the forest; so full of solitude, unmarred by the busy hum of men. And yet the day is not far distant when this lake and the surrounding country will become a thriving community of farmers, for civilization and an age of progress have marked it for their own. At the head of this lake, lives Joseph Quo-hon-jie. Old Joseph he is called, and nearly thirty years ago he was called the same.

Many thousand dollars' worth of furs has this man brought to the Hudson's Bay Company.

He is one of those faithful hunters, relics of bygone days, whose creed has been, fidelity to the Company. It is true that the priest has taught their religion to these men, as evidenced by the enormous wooden cross raised in front of Joseph's door, but the older creed amongst them, was a reverence for the Gitchi Ataway-wi-nini, The Hudson's Bay Co. Big Trader), instilled into them upon their mother's knee, and of greater significance to them than all the creeds of Christendom.

Of this kind is Joseph, but the race is dying out, and the younger men see things differently.

Of course, we called, and the usual chattering took place amongst the women.

Meechell Baptiste.

Seeing the importance of the visitors, a musical box was set in motion, as the show piece. But our Soosan had bought a hat in Haileybury, and it was tied up in a red handkerchief. As a set-off against the music box, this hat was produced for inspection, and passed around from hand to hand amidst many ejaculations of wonder and admiration.

The musical box was not in it, and it soon wailed itself into silence.

The hat probably cost about sixty cents, and was at least within five years of the present fashion.

It is strange how civilization creeps up these streams, and saturates society in the northern wilds.

I remember the first day that I saw Joseph Inohonjie. I was an apprentice clerk in the Hudson's Bay Company. A fellow apprentice, probably my senior by about a year, was attending to Joseph's needs in the store. His knowledge of the Indian language was a little better than my own, at the time, but was even then not of much account. He made out that Joseph wanted egg-cups. Joseph heard of them from some Indian who had travelled, and as he was doing a little trading, as well as hunting, he thought that he ought to have them. They were to him as symbols of civilization. How we laughed, and yet we gave him egg-cups; not from the store, for in those days they were counted as unnecessary luxuries, but from the house. He expected to pay about five dollars apiece for them, and was agreeably surprised when he found they only cost a dollar. But I am again digressing. I must hurry up, or I shall never get through my trip. So far, we are only about half way to Matachuan, and there is much left yet to tell.

We camped that night on Spruce Lake, or Elk Lake as it is marked on the maps.

Next morning, as we were about to start, we saw a canoe coming down the lake, with four Indians paddling it, and two white men sitting down comfortably amidships.

We knew that it was the Hudson's Bay Company's Agent, returning from a trip of inspection.

We exchanged civilities, but there was an anxious, enquiring look upon his face, as much as to say, "I wonder what that chap is after?" The Hudson's Bay Company officials live in a constant nightmare of dread of opposition. He could have possessed his soul in peace, for I have no hankering after the fur trade.

At the Muk-o-bee River, we found some more Indians camped, so we went ashore, and were entertained by the display of a fine matchbox, with beautiful pictures upon it, but the glory of it was immediately eclipsed by Soosan's hat.

I felt proud to be travelling with that hat, and began to realize that, with it, we could eclipse anything in sight.

The wind was fair, so we sailed in a lazy manner up this lake. The scenery was beautiful, and I regretted that we had to exchange it for a long stretch of monotonous river, wherein nothing occurred to break the monotony but the sight of the ever present moose tracks, and the slaughter of a covey of partridges. We met many squirrels swimming across the river. The Indians played with them, lifting them out of the water

with their paddles, and throwing them at the women, over whom the poor frightened little things would run. This kind of battledore and shuttlecock seemed to afford them much sport, and they all laughed heartily, but it had a very depressing effect upon the squirrels. However, they, the Indians, were not mischievously inclined, and the poor little chaps usually managed to escape. Meechell told me, that, at this time of year, squirrels take to the water in great numbers, but that it was only young squirrels that were thus caught swimming. They, probably, after being reared by their parents, were seeking homes and mates of their own.

Above the Kay-kah-be-kayguan, the highest falls on the river, we saw a canoe lying close to the other shore. There was evidently a white man sitting in it, so I suggested that we should interview him. I was steering, and I ran our canoe across. Sure enough, it was a white man, with two Indian guides. I hailed him in a friendly manner, but he did not reciprocate. He seemed reticent and reserved, so, dropping into the Indian language, I asked his guides who he was, and what he was doing. They told me all they knew about him, and then we discussed other matters for a while, until we parted. When we had gone out of sight, and out of earshot, Meechell and his wife began to laugh. They fairly roared, and naturally I wanted to know the fun.

"Did you not see him?" said Meechell.

"Did you not notice what the Sagenash, (white man), did?"

"No," I said, "I saw nothing to cackle about."

This made them laugh the more, and then they told me that he had taken our photographs as we came up.

"Perhaps," said Meechell, "he is wanting pictures of Indians?"

And then I saw the point, nor did I fail to rub it into my wife.

I learned afterwards that he is expecting to publish articles (illustrated), in the Detroit Free Fress, so that I have every expectation of appearing as a good intelligent type of Indian in that funny paper.

It was a hot, sultry evening, and as the river here becomes just a succession of small rapids, or swift currents, we did not make much progress. A dark cloud was looming up in the west, and the distant rumble of thunder betokened a storm.

Meechell chose a small grassy island on which to camp. As the other canoes were slightly in advance, he hailed to them to return. The Baldheaded Eagle threw words of scorn and reprobation at him for choosing such a place. But he answered good-humoredly enough, that he did not want to be caught in a deadfall like a bear. "For," explained he to me, "if you "camp amongst high trees in a storm, there is always a chance "of a tree being blown across your tent, or of being struck by "lightning." Then he told me of the crew that had left Moose Factory with a load for Frederick's Lake post, and how most of them were killed by the lightning. I have heard it told myself years ago, but perhaps the readers of Rod and Gun have not, so I give it as I heard it.

A storm, just of the same kind that threatened us, was coming up, so they camped upon a portage, beneath a large pine tree. The storm broke after they had gone to bed. They were sleeping, as is the custom of voyageurs, beneath their large canoe. Next morning, out of the seven men who composed the crew, only two got up. They thought that the rest were still sleeping. So they were, but it was the sleep of death.

The lightning had killed them, and yet the men who escaped knew it not, though they were lying beside them. These two managed to make their way back to Moose, carrying their fearful tale, and a fresh crew of men had to be procured to put the load to its destination.

Shortly after we had turned in to sleep, the storm came down upon us, and I recognized Meechell's wisdom in the selection of our camping ground. The wind raged and the thunder roared, while the lightning flashed in sheets. Then the rain came down in torrents, and it kept me busy training the little rivulets of water down the roof of the tent, so as to turn them from off the blankets; but what gave the finishing touch to the weirdness of the whole, was the howling of wolves close to the camp. I have lived many years in this northern country, and yet never had heard wolves, until this evening. I have heard them further south, but never here. Of course, I discussed the matter with Meechell in the morning, and he gave me much interesting information. He said that the wolves had become very plentiful of late years. Not the small tawny wolf, which is to be found south, but the big white wolf, which has come from the north.

The Indians find it difficult to put their meat in a place of safety in the winter, for the wolves destroy it. The only way to insure it being left intact is, to place a trap under it, for wolves abhor traps.

"Do you know," said Meechell, "that the wolves are destroying the moose?"

"How can that be," I asked, seeing that I never saw the moose so plentiful. "Look at the tracks. How thick they are?"

"True," said he, "but you only see large tracks. Where are the small tracks? For the last few years I have seen hardly any calves, for the wolves are killing them."

"I thought that the moose could fight the wolves?" I said.

"So they can," he answered, "but it is not hard to get the calf separated from its mother by worrying it. Then the calf is easily killed, for it cannot run as a red deer."

I then asked Meechell how long it was since he first saw a moose?

"About forty years ago. I was coming up the Montreal "River, and at Round Lake I saw a moose. I was just a little "frightened, for it was like nothing I had ever seen before. I "can tell you one strange thing about moose," he continued. "There is a small lake at no great distance from my home, and "around the shores of this lake, covered by a layer of black "muck, of about a foot in thickness, there are lots of moose "bones. You can see, too, their roads cut deep in the ground. "They, too, are covered with earth to the same depth, and "alongside of them, running in the same direction, in fact, "often on the very same tracks, are the roads of the present "generation of moose. Can you explain these things?"

I could not explain. Have the wolves been the instruments of extinction in the prehistoric past? It must have been long, long ago that these creatures lived, for there is no tradition concerning them amongst the Indians. It would be interesting to verify these things. Could these bones be the bones of the elk? But speculation is useless. Investigation alone would be satisfactory.

Many things Meechell told me about wolves, bears, wolverines, and other wild animals on that rainy day, while we were camped on the small island, but they must be left for another story. I am supposed to be on a trip to Matachuan, and it looks as if I should never get there.

I became hungry for fish, so I asked Meechell if he could not get some. He answered that he could, so off he went in the afternoon, with his wife, Noouri and Harry, to set a net. Next morning we overhauled the net, on our way up, and there must have been over a dozen beautiful pickerel in it, fine, dark, handsome fish, I thought that they would have given excellent sport with rod and line.

Strange that there are no bass in these waters, especially seeing that they are so plentiful lower down the stream.

It strikes me that the habitat of the bass is much restricted.

The Temagamingue system of lakes is full of them, but north, probably to the North Pole itself, bass do not abound. If this is so, then it is well for us to economize and encourage our bass. Let the authorities look to it.

We met Meechell's brother at the next rapid. By the by, what an interesting sight it is to watch these Indians handling their canoes in these swift currents. They use poles, usually shod with iron, and it is wonderful the pitch of water up which they will force their canoes with apparent ease.

I am no greenhorn in a canoe myself, and yet, I noticed, that whenever we came to a pretty stiff pitch of water, Meechell ordered me out of the canoe, and put his wife in my place.

It was not complimentary to me, and my wife laughed to see a "male person" ousted by a woman, but I felt it to be no disgrace, for Meechell's wife is as good as any man at such work, in fact a great deal better than many who think they know it all. She is a wonderful woman in every way; and the most light-hearted creature I ever met, always laughing and chatting with her husband, and in excellent humor. The only time I ever saw her put-out, was one evening when he brought her wet wood with which to bake her cakes. Even then she pitched the wood at him in a friendly way, and laughed when a small stick struck him. Here is another instance of how all humanity is akin. How many a woman's temper has been roused by wet wood. We who live in a wooden country know all about it.

As Meechell and his brother had not seen each other for some weeks, they naturally had much to talk about. One of Meechell's first questions was :—

"What have you killed?"

"One red deer, one bear, and one moose. The moose was caught in a trap set for a bear," came the reply.

We fried our fish that morning in the grease of the bear.

I must not forget to say that we saw a bear in one of the rapids, but it saw us, and vanished.

Meechell's brother was then on his way to set some bear traps. He is a good hunter, this William Batist. Since I came home, he shot six wolves. He saw them eating a moose. There were ten of them, the old mother and nine pups. He crept up to them, and killed the old wolf first, and the young wolves would not leave her ; so he shot five of them before they scattered. He lost two of them, so he was only able to secure four skins. These he brought out to get the bounty. But what a family. Nine in a litter. No wonder that the young moose are becoming scarce. And the brutes will continue to increase and multiply, as long as the food supply is sufficient for their needs.

And now at last we come in sight of the Hudson's Bay Company Post, our destination. By this time, we had a flotilla of canoes accompanying us. The gentleman in charge had the flag up in honor of our arrival, and it was with a strange mixture of sensations that I landed at this outpost of civilization.

I had spent fifteen years of my life in the Hudson(s Bay Company, and our arrival recalled reminiscences of by-gone days.

I could hardly persuade myself that I had not then arrived to take charge of the post. There was, and probably is, considerable fuss made over the advent of the new trader, the rising sun, and one with whom, in this autocratic business, it is well to stand in favor. I felt myself stepping back nearly twenty years of my life, and yet, after all, there was consolation in the thought that the morrow would see me speeding on my way back to my home again. The life of the Hudson's Bay Company's service has its charm, but the isolation of it, the almost perpetual banishment from real civilization to a man who, like myself, has tasted the sweets of independent intercourse with my fellow men, would be to me intolerable, and the temporary impression was like a nightmare to me, the recalling of a perplexing dream. Nothing could exceed the kindness of our reception by Mr. Stephen Lafricain, the gentleman in charge. He has spent nearly half a century in the employ of this wonderful company. He, like myself, forgot the intervening years, and treated me as of the company.

We discussed the trade, until the air seemed fairly laden with the smell of rats ; we discussed the past, men who have long been dead, and manners, that, at least in this locality, are becoming mere traditions.

To discuss the future is the sign of youth, to discuss the past is the sign of advancing age. I know the verdict, and accept it as part of the inevitable. So let it be. It takes an experience of this kind to bring it home.

But the morrow came, and I needs must hasten home. Those rapids which had been such a source of hard work and slow progress on the journey up, became a delightful experience on the journey down. Under the skilful guidance of Meechell, we glided over the rounded pebbles of the river bed, which, in the clear water, seemed so close that one expected every moment to feel them scraping on the bottom of our canoe. But Meechell knew the way, and as, he in the bow, made all the necessary twists and turns to keep the deepest water, I merely had to watch him, taking my cue from him, and steer as his motions directed.

That night we camped far down below the big falls, upon that apparently fishless, uninteresting stretch of river when every reach seemed alike, only a little longer.

Meechell had promised fish, and he kept his word. We camped at the mouth of a small creek, where one would not expect to find a fish within five miles of us. But Meechell knew better. After the tents were all set up, he started up the creek with his wife, Noowi, and the inevitable net. Next morning, before we were up, he overhauled his net, and brought back a multitude of fishes. There were pickerel, pike, perch, and whitefish. The perch were beauties, more like the perch we used to catch in England, good, broad, heavy fish, of a dark brown color, and heavily banded. He told me that with a rod and line splendid sport could be obtained where he had gone to set his net. I asked him if there were no brook trout up this river. He said that within one day's journey of his home, there were splendid brook trout, the largest he had ever seen. I should judge by his description that they would run the Nippigong trout hard as to size. And as to quantity, he assured me that they were as plentiful as minnows. Then there was another place, about the same distance off, but in another

direction, where the trout, though not so large, were even more plentiful. I mean to pay those trout a visit yet, if only for the sake of politeness. But my journey is now nearly ended. I need not take my readers back over the same ground again. Suffice to say, that we arrived home without mishap, tired but healthy. Even to the last, nature was kind to us. As we paddled in the gloaming, through the narrows in Sharpe Lake, Bazil's eagle eye discerned a deer feeding on the waterlily leaves in the shallows.

"Where is the rifle?" he whispered to Meechell.

"What do you want the rifle for?" asked Meechell. "We don't want to kill the little creature." Then, turning to me, he asked :—"Do you want the meat?"

"Certainly not!" I answered.

"Then let it live," he said.

And just to see how near we could get, we paddled cautiously along without making a sound. The pretty thing looked up once or twice, but seemed to think us harmless, as it continued to stretch out its slender neck and cull the succulent leaves of the lily, though we were now within less than twenty yards of it. But humanity could stand it no longer, that is, Indian humanity, for Bazil slapped his paddle upon the water, and let out a shout, which sent the creature bounding into the bush. And thus the red gods did not call. It is a pity they have to call, but we must eat, and, besides, the instincts of our prehistoric barbarian ancestors are still strong within us, and we call it sport.

I am home now, and I miss my Indians.

THE END.

✠

AN EXPLORATION TO THE HEIGHT OF LAND.

By St. Croix

(Continued from our December issue.)

John told me that he knew of a group of lakes to the south of Narrow Lake which were admirable feeding places, and as I was very anxious to get some photographs of moose, and the weather was favorable, we took the canoe and camera and started. We paddled about a mile across a bay of Narrow Lake, then portaged for 400 yards over some slab rocks to a perfect gem of a lakelet, one of Nature's goblets, filled to the rocky rim with crystal water, with pine clad islands which seemed to float on its mirror-like surface. Here we left the canoe, and walked almost half a mile south-west to a rushy pond, where the moose tracks made the mud look like a barn yard. But there was no moose; so we walked half a mile east to another pond. The rocky shore was very high, and as we came near the brink, John stopped short—I looked over his shoulder; and there were two moose feeding, far out in the lake. One was a

FALLS AT THE MOUTH OF THE NORTH BRANCH, WHITE RIVER.

When this photograph was taken the pitch of water in the North Branch was very low; in late spring and early summer a very large volume of water passes over these slab rocks, and a scene which is at all times beautiful becomes magnificent

very large cow; and the other a yearling calf. A few minutes later I saw a third, also a calf, at the head of a little bay. The sun was very bright and the water absolutely calm. The cow was feeding greedily. Every now and then she would take a long breath, and stick her head under water, and fully a minute would elapse ere her head reappeared. She was feeding on the roots of the lilies, in water about four feet deep.. We went back to the canoe, taking our time, for there was no hurry, the moose having evidently only just reached the water, while it takes them several hours to satisfy their hunger. We carried the canoe over to the head of the lake in which we had seen the moose. I lashed the tripod of the camera in the bow, and trained the instrument so that anything from twenty-five to fifty yards from the bow would be on the plate. I was using a long focus lens, and had some hope of getting a good photograph. I knelt immediately behind the camera with the bulb in my hand; the boy lay flat on his back behind me; and good, steady-going old John, stoical as a cigar store Indian, paddled us toward the moose without making a sound that even I could hear, near as I was.

To cut a long story short, although it was broad daylight and bright into the bargain, John paddled me up within forty yards of that moose, and, until the shutter clicked, she had no idea that any of the hated bipeds was near her. But those great ears of hers heard the snap, and then she was not long in getting ashore. The calves had already disappeared, being nearest to the forest. We were back in camp at seven o'clock.

It was now time to start for Te-gou-sie-wabie, and on the morning of Thursday, August 15th, at 8 o'clock, we resumed our journey up the north-east branch. The river comes into Narrow Lake from the north-east, flowing for fifty miles down a narrow valley, bordered on either hand by remarkably regular lines of cliffs. All the strata in that part of Ontario dip to the south-east. The average course of the river is about N. 10 E. The dip of the rock is here about 20°, but as one proceeds further to the north-west it becomes steeper, until at Te-gou-sie-wabie the dip is fully 80° to the south-east. The formation is Huronian, and it is more than probable that mineral discoveries will be made about here, as this formation is about the most promising one we have. After leaving Narrow Lake the water became much clearer.

Without going into too much detail; we camped at six o'clock on Island Lake, having paddled about 14 miles and made seven or eight portages. The bearing of Narrow Lake from Island Lake is S. 39 W. (magnetic; the variation of the needle here being not over 6° W.)

According to John there are many small lakes immediately east of Island Lake, and they are sure finds for moose. I noticed that the season was further advanced here than it had been down at Temiskaming. The aspens were already turning yellow. The country was burnt over about fifteen years ago, and the forest growth is, consequently, very sparce and small. This fire is said to have driven out the last of the caribou. The more one looks into the factors governing the distribution of animals, the more one is impressed by the evident fact that their movements are governed by the abundance or scarcity of food. They are very tolerant of great differences of climate, but their choice of food is narrow. Should the fire destroy the white moss which grows so abundantly in the rocky districts of the north, the caribou will shun that part of the country until such times as the moss shall have reappeared; the yellow pond lily appears to be an essential summer food of the moose, at any rate in Eastern Canada, and where the streams are rocky and rapid you will find few of these animals, while, on the other hand, in a district of many ponds, back-waters, and bogans, moose, unless driven out by man, are certain to be numerous.

Shortly after leaving camp next morning we reached a lake which appears to have no name, but which is shown on the map of the province, as the inter-provincial boundary crosses it. This crossing, however, occurs at the far end of the lake, while I left it at a point not more than a mile from its foot. Forks-of-the-Road Lake will do as a name, for the want of a better one. Here two canoe routes diverge; the one going to the Quinze River, the other to Te-gou-sie-wabie and the Height of Land. We chose the latter. After paddling a mile or so from the foot the canoe was turned toward the westerly shore, at a point where a picturesque but small waterfall came down the high bank. This is the discharge from Te-gou-sie-wabie. I was very much disappointed at the small volume of water, inferring wrongly, as it turned out, that the lake would be but a small affair.

After the usual carry—in this case one about half-a-mile, and all the way up hill—we launched our canoe on a beautifully clear little stream, with a very moderate current. Its general course was about N. 36° W. mag. There is but one rapid of any consequence between the lake and the mouth of the stream, the portage by which it is passed being a quarter of a mile in length. Here we lunched. From the rapid to the lake moose tracks were extraordinarily numerous, and in one case we noticed that the tracks of a big bull were so fresh that the water was still soiled, that is to say, the mud had not settled, as would have been the case had the animal passed more than an hour or so before our arrival.

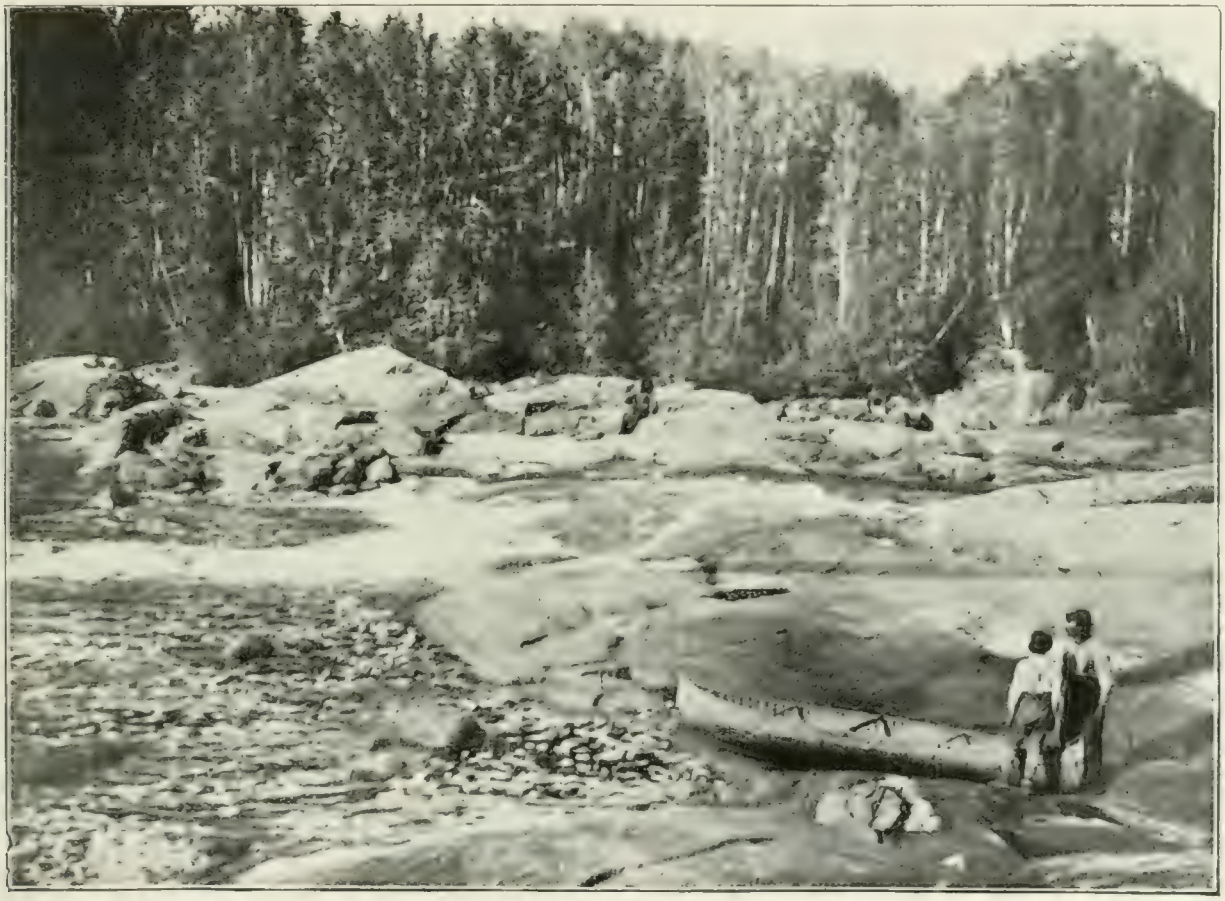
We soon emerged into the lake, and then I realized that John had not lied, and that Te-gou-sie-wabie is a lake of large size and great beauty. The wind was blowing very hard from the westward, so we hugged that shore pretty closely, but did not escape a wetting when we had to cross the mouth of one or two deep bays. We camped for the night at the Narrows, where a remarkably bold cliff juts out, dividing the lake almost in two. This is one of the most perfect camping grounds in the White River country, where good camping grounds are the rule, not the exception. It has additional charm from the fact that the eye ranges over miles and miles of distant scenery, and that the vision is not limited by the surrounding forest, as is usually the case. A great square-topped butte bears N. 80° E. from the centre of Te-gou-sie-wabie. It is well known to the Indians, who call it Chiminis; its position is exactly 43 miles due north of Temiskaming. I estimated this mountain at 15 miles from the of Te-gou-sie-wabie.

While I have nothing but good to say of the scenery, I cannot say much in favor of the fishing. John had a yarn to spin about the vast quantities of huge trout that are in this lake, but although I fished industriously with fly, bait and troll, I did not catch one, and I noticed later at the old Indian camping place, near the portage which leads out of the lake, that the only bones and scales lying about were those of doré, so that I think we may look with some suspicion upon John's yarn. Mind you, John did not say that he had himself caught any; all his own information was second-hand from another Indian. I believe that other Indian handled the truth carelessly.

Next morning something prompted me to get up very early, and it was grey dawn when I put my head out of the tent door to take a look around. I saw a very pretty sight. There were seven foxes sitting on their hams about eighty yards off gazing

fixedly at the camp. Presently the whole seven drew together —there was an old dog fox, the vixen and five cubs—and when I fired into the bunch they all sprang into the bushes and disappeared, so I thought another miss had been scored. But after breakfast I strolled down to the sandy little bay, where they had been sitting, and on looking carefully saw a drop or two of blood. A short search showed the vixen lying dead.

There are many islands on the lake, and as we could not see the northern extremity from where we were, I decided to leave the camp standing and explore it. We were away by seven o'clock, and did not return until half-past eleven that night. It was six miles from our camping place at the Narrows to the tracks of moose, caribou, deer and bear, and they have evidently been little hunted. They are hunted occasionally, however, and unfortunately the head of the lake has been visited a week or so before my arrival by Jean Baptiste No and his numerous progeny, so that, though we saw many moderately fresh tracks, we did not see the animals themselves, and it is our common belief, that is to say, that it is the conviction of myself, and of John, and of John's little son, that the flesh of those moose was converted into provender for the use of the said Jean Baptiste No and the issue of his loins, and that the hides of the defunct animals are probably by this time made into babiche.



READY TO EMBARK.

This snapshot was taken at the foot of one of the rapids on the main White River between the mouths of the North and N.E. branches. The canoe shown in the foreground is a good specimen of the birchbark as made by the Temiskaming Indians.

head of the lake, and a very pretty paddle it was too; the water clear, the sun hot, and the scenery beyond description. I should have to live far beyond the allotted span of man's life ere I could forget the delicious sweep of those blue hills, which are really and truly the boundary between the Arctic slope and the basin of the St. Lawrence—for Chiminis is at the apex. Along the eastern shore of the lake a bold ridge runs almost north and south, its western front sufficiently abrupt, its eastern flank dipping at the same angle as the strata of which it is composed. Then the charm of this region is emphasized by the fact that there are no *men* in it; here you have nature unspoilt and uncontaminated. On either hand were the fresh

I shall have a good deal to say about Jean Baptiste No, but I will defer the saying of it until we meet him, as we shall do further on in this narrative.

We arrived at the head of the lake for luncheon; and after having eaten we ascended a crooked, sluggish, dead water for several miles, until at last it terminated in a beaver meadow, which John said was the height of land. Then, as we were not bound for the North Pole, we homeward turned and arrived at the mouth of the dead water just as the sun was sinking, or rather apparently sinking, in the north-west. Of course we boiled the kettle once more, but could not leave well enough alone, and so instead of paddling to camp like sensible men, we

must needs wait for the dark and then prowl around trying to flashlight a non-existent moose. It was almost ten o'clock when we gave it up, and although all hands were dead beat we managed to make that old canoe go faster than I ever saw a canoe go before. It takes some hard shoving to make a birch-bark cover four miles in the hour in slack water; and when you are able to do it as a finish up after twelve hours of previous hard work, you may congratulate yourself upon being in fairly good trim.

I had now spent as long a time as I could spare on the north lake, but there yet remained the southern sheet. So we passed through the Narrows, and by a large number of quartz veins, most of which seemed to have been staked by the ubiquitous William Judge, before mentioned—though not legally so, I fancy—until at length we arrived at a small rocky point which we scented from afar off. It was evidently an old Indian camping ground, and as it did not seem to be honoured by a name, I ventured to call it Stinking Fish Point, feeling sure that the tribute was not undeserved. Jean Baptiste had camped here on his way through to the North branch, and had left behind some doré which had not improved with age. However, trifles like this have little effect upon the wilderness traveller. Seated six or seven feet to leeward of an ancient and decayed doré, he can yet enjoy the bright sunshine, and the glorious scenery, almost as much as if the fish were not there.

TO BE CONTINUED.

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EXPLORATION IN NORTH-WESTERN CANADA.

By H. G. Tyrrell C.E.

(Continued from the December Issue.)

Beyond Barre Creek we crossed an almost level plain, not a hill of any kind being seen to relieve the monotony of the landscape. As far as could be seen in all directions was nothing but the level prairie, and at this season of the year the grass was very short and poor, in many places being killed out entirely, and the surface covered with clay and boulders. In the morning, after a frosty night, thick mist was found lying over the prairie so it was difficult to keep a straight course, but after travelling a few miles this would clear away. A fine herd of antelope was seen in this vicinity but to get much closer than a telescope shot was very difficult. Some of the more venturesome members of our party followed them on horseback trying to get within rifle shot, but the antelope were found to be very wary indeed, and excepting at long range could not be approached. There had, however, been some hunters in this vicinity not long before for we found remains of several antelope, including a pair of fine horns, which were brought home with us. I was informed afterwards by an expert that why men did not often chase the antelope, was probably for the same reason that they do not chase coyotes. I have several times heard a coyote described as a streak of red across the prairie, and whoever attempts to chase one will find the description about correct.

On reaching the Sand Hills we discovered a pass through them about one hundred and twenty feet deep, followed by a gentle slope. This descended another hundred feet or so, down to Egg Lake, which contained clear water though a little saline in taste. It appeared to be the best in the vicinity, so it was used to make some tea. We again climbed the sloping hill and passing over another ridge came down to the creek on the other side, where good water was found in all sloughs. Provisions were very low and in fact nearly exhausted. Two of the men were sent out early in the day to hunt for game and came in with six ducks, which were used for breakfast.

On the morning of September 2nd we left our camping place in the coulee and crossed the undulating prairie to the bank of the Red Deer River. On descending this we found the water to be very high and the ford washed away, so we set out to look for another crossing, but after a search of an hour or two returned and decided to launch our little canoe and in it cross all the supplies and camp equipment. Mounting our horses we swam them across, and as it was now evening and nearly dark we camped for the night on the west side of the river. Our provisions had now entirely given out with the exception of one piece of salt pork and a half a pound of tea. Here a herd of fifteen antelope in the valley and a bear or two ran by us in the bushes but none of these were we able to shoot. On the following morning the wheels were taken off the cart, the body of which was floated over, drifting all the while down stream. The wheels had been loaded on the top of the cart and the whole was then towed up stream with ropes to the landing place. The wagon, too, was brought across in a similar manner and then our baggage ferried over in the little canvas boat, taking only a few hundred pounds at once. With the older horses we had no trouble, but two of our younger ones for a long time refused to swim the current. It was decided that two riders should mount the other horses and, tying a rope around the neck of the young beasts, to urge them in this way into the stream. It required considerable coaxing and beating to make them enter, but they were finally all safely across, and the wagon loaded on the other side. This crossing is the one made several years ago by the Marquis of Lorne when travelling on horseback with his party. There had evidently been a camping place made by them at this crossing for a number of interesting relics were seen, such as bottles, cans, playing cards and other articles that seemed to indicate no great privation. Living as we were on nothing but one piece of salt pork, we could not help wishing for a little of the luxury that had preceded us in the other party.

It required fourteen trips of our little canoe to take all the baggage over. The wagon box and cart drifted at least a quarter of a mile down stream, and landed at a place where it could not possibly be taken up the bank, so it was necessary to tow it back again to the landing place. The valley was quite deep at this crossing, and it required a big effort on the part of our tired horses to haul the loads up the steep hill. In all such efforts as this, where an extra pull on the wagon was required, the service of old Pinto was of great value. We were inclined at first to consider him balky, for when hitched in the regular way ahead of the team he would refuse to pull. Coaxing and whipping had no effect for he would walk ahead of the team, but to pull he would not. On this account for several weeks he escaped this duty, but thanks to a band of Indians who chanced along one day, we discovered the horse's secret. He had been used to pulling, not by the collar and traces like other horses, but only by his tail, so whenever occasion arose requiring the service of a third horse at the wagon, such as at this crossing of the Red Deer River, where heavy loads must be hauled up the hillside, big Pinto was securely tied by the tail to the end of the wagon pole and up the hill he would go pulling at his very best. At first the suggestions of the Indians was considered as a joke, but when tried we found it to be actually the case, that the horse preferred to work in that way, and indeed would pull in no other. As he was our best saddle

horse it was very seldom that such duties were required, but when wanted he was always ready to pull in his own fashion.

September 5th brought us bad news. Two only of our horses, out of seven, could be found. The other five were nowhere to be seen. After an hour's search before breakfast, Maloney came in, having seen no trace of them, and after breakfast three more of the party went out to look, but came in at noon having seen nothing of them. In the afternoon we secured the service of an Indian from the Blackfoot camp to help in the search, which continued all through the following day. At ten next morning an Indian boy came in saying that he had seen our horses and would bring them to us for the sum of two dollars. This we paid him but saw nothing more of the Indian. Meanwhile we rode around the country as much as possible with the two tired horses that remained. The third day came and still they were not found, neither the Indian nor the horses putting in an appearance. Riding over to the Indian agency we secured the services of Crowfoot's son. At that time Crowfoot was the Chief of the Blackfoot Indians, and was a man very much feared and respected by his tribe. Though we could not converse in the Blackfoot language, this Indian signified to us by motions that he could find our horses provided he was paid enough. We offered him the sum of ten dollars and he at once started out to search for them. Coming back later he said the amount offered was not sufficient, that he should be unable to find the horses for ten dollars. We then doubled the amount, making it twenty dollars, and about seven o'clock in the evening, while we were at supper, he came riding into camp with our five horses. The Indians had doubtless had them hid waiting a sufficiently large offer for their return.

While camped in the vicinity of the Blackfoot reservation I had some amusement with the Indians. One old chap seeing a long barrel Merwin and Hurlburts revolver in our tent was anxious to match me shooting. A can was put up at fifty paces, and old Jack was given a chance to show what he could do. To the surprise of all our party we found the old Indian a much better shot with the revolver than we were, as he was able to mark the centre of the can at nearly every shot. An Indian boy, too, that came with him asked to try his hand, and proved to be nearly the equal of the old man. The efforts of the Blackfoot Indian to make us understand by signs was very interesting. He told me by signs that he had been up Crowfoot Creek way towards Red Deer River. He had shot an antelope which was hanging on his saddle. He said that when the sun was low he slept and when it appeared again in the east he was off again.

Another day's ride on my favorite saddle horse brought us to the valley of the Bow near Glichen station, on the Canadian Pacific Railroad. While conversing here with an employee of the railroad company, I was informed that a cousin of mine from Toronto had passed through there a few days before with Major-General Middleton. This officer was then in command of the volunteer regiments that had all summer been fighting the Indians in their effort to subdue the Riel rebellion. I could not help regretting that I had missed seeing this relation, for old acquaintances are very cordially greeted in a frontier country.

An amusing incident occurred here with an old Indian and his squaw, who had been following our outfit all day. They were entirely without provisions and were expecting to live on our generosity. On reaching our camp that night the Indians came to our waggons and unsaddled their horses and let them run, they themselves sitting behind our waggons waiting for their suppers. It is their custom to receive all that is given them, without any expression of thanks or gratitude whatever. But the unfortunate Indians certainly had many grievances. Whether or not they had enough to provoke them to open rebellion of 1885 the writer will not discuss here. One incident, however, may be mentioned. The government had established Indian agencies throughout the west for the purpose of distributing to the natives a regular supply of flour and other rations. It was the custom of these dishonest agents to receive money from the government sufficient to procure good food, and to spend this on the poorest kind that could be had in the way of making larger profit for themselves. On one occasion the Indians showed me a sample of the flour given them, and pointing to my camp fire gave me to understand by signs that the flour resembled and perhaps contained wood ashes. In any case it was entirely unfit for use.

When on the home stretch for Calgary our intelligent horses seemed to understand the situation, and were anxious to race with each other. Hamilton and I were riding the freshest horses, and as they would come abreast, immediately there would be a race. It was difficult to hold them in, so eager they seemed to get back again to stable food.

On the morning of September 10th, on riding to the summit of a little hill, before us in the valley of the Bow lay the little town of Calgary. Only those who have experienced it know how enjoyable it is after weeks of hardships to return again to the comforts and luxuries of civilization. Many, unfortunately, indulge themselves too freely so that the frontier towns are often the scenes of much lawlessness and crime. This, however, is overcome to some extent in the Canadian west by strict prohibition laws which forbid the sale or importation of liquors into the country, except on special permits.

Two days were spent in preparation for our journey. Since leaving the railway I had travelled a distance of fifteen hundred miles on horseback and in canoe.

THE END.

An unfortunate and misguided whale found its way up the St. Lawrence into the harbor of Montreal a short time ago. It showed a great lack of common sense as, notwithstanding that hundreds of sportsmen (?) made a target of it, it refused to go away, and for several days its movements were chronicled by the daily press with great minuteness. One fine morning it floated ashore at Longueuil and became the lawful prize of a man who had got up early to shoot ducks. It is said that he made $800 by the capture, and, if this be true, those who compile books for the edification of the young should make a note of it, because we recall no more impressive instance of the advantages attendant on a habit of early rising than this.

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A new and very charming canoe route is said to have been discovered between Lake Temagaming and the Montreal River at Bay Lake. This route is, of course, not a new one as far as the Indians are concerned, but few, if any, white men seem to have travelled by it. The route passes up the N.E. arm of Temagaming, and then into Caribou and Net Lakes. From the latter sheet the voyageur proceeds due north through a watery chain, finally emerging at the foot of Bay Lake. While nothing could be more beautiful than a trip down the Metabetchuan River, it is quite probable that this new route will be far better for game and fish. There are said to be speckled trout in some of the lakes passed through.

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Various estimates have been made as to the amount of money which, on the average, the visiting sportsman leaves in Canada. The problem is one that does not admit of a mathematical demonstration, and quite naturally different estimators vary widely in the totals they arrive at. We have always considered that, if the truth could be known, it would be found that the average was far higher than had ever been claimed by the most enthusiastic statistician.

We recently had an opportunity of questioning three sportsmen who had returned from shooting trips in the west. They had done everything *en prince*, and their expenses had naturally been much heavier than would ordinarily have been the case,—but the excesses of the amounts they spent over the figures usually quoted were quite startling. Each man had spent some $1,800 in railway fares, provisions, horses, and labor, and although the disbursements of wealthy men are by no means a criterion of the necessary cost of a Canadian hunting trip, we feel tolerably certain that a great majority of our visitors spend larger sums than have been credited to them, and that few spend so little as the accepted average, which may be put roughly at $100.

We think that this fresh instance of the generous expenditure by these gentlemen is a fresh instance in proof of the statement which has been made in these columns, that our game is one of the most valuable assets we have. Supposing that a murrain were to sweep away all our big game, none of these sportsmen would visit us, and the farmer, the ranchman, the trapper and the Indian would miss many a welcome bill which now finds its way into his hands. We must decide for ourselves whether we wish this golden stream to continue with an ever-growing volume, or whether we consider that as a nation we are so wealthy that we can afford to do without this source of income. As the great, prosperous republic at the south fills up with human beings, they will desire to make a playground of this Canada of ours, and if our forests, prairies and waters continue to yield such sport as they do to-day, we may be very sure that in comparison with the multitudes which will visit us, the two hundred thousand men who now resort to Maine each autumn will be a mustard seed to a pumpkin.

✠

We desire to offer no excuse for reproducing this month, as a frontispiece, another of those lovely landscapes, which make the Devil's River such a charming stream to follow. Few outsiders have visited it yet—and it has absolutely no residents along its shores, but the day is fast approaching when it will be better known.

✠

Unlimited numbers of rabbit skins are to be obtained from Australia at a merely nominal price. Now the warmest fur that the Indian knows of is that of the rabbit, and a rabbit-skin blanket will keep a man warm even when camping out at 40 below zero. If some enterprising genius would merely introduce Australian rabbit-skin blankets, they should soon be in great demand in Canada, and it is quite possible that jackets of heavy canvas, or other wind-proof substance, and lined with rabbit-skin would fill a long felt want. Our own rabbits are not available in any great numbers, and the Indian method of making blankets—by weaving long strips into a coarse network does not meet with much favor—but a blanket lined with fur such as that of the rabbit would be a perfect godsend to the camper out.

✠

A visit to the different markets and game dealers of Montreal during the spring and fall flights will often yield a rich reward to the naturalist. Some very rare birds may sometimes be picked up at a bargain.

✠

We are happy to be able to announce that a bill is to be introduced next session to further protect the wood buffalo until January 1, 1906. Instructions have been issued by the Commissioner of the North West Mounted Police to police officers in the Territories, giving this information and instructing them to warn half-breeds and Indians that the wood buffalo must not be killed under any circumstances.

According to the latest reports received by the Commissioner of the North-West Mounted Police, there are certainly not more than 400 wood buffalo alive. Dr. McKay, who was in charge of the district in which these buffalo range, for ten years, is of the opinion that they do not exceed this number. Another estimate by a fur trader is 300 in all. A Mr. Emerson, who is well acquainted with the district, is inclined to believe there are not more than 150 animals.

✠

That wonderfully interesting animal the white goat is to be known in future (until they change the name again) as Oreamnos montanus. For many years it has been Mazama; this name was given it by Gill. Other writers have called it Heploceros, Smith being the donor of this name. But Ord was the first to capture this queer-looking mountain animal, and he called it Oreamnos—so let it be.

✠

In the far away lakes of British Columbia there is a so-called land-locked salmon which differs, of course, from the land-locked salmon we know in the east. It bears, however, the same relation to the sock-eye as our fish does to the salar. The fish in question is a small, red-fleshed salmon, and it exists in great abundance in Shawnigan Lake, B.C., as well as in Seeton and Anderson lakes in the State of Washington. The habits of these fish have been investigated by ichthyologists connected with the Smithsonian Institute. They say in their report, that, although this small salmon has free access to the Columbia River, and, consequently, to the sea, yet that it never leaves the lakes in which it is found.

The fish is abundant in the lakes discharging into the Stikine and Skeena rivers, although they are seldom seen excepting during the month of October.

CONTENTS

CANADIAN HORSES IN FOREIGN MARKETS.

C. J. Alloway, V.S.

In the year 1900 there was much written concerning the kind of animal that was most desirable for war purposes, and even during the current year a deal has been said on this subject. A recent London correspondent of the Montreal Herald made the statement that :—

"Canada has temporarily lost the footing she once held in the British markets,"—thus intimating that at the present time horses that are being shipped to England are of a low grade, and inferior in many ways to the animal of twenty years ago. This may be true in so far as the products are concerned that have in the past two years been sent to the English and South African markets, but it is not the case if the exports are taken as a whole.

A quarter of a century ago Canada produced and shipped many remarkably fine animals, and such as would reflect credit upon the district producing them, even if shown in the best hunting shires of Britain, but it must not be forgotten that conditions have materially changed, and that a comparison cannot be made without a full comprehension of the situation at the present time.

As a matter of fact, and the assertion can undoubtedly be verified, there are ten horses of a high order produced in the Dominion to-day to the one that there was at the period referred to. There was then but a limited demand for the higher type of the horse in European countries, and there was none or very little enquiry for such from the neighboring republic.

What are the conditions to-day?

With the innumerable packs of hounds now existing in the New England and Middle States, as well as in Virginia, Maryland and Kentucky,—with horse shows in almost every prominent city, and the keen emulation for quality which such public tests have awakened, together with the increased interest in riding, polo and fox-hunting, tandem and four-in-hand clubs, a revived and developing interest is apparent. This state of affairs, and the large sums devoted to the opening of speedways in New York and other metropolitan centres, have conduced to create a demand for higher qualities in horseflesh than were required twenty-five years ago.

To a large extent the Ontario farmers, particularly in sections contiguous to Toronto, have always been alive to the importance of breeding the best, and have in consequence kept fairly abreast of the times, but the unexpected demand for horses of all kinds, which has been created during the past two years, has of necessity drained the country of many of the choicest animals. It must also be remembered that the "tops" are seldom purchased for exportation. The market for high-priced animals, more particularly those adapted for steeple-chasing, cross-country work and high-steppers, is to a large extent in the neighboring States. With the demand for these better classes in New York, Boston, Chicago, Buffalo, and other large American cities, prices have so rapidly advanced in recent years as to make it almost impossible for Canadians themselves to get what they require for their own hunting and amusement. As an illustration of this it may be cited that good animals in the larger Canadian cities have nearly doubled in price during the past five years. All this means revenue to the agricultural classes, and the intelligent breeder should take advantage of these promising conditions and breed the animal that is most marketable and that will bring in the best returns. It is to be regretted that our Quebec farmers have not awakened to the situation and its possibilities, which they should be ready to take advantage of, and that with the least possible delay, for there can be no reasonable doubt that this demand for good horses will reach still greater proportions in the near future.

The phenomenal prosperity and increasing wealth of all the provinces of the Dominion and the United States point to this culmination, and those who do not look seriously at what should be patent to every Canadian live stock grower will be the ultimate losers.

As before stated, Western Ontario has for many years held pre-eminence in the production of the best thorough and half-bred stock in the country, and this is accounted for by their wisdom in using the very best thorough-bred sires procurable, and there is no good reason why the Province of Quebec should lie dormant in this matter any longer. For almost any purpose, well-selected, thorough-bred stallions with bone, substance and action, are the animals which should be used in this province. The American standard-bred trotter also produces an excellent cross with our Canadian mares, more especially when the object sought is action and endurance in our carriage and driving classes.

During the closing years of the century it was repeatedly asserted that the use of the bicycle, automobile and various electric contrivances would result in what was poetically termed the "Passing of the Horse," and with present facts in mind it is not necessary to attempt to prove how unfounded was the fallacy. As a matter of fact, the partial obliteration of the horse-car and temporary popularity of the wheel have only resulted in a reaction which places the horse in a better position and makes him more sought after than he has ever been in the history of the world.

A greater number of people ride and drive to-day than ever before, and more people hunt and play polo than at any previous period. Another notable fact proved by the war in South Africa is, that a soldier unmounted is almost as useless in modern warfare as would be one of the old flintlocks of our grandfathers' day.

The cry now is for mounted regiments to do effective work, or none at all. As an evidence of the truth of this the British government has recently scoured both hemispheres for the proper kind of mounts, and the statement is in every paper and periodical that the supply is in no way commensurate with the demand.

Our butter, cheese and grain industries have increased marvellously, so let us see to it that our live stock, and especially our horses, hold a position in the English markets second to none. To secure this end, buy the best, breed the best, and secure the highest possible prices, should be the watchword of the up-to-date Canadian husbandman.

CORRESPONDENCE.

Editor Rod and Gun.

I quite agree with Anglo-Saxon's views, in your October issue, regarding reduction in weight of outfit, and, to my mind, there is no way in which you can sooner convince yourself how necessary is the minimum—consistent with reasonable comfort—than by assisting personally in portaging. On my present trip I have travelled twice each way over all portages loaded with as much as I cared to carry—50 to 65 pounds—and one portage was 1¼ miles through swamp. On my back was an additional rifle, which I was foolish enough to bring along, also a shotgun which I have never used, (my chum attending to that end of the business,) and also the pails, pots, knives and forks, which are at least ten pounds heavier than needful. While I was laboring and perspiring through that swamp, knowing that 25 pounds of unnecessary stuff was on my back, I vowed a vow that hereafter there will be a severe cutting down of weight.

It seems strange that those who have written about light outfits have not spoken of the weight which can be saved by using waterproof silk, or cotton, tents. One ordinary 8 oz. duck, or even a light drill when thoroughly wet, holds many pounds of water. If there are two hunters and two guides, there will be one tent for the hunters and another for the guides, and the weight of those two tents when wet and soggy is very great. Two light, waterproof tents, while expensive, are really so light and non-absorbent, that the difference is probably 50 pounds in water and material. If the trip involves a different camp site each night, lightness of material will assist greatly in quick travelling.

I am writing this while in camp. We have to move to-morrow towards home. It is 4 p.m., and the rain has fallen unceasingly since 7 o'clock last night, and the prospect is not pleasing, but thank fortune that 1¼ mile portage through the swamp was done yesterday, with fairly dry tents, and the five portages to be made to-morrow are not too bad.

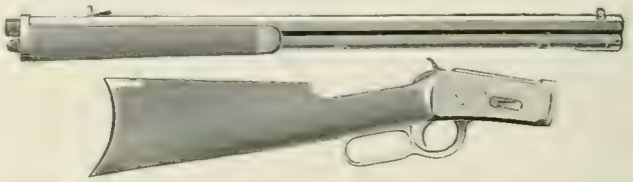
Why do not the manufacturers of rifle and shotgun cases put on the market an article made of oil tanned leather, or something as light, which will shed water? The neat, slick looking leather, or canvas, case is for show, and so long as it has to travel in fine weather, or stay under cover, it is a thing of beauty, but for practical use in protecting the shooting iron from rain and damp its usefulness is very little. I had one of the "slick" leather variety two weeks ago, and it, with my Winchester in it, looked quite cute. On a certain morning, desiring to assist at the funeral obsequies of a large bull moose killed the evening previous, I took my rifle along for company, and, thinking there might be rain, the case came along outside the 30-30. There was wet by bucketfuls within a short time and no place to protect anything, so the case lay there and absorbed water until it had taken all it would hold. The rain continued all day and night, and more or less the next day, and the two days following were snowy and wet. Then, we adjourned from our tents to an old lumber camp some miles away that we knew of and proceeded to get that case, and our clothes, and some other things dry. A good fire and persistence accomplished the job. That settled the matter for me. I used about a quarter pint of neatsfoot oil on the rifle case, and now it will shed water like an oil tanned moccasin. A thick canvas case could not have absorbed more water and would have dried out faster.

Case makers, it is up to you to help us out.

In Camp, Kippewa, Que. Montreal.

A NEW WINCHESTER CARTRIDGE.

Not content with its present magnificent line of rifles, including such thoroughly up-to-date weapons as the .30 U.S. Army, the 30-30 and the .236, all built for smokeless powder cartridges, the Winchester Repeating Arms Company, of New Haven, Conn., now offers a .32 which is expected to fill the gap between the powerful .30 U.S. Army and the 30-30, and to offer the



The New Take-Down .32 Calibre Winchester Special Rifle

additional advantage of a special cartridge which may be reloaded with black powder. The description of the cartridge is as follows: Loaded with smokeless powder and a 165-grain bullet, it has a muzzle velocity of 2057 ft. sec., generating a muzzle energy of 1150 ft. lb. At the standard testing distance of 15 feet from the muzzle of the rifle, this cartridge, with a full metal-patched bullet, will give a penetration of 37 ⅞ inch pine boards. Its trajectory is—100 yards, 1.23 inches; 200 yards, 5.92 inches; 300 yards, 16.38 inches. From these figures it will be readily seen that the advantages of this cartridge are its great striking energy, penetration, high velocity and consequent flat trajectory. Next to the .30 U.S. Army and .303 British, it is the most powerful small bore cartridge of to-day. With a

Cartridge for the .32 Winchester Special.

charge of 40 grains of black powder, the .32 Special develops a velocity of 1385 ft. sec., which makes it a powerful black powder cartridge.

The Winchester Repeating Arms Company has adapted the model '94 rifle to handle this special cartridge, but will furnish it only in take-down style, with a 26-inch octagon, nickel-steel barrel, the list price being $28. Rifles for the .32 Winchester special cartridge are fitted with a novel rear sight, which is graduated for both smokeless and black powder cartridges.

*

A very rare animal recently passed through Montreal on its way to the Sportsmen's Exhibition in Philadelphia. It was a silver-grey fox in excellent condition, and apparently destined to enjoy a long life in captivity—if captive animals may be said to enjoy life. The fox was captured on the south side of the St. Lawrence, within a few miles of Quebec city. It is valued at $200.

*

A terrible destruction of caribou seems to be going on in Newfoundland. If it be true that hundreds of carcasses are at this moment rotting on the barrens, where they were shot for the mere lust of killing, then the people of Newfoundland would do well to see to it that the practice were stopped; otherwise, when it is too late they will be filled with unavailing regret. In their magnificent herds of caribou the colonists have undoubtedly their most valuable asset, with the exceptions of their cod fishery and sealing catch, but if half the tales be true a very few years will result in the practical extinction of the Newfoundland caribou, should present practices continue.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

THE FOREGROUND IN WINTER PHOTOGRAMS.

As the title of this article would imply, it is the intention herein to treat of that part of the landscape which is nearest the camera, dealing with it under the aspect it presents when the snow covers the ground. In ninety-nine out of every hundred landscape photograms, whether they be made in winter or in summer, the foreground is the principal part, and middle and backgrounds are subordinate to it and act rather in the capacity of a back setting. If the scene be one of action and life and figures, the figures naturally fall in the foreground; if it be one of nature alone, on the foreground—perhaps assisted by the middle distance—must we rely for our interest. And if the background does have to be made of more importance, the foreground must usually be additionally thought of in order that the balance may be preserved. If a picture be strong it is in the foreground that we look to find the cause of its strength; if it be weak it is here we look to discover its weak points.

More particularly is all this so in the case of a winter photogram. During the summer when Dame Nature presents

READY FOR THE PORTAGE.

Haileybary, Ont., is "the jumping off place" for the Tamagaming chain. The above photograph was taken as a party of American sportsmen were about to begin the portage to Sharp Lake, where the canoes are launched for a 2[illegible]-mile paddle

in her garb hundreds of different tones and half-tones for the dry plate to take hold and work on, there is but little difficulty experienced in accentuating those parts which it is desired to make strong. Even the blue haze which hangs in the air is of inestimable assistance in the securing of aerial perspective. But in winter it is all changed. The haze is gone, and there is almost no such thing as aerial perspective. The hundred and one little objects, grass, vines, logs and what not, on which we have been wont to rely on as space fillers for the front of the picture, are lost and gone, swallowed up in the mass of powdery drifting white that covers everything. Those delicate little half-tones that snuggled in on the side of every little grass-covered hillock and gave us such delicate tonal values have disappeared. True enough, in their place we have a new set of tonal values in the snow, but these are vastly different, and, except in the hands of one who has made the matter a study, almost impossible of reproduction. Each rift and hollow is more or less marked, each wave of fleecy white has its own light and dark parts. But how delicate. Are they ever reproduced the way they should be? It is almost necessary to look

to other things to insure a good foreground in a winter landscape.

In snow work you will always find that a small bit will prove superior as far as picture making qualities are concerned, to an attempt to embrace a large portion of country. A twining vine, a half-buried fence, a snow-roofed cottage or anything else where the subject is all in the foreground, is what you want to work on. One of the most striking winter landscapes that I ever saw was made by Rudolf Eikemeyer, in just such a way. The scene, to look at the picture, appeared to be of a vast tract of land, embraced a country road and several barns, as well as a number of large trees. Come to find out about it, the whole spot included only a few hundred square yards; the "country road" had been made by the simple expedient of trotting up and down in the snow a couple of times and kicking it well up; the thatched barns were wee hillocks that showed black against their white background where the icy blasts of winter had swept them bare; the trees that over-hung the highway were nothing more than ordinary bushes in the foreground and big tufts of grass a little farther back. And yet it all made a perfect picture and one that would deceive almost anyone who had not been told how it was made. There was another touch employed in this particular photogram that is worth noting in the depicting of foregrounds. The exposure was made when the sun was low in the heavens, and not only did the long shadows of the bush at the right add materially to the effectiveness, but each lump of snow in the pathway, each hollow in the footprints, even each blade of grass cast its own mark on the dazzling white landscape, most effectually breaking its monotony. Had the sun been directly overhead this would not have been possible, and one of the most striking features would have been lost.

It can hardly be said, however, that there is anything new about this using of shadows in a snow scene. One of G. E. Valleau's photograms, "Where the Shadows are Long," has been made in just this way. It is a picture of a tall pine that leans forward out of a bank by the roadside and throws a vague, black, weird shadow in irregular patches over the frozen surface of the snow. The title is most appropriately chosen, for there is nothing else to the picture. In fact, there is not intended to be. It is simply a picture of a shadow, though the artist has, probably without intending it, made a striking example of one class of foreground work. Again in his photogram, "Winter," J. H. Field uses the same method of working when the sun is near the horizon. The scene is a typical country one. It is from way back on the fields on a farm, looking up toward the rear of the house and barns. The foreground is broken by a few tracks in the snow and a deeply cut road such as one would naturally expect to find in such a spot. Long straggling country fences break up the distance. By having the sun low, emphasis has been given to this road and these foot marks in the foreground, and enough strength and vigour made to associate with it to make it stand out bold and clear against the exceptionally strong background.

Another subtle touch has been used in this picture, which in summer photography has absolutely nothing to do with the foreground but which, in winter, possesses a very important bearing on the result. The sky is filled with a mass of dark gray clouds. The average photographer takes his pictures of winter scenes with a clear sky and when the sun is shining, trusting to obtain relief from the shadows. If the exposure be made when the heavens are overcast with dark clouds, each rift and hallow will be more conspicuously marked and all the depths and drifts more apparent to the observer. When, as in this case, the photographer is fortunate enough to hit on a day on which the sun is shining behind and the sky is dark in front, what an opportunity there exists for good work.

But let us pass to another style of winter photography and another method of accentuating the foreground. This time at the expense of the middle and far distance. It is somewhat along the line of aerial perspective. But aerial perspective plays after all a very unimportant part in summer work, *i.e.*, relatively speaking, of course—while in winter photography the class of work to which it is intended to refer here is very important. I am speaking now of pictures that are made when snowstorms are in progress, so that the background is shaded off in a misty veil, leaving the foreground standing out against it, so strong and so bold and yet without any harshness of outline. Perhaps it will be better understood just what is meant if an instance be given. T. F. Brogden's "Snowstorm" is an excellent example. I suppose that no picture ever was composed of just so much of the utterly commonplace, and yet owing to the peculiar way in which it was handled, made so good a picture. The picture is of an omnibus standing in the foreground with two poor miserable horses shivering in the cold. Diagonally across one corner runs a sidewalk, half buried in the snow. On the side is a row of dreary surburban villas. But all these things are mere accessories. The real making of the picture is the fact that there was a snowstorm when the exposure was made, and the consequences are that all these so common things of every day life are vested with a strange sort of beauty. True, the beauty is not their own, but is lent to them for the time being by the snow. The receding side street dissolves into nothingness and affords the perfect gradation that makes the picture. The background is composed of snow; nothing but snow. The foreground is the picture. As an example it is excellent. Another picture of somewhat the same type and equally good for the purpose of illustration, except that it is not so much of a landscape pure and simple, is that well known production of Prescott Adamson's, "'Mid Steam and Smoke." Comment on it is almost unnecessary. This is the picture of the exterior of a busy mill surrounded by quantities of steam and smoke and snow. Though the material was unpromising, the artist has made an excellent thing out of it. Just one more example of this. Wm. S. Meyer's "Winter" is along the same lines. It is simply a photogram of a street; snow piled deep on the roofs and distance enveloped in a mass of blinding, drifting snow; foreground much cut up with wagon tracks. A very pretty thing indeed. There is probably no means of giving emphasis to the foreground, that will so effectually do it and at the same time shade off the background and with all that may be objectionable, as that little scheme of making the exposure in a snowstorm.

But why go on to tell of all the varying methods that may be employed to give interest to the foreground and cause it to catch and hold the interest that winter pictures demand. I want to impress upon you more the necessity of making the foreground amount to something, make it a living, breathing part of the picture, a something that one cannot get past without noticing, than to waste time and space telling you how to do these things. I have herein hinted at a few of the ways in which well-known photographers do it under various circumstances, and given you a hint or two if you only take it up. It must remain with yourselves whether or no you take advantage of it and study the question of foregrounds for yourselves. One thing you must grasp if you intend to photograph winter landscapes satisfactorily, and that is that there is no more important part than the one with which this article deals.

KENNEL DEPARTMENT

Conducted by D. Taylor

Montreal Canine Association.

At the last regular meeting of this Association, held Dec. 5th, in the library of the Natural History Rooms, there were several matters of importance under discussion. The new president, Mr. D. W. Ogilvie, occupied the chair for the first time, and acquitted himself like a veteran in the art of conducting a public meeting, especially towards the close, when some of the members showed a tendency to become inquisitive as to the financial position of the association, and they were diplomatically referred to the report which had been read at the annual meeting.

An interesting talk took place on the advisability of co-operating with the Society for the Prevention of Cruelty to Animals in regard to founding a dogs' home, and also to take joint action in urging upon the City Council to institute a system of rounding up and destroying all unclaimed dogs. The large number of stray animals in this city has become an unmitigated nuisance, as well as a source of danger to children, and it was also pointed out that these nomads were the principal medium by which communicable diseases was conveyed to household pets and other valuable dogs. It was finally left in the hands of the president to name a committee to confer with the executive of the S. P. C. A. in regard to both matters.

Two notices of motion were given to change the constitution and by-laws, the object being in both cases to increase the funds of the association. One seeks to provide for associate members with limited privileges at a small annual fee, the other to levy an annual subscription from the shareholders, failing payment of which, within a given period, their privileges may be forfeited. The matter will be dealt with at the January meeting.

The next business taken up was a show in the early spring of 1902, and the matter was threshed out at some length. However, no decision was arrived at, it being the sense of the meeting that a definite decision should be delayed until after the vote on the proposed amendments.

How to provide entertainment and instruction for future meetings was the next question. It was felt by those present that lectures by canine experts on different breeds, open to the public, would make profitable and attractive entertainment for the winter months. The names of several prominent gentlemen were suggested, and finally the matter was left in the hands of the executive, with a request to take immediate action.

The settlement of this matter concluded the business, and the meeting adjourned with a vote of thanks to the chairman.

At a subsequent meeting of the executive, W. J. Innes, Canada Life Building, was appointed to the vacant secretaryship at an annual salary.

Muddy Water Bay, Lake Temagaming.

This magnificent bay deserves a more poetical name. It is only "muddy" by comparison with the remainder of Temagaming, which is as clear as crystal. There is excellent fishing for small-mouthed black bass around the shores of the islets shown in the cut.

Mr. Joseph Laurin is to be congratulated on the honor conferred upon him by the South of England Airedale Terrier Club, one of the leading canine clubs of England. He has just received official notification of his appointment to their list of judges, a compliment which is as well merited as it will be popular, on this side of the water at least, where his famous kennel of Airedales has carried off so many blue ribbons at the principal shows.

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The feature of the month was the show in New York, under the auspices of the Ladies' Kennel Club, held December 17, 18, 19 and 20. Apart from the Westminster Kennel Club's show, it was the largest ever held in America, there being 1,148 dogs benched, making 1,625 entries. Every breed of dog was well represented, and with two or three exceptions there were no walk-overs. Boston terriers were in the front rank with 147, followed by fox terriers with 129, bulldogs 96, cocker spaniels 88, toy spaniels 87, beagles 85, bull terriers 68, St. Bernards 62, Scottish terriers 58, collies 43, Airedale terriers 36. There was a falling off in many breeds which were formerly strong favorites and a marked favor shown to others which lately have been in the background, notably in the case of the "Scotty." Airedales seem also to be getting quite popular. The conduct of the show reflected the highest credit on the ladies.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

[illegible] the Officers of the Canadian Forestry Association

MEASURING STANDING TIMBER.

A. Knechtel, Forester with the New York State Forest, Fish and Game Commission.

If all the trees of a forest had the same diameter, height, and form, the determination of the quantity of wood would present no difficulty. One would need only to count the trees, ascertain the volume of one tree, and multiply its contents by the total number of trees. Such stands, to be sure, one does not find in nature, but the trees of a timber forest are, after all, not so different from each other that a very exact measurement of each tree is necessary.

In very irregularly grown stands, the conditions are, of course, somewhat unfavorable, but even here special ascertainment of volume can be limited to only a few trees. In the greater number of cases it may be taken for granted that, in the same stand, trees of similar basal size do not differ very much in height and form, and therefore also in their volume. It is necessary then in such stands only to form classes of the same or nearly the same diameter in order to obtain trees of similar height and form. For every such class, representative trees can then be chosen and the cubic contents found, and from their contents the volume of the whole class can be calculated. In stands in which height and form cannot be considered a function of the basal size, it may be necessary to divide each diameter class into height classes.

Determining the Number of Trees and their Basal Areas.

All methods of ascertaining the volume of a stand by measuring depend upon a knowledge of the basal area. The determination of this is therefore the first and most important part of a volume survey. The basal area of a stand is the sum of the basal areas of the trees. To determine this, calipers are applied to the trees.

The trees are measured at breast height, generally four feet three inches. Measurement at the ground could only be made with difficulty, and, besides, the cross area there is very irregular on account of the manner in which the roots spread.

In measuring the trees, diameter classes are made, and sometimes height classes, especially where the trees of the same diameter differ much in height. In mixed stands, the species are recorded separately.

One or two men take the diameters and call them out, giving the species where several are present. A tally man keeps record of the measurements upon blanks suitably prepared for the purpose. A note-keeper can generally keep two men busy measuring, but in densely stocked young stands only one. In order to avoid measuring trees twice, or overlooking any trees, they may be marked by the caliper men after the measurement has been taken. This can be done with an iron instrument or with a piece of chalk.

The work should proceed in strips, and on mountain slopes in a horizontal direction, in order that the breast-high measurement may be the mean between the heights on the mountain side and on the valley side. The strips should not be too wide. Thirty to forty feet for each caliper man is usually a convenient width. The tally-man goes ahead of the measurers, and, if there are two, he may mark the line between their strips by means of a strong cord fastened to his clothing. A cord, or chalk-line, as it is called, such as is used for laying shingles, would be found quite suitable. While running ahead the length of the string, one hundred feet, for instance, he follows a direction as indicated by a compass which he carries. While noting down the dimensions called out, he may give heed to the manner in which the calipers are placed upon the trees, and to the correction of any gross errors that may be made in reading off the diameters. This is advisable, however, only to a very limited extent, for the tally-man, diverted from his own work, easily forgets to note down the dimensions.

The United States Bureau of Forestry, in measuring this year the timber on townships 5, 6, and 41, Hamilton County, New York, employed parties of four men each—a tally-man, two caliper men, and a man who ran the compass line and made a general description of the territory gone over. Instead of the cord, a chain was used, and each caliper man measured a strip half a chain wide. The strips were run in the same general direction, a quarter of a mile apart. A separate tally was kept for each acre measured. That is, whenever the strips reached the length of ten chains a new tally was begun.

Large forests may, in order to facilitate measurement, be divided into smaller parts by lakes, rivers, roads, ditches, etc., that may be present. Each part can then be measured by itself.

In the measuring itself, due regard should be given to the following:—

1. Before the work begins, and while it continues, one should see to it that the movable arm of the calipers is not too loose.

2. The calipers should be placed on the tree at right angles.

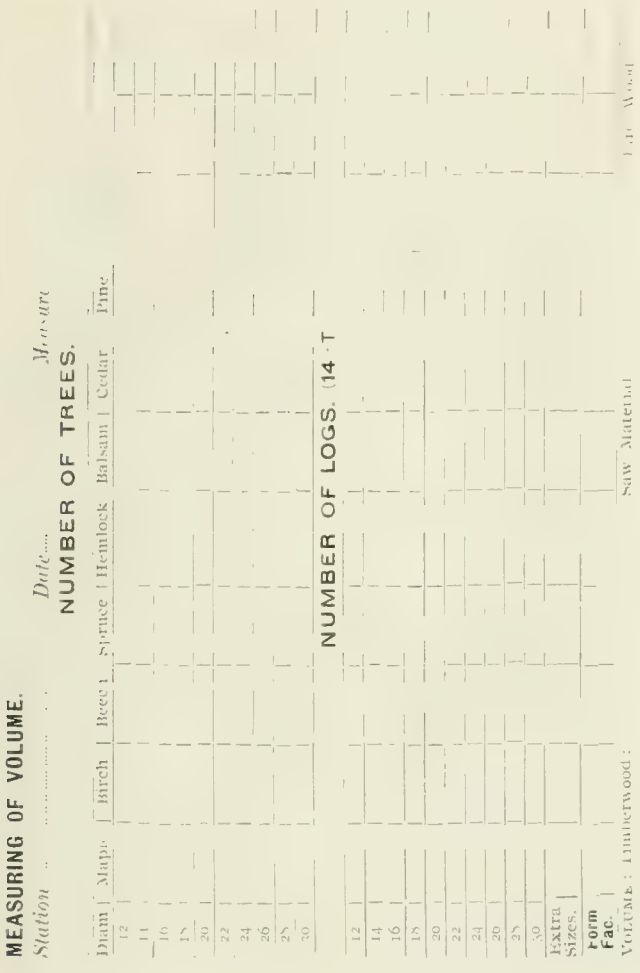
3. If, at the place of measurement, there is an extraordinary thickening or other irregularity, the measurement should be taken higher or lower.

4. The dimensions should be read off while the arms of the calipers lie close against the tree, and at this moment the caliper man should step close up to the caliper bar.

5. The height at which it is decided that the measurements are to be taken must be held to strictly. It should be marked in some way on the clothing of the caliper man, by a button, for example. According to the investigations of Grundner, a German, a deviation of six inches higher or lower makes on the average a difference in the basal area of 1.05 per cent. When measurements are to be taken repeatedly, as, for example, in a standing experiment, a mark should be put upon the tree with a scratch-awl.

6. Ordinarily only one diameter measurement need be taken on each stem, but on stems which are very eccentric, two measurements may be taken crosswise, and a tally kept of the mean diameter.

The following tally blank is the one used by the New York State College of Forestry :



According to Hesz, one tally-man and two caliper men can measure 600 trees per hour, (maximum 971, minimum 422); according to Baur 765 trees, and in one day of ten hours about 7,000 trees. In the measuring done by the United States Bureau of Forestry in New York, twenty-five acres has been considered a fair day's work for a party of four men. A party can measure at the most about five acres per hour for four or five hours, or forty acres per day of ten hours.

Forming of Size Classes and Rounding off the Diameters.

For scientific work, diameter classes of whole centimeters are allowed by the German Forestry Association. When the fraction amounts to .5 cm., an addition is made to the preceding class.

The United States Bureau of Forestry makes inch classes; the New York State College of Forestry, 2-inch classes, as will be seen by the blank given above. In our forests, 2-inch classes are allowable, especially for trees over nine inches in diameter, as will be seen by the following demonstration :—

Let C = half the range of the ten inch class.
Let D = the mean diameter of the class.
Then D + C = diameter of the largest tree.
And D - C = diameter of the smallest tree.

Diameter D gives area $\frac{\pi}{4} D^2$. (*)

$$\text{Maximum area} = \frac{\pi}{4}(D + C)^2 = \frac{\pi}{4}(D^2 + 2DC + C^2)$$

$$\text{Minimum area} = \frac{\pi}{4}(D - C)^2 = \frac{\pi}{4}(D^2 - 2DC + C^2).$$

$$\text{Mean area} = \frac{\pi}{4}\left\{\frac{(D^2 + 2DC + C^2) + (D^2 - 2DC + C^2)}{2}\right\} =$$

$$\frac{\pi}{4} D \quad C .$$

$$\text{Error of area} = \frac{\pi}{4}(D^2 + C^2) - \frac{\pi}{4} D^2 = \frac{\pi}{4} C^2.$$

$$\text{Percentage of error} = \frac{\frac{\pi}{4} C^2}{\frac{\pi}{4} D^2} \times 100 = \frac{C^2}{D^2} \times 100.$$

Suppose 2 p.c. be the limit of error which we agree as allowable :

Then $\frac{100\,C^2}{D^2} = 2.$

And $C = \frac{D\sqrt{2}}{10}$

Practically, $C = \frac{D}{10}$ = half range of 10 inch class.

Therefore, $\frac{D}{5}$ = the range of the class.

That is, $\frac{D}{5}$ = 2 inches, the range for the 10 inch class.

To be sure, this reasoning is based upon the condition that the trees in the half range above the mean diameter be equal in number to those in the range below, a condition which will, I think, be fairly satisfied by the fact as found in the wood. With trees of a larger diameter than those considered in the demonstration, a two-inch range will give less than a 2 per cent. limit of error.

The reckoning of the sum of the cross section areas from the diameter measurements can be accomplished by the use of a table, which may be found in Bulletin 20 of the United States Bureau of Forestry, Washington, D.C. Such tables have also been prepared by the Germans—Kunze, Ganghofer, Pressler, and Eberts. Grundner has shown that reckoning the square feet to more than three places of decimals, even for scientific purposes, does not obtain a degree of accuracy which warrants the extra labor, and that for most practical purposes two decimal places are quite sufficient.

Height Measurement.

In order to calculate the quantity of timber in a forest it is necessary not only to determine the number of trees of each diameter class of each species, but the average height of the trees of each diameter class should also be determined.

There are various instruments for measuring the height of a standing tree, all based upon the principle of similar triangles,

(*) $\pi = 3.1416$.

a principle familiar to all mathematicians. The most convenient of these is Faustman's Hypsometer, a small instrument which can be carried in the pocket. In using this instrument, the observer selects a convenient spot where he can distinctly see the top of the tree. Then measuring his distance from the base of the tree, and arranging the instrument accordingly, he looks at the top of the tree through an eye-piece on the instrument and reads off the height of the tree as indicated by the thread of a plumbline resting against a scale.

A "height party" consists of two men. One uses the hypsometer, while the other takes the diameter with the calipers and measures the distance between the trees and the observer. A party can measure from 200 to 400 trees per day.

From 1,000 to 2,000 trees of each commercial specie should be measured on a township of, for instance, 30,000 acres of our forest. The greater the number, the value, and the average diameter of the trees of a species, the greater should be the number of heights taken.

In taking heights, it has been found most convenient to measure one species at a time. It is not necessary to go regularly through the forest, but care should be taken to measure trees growing under all conditions of soil, elevation, exposure, etc.

To be sure, the measurement of timber without methods of working up the results would be useless, but as this paper is intended to treat only of the measuring itself, such methods have been omitted.

Burnt Forest near Thornloe, Ont.

*

The Temiskaming Fire.

We again take occasion to bring before our readers the forest fire which occurred during the past summer in the Temiskaming district, for, having had an opportunity of visiting that district recently, and seeing some of the destruction caused by the fire, and hearing the accounts of eye-witnesses of the scene, we have a clearer appreciation of the great loss which the country has suffered by the practically total destruction of the timber on the fire-swept area. For though the bare black trunks may still be standing almost as they were before the fire and to the careless observer there is but little change except such as may appeal to the esthetic sense, the insect population are industriously taking their place in the activities of nature, and reducing to dust again that which has ceased to live, and has therefore become only an impediment in the way of future growth. We attempted previously to give an estimate of the extent of the fire, and the value of the timber destroyed, and we find no reason to decrease in any way that estimate. The loss to the Government in the dues on the timber, both as to present and prospective revenue, is very large. The lumbermen are heavy losers, and the timber swept away removes to that extent the opportunity for the employment of their men. Messrs. Gillies Bros. suffered the greatest loss, over forty square miles of their pine limits being destroyed, as well as buildings and stores, valued at about $6,000. The pine which was burnt on the limits of this firm has been estimated at 35 to 40 million feet, very little of which could be saved. The Hull Lumber Company had five million feet burnt, a considerable portion of which it was possible to take out. Mr. Booth's loss was about four million feet, and was practically a total loss. Other firms also suffered considerable losses. And when to the figures quoted are added the young pine and the spruce, which do not enter into the estimate, and which would before very many years have been of a marketable size, some idea can perhaps be formed as to the meaning of the sudden stoppage of productiveness over such a large area, which will not again be in such a condition of wealth-creating potency in the present generation.

But timber is not the only thing of value in that country. The buildings and stores of the lumbermen and settlers as well were in the greatest danger. One firm lost heavily in this way, as already mentioned. At the depot of the Hull Lumber Company on Lake Ostoboning, the distributing point for the shanties working that company's limit to the north, and at a distance of forty miles from the starting place of the fire, the smoke was so dense and the fire apparently approaching so rapidly, (it did not reach a point within three or four miles of the depot), that it was considered advisable to pack up books and papers and make ready to push out into the middle of the

lake, abandoning everything else to the mercy of the flames. For this was no ordinary fire. It was of the kind described by Bryant :—

> . . . . . the Fire
> Gathers his annual harvest here,
> With roaring like the battle sound,
> And trains of smoke that heavenward tower,
> And streaming flames that sweep the plain.
> Fierce, as if kindled to devour
> Earth, to the well springs of the main.

The air dark with smoke, the appalling roar of wind and flame loudly heralding the approaching destroyer, but leaving a dread uncertainty as to the moment when it might burst forth, the heavens filled with flying pieces of birch bark fiercely blazing, and spreading the destruction before and on every hand, these were the startling features of a scene that might have made the stoutest quail, and which has left an indelible impression on the minds of all who passed through it. And in the midst of it were the strain and struggle to save life and property, the narrow escapes of parties and individuals, the desperate but futile efforts to contend with an enemy too powerful even if only to be met in one place, but which, sown on every wind, sprung up hydra-headed to its work of destruction. And this experience was duplicated at Hay Bay and other points, where the fire was being fought. Can anyone say that such scenes should be repeated? Does anyone desire that they should be?

From the esthetic point of view, which should certainly not be disregarded, the change from the living green to the dead blackness of the burnt forest, from the beauty of moss and bud and leaf to bare stone and black earth, from the leafy canopy and dim arches of nature's temple to the gaunt trunks standing naked and unashamed, a curse instead of a benediction, cannot but bring a pang to every lover of nature and every admirer of our Canadian scenery. It is almost pitiful to see trees, still immature, which had apparently made it their life purpose to cover rocks and boulders with verdure, standing with the soil burnt clear away from their poor blackened roots, which still grasp vainly the bare stones, as if even yet reluctant to believe that their efforts have been so completely frustrated.

And of the inhabitants of the forest, birds were found lying dead everywhere, some with feet burned off, some injured in other ways, all suffocated by the smoke. The number of young partridge destroyed at that time of the year must have been enormous. The large game also suffered. At different places moose were found mired and suffocated and the general opinion on the matter, although there were some dissenting voices, was that the moose were not as plentiful in the district this year as they were the previous year. This much is certain, that not nearly as many were taken out by hunters.

And to what object was all this waste? It is quite certain that the fire started from the settlement back from Baie des Peres, on Lake Temiskaming, where settlers were clearing land. A number of fires were set out and allowed to run, ultimately joining in one, and sweeping clear across to Hay Bay and Lake Ostoboning, through as good a pine and spruce district as there is in Canada. The provision of the Quebec Fire Act in regard to the setting out of fires is as follows :—

"No person shall in the forest, or at a less distance than one mile from the forest, set fire to or cause to burn any pile of wood, branches or brushwood, or any tree, shrub or other plant, or any black loam or light soil, or any trunks of trees that have been felled at any period during the year. It shall, however, be permitted for the purpose of clearing land at any time except between the 15th June and the 15th September in each year." The Government has also the power in a time of drought to prevent the setting of fires at any time for any purpose.

As the fire occurred on the 26th June, it appears to be fully established that this very destructive conflagration was caused by fires being set out in contravention of the law, at a time of the year when the dry condition of the forest made the danger very great. And this was apparently not the work of one person, but it was so generally indulged in that it might be considered as the custom of the district. There is no desire on our part to add to the difficulties of the settler, but surely it cannot be considered a hardship to ask that some steps should be taken by the Government to make the above quoted provision of the act effective. We speak in no spirit of hostility either to the Government or the settler, we have no brief for the lumbermen, and are not concerned to advocate their welfare except in so far as it may affect the general welfare of Canada. It may be pointed out, however, that the settlers have often found their best market in the lumber depots; that out of a total revenue during the previous year for the Province of Quebec amounting to about $4,700,000, at least one-fourth is derived from the forest, and if this source of revenue is swept away there is really nothing left but direct taxation, of which the settler will have to help bear the burden. This very possibility has been used as a rallying cry agalnst some of our Provincial Governments. We believe that some steps should be taken to teach those who have set out fires illegally to see the evil of their ways and learn to transgress no more, and that some extension of the fire ranging system should be made so as to keep the setting out of fires under proper control, particularly in timber districts. This is in the interest of the Government and the settlers, as well as of everyone who is interested in the prosperity of the Province of Quebec.

✠

Reciprocity.

The American Lumberman remarks that the careful reader of reciprocity editorials in the daily newspapers can readily see the pulp between the lines (a neat bon mot), and it probably contains a large amount of truth. It is but recently that, as noted by us, the Lumberman called attention to the very difficult situation in which the spruce lumbermen found themselves, with the price of spruce in the log forced up from $11 to $16 a thousand by the pulpmen, and suggested that the manufacturers of pulp should try to make some arrangement for a supply of wood from Canada, so that instead of chopping up beautiful clear logs for pulp they might be reserved for cutting into lumber. It is quite certain that in any negotiations for reciprocity between Canada and the United States, the lumber industry will raise questions of great importance, and any action which may be taken will have important results on the future of this country. The present situation appears to be that the great expansion of the lumber and pulp industries in the United States, has brought those interested in them to a position where they begin to see the effect of the decrease both in the white pine and spruce supplies, and, although this situation has been relieved somewhat by increased activity in other woods, particularly among which may be noted Southern yellow pine, which has in recent years proved a rich investment, there has been developed a desire to obtain access to the Canadian supplies. The policy recently adopted in Canada, of requiring the manu-

facturing of lumber on this side of the line, instead of exporting the log has also had its effect in this direction. The resolution passed at the Reciprocity Convention held at Washington recently could hardly, however, be described as radical, as it favored only reduction of duties on articles not produced in the United States. While the States, whose supplies of lumber are at the point of exhaustion, will be the strong supporters of the movement for reciprocity in lumber, there will certainly be decided opposition from the lumber-producing states, and, as the number of people employed in the manufacture of lumber in the United States is estimated at five millions and a half, their influence will be a potent factor in the consideration of the problem.

But from the point of view of the Canadian Forestry Association, the chief consideration is as to the effect of reciprocal arrangements on the method of dealing with our forests. The present condition of the forests on the southern side of the international boundary is not particularly reassuring, and whether the cause be found in defective legislation or elsewhere, the fact remains that American lumbermen, generally, have attained the reputation of being anything but economical or provident in their operations. Canadians themselves are not as yet alive to the necessity for improvement in their own methods. On very uncertain information we talk largely of our inexhaustible forest wealth, and on unverifiable figures we give bold estimates of our ability to supply the world for centuries to come, and we conclude that we need worry ourselves no more about the matter. But if we cannot keep the fires from devastating the forests within our reach, the far-off fields that now look so green may be but a barren brulé, when we have need of them. More care and study should be given to what we have presently available, and we should be careful that our hands should not be tied by treaty arrangements, in such a way that we cannot take the necessary measures to provide for the proper management of our timber resources, and while expansion is not necessarily evil, it may be made so if we do not know how properly to manage or control it, and do not make the effort in proper time.

*

The Forest School at Biltmore, N.C., conducted by C. A. Schenck, Ph. D., is in a very favorable position from the fact that the forest, which is under Dr. Schenck's management is available for the practical demonstration, which is a very necessary adjunct to theoretical work. From a notice which has reached us, it appears that the course of study followed provides, in the first place, for practical instruction in the forest where actual work, such as planting, cutting, road-making, etc., is going on. The forests comprise an area of 110,000 acres, there being three separate tracts—Busbee forest, which controls the water supply of the estate, and is dealt with accordingly; Biltmore forest, which has a near and ever ready market in Asheville; and Pisgah forest, a great rugged tract of Appalachian virgin forest, which has supplied yellow poplar and other woods to the mills for some time. A system of roads is being developed to open up this tract, and make it easily accessible for all purposes to which any part of it may be devoted. Tree planting is undertaken only on a small scale, natural reproduction being relied on.

The theoretical instruction includes Sylviculture, Forest Utilization, Forest Management, Forest Finance, Forest Protection, Forest Politics, Forest History. This part of the course also includes a study of Fish and Game-keeping.

Forest Researches, such as Stem Analysis, Sample Acres, Test Growth, Construction of Yield Tables, form the third part of the course.

The full course, which occupies a period of twelve months, is concluded by a three months' tour of the European forests, commencing in April, which gives an opportunity for investigating the forestry systems practised there and comparing them with American methods. Those who have read the last report of the Canadian Forestry Association will understand that Dr. Schenck is no visionary, that he understands the limitations of the present situation on this continent, and will not ignore them with his pupils. We believe most thoroughly that it would be a most valuable experience for all those who are intending to devote themselves to the lumber business to have the opportunity which a course at this or some of the other schools of forestry would give of getting an insight into scientific methods of forest management. The effect on the future of Canada would be very important if we had a large number of men who had a clear appreciation of the meaning and methods of scientific forestry. Any further information in regard to the Forest School at Biltmore may be obtained by communicating with C. A. Schenck, Ph. D., Biltmore, North Carolina.

*

Professor J. W. Toumey, of the Yale Forest School, has become a life member of the Canadian Forestry Association. This is the kind of American aggression that we welcome. And we must further say that the kindnesses we have received from our friends in the United States who are interested in forestry, make us wish that in this respect we were able to give a reciprocity that would be of anything like an equal value.

*

Some time ago we announced that we had made arrangements to have any questions in regard to forestry, tree planting, or allied topics that any of our members wished to submit, answered by experts in these subjects. Up to the present time advantage has not been taken of this offer, and we must therefore conclude that no unsolved problems vex the souls of our subscribers. Our offer is still open, however, and we hope it will be made use of both for the sake of those desiring information and in order that we may understand better the subjects that should be brought before our readers.

*

We have had the pleasure recently of a visit from Rev. A. E. Burke, of Alberton, P.E.I. Father Burke has been working vigorously for some time to interest the Government and people of the island in the work of preserving and managing scientifically their timber supplies. Unfortunately the area of land still in the hands of the Provincial Government is very small, amounting to only 15,000 acres, and even this is in scattered tracts, so that the field to work on is not extensive from the forester's point of view. The land is mostly of a character unsuitable for agriculture, so that it could not be used for any other purpose than tree growing. Father Burke states that a number of bush fires have occurred in the Province this year, and that the country is becoming so bare as to affect very injuriously the water supply. It is to be hoped that Father Burke's untiring efforts may have the success they deserve.

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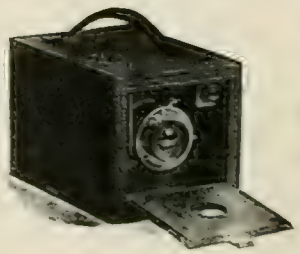

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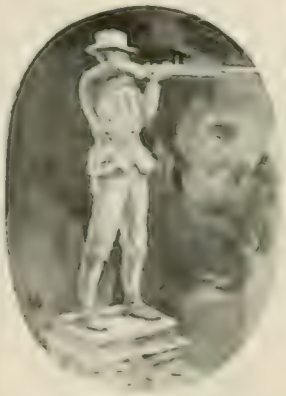

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AN EXPLORATION TO THE HEIGHT OF LAND.

By St. Croix.

Concluded from the January Issue.

That afternoon, just before sunset, we started for the southern end of the south lake. On the way we passed another "mine." This one consisted of an enormous vein of apparently barren quartz, having an almost vertical dip. On the discovery stake was the following affecting legend: "This claim discovered by L. H. Timmins, June 7th, 1900."

At the head of the lake two streams debouch; the one coming from the south-east, the other from the south. We ascended the former for some miles. We got no snap-shots of moose, but we frightened one badly, which is something to be proud of. It happened this way: We were returning down stream, in the most inky darkness, and chilled to the very marrow by a cold mist which lay upon the face of the waters, when we ran upon a sharp snag, and, not knowing that we were near game, began discussing loudly the best manœuvres to avoid a shipwreck. In the confusion something splashed into the forest, and we then knew that a big moose had escaped being shot with the camera.

At 9 a.m. the next morning Messrs. Miller and Leheup came in sight. Mr. Miller was hunting iron ranges, and round his neck dangled a miner's dipping needle, and in all his pockets he carried choice specimens of haematite and jasper. I do not know whether he has staked any mines, but I am sure I hope he has, and that the reward will be proportionate to his great labors. I myself now know of several gold mines, thickly studded with iron pyrites, which I am willing, nay eager, to sell to any wealthy syndicate which wishes to make a bid for them. (N.B.—My address may be learned from the Editor.) Mr. Miller was bound for Beaver Lake, which is the head of the north branch, and after a short delay went on, leaving us to follow. This we did after luncheon, carrying all our stuff first over a half mile portage to a little pond (where there are some beaver left alive); after crossing which we made another portage, of about half a mile, to a slightly larger pond, and finished up by a third portage of a mile and a half to the east branch of the north fork. All these trips had to be doubled, so that altogether we walked nine miles, and carried as heavy loads as we could stagger under for five of them. I find in my diary the following entry: "A very tough half day." Old bushwhackers will know what that means.

All we had to do now was to run down stream until we reached the main White River, where we knew all would be plain sailing. Now this sounds very easy, but before you can run down stream in a satisfactory manner you must have water, and this was just what was lacking. We dragged our canoes for the first mile, then paddled for a couple more to the main north fork, which we navigated for three quarters of a mile. Then followed two long portages, crossing which were many moose, deer and bear tracks, but by noon we had reached the head of Grassy Lake. The lake itself is two miles in length, and at its foot we found the camp of Jean Baptiste No, of Abittibi. He had for companions his wife and youngest boy, twelve dogs, three cats, and a little half tamed beaver the latter I bought, but four days later had to let it go again, as the little creature was getting so weak I felt sure it would not live to reach the settlement. No is a strange, lupine creature; his obliquely set eyes have all the shiftiness and cunning which you see in those of the wolf; he is old, disreputable and dirty, but, nevertheless, he is an object of admiration and envy to all the other silent, smoky ones of the northland. His fame has been carried far and wide to every Hudson's Bay Post, and his reputation is known to hundreds who may never hope to see that grizzled, tangled mop of hair, those cunning eyes, and that rugged countenance which seems to have dodged soap and water successfully for more than a generation. And why is No so famous? Because Jean Baptiste is the one man in all that country who can eat a full grown beaver at a single sitting. When No kills a moose he camps alongside it, and feeds steadily until nothing but the skull and the big bones remain. He has been known to devour seven rabbits at one meal, and then finish off with a beaver's tail, by way of desert. If any manufacturer of tonic pills could persuade Mr. No to travel in the interests of his preparation, I am sure the result would be satisfactory. I asked John if No did much hunting. John looked straight in front and without moving a muscle grunted: "Of course; he *must*"—and I understood. What a terrible fate! Think of this old Indian, this very old man, ceaselessly tramping the forest, Hudson's Bay muzzle-loader in hand, hopeless of relief, and forced to work overtime to satisfy his relentless appetite.

There were four green moose hides drying on a poplar frame work, showing how the Ontario moose are thoroughly protected by the game laws made by the wise men of Toronto. For the greater part of the year No, together with those who belong to his family, that is to say his wife, sons, daughters-in-law, and grand-children, fifteen in all, live off the country, and to feed these people about five hundred pounds of meat or fish must be provided each week. Of course, they keep their nets out, and procure large numbers of pike, dore and whitefish,

but, nevertheless, the flesh of the moose is their mainstay. This country would swarm with game if somebody could persuade Mr. No to emigrate. He is a perfect thorn in the flesh to the animals, birds and fish of that region. At one point in Te-gou-sie-wabie I saw seven bear skulls, the animals to which they had belonged having fallen victims to No and his boys.

Next year, however, the moose may have a rest, because it will be the big rabbit year. They are very numerous now and in 1902 they will swarm. In 1903, however, they will be conspicuous by their absence. As is well known to those whose business or inclination has taken them into the northern wilderness, the rabbits increase during seven years, and are then almost exterminated, by outbreaks of tuberculosis, such as that which has devastated the over-stocked preserves of the British Isles this summer. When rabbits are plentiful the Indians are not so keen to hunt big game, because the rabbit is the woman's prey, and the men can indulge in a restful time while the squaws supply them with food.

We got away from No's camp early in the afternoon, and went about five miles down the deadwater before camping. It was very uninteresting, as there were no fresh tracks, and when night overtook us we had to camp in a wet willow swamp where there was no firewood to speak of. I noticed all through this country that the climate was very much better than I had expected. On August 20th there seemed to have been no frost, though the trees were yellow from the heat, and hundreds of white fish were floating dead on the lakes owing to the water having become too warm. On the morning of the 21st we got off early, and reached the end of the dead water, ten miles from the lake, in good season. A couple of short rapids followed, and at the end of the second we lunched; then another two miles of a paddle and we had to tackle a formidable carry of one and three quarter miles. This made a good day's work, because, of course, we had to double trip everything. We were rewarded by a most delightful camp; the tent was pitched on a level flat, free of undergrowth, and bearing the most wonderful forest of mixed growth. Many of the spruces were over two feet in diameter, and had evidently escaped the ravages of the big fire which I have alluded to. This was practically the end of the good farming tract, and from this point down to the main White River we saw little land fit for settlement. Next day we managed to negotiate the "Long portage" of two and a quarter miles, together with another couple of miles of paddling before the rain came down. Then there was a deluge, which lasted thirty-six hours and kept us close prisoners to the tents, but, so hungry was the soil, this heavy rainfall only caused the river to rise two inches, and by the evening of the 24th it had fallen to its old level once more. Four miles below this camp we came to the log jam which marks the head of the fall at the mouth of the river. The portage passes over a high ridge, and the view from the summit is magnificent. The traveller here learns the true character of the White River country. He sees hundreds of square miles of undulating land, covered by a second growth of aspen and white birch. It is not a rugged country, but it is one that holds much game, which is even better.

Time was lacking for any further explorations, otherwise I should certainly have ascended the main river to Round Lake. As it was, we went a mile up stream to see Granite Falls—almost dry—and then turned the bow of the canoe toward the south-east, and Temiskaming. A mile below the north branch we came to a rapid, and a mile and a half further down stream to another one, each of which necessitated portages. A third rapid may be seen from the second, and here we met four canoe loads of Indians returning to Grassy Lake. They were the sons, and daughters-in-law, and grand-children of Jean Baptiste No, returning, alas! with empty canoes, having been unable to coax the storekeepers at Temiskaming into advancing them any supplies. This means that all through the coming winter they will have to live upon game, and muskrats, and owls—in fact anything they can kill—without flour, or tea, or sugar to break the monotony of the diet. Just think of this, ye epicures, accustomed to a daily choice such as these poor wretches have never known. Verily, the lot of the Indian is a hard one, and if he is not all that our fancy paints let us in justice not expect too much. Once, at the end of a long and cruel winter, I came to the camp of some Ojibways in the Lake of the Woods country, Western Ontario. They were living upon rabbits straight. Happily it was a good year for the bunnies, and so they had not to face absolute starvation; but some persons would consider death as a welcome relief from a steady course of rabbit. These people had a beautifully simple, yet an effective, method of cooking the rabbits. Firstly, the skin was torn off, and, secondly, bunnie was thrown into a big pot of boiling water standing on the fire. That is all there was to it; just these two motions. Not even those parts which the old gamekeeper used to call the "innards" were removed. It does not require a very vivid imagination to picture the appetizing stew which resulted.

After saying good-bye to our Indian friends we went into camp, three and a half miles below the mouth of the north branch.

The morning of Sunday, August 25th, broke fine and warm; in fact it was the most sultry morning of the trip, and for a short time the flies were quite bad. Four miles below our camp the south branch joined the main stream, and two miles below that the old familiar mouth of the north-east branch welcomed us back, after having made a round trip of perhaps a couple of hundred miles. At the first rapid we were passed by Messrs. Miller and Leheup on their way out. From this point all was plain sailing, but we only reached a point seven miles below the rapid when we were driven into camp by heavy rain. Next morning we were off betimes, and had paddled eight and a half miles when we halted a little below the mouth of Otter Brook. Here we met the charming Mrs. Johnny McBride and the even more charming Miss McBride. The men folk were away road making. On the way down we saw two muskrats and a mink. The remainder of our trip to the mouth of the river was very uninteresting, as both banks have been burnt over this summer as far as Otter Brook. At 3 p.m. we reached the mouth of the river, having covered the eight miles from below Otter Brook in two hours. We now had twelve miles more to paddle to reach Haileybury, and as the lake was as a millpond everything was in our favor. It took us an hour and a half to paddle the six miles to Windy Point. Here we landed and prepared our supper; and of all the things to which I look back with memory's eye it seems to me that this view from Windy Point, the whole landscape bathed in the golden haze of a fine August evening, is one of the most satisfying. We landed at Haileybury at 7.30, having paddled twenty-eight miles, in nine and a half hours' actual work.

This ended my partial exploration of the White River, and summing up my impressions I should say: There are few districts within easy reach of civilization where there is so much game. Notwithstanding the ravages of the No family, moose in general are increasing, and I doubt not will continue to afford excellent sport for many a long year to come.

TO MY AGED TENT.

By E. Edmond Lemieux.

You are now old and weak, unable to withstand the hardships of camp life. When you came into my possession, twenty years ago, then fresh from the manufacturer's hands, you looked strong and durable, pretty and attractive. For a more satisfactory inspection you stood up on the lawn adjoining my home, and your general appearance pleased me in the highest degree. In fact, I felt you were constituted to last a long time; I was not deceived in my expectations. How jubilant I was when we started on our initial outing. I shall never forget the first night you sheltered me and my friends. It was in the latter part of August, on the shores of the Ottawa River, beneath a small tree through which murmured the evening breeze. The sky above was brilliant with a myriad of stars shining on the camp ground, and seemingly out to view your splendid form.

In the years that followed many were the excursions during which we shared your hospitality. What a delight it would be for me to recall the pleasant hours spent under your roof, by the glow of the camp-fire, or with the moon's peaceful gleam peeping through the trees. Those were indeed hours of rest and ease, when stories were narrated, and experiences made known—with short intermissions to appease sudden attacks of thirst. Late in the season, on hunting expeditions bound, how well you protected us from wind and cold, rain or snow; how impartially you distributed the invigorating heat of the iron-sheet stove, from whose long arm, extending outward, frantic sparks crossed one another's path, soon to die away. What a comfort you then afforded to your visitors, cold and shivering. Your guests are numbered by hundreds, but never was a complaint heard; no matter from what direction the wind raged you held firmly to your post. With extended arms, like the octopus, you obstinately held your ground. The light movements you made to and fro were no indication of doubt as to your strength to withstand attack, but a mere ironical, side-shaking laugh at the invisible elements whistling about.

During my ownership I have looked to your welfar

An Abittibi Outfit.

Jean Baptist No, with a few of his belongings, including a 15-lb. pike, which he has just caught in Grassy Lake

steadfastly; never stored you away in a hurry, or in damp condition, with the possible result of your firm, white skin becoming mossy and decayed. No, on my return from an excursion I hastened to spread you out to bask in the sun's ardent rays, or at least gave you the benefit of all the fresh air obtainable, and then only did I pack you away for good. Thus, your life has been prolonged and you were fit to accompany me, for the past twenty years, on trips after fish and game. I must candidly say that when, occasionally, I retired to some elaborate and expensive club-house, or even to a modest and roughly-made log cabin, I never felt so much at home as under your cover. True enough, I often carried you on my back, at

times for long distances, too, but I did not grumble at that, for I knew I would be more than repaid for my fatigue when the time arrived to spread your mantle over my paraphernalia and self. Your broad wings were a perfect safety against the chills of the night; our sleep was pleasant and undisturbed, with an assurance that no rain or snow could penetrate your canvas back.

How often we have brought to your door the result of a morning or an evening's work with rod or gun. How often a string of beautiful fish hung up nearby. How often you stood before the camera, and thus our sporting pictures were rendered all the more interesting, for they conveyed a truer idea of enjoyable tent life in our Canadian forest. These pictures occupy foremost pages in my album, and help to bring back to my mind some of the happiest days spent in Nature's grand wilderness.

Alas! we have both grown older, have suffered somewhat noticeably by wear and tear, the effects of exposure and unexpected hardships on some of our outings. Unfortunately, you now succumb to such experiences, but I am yet able to stand them as well as during my earlier trips. I expect to be favored soon with another mate like unto you, which I hope to use for two score more years. If it prove to possess the qualities which made you such a favorite and serve us as satisfactorily as you have done, I can afford then to take a rest myself at the expiration of that period. You have roughed it out long enough, old friend. Your arms now lack firmness, your back is discolored, and full of holes; no doubt you are constitutionally broken down. Possibly you did not receive from those to whom I occasionally loaned you the same scrupulous treatment I always accorded you, but I am more than satisfied with your long years of service. I am very sorry indeed that we must part, for I loved you dearly. However, I shall never forget the good times we have had together.

A MONTH IN A MANITOBA SHANTY.

By N. B. M. W.

It was mid-July, with the bright hot days of the brief summer of the Northwest. Threatened with nervous exhaustion, I resolved to cast pills and potions to the dogs, and try what a few weeks of open-air life would do as a restorative. Two thousand miles lay between this inter-ocean province and the cool beaches of the Atlantic and Pacific, but thoughts of the long, green rollers surging up their wet sands and the surf dripping over the rocks reminded me of the great fresh-water lakes of Manitoba.

Toward one of these we turned our faces on a lovely morning in August, as we boarded a Canadian Pacific train. A run of two hours and a-half brought us to a little wayside station where a farmer's wagon, drawn by a pair of stout horses, awaited our arrival. Driving over eight miles of level road we came upon a small oak wood, which we decided was an ideal spot for the building of our shanty; the ground for which was immediately measured out by the gentlemen of our party. After lunch under a big oak tree, with a breeze from the lake, about a mile distant, stirring the delicious prairie air, we concluded our plans for the construction of our "Walden," and returned to town.

In less than a month our little hut was completed, consisting of two rooms and a small cooking-shed away from the house. As a day or two later our party of eight drew thither, we did not allow the pouring rain to dampen our spirits, if it did our wraps, for we reasoned that the weather could not always be unkind, and the ducks were coming, for we intended to combine shooting with our quest for health. After the simple articles of furniture had been put in their places and our primitive cuisine arranged, our little home looked more than comfortable. The tiny cooking-stove, with its few feet of pipe, suggested whole vistas of enchanting repasts; for how could the satiated appetites and elaborate menu of Delmonico's compare with our feasts to be, when a lordly mallard that yesterday cut the blue sky with its golden bronze wing, or a plump grouse that in the morning whirred its quick flight over yellow stubble-fields, should grace our simple board, together with fresh milk, cream, butter, and home-made bread, the latter baked from the flour of the world-renowned "No. 1 Hard" wheat.

From a farm-house, whose red roof peeped from a group of russet stacks and ricks, we procured our small cook, a swarthy-faced little half-breed, blessed with an exceedingly cheerful and optimistic disposition, being perfectly willing to prepare meals at any hour of the day. Breakfast for the shooters was ready at five o'clock or earlier, as the men usually left at that hour, followed by the faithful black retriever, which would work all day in the water if required to. They were frequently accompanied by the daughter of the house, who in short skirt and heavy shoe would tramp along as keen for sport as any of the party.

The long days in the cabin were spent in reading, writing, day dreaming, or with some kind of light work, such as painting, wood carving and embroidery, varied by delightful rambles in the oak glades of the wood, that were like those of an English park, or in photographing, driving, and, as it darkened into dusk, placing a lighted bicycle lamp in the four-paned window to guide the sportsmen home. Tired, hungry, and happy, their bag was each night hung up upon a stout nail on the wall, as with many a joke they laughingly recounted the adventures or mishaps of the day.

Although far from the chime of church bells, the Sundays were Edenic in their calm and quiet. The event of this day was the drive to the lake shore, in a rude cart, for supper. With cushions and rugs laid out, and the little kettle on the improvised crane singing as it boiled the water for tea, we lay gazing out over the water, which was as sapphire blue as the sea.

Though the shores were perfectly flat, in many places the outline was softened by fringing willow-bushes and tangles of weeds and water plants. The only sound that broke the stillness was the distant cry of the wild geese, "Honk, honk," as a thin waving line overhead marked their flight to their favorite feeding grounds and gravel-beds, where in the grey dawn our hunters know where to seek them. Sandpipers, with their slender beaks and limbs, tripped daintily along the beach, while grey gulls and kingfishers swooped down upon their prey beneath the waves. Almost any day might be seen wavies, brant or blue-winged teal, while over the fields and "marcus," chicken rose from the long grasses, where they came to find the saskatoon and other berries upon which they feed. As the quiet air sometimes brought the faint cry of the rail or the plover, it was hard to realise that not more than twenty years ago these sands echoed to the tread of immense herds of the great American bison, as they bent their shaggy heads to drink from these waters, or tossed their manes as the arrow of the hunter laid them low, leaving their bones to bleach over the plains where once they browsed, and over which we sometimes stumble in our walks.

On one of these evenings, to our intense surprise, where we were accustomed to an unbroken sheet of water, we suddenly discovered, about three miles out, what appeared to be a large, thickly-wooded island. Unable to understand the occurrence, we inquired among the settlers for a solution of the mystery, and found it was a mirage, the island being really about seventy miles distant.

Another surprise happened one afternoon as we were driving to the station to meet some friends. Stealing along by the fence was a large prairie wolf, which, after taking a look at us, made off through the grain fields and was lost sight of behind a haystack.

One very cold and dark morning towards the close of October, we were aroused by the clicking of an engine, and realized that the most exciting event at that time of the year had occurred, in that a threshing outfit had arrived at a neighbouring farm. Feeling we could not miss this long-wished-for visit, we tripped off as fast as we could and seated ourselves in a huge straw stack to watch the novel scene, which, with the great hungry machine, the flow of the grain like a golden fountain, the swelling sacks and rapidly growing hills of chaff, presented a picture of color and motion, set in a frame of autumn scenery, which for picturesqueness none in the whole round of agricultural life can surpass. And thus the days had lengthened into weeks, and the green leaves of the willow, oak and alder changed into yellow, red, or ruddy brown, and a breath of frost in the nights touching the brilliant sunflowers and purple and white Michaelmas daisies, made us unwillingly acknowledge that winter was soon coming to turn us out of our paradise. He roused us rather suddenly and roughly, for one night, lying down with a roaring fire in our little stove and feeling fairly comfortable, the wind suddenly changed in the night to the north, bringing frost and a heavy snowstorm, and the creeks which had run clear the day before were frozen solid. This mild hint suggested that the time had come when we must leave our egg-shell castle, where so many hours of pure delight had been passed, to carry back to the routine of town-life perfect health, excellent spirits, and a longing for the time to return when we could go back again to where our month's tarrying had transformed us into enthusiastic disciples of Nature-loving Thoreau.

"WHEN THE MOOSE IS RIPE."

The Autumn morn is clear and still
  The stars grow cold and pale;
White rime lies on the treeless hill,
  Grey mist hangs o'er the vale.

The hunters rise and break their camp
  Beneath the pallid skies,
And off they tramp where bleak and damp,
  The Big Moose barren lies.

* * * * * * *

Wind, Indian, wind your birch-bark horn,
  Give, give the mating call;
And mournful on the stilly morn
  The lorn notes rise and fall.

Then presently an answering call
  Comes from the neighboring wood;
A bull moose in his forest hall
  Wearies of solitude.

A bull moose on his stamping ground
  Has heard the call of love,
And, like an avalanche of sound
  Comes rushing through the grove.

To keep the tryst the monarch comes
  Smiting the beech and fir;
The plump spruce partridge, startled, drums,
  And takes wings with a whirr.

Athwart his path the forest falls
  Far crashing down, until,
The rattling clangour half appals
  The hunters on the hill.

Ho, like a rushing mighty wind,
  Or thunderbolt let loose,
In frenzy dire, with passion blind,
  On comes the love-lorn moose.

Then, while a loon laughs aloud
  Along the far-off lake,
With antlers reared, erect and proud,
  The bull bursts from the brake.

Montreal. —Colin McKay.

CORRESPONDENCE.

To the Editor of Rod and Gun:

In England and on the continent of Europe the black-powder rifle is passing into disuse; in this matter the western hemisphere has certainly not led, and we have yet to listen to men who try to make out a case in favor of their old weapons, but it does not require the gift of prophecy to foresee that the time is not far distant when rifles not firing high-velocity charges will be as out of date in the hands of a hunter as they already are in the hands of a soldier.

One of the best-known rifle makers of London is advertising all the black-powder burning rifles left in stock at cost price, and even on these terms they do not find buyers. The new rifles are superior to the old in point of weight, power, trajectory and accuracy, at least at the longer ranges. One of .400 bore, the charge of which is 60 grains of smokeless powder and a metal-cased bullet of 400 grains, gives a muzzle velocity of 2016 feet sec., and a striking force (energy) of 3597 feet lbs., which last is greater than the old fashioned .577 burning 6 drams of the strongest black powder.

Rigby, one of the most scientific rifle makers in England, turns out a .350 smokeless powder rifle which is more than the equal of the .500 Express, and a .450 which will stop the heaviest pachyderms, being fully as deadly as an 8-bore, black-powder rifle, such as have been used for elephant, bison, and rhinocerii in India and Africa.

For our Canadian shooting such powerful weapons are unnecessary—a .30 is good enough—but, seeing the enormous advantage of the modern rifle in lightness and trajectory, we can certainly not afford to ignore it in favor of a weapon which is far inferior to it, merely from sentimental reasons. Some of the old guard cannot disabuse themselves of the belief that smoke, noise and recoil mean power, but while their loyalty to the chosen arm of their youth may excite our admiration, our common sense must warn us not to pay serious attention to their garrulous chatter. Gumption.

Toronto, Ont.

To the Editor of Rod and Gun:

Noticing a short article in Rod and Gun for January on the new .32 Winchester, a few words from me may bring out some ideas from other readers which will have value, perhaps in getting at what experienced hunters look for in a rifle for sporting. I have carried a .30 W.C.F. for two seasons now, and like it very much. Nothing that I hit got away, and only once did I miss, and that a snapshot at a deer in thick brush, which was no fault of the rifle. One fault, however, the .30 has, and the same is to be said of all the Winchester rifles except the old '73 model, and that is they were too straight in the stock, excepting for men with short necks. In order to use one quick, I have learned the best way is to place the lower point of the rifle butt-plate against the shoulder, which places the barrel at once in the line of sight without having to bend the neck to one side to lower the head. I am not alone in my notion of this fault as I call it. Now, regarding the bullet of the .30, it is too round on the point for a good killer, or, I might rather say, to take the full advantage of its killing power. I formerly used a .45-70 350 which was a great killer, but heavy to carry, made a big smoke and a great noise, three bad points in a sporting rifle. It had the straight stock too, another so-called fault for me. While I always have got my game with my .30, yet I have never seen it kill a deer in its tracks, like the .45, unless it was hit in the head or neck or through the shoulder. Now, I believe the cause is to be found in the shape of the point, which I believe should be as flat as possible, without being large enough to come in contact with the barrel. I have tried the ordinary bullet and one which I had beaten flat on the point with the heavy blade of my hunting knife, and I have found that it increases the tearing effect by about 25%, animals such as the porcupine having been torn almost in pieces by it. Of course such a bullet will not penetrate as far as the other, but it is the smasher we are after, since the shock is greater the more laceration of the flesh you can secure. My opinion is that the .30 made with all the flat on the lead point it can stand without touching the rifling as before said, will drop game *in its track* as well as .45-70. For accuracy there is nothing to be desired further, as I have shot the heads from partridge regularly, not having missed one out of a dozen shot this past season. Give us the flat point and stock with more drop, and the .30 W.C.F. I believe is without a superior as a hunting rifle. The new .32 smokeless may prove a superior rifle, but the trajectory is greater than the .30 and penetration only 1¼ inches superior to it, and the cost quite a consideration to many men. It is a pity in "changing the styles" that the Winchester people do not give us the .30-40 U.S. army cartridge in a style of the '86 model Winchester, which I consider the best model of a rifle they have put on the market. They adapted it to the .38-40, .44-40, etc., in their 1892 model, and it would, I think, have been better to have used it again for the cartridges of the 1895 model and even the 1894 model. The 1895 model seems to me the poorest arm they make. The balance is bad, and I dislike it to carry, owing to the situation of the magazine and the light muzzle. All of the hunters around here who have owned them have got rid of them, without exception.

Yours, W. J. Scott, M.D.

Lanark, Ont., Canada.

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Jinks—I'm going bear hunting; what would you advise me to take with me?

Binks—An accident policy

FISH AND FISHING

FIRST DAY ON THE HOUSEBOAT.

My Dear Jean:—

Since I wrote you the other day we have had such a lot of fun that I hardly know what to tell you about first, but to-day's sport has been so exciting that I really must leave the story of our trip until another time, and tell you about our first morning on the houseboat, so here goes.

Give him line! Let him run! Oh, he is a monster, forty pounds at least and such a fighter! There he goes, six feet out of the water, turning three somersaults before my astonished eyes, winking at me every revolution with his big red eye, and finally making a dart at the boat, striking it viciously once, twice, three times, while I gather strength to scream for help. Just as I open my mouth to shout to our guide to rush in and help me fight him off, I suddenly feel that distance is slipping away at the rate of thousands of miles a second, and awake to the fact that some one is calling me. "For the land's sake, Madge, what are you groaning about?" is the first remark I hear from the other side of the door, and it suddenly dawns on me that I am not on the Restigouche, wrestling with a forty pound salmon, but in a comfortable bed in a houseboat on Kootenay Lake, with a delicious sense of having the best air in the world to breathe.

"Look here, Sis, if you want to see a glorious sunrise tumble out this minute," is Jim's next remark, but after sleepily saying, "all right," I roll over for another snooze. A moment later I hear Jim calling to the guide that he saw a big trout jump just a few yards away. At this, without waiting for even a stretch, I imitate the trout, and in ten minutes I am dressed, ready for my first day's fishing in the far-famed Kootenays. When I join Jim on the deck of the houseboat he laughs heartily, and I find that the horrid thing has not seen any trout jump, but knew that if I heard the word "trout" it would act on me like a cry of fire.

Well, I chase Jim and finally get a chance to box his ears, but by this time I am glad that he did call me, so he gets off without punishment.

We are combining business with pleasure on this trip, as, while I fish, Jim intends to tramp around the mountains gathering specimens of the various rocks and examining the many mines in the district. How any one can find any fun in doing this, when fishing is so good, I cannot see! But then, Jim is a man, and that makes a difference.

We fished during the early summer on the Restigouche River in New Brunswick, for the King of all game fish, the Salmon, and have now crossed the continent to try our luck with the rainbow and brook trout of the lakes and streams of the great Rockies. We reached Kootenay Landing, the terminus of the Crow's Nest branch of the great C.P.R. system, last night, after a day's ride through the wonderful mountain scenery, which seemed doubly attractive after the long ride over the level prairies. We stepped from the train into a fine steamer which took us over to the houseboat, anchored at the mouth of Canyon Creek, a place which had been recommended to us as a good spot to get fish.

We were tired enough to turn right in when we reached the houseboat, and instead of the hard bunk I had expected, found a couch that a princess could not object to, and fell asleep to the music of the rippling water of the creek.

Three o'clock in the morning and day is dawning! While Jim is already gazing at the mountains and making guesses as to their "formation," whatever that may be, I am looking intently at the water, and soon see what thrills me as nothing else can do, a fine trout rise to take a fly, not far from the anchorage. I immediately insist on unpacking my tackle and getting to work, so Jim reluctantly leaves his guessing for a few minutes and I am soon ready to try my luck. The morning is now brightening and the trout are beginning to feed, as we see them jumping all around.

Grant, the cook, offers to row me around while I whip the stream, and I notice that he puts on a most peculiar straw hat with a very wide brim, which droops so much that you only see Grant's chin when he sits up straight. When I remarked that as the sun was not shining, so much hat was hardly necessary, he sighed and said he always wore that hat on certain occasions, so I only laughed and put it down as a whim of his. Well, we pull off and Grant rows into the stream and holds the boat in a pool of still water while I make ready to cast in the eddies and swift water. The mountain stream rushes swiftly into the lake, and the force churns the waters into numberless eddies and ripples, where the lusty trout love to feed. After a few preliminary casts to get my line out, during which operation I notice that Grant's head seems to sink into his body, I begin to cast, and my second attempt brings a rise. I gently let him hook himself before striking and then begin to reel in, as we had been doing with the salmon, but the trout had gone. Grant told me to give them a "twist of the wrist" the minute they struck, and explained how to do it. After that I had better luck, and in the next hour had fought and landed sixteen fine trout, averaging about a pound each.

After I had made a few casts I noticed that Grant took off his peculiar head gear and shoved it under a seat.

Mouth of the North Branch

Boiling the Kettle" at the mouth of the North Branch, White River, Ontario.

He said that we ought to get at least one big fish before breakfast and rowed out into deeper water where the large trout and charr lie. On the way out I asked Grant why he had taken off his hat. "Well, Miss," said he, "you see that lump just below my ear and this scar on my cheek? Two years ago this summer, a party of tourists were at Nelson and wanted to do some fishing. They hired me to cook and row one of their boats around at the fishing grounds, and two of the women folks of the party kind of liked my looks and said I was always to row them when they went out fishing. The first day I dodged their flies pretty well, only getting two into my coat and having my hat jerked off three times. The next day their arms were a little tired, and their casting as erratic

as the mischief. Before we had been out ten minutes the old girl in the bow made a vicious cast and the tail fly landed against my cheek and hooked me as pretty as you please. When she turned around to see what had caught her flies and found out where they had lit, she let out a scream which so scared the other one, that, as she was drawing in for another cast, she fainted, and her flies slapped again my neck, and the top hook went in pretty deep. Say, I didn't do a thing, but make for shore, and after cutting the gut just above each hook, and not waiting even to say good-bye, I lit out for town and a doctor. It seemed that the hook in my cheek was rusty and poisoned the wound, so I had to lay up for five weeks nursing it. When the party returned to town they give me $20.00 besides my doctor's bill, but what was that after spoiling a fellow's looks! Before I went out again with any women folks I bought this hat and now feel pretty safe with any of them, and say, Miss, after I seen you throw them flies once or twice I knowed I was safe as a church." Wasn't that a nice compliment, Jean?

By this time we had reached the deeper water, and Grant pointed to a beautiful eddy. The very first time my flies touched the water there was a big swirl, a rush, and a spinning reel. I let him have about sixty feet of line and then prepared to snub him, but failed. After 120 feet of line had gone out, I thought it time to stop his rush, so I gradually put on the drag and finally succeeded in stopping him. Then commenced a fight that lasted twenty minutes and gave me the best sport of my life.

Grant couldn't account for such a big fish as this one apparently was, and kept asking how he pulled. After many rushes and reelings in, I finally got him to within 20 feet, when he suddenly made a dart for the boat while I tried to reel in the slack line. Just as he was going under, I quickly gave him the butt, the force pulled his head up a little, and he struck the keel of the boat a sharp crack and came to the surface stunned, where Grant gaffed him, at the same time saying "Well I'll be jiggered if you haven't hooked a salmon!" It proved to be a fine lake salmon, weighing 32 pounds 8 ounces, and the largest one caught in the lake for several years. So you see, Jean, our first day on the houseboat was a memorable one, and my dream of the morning not so very far out after all.

Sincerely yours,

MADGE.

Afloat on Kootenay Lake.

THE OJIBWAY CALENDAR.

By C. A. B.

An Indian friend of mine, one in whom I have considerable confidence, told me recently that the Indian calendar I printed in the April issue of ROD AND GUN was not correct. I gather from him that the young Indian who gave me this calendar was more remarkable for imagination than accurate knowledge, and that it should have been as follows:—

January—Long month.
February—Ground hog month.
March—Goose month.
April—Glare Ice month.
May—Flower month.
June—Strawberry month.
July—Raspberry month.
August—Cranberry month.
September—Harvest month.
October—Trout month.
November—Whitefish month.
December—Winter begins month.

This is not quite so poetical a calendar as the other one, but displays a great deal of sound common sense. The substitution of goose for ghost is a decided improvement, as the former are much more abundant than the latter, and serve a useful purpose. I am so in love with this calendar that I have drawn up one on similar lines, adapted to the wants of the white man in moderate circumstances. It reads:—

January—Good resolves month.
February—Grip and mustard-plaster month.
March—Put-away-furs month.
April—Easter-bonnet-bill month.
May—Big-fish-story month.
June—Straw hat month.
July—Gin-rickey month.
August—Sea-bathing month.
September—Children-go-to school month.
October—Hunting month.
November—Light-the-furnace month.
December—Indigestion and swelled head month.

[While the foregoing list of names given by the Ojibway of the Temiskaming region may be correct, it is worth pointing out that Bishop Baraga in his invaluable dictionary of the language, gives one which differs considerably from it. His study of the Ojibway tongue was, however, made in the Lake of the Woods region, which may account for the discrepancies. For instance, September cannot be the "moon of the gathering of wild rice" to the Temiskaming Indian, because he knows of no such plant. The following is the bishop's version:—

January—Manito-gisiss. "The moon of the spirit."
February—Namébini-gisiss. "The moon of suckers."
March—Onâbani-gisiss—"The moon of the crust on the snow."
April—Bebokwédagiming-gisiss. "The moon of the breaking of the snowshoes."
May—Wâbigon-gisiss—"The moon of flowers."
June—Odéimini-gisiss. "The moon of strawberries."
July—Miskwimini-gisiss. "The moon or raspberries."
August—Min-gisiss. "The moon of blueberries."
September—Manominike-gisiss. "The moon of the gathering of wild rice."
October—Binâkwi-gisiss. "The moon of the falling leaves."
November—Gashkadino-gisiss. "The moon of freezing."
December—Manito-gisissons. "The little moon of the spirit."—ED.]

✦

The mule deer of Montana have been afflicted with some contagious disease this year. The stockmen believe that it is anthrax. This, if true, substantiates, in a measure, the theory that the murrain which occasionally thins out the deer and moose in certain portions of the Dominion is most probably anthrax. This disease did a vast amount of damage in Scandinavia five years ago.

✦

Hunting men in England have little use for the automobile. In proof of which read the following from *The Field*:—

"The Master, Committee, and Farmers of the Warwickshire Hunt beg that ladies and gentlemen will kindly refrain from travelling to the meets in motor cars, or using them for any purpose connected with fox hunting within the limits of the hunt. (Signed), Hon. R. G. Verney, Lord North."

KENNEL DEPARTMENT

Conducted by D. Taylor

Owing to the prevalence of distemper and other diseases incidental to dogs in the early stage of their existence during the past three or four months, there is at present a marked scarcity of really good canines for sporting purposes and also for household pets. From all over the country the cry is that never before has there been such a mortality among puppies, some kennels being almost entirely decimated of young stock. It may be that a portion of this mortality was preventable, still, when we look at the names of those who have suffered and know the care and caution they generally exercise in the supervision of their kennels, the cause for such an excessive death rate must be looked for in another direction than carelessness or inattention. The best veterinary surgeons have been puzzling themselves over the matter, and many have come to the conclusion that the same causes which have made zymotic diseases so prevalent among the human race during the same period have conduced to the extraordinary fatality among dogs. There is a good deal of reason in this theory, because the symptoms in many of the cases brought under our notice have been entirely at variance with the well-known and established indications occurring in distemper, worms, etc., and have led many breeders to express the opinion that a new disease not yet diagnosed has appeared amongst our dogs. It is true that in many cases where distemper was supposed to exist, a post-mortem has revealed the fact that death was entirely due to the presence of "pin" worms in enormous quantities, or to abnormal fatty conditions induced by overfeeding of too rich food.

The scarcity of young stock from the above and other causes has had a tendency to raise the price of really good dogs, so that it is now almost impossible for others than those with means to become the owners of blooded stock. Especially is this the case with hunting dogs, as wealthy sportsmen, in a general way, have a total disregard for the price they have to pay for a well-broken dog, provided it hits their fancy at the time, and it is safe to say that never before last season has the average price run so high for dogs fit to be shot over.

✠

Messrs. James Lindsay, of this city, and W. P. Fraser, of Toronto, recently imported the well-known English champion fox terrier, Matchmaker, the winner besides of many first prizes and the sire of more prize-winners than any other dog we know of. Matchmaker has been placed at stud, and the demand for his services is in keeping with his reputation.

✠

A new Kennel Club has been formed in Ottawa, under the style of the Ottawa Kennel Club. The following are the officials :—President, J. C. Cox ; vice-president, R. H. Elliott ; secretary-treasurer, A. P. Mutchmor. W. G. Young, F. E. Montgomery, A. Armstrong, J. Graham, F. McLean, Dr. Kirby, Dr. Webster and W. J. Newton, executive committee.

✠

Mrs. Bradley-Dyne, of British Columbia, has purchased the successful Scottish terrier, Dopper, winner of prizes at the Crystal Palace, London ; Birmingham and elsewhere. This lady has probably the leading kennel of this breed in Canada.

The Westminster Kennel Club's bench show takes place in Madison Square Garden, New York, from the 19th to the 22nd inclusive. This is the premier show of the United States, and as the prizes and specials are even more numerous and liberal than usual the inference is that there will be a corresponding increase in the number of entries and of dogs benched. The committee have appointed eighteen canine specialists to do the guessing. Among them we notice that Canada has been honored in the person of Mr. W. P. Fraser, of Toronto, who will undertake the decisions in Scottish terriers, and we have no doubt, from the increasing popularity of the "Diehard" and the well-known ability and impartiality of the judge that he will be greeted in the ring by a large entry.

✠

Newmarket Kennels report having sold their bull terrier dog Newmarket Bendigo (recently illustrated in Rod and Gun) to Frank F. Dole, at a long figure. At Philadelphia he won for his new owner : 1st puppy, 1st limit over 30 lbs., and 3rd open in hot company. Edgewood Penn, formerly Newmarket Baron II., a litter brother of this dog, also sold from the Newmarket Kennels, won 2nd puppy and 1st open under 30 lbs.; and another brother, Rising Star, won 3rd novice. Newmarket Kennels have had their slice of hard luck lately, having lost through distemper, four very promising young dogs by Edgewood Dick, and a good son of Champion Little Flyer.

✠

Mr. Joseph Reid's fine collie, Heather Blossom, for which he had been offered and refused $350, lately gave birth to a litter of eleven, eight of them being dogs. The sire is Ellwyn Astrologer, one of the best dogs in the United States, and Mr. Reid is sanguine that most of them will prove winners. He has already booked several of the pups for $30 at six weeks old, and is negotiating with a gentleman in Chicago for the balance of his brood bitches, a deal which he expects will be closed shortly.

✠

Secretary-Treasurer Jacobi of the Canadian Fox Terrier Club is able to show the substantial balance of $138.58 on the right side, a position which shows careful management. The new officers are :—Patrons, Wm. Hendrie, Esq., Hamilton ; Geo. Beardmore, Esq., M.F.H., Toronto ; honorary president, Richard Gibson, Esq., Delaware, Ont.; president, Geo. H. Gooderham, Esq., Toronto ; vice-president, Jas. Lindsay, Esq., Montreal ; secretary-treasurer, Fred. W. Jacobi, Esq., Toronto ; executive committee, G. M. Carnochan, Esq., New York, N.Y., H. B. Donovan, Esq., Toronto, C. Y. Ford, Esq., Kingston, W. P. Fraser, Esq., Toronto, J. G. Kent, Esq., Toronto, C. W. Keyes, Esq., East Pepperall, Mass., A. A. Macdonald, Esq., Toronto, D. W. Ogilvie, Esq., Montreal, H. P. Thomas, Esq., Belleville, Ont.

✠

A correspondent sends us the following anecdote, which goes to show that this dog was equal to the occasion :—A man was once given a large dog to take care of by a friend, who was going abroad. But the dog annoyed him by always sitting in his best armchair. One day a splendid idea struck him. He came into the room and found the dog in his usual seat, so he walked to the window and called : "Cats ! cats !" Up jumped the dog and rushed to the window, while the man went and sat in the chair. A few days later the dog walked into the room while his master was sitting in his armchair. Going up to the window he barked loudly. The man got up to see what was the matter and the dog rushed and secured the chair.

ROD AND GUN IN CANADA

DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

PUBLISHED MONTHLY

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By the exercise of an immense amount of misdirected energy we white men have almost succeeded in making the great toe perfectly useless to us. We laugh at the Chinese women and call them foolish for having deformed their feet, and all the while we do the same thing ourselves. Watch the noble Caucasian as he crosses yonder slippery slab rock; doth he not dig his heels manfully into it, so that the sharp-headed nails studding its under surface may gouge out little holes and so prevent him from falling? Yea, verily, and one of these days, when the nails shall have become rounded peradventure they will fail to pentrate the rock, and then the noble Caucasian will make the acquaintance of his mother earth in abrupt and painful fashion.

And now let us watch brother Lo cross the same slab rock. Instead of digging his heal into it the balls of his flexible toes seek, almost instinctively, as it were, the slightest inequalities of surface; and so it comes to pass that he can carry a couple of hundredweight where his white "superior" may only pass by pounding like a stamp mill. The fact is that Lo instead of having two hands has four, and the two extra ones are invaluable on a slippery surface. Now Nature, as a rule, starts the white baby and the Indian papoose with a precisely similar outfit—yet ten or fifteen years later the ("intelligent?") paleface has rendered useless half his equipment.

✣

There are certain people—generally editors—who think they are doing yeoman's service by wailing ceaselessly on the subject of game extermination. If they knew how weary they make their readers they would surely change the tune occasionally. So far as Canada is concerned, game, on the whole, is not being exterminated. We have any amount of it yet, and it does not follow that because thousands of deer, moose, caribou and bear are shot each year that they are being exterminated. A good many steers and sheep are also sacrificed, yet we do not hear that there is any danger of those breeds becoming extinct. Provided that not more than twenty-five per cent of the head of game be killed annually, there is not the slightest risk of extermination; and we believe that of the wilder species of Canadian big game the slaugher by white men and Indians does not amount to five per cent. of the total. Over large areas, we have excellent reasons for believing that big game is more abundant than it was fifty years ago, the reason being that there are fewer Indian hunters now and, consequently a smaller toll is taken. If some of our friends across the border, who, as they confess, are chained to business, would tear themselves from their sanctums for a sufficient length of time, we could direct them to regions which would be a revelation to them. Many generations will pass away ere the broad, deep track of the moose, the square-toed trail of the caribou, and the dainty imprint of the Virginia deer's hoof will cease to be found in our northern forests.

✣

In the present issue a correspondent dwells upon the passing of the black-powder rifle, and it seems to us that his contention, that it will have to yield to a weapon using nitro powder, is well taken. Quite recently we received the catalogue of a well-known London maker, in which he gives the following particulars of his latest patterns. Speaking of a new .400, to carry a charge of 60 grains of cordite and a .370 grain bullet, he says: These rifles will answer for any animal from a roe deer to a bison or elephant, and will make a clean kill if the proper description of bullet is used. Bullets are made in six different patterns. For accuracy of shooting the .400 will tie with the Mannlicher; they did so at Bisley in the Martin Smith sporting rifle competitions in 1898. These rifles have a muzzle velocity of 2200 ft. per second, and a striking force of 4000 lbs., according to the "Field" trials. They hit with the same force as the 8 bore, and the recoil is not more than one-half of that of a .500 Express.

The same maker builds a .600 rifle of extraordinary power. We think that even the worst grizzly, even a silver tip, would go away back and lie down if he were tickled in the ribs with a bullet from this persuasive weapon. Of it the maker says: These cordite smokeless rifles of .600 bore are the most powerful weapons ever constructed for big game shooting; velocity, 1750 ft. to 1800 ft.; striking force, 6200 lbs. They handle better and easier than any .577 Express, and the striking force is greater than that of a 4 bore using 12 or 14 drams of powder. The .900 grain bullet is heavier than the ordinary 8 bore bullets, and with 100 grains of cordite (three times the .303 charge) it has a very high velocity. The recoil is less than that of a .577, so very accurate shooting is obtainable even at long ranges. Any sportsman who has once fired, and witnessed the effect of, the .600 bullet would never again use an old black powder 8 or 4 bore.

Nor are the victories of the smokeless powder rifles confined to the larger calibres, for the .255 rook and rabbit rifle is now being manufactured in England to shoot, either 4 grains of cordite and a cannalured bullet, or else a nickel-covered bullet propelled by 7 grains of the same explosive.

✣

In the October and November numbers of The Commonwealth are two very interesting articles on forestry. The writer discusses the problem of the settler and the forest, and coming to the conclusion that large areas in Canada are better suited to tree growing than to agriculture, suggests that somewhat similar lines should be followed with our forest lands as are now adapted for settling the fertile districts, but that, in view of the slow maturing of the crop and other conditions which do not exist in ordinary agriculture, the area allowed to each settler should be increased sufficiently to provide for the maintenance of himself and his family, which might be estimated for the present at two square miles, or 1280 acres. The settler should be required to manage the tract properly to bring about the greatest possible

productiveness, to take all precautions against fire, assist in the fire prevention service, etc.

It is very gratifylng to know that attention is being directed to this subject, particularly as we may surmise from the quotation of the report of the Canadian Forestry Association that some of the inspiration for the articles mentioned came from it, but we must confess that our view of the forest policy of the future is that it must become more frankly socialistic, and that where lumber production is the object the sphere of the state must be made wider, and the operations carried on on a much larger scale than would be possible for the individual, unless his resources were of the amplest description.

*

If we may believe the accounts that reach us from England the days of the revolver are by no means over. It is said that those British officers who have returned from the front infinitely prefer the revolver in a hand to hand fight to the small bore, automatic, magazine pistol, while at longer ranges they believe only in the service rifle.

*

Already preparations are in progress for the many horse shows, which during the present year are to be held in Canada and the United States. The Boston event takes place in April, and the catalogues being already in the hands of the printer, they will be ready for distribution before the close of the month. The amount to be competed for in prize money will exceed that of last year, and it is expected that the best horse show that has ever been held in the Bay State will form a part of the Easter festivities.

*

Although the year is but a few days old, arrangements are already under consideration touching our own Montreal exhibit, which will, as in previous years, occur in May. The enthusiastic patronage which has been accorded to the two previous shows warrants those interested in sparing neither time, thought nor expense in providing a programme which will keep up the high standard already attained.

*

A short time ago we had an enquiry from a foreign nobleman as to the range of Fannin's sheep, and in order to go to the fountain head for our facts we wrote to Mr. John Fannin, the veteran naturalist, after whom the sheep was named, about the matter. He replied:—"The only locality at present known in which the sheep can be found is on the Yukon River, north of Dawson City. This is the only range at present known of the Ovis fannini."

*

The Peterboro canoe, either of cedar or of basswood, is slowly displacing the birchbark. The fact is there is no comparison between the crafts. If you doubt it, give each a fair trial and you will soon be convinced that this claim is true.

*

The other day a British Columbia sportsman—a man who has had unrivalled opportunities, in the way of big game hunting—paid Rod and Gun a visit. Amongst other interesting information he said that Dall's sheep is abundant in the mountains of the Coast Range at least as far south as the mouth of the Skeena River. This same gentleman states that he has secured a good many specimens of a very little known deer—Richardson's deer. This is quite distinct from the ordinary mule deer, and adds one more to British Columbia's noble list of game fit for the rifle.

The good ship Minnehaha, which sailed for English shores on December 20th, carried the chestnut colt Nasturtium, by imp. Watercress, and owned by Mr. W. C. Whitney, of New York. Nasturtium goes from the United States to England for competition in the Derby, the greatest of British turf events, which will be looked forward to with a great deal of interest in consequence.

*

Our frontispiece this month shows a houseboat on the famous Kootenay Lake. Nowhere on the continent is there better fishing than in this beautiful British Columbian water, and there is very good shooting to be had in its immediate neighborhood, the game being caribou, bear, duck and grouse. A small tug tows the houseboat from one part of the lake to another, just as the whim dictates, and thus all of this great, lonely, lovely lake may be visited without the loss of comforts and conveniences usually unattainable, excepting in the centres of civilization.

*

Owing, doubtless, to the Christmas festivities a considerable number of typographical errors found their way into the January issue of Rod and Gun. But we congratulate ourselves upon the fact that our readers are all sportsmen, or sportswomen or sportschildren, and, therefore, we feel that it is not absolutely necessary to explain that when the hilarious compositor makes us "poddle," what we really meant to say was paddle; and when he speaks of 200,000 visitors going to the State of Maine for the hunting we intended to have said 20,000, and when he gives the striking energy of the new .32 Winchester at 1150 ft. lbs., what we actually wrote was 1550 ft. lbs. Then canoes are not generally "luunched"; in our younger days they were always launched, but one of our most brilliant and promising young compositors doesn't believe in sticking to the old rut, but has found some new method of putting canoes in the water, which by the bye, we shall try to get him to explain in print some day.

All of which goes to show how easy it is to slip up—especially about Christmas time.

Only 33 per cent. of the Province of Ontario has yet been surveyed.

CONTENTS

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association.

FOREST FIRE PROTECTION IN ONTARIO.

By W. A. H. Findlay.
Secretary, Crown Lands Department, Toronto, Ont.

For some seasons previous to the year 1884 the heavy losses sustained in Ontario through bush fires, both on licensed and unlicensed lands, made it apparent to everyone interested in the timber resources of the province that a necessity existed for some means of preventing the origin and checking the spread of fire in the forest during the hot months of summer. The pioneer farmer and miner were steadily pushing their way further and further into the virgin parts of the province, including the pine regions of the Ottawa and Mississippi valleys, and the north shore of Lake Huron. In the Muskoka and Parry Sound districts the advance of settlement was heralded by the immense fires which swept over a large part of that country during the summers of 1881 and 1882. The construction of projected railways, also, was bound to entail almost incalculable destruction to one of the most valuable of the natural resources of the province. The time had come, therefore, when the question of devising some scheme whereby these annual devastations would be entirely avoided, or at least to some appreciable extent lessened, should engage the attention of the Department of Crown Lands and the timber licensees as well.

Investigation and inquiry were instituted by the Department, and, as an experiment, a number of men were placed on duty during the summer of 1884, to patrol the limits of two well-known lumber firms in the eastern part of the province. The work accomplished by these rangers was highly satisfactory to both the lumbermen and the Department, and in the spring of 1885 the present Assistant Commissioner of Crown Lands prepared a memorandum in which he set forth the results of the Department's investigations, and outlined a system of "fire ranging," which was laid before the Commissioner of that day, approved by him, and communicated to the licensees.

To understand the principle and working of this proposed system it is necessary to know something of the tenure of timber lands in the Province of Ontario. Limits are held by yearly license only, and no title to the land passes from the Crown, but merely the right to cut the timber. Part of the purchase money is paid in the form of "bonus" before the issue of the license, and part in the form of "dues" when the timber is cut. Ground rent is paid annually.

It will thus be seen that even after a limit is placed under license, the Government retains a substantial interest in it, because it expects to realise on the timber when cut, along with the lumberman. It therefore seemed proper that the Crown should bear some part of the expense of protecting licensed lands, and it was proposed that half should be borne by the Department and half by the licensees. "Fire Rangers" were to be selected by the licensees themselves from among their foremen, or other old employees who were practical men, experienced in the bush, and who knew their limits thoroughly. They were to be instructed from the Department and given authority to enforce the Fire Act as officers of the Crown. They were to be put on duty between the 1st and 15th May and to remain in the field till the 15th September or 1st October, according to the season. If the summer were particularly dry, or any special danger from fire existed, extra men would be procured. The rangers would travel over the limits, visiting localities where clearing might be going on and impressing the settlers with the necessity for caution in burning their fallows and brush heaps, and keeping an eye on miners, prospectors, explorers and tourists, ever watchful to see that all fire had been carefully extinguished before camp was moved. They would be furnished with copies of the Fire Act in pamphlet form, to be distributed amongst settlers and others with whom they came into contact, and with copies of the Act, on linen, to be posted in conspicuous places on travelled roads and at clearings, camp grounds and landings. If fire should unfortunately break out it would be their duty to hasten to the spot, and, if necessary, call in outside assistance to prevent it gaining headway, and eventually to stamp it out.

It was to be a purely voluntary matter with the licensees whether they employed rangers or not. Their interests were even greater than those of the Department, so there was no compulsion. The Department merely intimated its willingness to bear one-half the cost of their staff should they see fit to nominate the men, and one-half the cost of extra help to fight any fire getting beyond the rangers' control.

The proposed system found favor to an extent scarcely anticipated, and during the first summer of its operation (1885) 37 men were on duty. The effect of the presence of the rangers was excellent. Not only were the numerous fires promptly stamped out and thousands of dollars damage thereby averted, but settlers and others frequenting the woods were impressed with the necessity for care in their use of fire, and a general feeling of interest in the preservation of the forests was aroused. At the close of the season the limit holders who had employed rangers expressed the greatest satisfaction with the results, and urged the continuance of the system. Since then lumbermen have become better acquainted with the advantages of employing rangers, and now there is scarcely a limit holder in the province who does not nominate men for his territory every summer. Legislation was passed a few years ago which empowers the Department of Crown Lands to place men on licensed lands where the appointment of rangers has not been asked for, and where there may appear to be any special danger from fire, and charge half the cost of maintaining them to the licensee, but so appreciative have the lumbermen generally been of the benefits derived from the operation of the system, that action in this direction has not been called for in a single case.

On the unlicensed lands of the Crown the danger from fire is not so great, owing to the absence of settlers, but wherever railways have been built, or miners, prospectors or tourists have commenced to frequent localities timbered with pine, the Department has placed rangers on duty, the expense of which is, of course, borne wholly by the province.

In the year 1896 it was noted by the Director of Forestry that during the previous summer on 49 limits from which reports had been received, only 93 fires had occurred, by which upwards of 59 millions of feet of timber had been destroyed or damaged, representing over $40,000 in value. The province

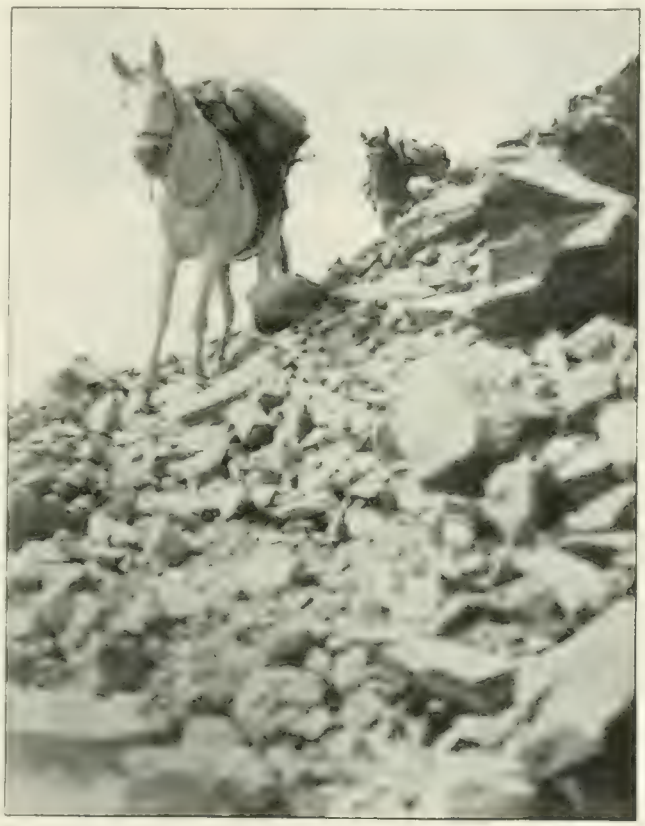
was then congratulated on the efficient work done by the rangers, in the absence of which greater damage would undoubtedly have resulted. But let me point out that during the summer of 1901 on the limits of 50 representative lumbermen, covering a vast area of country in all parts of the province, the fires that caused any damage worth mentioning could be counted on the fingers of one hand, and the value of the merchantable timber destroyed would be covered by a thousand-dollar cheque.

Perhaps the most serious fire of this year was one which started in the Temiskaming district early in July. There is but little pine in this section, and the land is not under license. The timber consists of spruce and other soft woods, and settlers were at that time going into the country in large numbers and commencing to make their clearings. As far as the destruction of timber is concerned, the loss was relatively small; it is even maintained by some that the fire, by consuming the underbrush and debris on a section which is rapidly being cleared up, will ultimately prove to be a blessing rather than a public loss.

On licensed lands throughout the province many fires started, but in almost every case the rangers were on the ground and checked them before they passed the incipient stage. A most regrettable fire took place on the limits of the Collins Inlet Lumber Co., on the north shore of Lake Huron. This company, of which Mr. John Bertram is president, has been operating its territory with some regard to future crops of timber, and has been preserving on its limits a large area of young pine not yet ready for the axe. The limit was well guarded by rangers, but in some way fire got in, and, before it could be checked, ran through a tract 5 or 6 miles in extent, and timbered with a thrifty growth of white pine from 10 to 20 years of age.

No pine timber of any great value was destroyed on the Crown domain. In addition to rangers in other unlicensed pine territory, seven rangers and three assistants were employed in the Temagaming Forest Reserve, headed by Mr. Lawrence Loughrin, of Pembroke, who is known throughout the whole of the north country as an experienced bushman. Notwithstanding the fact that in the eastern part of the province the rainfall this summer was particularly light, and that a greater number of tourists than ever before went through the Temagaming country, only four or five fires started on the Reserve, which were all extinguished before any damage was done. Besides carefully guarding the 2,200 miles of territory placed under their care, the rangers found time to erect a lodge on Bear Island, where the headquarters of the Reserve have been established, which will add to the comfort and convenience of the rangers there in future years.

Across the Height of Land, in the great spruce belt on the Hudson's Bay slope, a couple of rather extensive fires have been reported. It is said that explorers have been working in that country during the past summer. Possibly, therefore, the cause of the fires is not far to seek. Fire is not very likely to start up in a vast uninhabited and untravelled country without the agency of man, but with the advent of the explorer, prospector or railway engineer, a large element of danger is introduced, against which precautions must be taken within the next few years if we are to have conserved for the people the huge forests of spruce, and other pulp timbers which are known to exist there.



Hello! Who are You?

Crossing a Divide in the Rockies, 8,700 feet above sea level

The almost entire absence of fire south of the Height of Land during the past summer is abundant evidence of the efficacy of a fire-ranging system which has stood without any important modifications for sixteen years, and has been copied and adopted in neighbouring provinces and states. The aggregate damage caused by forest fires cannot be placed at anything like the value of the merchantable timber destroyed or damaged. Untold damage may also result from the destruction of the younger trees, and the consumption of the forest litter, and even of the soil itself. The first principle of practical forestry applicable in this province, or indeed in any other country where the timber areas cover many thousands of square miles, is undoubtedly to protect from fire what we already have, and the Department of Crown Lands, and limit holders alike, believe that this can best be done by the system which is now in force. Costly the service may appear, yet it must be remembered that the expense is distributed over a large area of country, and among many different individuals and firms; and, considering the immense money value of the forest wealth which is thus guarded, in which both private persons and the public generally are interested, it must be conceded that the protection afforded by the employment of rangers has proved to be an insurance of the most economical and practical kind.

The Red Pine.

Anyone who has travelled along the waterways of the northern part of Ontario must have noticed a coniferous tree standing here and there in groups on the bold shores of the rocky islands, or mainland, and apparently growing up from the bare granite where there seems to be hardly a foothold for the smallest vegetation. The red trunks stand out clear and straight against the background of rock, and, with the tufts of coarse needles forming the foliage which crowns the clear-springing columns, they make a contribution peculiarly their own to the unexcelled beauties of the scenery of the Canadian forests. This tree is the Red or Norway Pine (*Pinus resinosa*), so named from the red bark and the darker color of the wood which distinguish it clearly from the White Pine. The foliage is also much coarser than that of the White Pine, and a closer examination shows that the needles are longer and thicker and are grouped in pairs. The cones are short and thick, preserving the coarse character of the red pine. The contrast between the red bark and green foliage makes this a very ornamental tree, and it is frequently used for this purpose.

As a timber tree the red pine is not nearly so valuable as the white pine, but it grows to a good size, reaching a height of fifty to ninety feet, and as it flourishes better than the latter on bare rocks and poor soil it will always have its place in the economy of the forest. When the trees are of fit size they are taken out by the pine operators, and it needs no further demonstration to show that the handling of red pine is profitable even at the present time. The wood is resinous and dark in color, from which the tree gets its specific name (*resinosa*). It is stated to bear a close resemblance to the most resinous examples of the Scotch fir, and it is from this fact that it has been called Norway pine. In the early days of the lumber industry this resemblance gave the tree a temporary prominence and value which it was not able to maintain against the now much more highly appreciated white pine. The timber is strong and has a clean and fine grain. It is used for piles, bridges and works where heavy timber is required.

In the Royal Dockyards in Great Britain it is employed for dock work, masts, spars, cabin fittings, etc. It is shipped in logs sixteen feet to fifty feet in length and ten to eighteen inches, and in deals of mixed length, mostly sawn to three by four inches.

In Canada the range of this tree is practically that of the white pine, being from Nova Scotia to the western boundary of Ontario, but occupying usually the poorer soil.

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Forestry in Nova Scotia.

The subject of forestry is being agitated at present in Nova Scotia, and there is no question that is more worthy of attention. The provincial governments have already received so much revenue from their timber lands that it should surely be a matter of the greatest importance to them to make these lands as productive as possible, instead of allowing them to be bared again and again by fire or cut without regard to any future return. Nova Scotia is justly proud of her mineral wealth and her great coal and steel industries, but the lumber industry is a wealth producer which, if properly dealt with, is continually renewing its youth and will be an asset of the greatest value for all time. While there are considerable areas of forest still in existence in that province, the axe and fire have done their work so widely that thinking men are beginning to ask themselves the question whether there is not some way of making better use of the forest and preserving its beneficial effects.

This matter has been brought before some of the Boards of Trade. In May last the Annapolis Bay Board of Trade passed the following resolution :—

"Whereas, the subject of forestry is a most important one and there is no question but that it has been too long neglected in Canada, and, whereas, the manufacture of lumber has been one of the most important industries in the Province of Nova Scotia, and it is now anticipated that pulp mills will consume a very large quantity of standing timber, and, whereas, it is apparent to everyone that the depletion of standing timber of all kinds by forest fires and the axe is fast denuding our forest lands and rendering them of no value, and, whereas, it is believed that, with the prevention of fires, protection to the rapidly growing young timber, and the systematic cutting of trees for lumber, our forests will be of value for many years to come, therefore this Board of Trade suggests that the Boards of Trade co-operate throughout the province to induce the Government to take immediate steps to awaken public interest in forestry, and make such appointments that suitable overseers or inspectors will be put in charge of the timber districts in Nova Scotia, and, as an incentive to owners of private timber lands, guard and protect all Government timber lands, and reforest any suitable areas that may be found fit for the purpose. A copy of this resolution to be sent to the other Boards of Trade in this province."

The Boards of Trade at Kentville, Chatham and Halifax have taken action in the line of this resolution, and it is hoped that the legislature will give the matter consideration at its next session. Hasty legislation is not advisable, but all who have given study to the question of the world's lumber supply are agreed that the outlook is for increased demands with a diminishing supply, and therefore an enhanced value. As expressed in a recent work by Mr. Nisbet, one of the leading students of the economic questions concerned with forestry in England :—

"The economic conditions now already obtaining, and practically certain soon to become greatly accentuated, are such that the present sources of supply throughout the world are just able to meet the existing demand, and such enhancement can only be met by working out timber from backwoods and remote tracts which are at present unremunerative. Hence a general rise in prices throughout Scandinavia, Russia and Canada must be the direct result of competition between Britain, America and Germany."

In forestry it is inevitable that there must be a very long foresight, and it will be but a poor policy for any province to shut its eyes to the future when a comparatively small expenditure for preserving the means of reproduction will ensure an increasingly valuable supply of forest products and a stable source of revenue to the State. The more light that can be thrown on the subject from a practical point of view the better, and it is to be hoped that the discussion will not die out with the passing of resolutions, but that it may be kept steadily before the minds of the public and the legislators until some basis for a definite line of action can be worked out. No ready-made policy can be advocated. It must be framed from a knowledge of local conditions : the land ; the forest products ; the conditions of growth ; the objects to be served. The advice of scientific experts is of the greatest value, but the data of local conditions must be made available if their knowledge is to be fitted for practical application. Taking stock is a necessary

operation at times in all business establishments, and Nova Scotia, as much as any of the provinces, will be in a much better position to adopt a wise policy if definite information is available in regard to the resources of the country and the conditions under which they must be developed.

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The Birch Bucculatrix.

During the past summer the seared and browned appearance of birches of all kinds throughout the Province of Ontario has attracted general attention, and many conjectures have been made as to the cause of this injury. Upon a search being made beneath the leaves, several small, pale, greenish caterpillars, about a quarter of an inch in length, might have been found. These had slender bodies, tapering to each end, and were covered with fine bristles. These caterpillars soon made the leaves like lace, by eating out portions of the upper or lower sides and destroying the cellular tissue, leaving only the fibrous skeleton. The injuries became noticeable in August, when the trees assumed a rusty appearance, and many of the leaves fell prematurely. Among the caterpillars might be seen several small white circular and flat webs. These are peculiar to this insect and are really temporary shelters made by the caterpillars at the time they moult their skins, and which they only use for a day or two. The real cocoon, in which the insect passes the winter, is a beautiful little boat-shaped object, dark brown in color, and conspicuously ribbed. As soon as the caterpillar is full grown it lets itself down by a silken thread, and having found some suitable place spins its beautiful cocoon, frequently crawling very long distances before it decides on an acceptable site. The minute moth, which expands only three-eighths of an inch, is bright brown in color, and has the wings crossed with silvery white bars. The head is white, as well as the margins of the thorax and the bases of the fore wings. This insect only occasionally appears in the vast numbers which were seen in Ontario during the past season. The last occasion was in 1892. This was equally bad with the outbreak of 1901. In reply to several questions which have been asked on the subject, as to whether the birch trees are likely to be killed by having their leaves destroyed, I can merely say that in 1893 there were none of the caterpillars to be found on the birches, and the trees showed no trace of having been stripped the previous year. The small moths appear during June and July, and the caterpillars may be found if looked for towards the end of the latter month. The injury to the leaves, however, does not become apparent till August, and by the time it attracts general attention it is, as a rule, too late to use any practical remedy. This insect, like all others which feed exposed on the foliage, can be destroyed by spraying infested trees with a weak mixture of Paris green or some other active poison and water. In the case of the arsenites most commonly used, one pound of the poison to 200 gallons of water is sufficient.

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A meeting of the Board of Directors of the Canadian Forestry Association was held in the office of Mr. E. Stewart, Dominion Superintendent of Forestry, on the 3rd instant. Those present were Mr. Wm. Little, Dr. Wm. Saunders, Mr. C. E. E. Ussher, Professor John Macoun, E. Stewart, Norman M. Ross, and R. H. Campbell. Arrangements for the annual meeting were discussed, and it was decided to have a two days' session on the 6th and 7th March. So far as at present arranged papers will be submitted by Dr. Wm. Saunders, on the results of the experiments with shelter belts as carried out at the Experimental Farms; by Mr. Norman M. Ross, Assistant Superintendent of Forestry, on the work accomplished by the Dominion Bureau in the West; by Mr. W. N. Hutt, on the management of woodlots in Ontario. A report on the forest fires which have occurred throughout Canada during the past year is to be prepared by the Secretary. Arrangements are being made for other papers on the management of spruce pulp forests, and other subjects of special interest at the present time. The report of the proceedings of the next annual meeting promises to be fully as interesting, and useful, as the previous ones already issued by the Association. The Forestry Association is steadily growing in numbers, having now a membership of 330. Full announcement in regard to the annual meeting will be made by circular to the members of the Association at a later date.

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Mr. D. B. Dowling, of the Geological Survey, who has recently returned from an exploration of the district to the west of James Bay, reports that on the return journey he passed through a district on the Moose River, one hundred miles in width, which had been burned over during the present summer. The timber was not dense, nor of great value, but the sweeping of such an area shows that the forests in the, at present, inaccessible districts cannot be depended upon with any certainty as a source of future supply. The results of such a fire cannot be repaired within the present century.

FISHING IN TE-GOU-SIE-WABIE.

To the Editor of Rod and Gun:

I have been captivated by the narrative of your clever correspondent "St. Croix," always noting with a feeling of pleasure the concluding sentence, "To be continued," whose echo we hope may yet continue to resound before finally breaking against the rugged cliffs of "The End." The easy rhythm and unaffected simplicity of the tale seasons conviction with the savour of charm, and, with the credulity and interest of a child, one participates in the exhilarating pleasures and romantic sensations which can only be experienced in a trip through the northern wilds.

But, to the marrow of my mission, which is emphatically dissent from the heresy that there is any less degree than first-class fishing in Lake Te-gou-sie-wabie. Only last fall I, personally, caught within a short distance of the portage before leaving the lake, while trolling to and around an island, ten large and beautiful salmon trout, each weighing about four pounds, the time occupied in the catch being about twenty minutes. I have also caught numbers of large and luscious perch; and need not mention doré, as its presence has been admitted. These fish are all of superior flavour, like most north-water inhabitants. In every one of the several times I have visited the lake, I have seen many evidences of the presence of large numbers of fish; so that your readers, Mr. Editor, will, I trust, forgive "St. Croix" for his error in view of the genuineness of his story in all other particulars.

W. C. LeHeup.

Mattawa, Ont.

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Sir Charles Ross has secured a charter for a factory to manufacture the Ross rifle in Canada. The plant is to cost $3,000,000.

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

DEVELOPING AND DEVELOPERS.

Development is a science. That is the right word; it is a genuine science, though the average amateur does not appear to realize it. Yet it is easily proved to him. All that is necessary is to take one of his own badly developed negatives and let him compare it with the production of some competent worker. As a rule, he imagines that all that is necessary to do is to drop his plates in a bath composed of certain ingredients (and he most likely does not know what they are), and then when the image comes out on it strong enough to print, take it out and fix it. Such a simple little process! Really, there can be no excuse for all this talk about mixing "Bromide of Brains" with the solutions. Why, even a child could do it, and that's no jest—the way he does it.

Surely the amateur who uses one brand of plates and then developes with the formulæ that is supplied with the production of another maker, cannot be aware of the fact that, notwithstanding all the different formulæ published, even the sample pyro and soda, there is no single developer that will develop all plates at their best, nor, in fact, any two makes. The proportions in which one solution is mixed will fully answer the requirements of the plate for which it is intended, and yet, perchance, may mean utter ruin to another plate of equal sensitiveness. Of course it will produce a negative, almost any developer will do that. But it won't give you just what you are looking for—the best that is to be had. In order that you may be assisted in realizing how true this is by having a conception of the various formulæ on the market, the following list compiled from the formulæ issued by the various plate manufacturers, is given. The figures given therein indicate the number of grains in one ounce of diluted developer:

	Sulphite of Soda.	Sal Soda.	Pyrogallic Acid.
Monroe	19	9½	2½
Stanley	18	18	3
Cramer	18	9	2½
Eastman	15	10	2½
Seed	18	12	3
Hammer	12	6	1½
Climax	18	18	3
American	24	12	2½

Observe, there are not two alike. In one, for instance, we find there is used 24 grains of Sulphite to the ounce, while in another there is but twelve, only half that amount. One uses eighteen grains of sal soda and another only one-third of that. The pyro ranges from one and a half to three grains to the ounce. Now, what is the cause of all this difference? There must be some reason. Well, the reason is to be found in the fact that there are no two manufacturers using the same emulsion. Some of them employ potassium bromide, others use ammonium bromide, together with iodides of both kinds. In those instances where the same ingredients are used, they are most likely mixed in widely varying proportions, and, as a consequence of this, the different brands of plates each have a distinctive color and quality, which will only yield the best results to the developer that is compounded in proportions carefully mixed to suit it. While all are aiming at the same result, i.e., a perfect negative, each sets about producing it in different ways.

The most important agent bearing on the development is the exposure. Successful workers always expose to suit the developer and steer clear of that error of developing to suit the exposure. By this it is meant that they use a normal developer, and, in order that it may be successfully manipulated, expose correctly. All directions give methods of rectifying incorrect exposures by varying the proportions in which the developer is mixed, but it is well to bear in mind that old adage about an ounce of prevention being worth a pound of cure.

Mistakes, however, will occur, and then it is necessary to find some way of remedying the evil. Perhaps in out of doors work, most common cause of complaint is over-exposure. Here, if the trouble is only very slight, it is possible to get along by simply using an old pyro developer. Pyro, you know, once it has been used, takes up a certain amount of bromide from the plate, which acts as a restrainer. The adding of a ten per cent. solution of bromide of potassium to the developer as a restrainer is unnecessary to comment upon. But in cases where the trouble is excessive it may be necessary to adopt more emphatic means to make anything out of the plate. Personally, I would advise that you go back and take it over again if you are able. But there are often cases where it is impossible to do this. Your directions will tell you in what quantities to mix your solutions to serve here and you may try it. If that is not sufficient, the following solution is excellent for all purposes where great density of the high lights and clear glass in the shadows are required. Though intended for the copying of pen drawings and engravings, my personal experience is that it is *par excellence* for the developing of badly over-exposed plates. Here it is:

I

Distilled, or ice water	25	oz.
Sulphite of soda crystals	5	oz.
Hydrochinone	½	oz.
Bromide of potassium	¼	oz.

II

Water	25	oz.
Carbonate of soda crystals	6	oz.

Mix parts one and two in equal parts for use. The negative should then be put through an alum bath to prevent heating from frilling it and afterwards dried near a stove. It is surprising how a negative dried near the heat will gain in intensity.

It is not necessary to give an intensifying or reducing formula here. Every maker does that, and besides so many other good ones are published that it would only be a waste of space.

Also, it ought to be unnecessary to say that an undertimed plate should be treated with a fresher developer. Every one knows that. If this does not make the image appear satisfactorily, take the plate out, and, without rinsing, place it in a tray containing water, to which has been added a little alkaline solution (sulphite and carbonate of soda), and leave it there as long as it increases in detail. If it is not then strong enough the development may be continued in fresh developer, and if that does not bring out what you want, you may as well throw the plate away and go and take it over again.

It would seem that amateurs do not sufficiently understand the effect of different chemicals or the duties which they are intended to perform. Without a clear knowledge of this point, they are in the dark as to what they are doing. It is not the right way to do a thing to simply set about it by rule with-

out knowing the why or the wherefore of it Suppose I give the uses of a few of the commonest chemicals and what effects they produce. First, of course, comes the pyro or metol or whatever agent is employed. Without them the developer would not act; yet too much or too little is just as bad as none at all. Too much will produce a clogging of the whites and make an altogether excessive contrast, while on the other hand, too little will result in prolonged development and a lack of vigor and brilliancy. There are many developing substances such as pyro, eikonegen, metol, hydrochinone, glycine and others, which hasten development, and so quickly intensify the high lights that the shadows remain behind and do not get their proper amount of detail brought out. A little over exposure, dull lighting or soft working plate is of good service here. Or it is possible that the developer may be diluted with water, and development so held back that the shadows will have a chance to work through before the high lights have gained too much strength.

Passing on to the alkalies, we find that their mission is to soften the film and open the pores so that the pyro, or whatever agent be employed, will get a chance to act. This will show you the object of soaking an under-exposed plate in sulphite and carbonate of soda. In ordinary use, however, care must be taken not to use too much of it, else the agent, acting too fast, will make the negative too dense and cause granulation. On the other hand, of course, too little will retard the action of the solution. You must bear in mind that granulated sodas are twice as strong as crystals, and also that old and dry crystals are considerably stronger than fresh, as the water of crystallization gradually evaporates. The most convenient way to work is to make up saturated solutions, and then, when you want to use them, all that is necessary is to add water to a portion thereof until the hydrometer reads at the desired degree. This makes no difference if dried chemicals are used instead of crystals. When they are prepared by weight, however, proper attention must be paid to the relative strengths of the chemicals. Bear well in mind that twelve parts of carbonate of sodium crystals (sal. soda), are equal to five parts of carbonate of sodium dried, or to six parts of carbonate of potassium, and two parts of sulphite of sodium crystals are equal to one part of the dried or granular sulphite. Roughly speaking, one ounce of dried or anhydrous soda is equivalent to about two ounces crystals. When dissolving dried sulphate or carbonate of sodium, the water ought to be vigorously stirred with a glass rod while adding the powdered chemicals to cause a speedy solution and prevent the formation of a solid lump. The carbonates of soda are added to give the agent employed the alkalinity necessary for action, while the use of the sulphite is to prevent discoloration and decomposition. It is very important, therefore, that these chemicals be perfectly pure. Also,

Above Grassy Lake.

The North Branch White River at extreme low water,—the lowest known, it is said, for fifty years

contact with the air decomposes them, and they ought to be kept in well stopped bottles.

Again, in the case of the soda as with the agent, one has to be careful and not use too much. An excessive amount will kill the high lights, and particularly if one be photographing white drapery, effects are very apt to be inclined to be chalky. The tone of the negative is also affected by the amount of sulphite of soda used. A smaller quantity than is called for in the directions will produce a warmer tone and a larger amount of a greyish or blueish black tone.

It is not, however, my intention to run on and describe at length the action of every chemical used in photography. To do that would demand several times as much space as I have here, and even then would be only going over what every manufacturer prints on the slips of paper that he puts out with his plates. My idea is rather to draw your attention to the fact that it is necessary for you to see more than the mere surface, for you to understand the effects of the different chemicals you are using, and to know them as something more than mere words printed on slips of red and yellow paper, if you ever expect to get from your dry-plates the very best that lies in them. You may succeed sometimes with your eyes shut, but you can't expect to do it all the time, you know.

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Subject, Negative and Print.

In a photogram, it seems to me that the aim of every photographer should be to depict the subject of his picture as nearly like itself as possible. To do this, once the question of posing and lighting is disposed of, he must attempt to render the total values truthfully and to catch in the whole things as nearly as possible, the exact tint that will best convey the impression he wants. Unlike the painter, unfortunately, he cannot run the scale of a dozen different shades and colors; he is obliged to confine himself to one, and it must remain with himself whether he picks on the one that is best adapted to his purpose or not. The photographer has, however, a much greater control over his print in the way of color than most workers appear to imagine. Composition will help to accentuate the principal points of interest; good lighting will help the composition. But the finishing touch, *i.e.*, the atmosphere and feeling that existed in the scene when the picture was taken are added, by a skillful manipulation of tonal values and the tint of the print.

In order that the meaning may be clearly grasped, supposing we look at a case or two in point. Let us consider how this may apply to a landscape photogram, for that is perhaps the commonest class of work attempted by amateurs. Place before you a typical summer landscape, with its still pool, its quiet creek, or its tall coarse grass in the foreground; its bushes and trees and gentle undulations of ground; its distance filled with hills that effectively break up the horizon; and overhead an occasional fleecy cloud. The careless amateur drops the plate into the developer and washes it up and down until the image comes out on it. The operation is finished. But see how the skilled worker does it. He starts it in a diluted solution and works up his detail; washes over the hills in the distance with a solution of bromide of potassium on a brush so that in the print they will appear to be shaded by that blue veil of atmosphere that we refer to as aerial prospective; then finishes up with a bath strong in whatever agent he is using, and so gets plenty of contrast without sacrificing a single thing. You may think that all this is backing down on my statement that we want to be as truthful as possible. It's not. With the power possessed by the modern lens to see more than the eye can and the ability of the dry plate to depict all that this lens reflects to it, a photogram is actually untrue and positively requires some manipulation to bring it back to reality. And then the print. The one chap slaps a sheet of Aristo plat in behind his negative and takes just whatever old Sol gives him; the other carefully selects from his stock that which he thinks will be most suitable. It may be a brown, to show up the glory of a sun-bathed meadow, or it may be a sheet of bluish tint to catch the effect of the haze in the air, but whichever it is, it is chosen for a reason and not in any haphazard manner. And think how much better the result is and how much more it inspires us with the impression that we are looking, not at the photogram of a place, but through a window at the spot itself.

Compare two pictures of a sunset, the one printed on some tame black and white paper, and the other staring strongly forth in an angry, red carbon. Which is the more effective? Or think of the vivid reality of a moonlight picture that has been printed in a weird green, particularly should the view happen to have been made across a sheet of water with a boat or two on it.

Or it may be that we are photographing a piece of marsh-land, with its gloomy foreground of soft, treacherous-looking mud that runs away into unfathomable mist. Mud and mist of themselves do not make a picture. Mud and mist printed from a negative with just the least tendency to thinness and perhaps slightly inclined to be the least bit impressionistic, may be made into a very striking thing indeed. These, it seems to me, like those pictures of sailing ships lying at anchor in the fog, with the shore showing vaguely in the distance, would not only be spoiled by printing on red or green carbons, but absolutely cry out for a plain black and white effect, on a fairly soft paper of course. Here, to stick to our text, the subject is practically in monochrone, and to be as nearly like it as possible the print must be in monochrone too. Then, if it is intended to hang such a print, the frame ought to be of plain black also.

Turning to the landscape under slightly different conditions, let us look at snow scenes and see what they require. In the first place we want a different class of negative, more or less. Where before we needed a certain amount of gradation we now require *all* gradation and half-tone. We do not want any of those pictures where a patch of harsh white is sharply contrasted with a heavy dark shadow by its side and varieties of depths of drift show not at all. Long dark shadows, stretching from the base of a tree out to the edge of the picture, may relieve the monotony and look all right occasionally, but, as a rule, it is safer to let them alone. If it is necessary to have any do not look for them, but let them take care of themselves. You will find that they are quite capable of doing it all right. Instead, take the picture on a day when the sky is overcast, and then, before developing, give the plate a few minutes preliminary soak in an alkali bath to obtain all the softness possible and lessen the hard intensity of the lights. And make the print on either a bluish or a black and white paper. Snow scenes in blue are excellent and, in the majority of cases, better than in black and white. Of course, not a decided blue, but rather on that tinge. On no account, if the finest detail is wanted in the surface of the snow, must the negative be made heavy and dense. If the picture is of a large size, however, it is best to use a black and white paper—some-

thing rough—and then relieve it by surrounding it with a carbon black matt. There is something odd about it, but it always seems to me that a small snow scene looks best in blue, while a large one displays its finest effects in monochrone.

For such subjects as seashore pictures, where the waves are in a turmoil and lashing furiously upon the beach, making the foreground one mass of foam-flecked billows,—heavy masses of dark green, capped by spots of milky white,—a dense negative is almost sure to kill the effect, for, if the exposure has been fast enough, it is often possible for one to trace fine lines in the water following the curl of the wave, which, if you are working with a dense negative will not print out sufficiently to tone, and half of the beauty of the effect of movement and action is lost. The average worker does this up all the time in a dark green tone. This is not right, for only look a little closer and you will find that instead of the water being green, it is more than half the time inclined to be muddy and assumes a dirty brown tone. Why, then, not make the print to match. Speaking of seashore work brings up the question of pictures where the landscape is very much inclined to be all sand, as in the case of the arid plains of California and Texas. Reproductions of such spots are best made in a very faint tone of yellow.

Passing on to figure studies, it ought to be quite unnecessary to go at any length into the best kind of negative for the purpose. Just one little thing on toning. You will find that platinum prints put through a mercury bath will result in yellow tints of practically the same tone as flesh under certain conditions. This process, however, except in the hands of an expert, is inclined to result in some awful looking things. Better practice with it a while before you show any of your work.

Nor is it necessary to say a great deal in relation to this sort of thing to still life work. Perhaps here, as in no other branch of work, are its possibilities to be fully realized. In the imparting of the proper tone to fruit, earthenware, china, glassware, birds or stuffed animals, it opens up a tremendous and practically untouched field. For such pictures as are shown in this class of work are almost always in straight black and white. Experiments, however, will show many other ways in which the various tones of paper may be utilized to advantage.

*

The Scrap Bag.

A wise man changes his mind often: his brand of dry-plates never.

A Blue Focussing Screen.—Very frequently in the photographic press are amateurs recommended to carry with them a pair of blue spectacles for the purpose of viewing their subjects on the ground glass in monochrone. A still better plan is to have a blue focussing screen. One may be made in the following simple manner. Take an ordinary dry plate into the dark room and strike a wax match, which you will hold for about a minute a foot away from it. Then with some slow acting developer, such as hydroquinone, develop the fogged plate, carrying the process of development on until the plate is of a greenish color. Wash and fix as usual. Now bleach it with

Mercuric chloride	10 gr.
Ammonium chloride	10 gr.
Water	1 oz.

Wash again thoroughly and soak the plate in a solution of powdered blue, taking care not to carry this operation too far or the screen will be too dark in color. Then fasten this in position in place of the ground glass and you have what you require.

For Copying Black and White.—Where the utmost contrast is desired in making a copy of a black and white subject, use potassium iodide as a restrainer instead of bromide, or rather in addition to the developer. Double the normal exposure and develop in a solution containing a dram of potassium iodide and a dram of potassium bromide to every three ounces of solution.

An Exposure Scale for the Tyro.—Frequently I receive letters from amateurs asking me to tell them how to correctly judge their exposures. Now, in every photographic exposure, in order that it be correctly made, there are six factors which ought to be taken into consideration. They are the month, the hour, the condition of the weather, the subject, the size of stop employed and the speed of plate used. It is true this may be all summed up in one word—light; but, until one possesses a thorough understanding of the exact degree in which each factor bears upon the duration of exposure, it is well nigh impossible to lump them in together and arrive at a decision from a study of the ground-glass. There have been placed on the market from time to time to assist the tyro, various types of exposure meters which doubtless are a great help to the beginner, but which, every one of them, possess one fault. They depend upon sensitized paper printing to a certain depth in a fixed time as a basis of calculation. Any one who knows anything at all about sensitized paper, knows how unreliable it is. Besides this method takes time. Then for the convenience of several of those readers who have been corresponding with me on the matter, I want to tell you about the little vest-pocket instrument that I myself am using, made by the Wager Exposure Scale Co., of Philadelphia, Pa. In construction it is similar to an engineer's slide rule, and once it is set for the month and hour, which is done in one movement, it is only necessary to look a line lower down, and below the number of the stop used will be found the exposure. It is the most simple automatic calculator for the purpose with which I am familiar. The last "query" I had on exposures was from an amateur who wanted to take his camera into the bush with him. I should imagine that to those who desire to carry their instruments on fishing trips, hunting trips, &c., where they are constantly obliged to work among unfamiliar surroundings and under varying conditions, the instrument would prove invaluable.

To Clean a Pyro Stained Negative.—The following is a simple formula for cleaning a pyro stained negative after it has been fixed and dried.

Alum	1 oz.
Citric acid	1 oz.
Sulphate of iron	1 oz.
Water to	20 oz.

Should this fail to work satisfactorily, try thiocarbamide as in the following:—

Thiocarbamide	30 gr.
Citric acid	60 gr.
Chrome alum	30 gr.
Water to	6 oz.

It is well to bear in mind that it is not the pyro alone that stains the fingers. It is dipping them into the pyro and then into the fixture without rinsing them. If care is taken to dip them under the tap between times there is but little danger of discoloration on the finger-nails.

A Clean Hypo Bath.—An ounce of sodium bisulphite to every pound of hypo in the fixer will keep it free from discoloration by the developer, and give clear, crisp negatives.

A Note Paper Decoration.—Everyone knows what pride most people take in their note paper and of the many devices that are resorted to to make it pleasing. Now it strikes me that if a corner of one's note paper were to be sensitized with a blue print solution (it can be bought in bottles of any dealer), and a photogram printed there, that it would prove very attractive. How many pleasing little scenes do we run across that would be suitable for such a use if they were reduced to the right size? Pictures of camp scenes, hunting scenes, winter views of snow-shoeing, skating, tobogganning and a dozen other things that I do not recall just at present, would work up into tasty designs for such a purpose, and to the recipient, almost double the value of the letter.

The Dangers of Flash Light.—The average photographer who is unfamiliar with the handling of chemicals is just as likely as not, unless he be extremely careful, to blow himself up. The adage, "Fools rush in where angels fear to tread," hangs good here. For instance, here following is a flash mixture by the unforseen explosion of which two lives were lost recently, and which amateurs would do well to avoid. It consists of magnesium powder, chlorate of potash, picric acid and red phosphorous. Picric acid of itself is simply inflammable but picrates of metals are all explosive. Do not use them.

Developing Films.—Those camerists who are in the habit of carrying their cameras into the bush on hunting and fishing trips as a general rule are in the habit of using film on account of its extreme lightness as compared with dry plates. Films are the finest things in the world to handle, except in the developer. The average man cuts his apart and then proceeds to develop each separately. He argues that he can't get the very best that there is in each unless he does each separately. He is in error. All may be developed together up to a certain stage without any fear of harm being done. To do it, take an ordinary developing tray of at least a couple of inches in depth. Across the centre of it rig up a little roller so that when the tray is filled with the solution the roller will be half in it all the time. Now, when you are ready to proceed with operations, all that is necessary to do is to run the film under the roller so that its back is against it and the coated side toward the bottom of the tray. Pull it slowly back and forth to develop. Being in the air so much will assist in the development. Then as soon as one part of it commences to show signs of being over-done, cut it apart and drop the farthest advanced part into a tray near at hand containing a much diluted solution where it will finish at leisure, or whence you may pick it to complete at your convenience. Not only will this method prove a convenience to you, but it will also result in the production of vastly improved negatives.

The International Annual.—The International Annual of Anthony's Photographic Bulletin for 1902, vol. xiv., is out. Out on the market, I mean—not sold out; though, judging from the excellence of its make-up, it will probably soon be that, too. I know of some people who tear the advertisements out of their annuals and bind the reading matter; then I know of others who bind the ads. and throw the rest away. From whither point of view, this is well worth the price of admission. The editor, Mr. W. I. Scandlin, is to be congratulated on the wealth of interesting, instructive and practical information he has managed to accumulate between its covers, as well as upon the excellence of its varied illustrations.

Comparative Strengths of Lights.—In connection with the paragraph "An Exposure Scale for the Tyro," I am giving the following table showing the comparative strengths of various lights in order that those who want to make photograms by artificial illumination may have a basis of calculation.

Gas flame	1
Oxy-hydrogen	11
Magnesium ribbon	58
Diffused daylight	268
Electric light	5079
Sunlight	16079

Quick Proofs on Bromide Paper.—It is very easy to make an excellent proof from a wet negative right after fixing. The only condition essential to success is that there be no bubbles between negative and paper. The easiest way to effect this result is to immerse both negative and paper in a dish of water and withdraw them from it in contact. If carefully done, there is little possibility of bubbles forming. Now put them in the printing frame in the ordinary way, and after putting the back in place dry off the front. Expose for almost twice as long as ordinary, and, of course, develop the print at once. The negative should then be returned to the wash water for full elimination of the hypo. The print is as good as one made in the usual way.

Moisture on the Lens.—Holding the warm hand near the lens for too long a time when setting the shutter or diaphragm will often result in dim and perhaps spoiled negatives, caused by the moisture that condenses on the lens. This trouble is particularly to be met with in the making of winter photograms.

*

Correspondence.

Correspondence should be addressed to H. McBean Johnstone, P.O. Box 651, Sarnia, Canada.

C. G. Fowler, Cobourg, Ontario.—In reply to your query as to what method should be employed for sensitizing silk, I might say it depends entirely upon the class of prints you want. You can buy silk sensitized with platinum for development, and with silver for printing out. Or you can easily prepare it yourself by the following method:—First soak it in common salt and water, about 60 gr. salt to 1 ounce of water. After a thorough immersion, blot off the superfluous moisture and dry thoroughly. To sensitize, dip or float it in a bath of silver nitrate, 60 gr.; water, 1 oz. Dry thoroughly and print deeply. Of course white silk is the best color to use.

T. L. M., Montreal, P.Q.—To keep your films from curling when dry, after washing, soak them in the following bath:—

Glycerine	½ oz.
Water	8 oz.

Then, without subsequent washing, pin them on a board to dry.

Berkley A., Port Hope, Ont.—It is possible to get green tones on bromide of silver paper by treating with Eder's lead-intensifier and cobalt solution, which will result in the production of a very bright green tone. Smooth paper is most suitable. As the resulting tone is very bright it is essential that the print have plenty of contrast and clear whites. The operation ought to be started and finished with a good washing. The prints to be toned are first bleached in the following solution:

Nitrate of lead	4 grams.
Red prussiate of potassium	4 "
Water	300 "

After a short washing in water put the prints in a 5 per cent. solution of cobalt chloride until the picture is thoroughly green. Then wash again.

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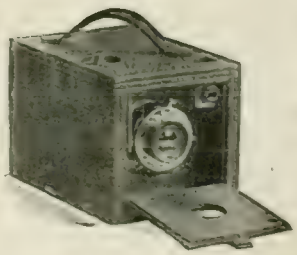

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SOME BRITISH COLUMBIAN FIELDS OF SPORT

Kamloops District.

Kamloops is an incorporated city, having a population of over 2,000. It is a divisional point on the main line of the Canadian Pacific Railway, and holds a commanding position, being the distributing point for a great part of the interior plateau region of British Columbia.

The districts which are tributary to Kamloops are those drained by the north and south branches of the Thompson River, Shuswap, Grand Prairie, Nicola Valley, Savona and the shores of the main Thompson River. This is mainly a rolling, bunch-grass country, through which are found many lakes and ponds, most of which are fringed with a heavy growth of rushes and tuiles, thus affording excellent feeding and breeding grounds for all species of waterfowl, from the swan to the teal. Each Spring and Fall great flocks of geese halt in their migrations and pass days and weeks in these waters.

The rolling, bunch-grass covered hills of this district are dotted here and there with groves of pine, and it is in these thickets that the bears—grizzly, cinamon and black—are found, together with mule deer and white-tail. For mountain sheep and goat the ruggeder portion of the range must be visited, such, for instance, as the North Thompson, above its junction with Blue River, 152 miles from Kamloops, or the country surrounding Adam's Lake, but if the hunting ground has been properly selected there will be found no lack of these most wary animals.

Kamloops is a mountain town, depending largely upon mining, hunting, fishing and ranching for its support, hence special attention is given to the selection of goods, implements and equipments, by the storekeepers, used in these pursuits and sports, so that it is a very good place to outfit for a hunt, no matter of what duration. As an all-round sporting place it is hard to beat, for there are a large number of Englishmen, some of them retired officers, who find hunting and fishing the best amusements of their leisure hours. There is also an excellent half-mile race course, and meetings are held twice every year; a polo and gymkana club, and one each to look after the interests of baseball, football, lawn tennis and cricket, testify to the sportsmanlike spirit of the place, though these are not all, for there is a well-equipped gymnasium, and in 1901 a start was made by E. Brocklehurst, Esq., the owner of the Cottrick Farm, which is situated about three miles west of Kamloops, in the organization of a kennel of fox hounds, so that in future the "sport of kings" will be an additional attraction, and will doubtless draw many persons to Kamloops. There are no foxes in this region, but there are many coyotes, and these small wolves afford excellent sport, indeed, so thoroughly is this recognized that a great many sportsmen have expressed their intention of leaving their homes in the coast cities every now and then for a burst over the hills of North Yale at the heels of the flying pack. It is Mr. Brocklehurst's intention to hunt two days a week.

Savona's Ferry.

This place is twenty-five miles west of Kamloops, on the south bank of and near the foot of Kamloops Lake. It is a favorite fishing resort, as there is a well-appointed hotel there kept by Adam Ferguson. Moreover, it is on the main line of the C. P. R., and boasts of a post office and a general store. There is excellent hunting in the neighborhood, and the fishing in Kamloops Lake is undeniably good. At Savona boats may always be hired. The wildfowl and grouse shooting along the shores of the lake and in the thickets adjoining are above the average, and when the flight is on heavy bags of duck are made by the men who know where to look for them and how to hold their gun straight.

Kamloops Lake is twenty miles in length, with a width varying from two to four miles. It abounds in fish. One of the most famous points is Tranquille, eight miles west of Kamloops on the north side of the lake. Mrs. William Fortune provides excellent accommodation for visitors.

Shuswap.

In this district must also be included the south branch of the Thompson River. It is very accessible, as the main line of the C. P. R. traverses it, and there is a government road on each side of the river. Eighteen miles east of Kamloops is the flag station called Ducks, where there is a post office, hotel and store. This is a capital headquarters for wildfowl and grouse. Fifteen miles east of Ducks, and thirty-three from Kamloops, there is another little station, and another three miles further east, at the foot of the great Shuswap Lake, there is an excellent stopping place, conducted by Mr. James Ross, which has lately become a very favorite resort among Kamloops people.

The big Shuswap Lake may be considered the centre of a very fine sporting region. North of the lake hunters may; after a day's travel, pitch their camp in a fine caribou and deer range, and southward of the lake the deer shooting is equally good. It is fine sport trolling in this great lake for trout, almost equal in weight to a small salmon. Quite recently Mr. Ross has placed on this magnificent sheet of water a neat little gasoline launch. Small boats and canoes are always available, so that it is hardly

possible for the fisherman to fail to fill his creel should he visit Shuswap Lake.

Bears are quite numerous in the mountains north of the lake, and a good many Indian hunters have been mauled by them. The Indians are the only really well-informed guides to be had, and when hiring them it is best to use as intermediaries men whom they know and who know them well. Many sportsmen have made their arrangements through Mr. James Ross or Alexander MacBryan. When a pack train is to be taken all gear and camp outfit should be bought in Kamloops.

Nicola District.

The Nicola Valley has an area of more than sixty square miles, including all the country lying immediately south of Kamloops, as far as the foot of Nicola Lake. The valley is reached from Kamloops by a stage line running over a government road, and making a weekly round trip. Kamloops is left on Monday morning and reached again by Friday evening. There are several places for public accommodation on the road. John Peterson, fifteen miles from Kamloops, will provide accommodation. This is a good point for duck shooting, Long Lake being close by. Thomas Bulman, at the head of Stump Lake, twenty-six miles out, also entertains sportsmen, and this is a favorite stop. The Rockford House, kept by Mr. Robert Scott, thirty-three miles out, is centrally located in the valley. Here horses and guides can be had, and it is a good headquarters from which to hunt an immense country in which there is any amount of sport to be had, both fishing and shooting. Information cheerfully furnished by the proprietor of the Rockford House.

The Quilchena Hotel, forty-five miles from Kamloops, is an excellent hostelry, and a most desirable point for sportsmen, it being within ten miles of the famous Minnie Lake, famous for the goose and duck shooting it affords and for its fishing. A similar description would apply to nearly all the lakes of this district, a majority of them being breeding grounds for duck, which are usually to be found in large numbers. In addition to the duck shooting most of the lakes teem with fish, the most famous having been dubbed "Fish Lake." This sheet of water is about twenty miles south of Kamloops, and has always yielded a handsome return to fishing parties. Many Kamloops anglers visit it yearly, and spend weeks in camp under the shade of the pine and fir trees that line its shores. The nights are cool here during the hottest summer weather. There is a good waggon road from Kamloops to the lake.

In a district where there is such remarkably good all-round sport it is, perhaps, hardly necessary to particularize, but mention must be made of the Douglas Lake section, which includes all the lakes already mentioned. The whole district may be classed as a good hunting ground for small game. Guides may be obtained at Kamloops. In addition to the duck shooting, geese are shot in quantities, as in their southward migration they linger long around these lakes.

Kamloops, B.C. Lower Town.

Big game keeps further south in the more wooded district, but the grizzly bear frequently make raids upon the ranchers' cattle. Deer shooting is good, but sportsmen must retain the services of good guides. In the Douglas Lake district there are no public places of accommodation, but sportsmen are always made welcome at the ranch. The best guides are the Indians and half-breeds.

The commonest species of duck are mallard, canvas back, teal, golden eye, widgeon and the big and little bluebills (scaup duck).

To be continued.

A DAY ON A TROUT STREAM.

By Walter Greaves.

When I was in New Brunswick, on sick leave, during the past summer, Robert Forgan, William, our driver, and I, drove to a stream about 7 miles from where we were staying, and enjoyed an afternoon's delightful trout fishing. Certainly we did enjoy ourselves, as the sport was excellent. Between 1 and 8.30 p.m. I landed 100 nice trout, several of them running up to ¾ lb. Robert and William also made good catches. Every now and then I heard them call out, "I have one, and a beauty, too," etc., etc. This continued most of the afternoon, and when we came to count up at the end of the day we found we had 160 trout between us. Not one, however, was wasted. Most of them were bright, silvery sea-trout, just in from the salt water. How much more gamey they are than those that have spent some time in the warm fresh water pools! You can often tell the difference as soon as you see the rise.

I cannot imagine any more enjoyable sport than to be on a lovely trout stream, with a light rod and fine tackle, and the trout rising nicely. On the afternoon referred to, I took all my trout with the fly (I seldom, if ever, use bait), and found, on this particular stream, that a fly with grey seal-fur body, ribbed with oval silver twist, grey hackle with fine guinea-fowl over, tail of pin-tail, and wings of barred black and white snipe feathers, small jungle-cock cheeks, and head of white ostrich, to be very killing. This is an attractive-looking fly and certainly proved so on the occasion referred to, and on one or two other trips to the same stream. The trout, in nearly every instance, passed my other two flies, and showed a marked preference for the "grey monkey," as I called it. Usually a red fly, or a fly with plenty of red in its dressing, is very attractive, but on this stream red did not seem to take. I consider that a well-marked pin-tail feather is very attractive to the trout, made up with almost any dressing. There is, however, only a few of the prime feathers on each duck. For the grizzly king and professor I prefer this feather to the grey mallard, although it may not be considered quite as correct a dressing for the flies named. Try the flies sometime side by side, dressed with both wings, (pin-tail and mallard) and see which you prefer. After all there is nothing like a practical test in order to satisfy oneself in such matters. Practical experience in regard to trout fishing is always preferable, I think, to what one can gather from books or articles on the subject. I must, however, admit that I have gained a very great deal of useful information from reading angling literature; but, when it really comes down to the actual work on the stream, there is nothing so convincing, and so educating, as can be gained through one's own experience in endeavoring to tempt the often shy trout to rise. I consider there is much to learn in this respect which cannot be conveyed in words. The same may be said in regard to teaching a person to cast a fly. He must have the practical experience. The chief fault with beginners, I find, is that they try to cast too long a line, causing it to get entangled and fall at their feet, and often resulting in the snapping off of many flies. If they would practice with a short line they would easily get into the swing of it, and learn to cast well much sooner, I believe.

I make all my own flies—salmon, trout and bass—and enjoy fishing with them far more than flies tied by a professional fly tyer, and I always imagine mine are more killing (imagination, perhaps). With regard to rods I generally use a 7-oz. 3-joint split bamboo 10½-ft. rod, made by T. Chubb, of Post Mills, Vt., and find it simply perfect for trout or bass. I have just finished a light 11-ft. rod in four joints, two of second-growth hickory and two of lancewood. So far as I can judge at present it seems as though it would be a fine rod for stream trout fishing. I must not, however, say too much until I have put it to the actual test, as I did not copy any pattern, but simply guessed at the dimensions. It (like most of my rods) is without dowels.

Ottawa.

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A Wild Goose Dinner.

To the Editor of Rod and Gun:

There is just one distinctly wild goose public dinner in the world that is known of, and that is given annually by the ladies of the Methodist Church, Souris, Manitoba. These rare and wild birds are hatched and bred in the far north. As soon as fledged they come in great numbers to the broad wheat fields of Manitoba, and for protection choose some body of water for the night, from which they fly to feeding grounds and return twice a day. They always come from the north very poor, but feeding on the best wheat in the world for two weeks they are fat, and, in this condition as a tender, delicate, toothsome article of diet they outclass anything of the kind ever found on any bill of fare. They are highly valued, because of being very wild and hard to secure.

From this dinner all turkey and domestic fowl are barred, nothing but high-class northern-bred "honker" and "brant" wild goose are admitted.

For this year's dinner the ladies modestly asked for sixty, and the men of the town were to supply them. So with tent, ammunition and "grub" the men hied forth to the feeding grounds and the lake. Hunting late and early they returned after five days with 105 prime birds. Sixty were selected for the great dinner. These were plucked and dressed, and the whole lot sent to the baker, who placed them in his oven and roasted them in one batch. The dinner was held in Sowden Hall, on Nov. 19, 1901, and, as was expected, proved a phenomenal success.

Northern-bred honkers to the number of sixty were carved and presented in prime condition, and proved a delicacy to tempt the most refined taste.

To the ladies belong the credit of having perfectly prepared the birds and other good things that made a most tempting bill of fare.

At 5.30 preparations were complete for the reception of guests. The tables, draped in spotless linen, glittered with silver, sparkled with crystal, and groaned under the weight of good things. One hundred and eleven guests could be seated at once. By 6.30 every chair at the table was occupied. The seats at the sides were filled and all standing room taken and still crowds gathered in. The large hall proved altogether too small for what is distinctly the only wild goose public dinner in America.

The programme began at 9 o'clock, Rev. W. Bridgman occupying the chair. The orchestra rendered a fine selection. Rev. Messrs. Hewitt and Elliott and James Argue, M.P.P., delivered racy and happy speeches. Miss Grant sang a solo, as did also Mr. Deans and Mr. Brooks and Miss Fowler, Miss Moffat presiding at the piano. Miss McLaren gave a piano solo. Rev. Mr. Bowles delivered a neat and impressive address, which was thoroughly enjoyed. He showed that a preacher may occupy a metropolitan pulpit and still keep in touch with every phase of life in the commonwealth. Dinner and programme were both thoroughly enjoyed. The ladies took in $213. By unanimous solicitation the citizens of Souris and surrounding country have requested that the wild goose dinner be made an annual event.

Souris, Manitoba. Wellington Bridgman.

IN THE WILDS OF NORTHERN CANADA.

By M. H. Hoover.

Not content with the deep-water communication between the Atlantic and the Great Lakes which she now enjoys, Canada, unprogressive in many things, is planning to build a "short cut" route between Chicago and Boston, which shall make these two ports nearer for ships by 500 miles. The telegraphic dispatches have detailed the proposed canal, the survey for which has already been made, from the standpoint of the engineer and the shipper. The lover of nature, who has penetrated those wilds, sighs with regret as he reads them. The genius of gain who thrust the iron into the soul of the Adirondacks and the White Mountains, he learns sorrowfully, is sharpening his drills to penetrate the heart of silent and majestic northern Canada. The solitudes enveloping the chain of natural waterways extending from the Ottawa to Georgian Bay, enjoyed by the hardy voyageurs, the lonely Beaucage and Duquese Indians, and the most venturesome tourists alone, are to be rudely intruded upon by the noisy messengers of commerce. Farewell, white violet and golden corydalis of the hillsides, soon to be soiled by the grime of ocean-going monsters! Good-bye trailing bearberry and bonny blue-flag, for a path is to be cut through thy untamed garden for the flaunting pennant of industry! Au revoir, kingly bull-moose, fleet-footed deer and lazy bruin, thrust back from thy native haunts by the tireless agents of the Wall Street bulls and bears!

Along the French River, Lake Nipissing, Trout Lake, Lake Nasbonsing, Lake Du Talon and the Mattawan River may now be found "God's Out-of-Doors," just about as he left it. All that is to be changed if this canal should become a fact.

At the end of a bewildering journey through the maze of ten thousand islands, in one of the innermost recesses of the French River region, is a camp consisting of two log cabins. Of the many wayward channels of this marvellous river which glide through the boundless tracts of trees or dash impatiently through rugged gorges, the glimmering expanse of water stretching out before our forest home, although as broad as the Hudson at Poughkeepsie, is nothing more than an inlet sent northward by the imperious French to meet the mid, rush-lined Wolsey. It is out of the route of the few straggling canoes of the bold adventurers who run some of the rapids and crawl around the rest on the way from the Ottawa to Georgian Bay. From this camp to the nearest habitation of white men on Lake Nipissing is thirty miles, while to the French River settlement at the river's mouth is forty miles, as the great northern woodpecker flies—or rather more, on reflection, because of the many ups and downs of the "cock-of-the-woods."

Our destination is that distant camp, whose surrounding solitude is so wide, broad and deep, that unless a man "in the lap of nature holds communion with her visible forms," he is apt to grow lonesome occasionally, even surrounded by his best beloved and most highly entertaining friends. Come with us on a jaunt, *au large*, before the engineers follow the path which the knight of the theodolite has blazed through "God's Out-of-Doors." Come to the far-away north where the river so covered rocks, the red-berried shrubs and cone-clad pines that he goes out of his way many miles at a thousand points to take them all into his fond embrace.

At Norton Bay, the queen of all Canadian lakes, Nipissing, is viewed with an admiration little short of worship on the part of the nature lover. The camping party, which for several years has spent a fortnight or more on the distant French, is disappointed to find that the one steamboat owned by the town which carried them thirty-five miles across the silvery Nipissing to the portage above the Chaudiere Falls, has been delayed on an expedition up the West Arm, seventy miles away. Later it transpired that the Queen had run short of fuel, and had to make Goose Island by sail to replenish her stock. Capt. Windsor, of Callandar, twelve miles south, quickly responded to a dispatch, and hastened to the town-held campers' rescue with his staunch little craft, the Van Woodland.

On the Portage.

Twelve hours had been lost in the hospitable, but unsatisfying railroad centre. But for all this there was ample compensation in the moonlight journey, over a course always, heretofore, having been made in the daytime by the health seekers. The daylight trip discloses beauties of scenery sufficient to send the most phlegmatic into ecstacies, but the effects of Luna were almost startlingly apparent, for they set staid business and professional men singing the love songs of their youth:

"For there's nothing in the daylight
Half so dear to you and me."

The lights of the town were soon lost in the distance, glimmering faintly like belated planets on the hazy horizon's rim. Off the throbbing steamer's bow rushed twin streams of

liquid silver, which had drawn from the smooth surfaces just beyond the golden reflections of the stars. Mists of evening let down tantalizing curtains through which could be obtained but vague intimations of glorious visions among

" . . . . . fairy crowds
Of islands that together lie,
As quietly as spots of sky
Among the evening clouds."

Presently, as if in respect to the queen of the heavens, the silky draperies of night were thrown aside, revealing to eager eyes a prospect of surpassing loveliness. The rocky promontories of Manitou Island stood forth in glistening array like a chain of fortresses against the dark background of trees, with here and there a solitary pine on the summits as giant sentinels.

Louis Beaucage, the Indian guide, interrupted: "Dat, long back, tousands moons, Great Spirit's Land. Water all 'round, but white man get him too, by em by, too soon."

And so, it would seem, the Manitou's Island was not safe from the invader's greed, for the white man had taken everything in sight, not sparing even a little path of rocky forest, in mid-lake, to the Red Man's Deity. Under the spell of the evening there was no materialist in the party sufficiently hardened to query, "And what would the Manitou do with it?"

The witchery of an irrefragable silence soon rested upon all again. Even the merry captain was lost in the depth of the contemplative trance. From the brilliancy of the open water the boat swept majestically into the shadow of wooded islands. The soothing odors of the forests arose, grateful as the incense of "God's first temples." Overhanging boughs of spruce and balsam seemed, almost, within reach. Harmoniously the beautiful words of Faber associated themselves with the situation:

"Old trees by night are like men in thought,
By poetry to silence wrought;
They stand so still and they look so wise,
With folded arms, and half-shut eyes,
More shadowy than the shade they cast
When the wan moonlight on the river passed."

The last argosy of islands was soon left astern, and the converging shore-lines announced the near approach to the French River. The illusion as to there being merely shades of men aboard was soon dispelled when one hungry wayfarer spoke up: "Boys, it's about time to hit those lunch baskets!" And it is remarkable how quickly everybody "came out of it." There is nothing sentimental about the inner man, and the average mortal has experienced times when he would swap every metrical foot he ever saw for six square inches of tongue-sandwich. Quickly delicious black tea (and you're the green one if you ask for any other kind in Canada) was boiling in the pot, which was made to bubble all the more briskly by a rollicking, old-time chorus, "There's Moonlight on the Lake." Echo joined in the appropriate refrain, one bank repeating with its boulder lips:

"Our boats the ripples break"—

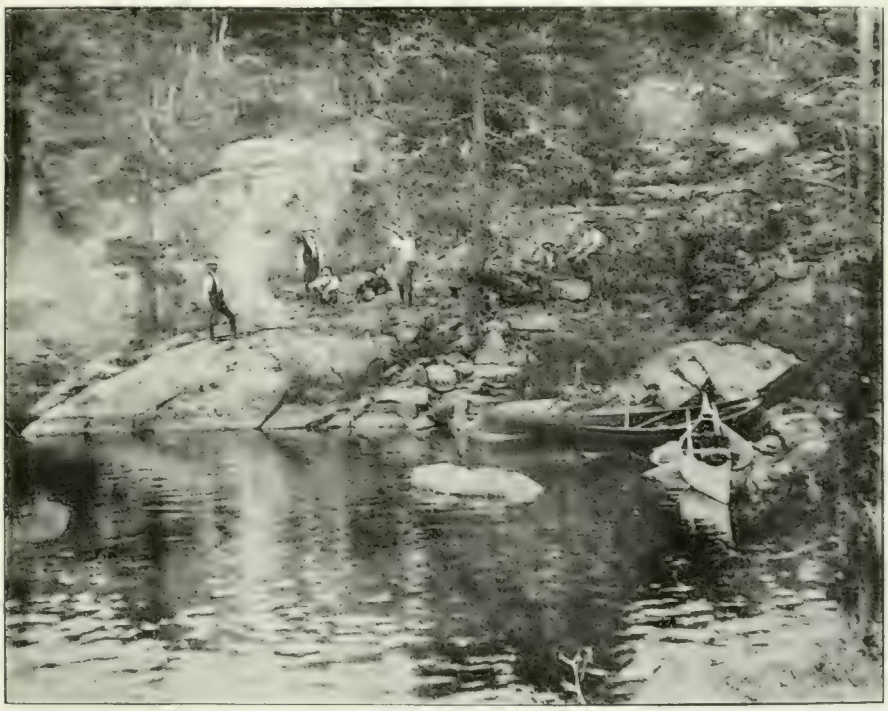
Then from the other shore:

"The birds have gone to rest"

And from the distant headland more faintly:

"For now there's moonlight on the lake."

Luna was low in the heavens, and the morning star had arisen to announce the approach of dawn, when the Van Woodland tied up to a natural dock consisting of a great shelving rock which dropped sheer off into twenty feet of water, not far from the portage which cuts around the big Chaudiere Falls. The cry of the startled loons and the yelp of the wolves far up on the mountain sides were soothing night-songs to the tired voyagers, who were soon dreaming of the things that mysterious country had in store on the morrow.



Near Little Chaudiere Falls, French River.

And despite the late retiring hour, a strange thing happened. All the tenderfeet were up in time to see the sun rise on the French River. And what a glorious reward was in store for the enterprising! The enchanting mystery of the moon-lit night was gone, but in its stead had come a daylight revelation even more beautiful. The panorama of nearby forest, receding ridges, and island-dotted river held everyone in almost reverential admiration. The delicate tints of dawn slowly gave way to the pronounced colors of sunrise in a cloudless sky, every rock, shrub, flower and tree shining resplendent in the reflected glory.

Overhead an eagle was soaring, wondering, apparently, at the intrusion upon his grand domain. A phalanx of ducks wheeled suddenly around the nearest headland, alighting with a splash almost within reach of a paddle before they discovered

that their feeding grounds had been preempted. A sharp-eyed hunter, the Sheriff, spied a deer on a sandy beach across the river, coming down for his morning drink. With glasses high in air the party drank to his majesty the buck. The stirring reed gave evidence that the hungry pike were hustling for their breakfast, and around the lily-pads the bass were leaping. The veteran anglers were restrained with difficulty from unpacking their tackle at once, when just outside a large rock in the natural harbor an immense mascalonge leaped in air. They were reminded that a quarter-mile of rough rocks, cruel hawthorn and entangling bindweed on the portage was to be traversed with boats and baggage before beginning the twelve mile paddle down to camp.

Dr. VanDyke says in "Little Rivers": "These portages are among the troublesome delights of a journey in the wilderness. To the guides they mean hard work, for everything, including the boats, must be carried on their backs. But the sportsman carries nothing but his gun, his rod, and his photographic camera."

TO BE CONTINUED.

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NORTH AMERICAN FISH AND GAME PROTECTIVE ASSOCIATION.

The annual meeting of the North American Fish and Game Protective Association at Burlington, Vt., on the 22nd and 23rd of January last, was thoroughly successful.

Those present were Messrs. Horace Bailey, S. T. Bastedo, Toronto, Deputy Commissioner of Fisheries for Ontario; Dr. Thomas C. Brainerd, of Montreal, Treasurer and ex-President of the Province of Quebec Association for the Protection of Fish and Game (Vice-President of the Association); J. E. Bentley, St. Albans, Vt.; Chas. F. Barhans, Warrensburgh, N. Y.; General F. G. Butterfield, Derby Line, Vt. (Vice-President of the Association); E. T. D. Chambers, Quebec (Secretary-Treasurer of the Association); C. E. E. Ussher, Montreal; H. R. Charlton, Montreal; N. E. Cormier, Aylmer East, P.Q., Chief Game Warden of Ottawa and Pontiac; Dr. W. H. Drummond, of Montreal, author of "The Habitant," etc.; Hon. A. T. Dunn, Fredericton, N. B., Surveyor-General of New Brunswick (Vice-President of the Association); H. G. Elliott, Montreal; G. A. Farmer, Bank of Montreal, Montreal; Hon. Nelson W. Fisk, of Fisk, Vt.; Dr. John T. Finnie, Montreal, ex-President of the Province of Quebec Association for the Protection of Fish and Game; General William W. Henry, United States Consul at Quebec, President of the St. Bernard Fish and Game Club; F. S. Hodges, of Boston (Member of the Executive Committee); Andrew Irving, Gouverneur, N. Y.; L. Z. Joncas, ex-M.P., Superintendent of Fish and Game for the Province of Quebec; L. B. Knight, St. John, N.B., Chief Game Commissioner of New Brunswick; J. S. McCollough, North Bennington, Vt.; John McGeary, Burlington, Vt.; W. H. Parker, Lac a la Peche, P.Q.; and others.

President Titcomb, in his address of welcome, dwelt upon the need of such an Association, urging the necessity of personal work on the part of the members in order that the influence and growth of the Association might be made more satisfactory. He announced the resignation of Mr. L. Z. Joncas, the late secretary-treasurer, owing to ill-health, he having appointed Mr. E. T. D. Chambers, also of Quebec, as successor.

The receipts of the Association during 1901 were $385, of which amount all had been expended excepting a cash balance of $69.87. The forty-three original members have been joined by twenty-five new associates during the year, and when the election of new members was proceeded with the following gentlemen became members: Dr. W. Seward Webb, of Shelbourne; General J. G. McCullough, of North Bennington, Vt.; Olin Merrill, H. Shanley, F. E. Burgess, Horace Bailey, Wm. B. McKillip, and W. A. Whiting, of Burlington, Vt.; F. A. Phelps, of Wilkesbarre, Pa.; J. E. Bentley, of St. Albans, Vt.; H. G. Elliott, and J. B. Sparrow, of Montreal; Waldo K. Chase, of Farrington, Conn.; and J. E. Walsh, of Ottawa.

It was decided to hold the next annual meeting in Ottawa. The following officers were elected:

President—Hon. F. R. Latchford, of Toronto.

Secretary and Treasurer—E. T. D. Chambers, of Quebec.

Vice-Presidents—H. O. Stanley, Dixfield, Me.; John Fottler, Jr., Boston, Mass.; R. E. Plumb, Detroit, Mich.; Hon. A. T. Dunn, Fredericton, N.B.; Nat. Wentworth, Hudson Centre, N.H.; C. H. Wilson, Glens Falls, N.Y.; G. A. McCallum, Dunnville, Ont.; T. C. Brainerd, Montreal, Que.; F. G. Butterfield, Derby Line, Vt.; C. S. Harrington, Halifax, N.S.

Executive Committee—F. S. Hodges, Boston, Mass.; Henry Russell, Detroit, Mich.; D. G. Smith, Chatham, N.B.; W. H. Shurtleff, Lancaster, N.H.; J. H. Seymour, New York; C. E. Clark, Augusta, Maine; J. W. Titcomb, St. Johnsbury, Vt.; S. T. Bastedo, Toronto, Ont.; C. E. E. Ussher, Montreal, Que.

Membership Committee—E. T. D. Chambers, Quebec, Que.; W. H. Drummond, Montreal, Que.; Wm. W. Henry, Quebec, Que.

Auditing Committee—L. O. Armstrong, Montreal, Que.; W. J. Cleghorn, Quebec, Que.

The afternoon session of Wednesday, the 22nd inst., was devoted to the hearing and discussion of reports made by the executive of the different provinces and states represented.

Dr. Brainerd presented a report showing the excellent results which had followed the earnest efforts of the past year to secure improvements in the fish and game laws of the Province of Quebec, and to harmonize them with those of its neighbors, on the lines suggested by the North American Association. He pointed out that the chief difficulty in enforcing the fish and game laws arises from the government appointment of wardens as a sinecure for political services. His report continued: "Since the last meeting of the Association we have, in this part of Canada, gained the following points:

First.—The permission for one person to kill two moose, three deer and two caribou has been changed to one moose, two deer and two caribou, and the addition allowed by special permit of five deer and five caribou has been cut down to three deer and three caribou.

Second.—A fine of five to twenty-five dollars is now imposed for allowing "dogs accustomed to hunt and pursue deer" to run at large, except between the 20th and 31st of October, and anyone is allowed to kill dogs so running. So far as it goes this is a clear gain.

Third.—Wild ducks are now protected between March 1st and September 15th, which, in this climate, practically covers spring shooting. An exception, however, is made by which "pied ducks or divers" may be killed up to April 15th and after September 1st, and hunters for sheldrakes are very apt to mistake red heads or black ducks therefor. The latter clause is of course intrinsically vicious, but it had to be accepted temporarily as a compromise.

Fourth.—All cold storage warehouses are hereafter to be licensed. They are forbidden to receive game beyond fifteen

days after the close of the season; their premises are open for inspection at any time, and in case of doubt whether the laws have been observed the burden of proof rests upon the warehouse keeper.

Fifth.—Authority is given the Lieutenant-Governor in Council to prohibit at any time the sale of any protected game for a period of not exceeding three years. Under this Act the sale of grouse has been prohibited until October 1st, 1902.

Sixth.—The export of trout has been forbidden, from Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island, except not over 25 pounds when shipped by a party who has killed the same for sport and when accompanied by the proper certificates.

Seventh.—Fishing with nets in the eastern portion of Lake St. Francis and in Lake St. Louis, including the waters of Chateauguay and Caughnawaga, has been prohibited until July 1st, 1902.

The last two important changes are due to the Dominion authorities, and not to the Provincial."

He also argued at some length in favor of a non-resident license to be imposed upon all sportsmen who shoot or fish away from the State or Province in which they reside.

"Vermont," said Mr. Titcomb, "has nothing new to report in the way of legislation, for there has been no session of the Legislature since the last meeting of the Association. There has been a delegation, however, of our people to Quebec, on the subject of the netting in Lake Champlain. We met the enemy, and we are their's.

New Brunswick was heard from. The Surveyor-General, Hon. Mr. Dunn, made a very encouraging report. "His Province," he said, "had enacted a law against spring shooting, except that for geese upon the North shore, where they were very plentiful, and where the natives were allowed to kill them for their own use. The spring killing of other game was prohibited, especially that of black duck, which was rapidly becoming quite scarce. The sale of partridges is forbidden, and the bag of game for each hunter is now limited to one moose, one caribou and two deer. Several hunters have stopped trapping and are now helping us, and as a result, the present increase in game is satisfactory.

Mr. Richards, of Boston, reported that for the last two years the sale of woodcock and of partridges had been prohibited in Massachusetts.

Quite a discussion arose over the question, suggested by the President, as to the evil of planting black bass in trout waters, Mr. Titcomb speaking of the harm that was being done in Vermont by the substitution of bass and other coarse fish into the natural trout waters of the State. Some years ago, he said, all the ponds of the State were trout waters. It was about fifteen or eighteen years ago that the black bass fad swept over the land, and now almost all the ponds contained bass and the trout had largely disappeared, being almost exterminated, while it was impossible to get rid of the coarser fish. The bass ate up the bullheads and everything else, and then the food supply became exhausted, so that now the bass do not, as a rule, exceed a pound in weight. Their trout waters had been almost ruined. Other States had had the same experience. The Maine Commissioner had expressed his satisfaction that the subject was to be brought up. A New Hampshire Commissioner reported that the bass were chasing *aureolus* and land-locked salmon out of Lake Sunapee, though it was thought for awhile that the fish would retain its own side of the lake. But the bass were winning in those waters, and it was certainly not the survival of the fittest. He urged that bass should be placed with other coarse fish in waters that were unsuited for trout.

Mr. Bastedo said that in Ontario they had transplanted ten thousand bass last year, and that in only one instance had the fish been planted in trout waters. Even in that case the waters had become exhausted of their trout. Some of the exhausted waters of Muskoka were now swarming with bass up to five pounds in weight, and it was found that there was quite a demand among tourists for bass fishing.

Mr. Ussher favored the planting of bass in suitable waters, where they would be no menace to the existence of trout or other game fish. The bass afforded sport to the angler when trout were not rising to his flies.

Mr. Irving spoke from his own experience of the result of the withdrawal of the bounty on wolves in the Province of Quebec. A few years ago these pests had almost entirely disappeared from the Province of Quebec, but after the withdrawal of the bounty there had been an immediate increase, and now their howlings could be heard nightly in the neighborhood of the preserve in which he was interested. Last year they had destroyed seventy sheep and two young moose in that neighborhood, besides a number of young cattle. These statements were confirmed by Dr. Finnie, of Montreal, who said that the howls of the wolves were heard as soon as the sun went down, and that they were not only destroying game in the Province of Quebec, but were a serious menace to farmers as well.

Mr. Tinsley declared that the bounties worked well in Ontario, where two years ago they were increased from ten to fifteen dollars. The result was that the wolves had been almost exterminated in the territory covered by the law, while deer were on the increase and rapidly extending northwards. The Association reaffirmed its resolution of last year urging the offering of bounties for wolves in the Province of Quebec.

An interesting discussion arose upon the subject of forest protection against fire, Mr. Ussher pointing out that laxity in this matter by one province or state, at a point at all near its border, was a menace to the safety of the timber lands of adjoining states or provinces. The fearful effects of forest fires upon the fish and game reserves of a country were referred to by Mr. Titcomb, while Mr. Smith remarked that such fires commonly originated from the carelessness of settlers in clearing their lands.

During the proceedings of the second day, two very interesting papers were read and discussed, one on the pike-perch, by Mr. C. H. Wilson, and the other on the so-called "red trout" of Canada, which is presumably the *Salvelinus marstonii* (Garman). Members of the Association, and others who may join it, will receive the volume of Transactions of the Association, in which both of these valuable papers are to be printed. Mr. Titcomb's paper was illustrated by colored plates of the fish in question, made for the new report of the New York State Forest, Fish and Game Commission.

Mr. Wilson's paper on the pike-perch dealt with its habits, its importance as food, with the difficulties attending its artificial propagation, and the measure of success attained in it. He spoke in particular of the practice of catching the fish in Lake Champlain during the season of reproduction.

This paper caused a spirited discussion, Mr. N. W. Fisk being the first speaker. He said that the majority of sportsmen in Vermont were in favor of having netting stopped in Missisquoi Bay. He remarked that if Quebec would cease to issue licenses that Vermont would be obliged to stop.

Mr. Joncas said that he thought that the needed legislation could be secured in Quebec if delegations from Vermont and New York should visit the legislators there and show that the people of those States wished to have the matter remedied. He said that only 18 licenses were issued last year in Quebec and that only three of those were used by Canadians, the others being taken advantage of by residents of Vermont.

On motion of Mr. Wilson, Mr. L. Z. Joncas was elected an honorary member with full privileges of membership.

A hearty vote of thanks was also tendered to Mr. Titcomb for his valuable and efficient services in the chair, and the meeting adjourned.

At night the members of the Association were entertained at the Van Ness Hotel by the Vermont Fish and Game League. Three hundred guests sat down.

[Additional space will be given to a report of this important meeting in our next issue.—Ed.]

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Mr. John W. Titcomb, of St. Johnsbury, Vt., State Fish and Game Commissioner, President of the Vermont Fish and Game League, and retiring President of the North American Fish and Game Protective Association, has been appointed Chief of the United States Division of Fish Culture of the Federal Fisheries Commission at Washington, in place of Mr. Ravenel, resigned, and leaves Vermont for Washington about the middle of February. Mr. Titcomb is one of the leading authorities of the day upon all matters pertaining to the science of fish culture, and his many friends will rejoice at his well-merited promotion to a larger sphere of public usefulness.

The Ojibway Calendar.

Mr. C. C. Farr, of Haileybury, sends us a very timely contribution with regard to the names of the months as known to the Ojibways. Of course when he wrote he had not seen what was printed in our February issue. He says the Indians in his part of the world designate the months by the following names:

January—Keenoosite kisis—Pike month.
February—Akakajij kisis—Ground hog month.
March—Nikik kisis—Otter month.
April—Waskato kisis—? (Perhaps something about longer daylight).
May—Wabikoni kisis—Flower month.
June—Oteimini kisis—Strawberry month.
July—Niskwemini kisis—Raspberry month.
August—Tatakakomini kisis—Blackberry month.
September—Kakakoni kisis—Means: summer over, cold commencing).
October—Namekosi kisis—Trout month.
November—Atikemik kisis—Whitefish month.
December—Piteipipon kisis—(Means, perhaps, real winter).

✦

A sportsman has written to the Quebec *Chronicle* stating that during a recent caribou hunt in Temiscouata County, P.Q., he found moose on the increase and caribou and deer quite up to the average. He feared, however, that this happy state of affairs would not continue, as the knowledge of this abundance of game has become pretty general, and pot hunters have left for that region in numbers. We sincerely hope that the Quebec Government will see to it that all this valuable game is not sacrificed to the greed of the crust hunter.

KENNEL DEPARTMENT

Conducted by D. Taylor

The committee of the Montreal Canine Association, which met on the 10th February, decided to hold a bench show at the Arena on the 15th, 16th and 17th of May next. There will be a full classification of the various breeds, with good money specials and valuable cups, medals, etc. In order to provide against the heavy expenditure incidental to running such a show as is contemplated, it was resolved to institute a guarantee fund in addition to the funds already at the call of the Association, which, in the event of a deficiency, would be drawn upon *pro rata*. Those present promptly responded to the suggestion and, led off by the president, Mr. D. W. Ogilvie, subscribed to the extent of $275. This was felt to be a good beginning, and little doubt is entertained that from $500 to $800 will be pledged when all the membership is heard from. With the object also of increasing the funds it was resolved to hold a "tombola," the prizes in which will be thoroughbred pedigreed dogs of various breeds, kindly donated by well-known breeders. At the same meeting a very important decision was arrived at, namely, to hold the show under American Kennel Club rules instead of C. K. C. This decision will probably give rise to adverse comment among western fanciers, and we may say it was not arrived at without some misgivings on the part of a few of those present, who, however, were convinced that those in favor had the best of the argument from a business point of view. The trouble is that while the C. K. C. recognize American wins toward making a champion of record, the A. K. C. do not accord the same value to Canadian wins, and it is well known that it is almost impossible to get American breeders to exhibit on this side the line from this very fact. Among the purely sporting class on the other side a win is considered of more value than a money prize, and through this feeling it is believed a number of the most prominent owners can be induced to send their dogs, an eventuality which may in some measure offset the lukewarmness and, perhaps, opposition, to be expected from members of the C. K. C.

Mr. Jos. A. Laurin, Vice-President of the C. K. C., as mover of the motion has placed his resignation in the hands of the secretary of the club.

Field and Fancy (New York) referring to the above decision of the M. C. A., says:

"The long expected has happened and it behooves the American exhibitors and the American Kennel Club to take advantage of the opportunity thus presented and eventually have one governing body for North America. The first break from the Canadian Kennel Club jurisdiction will undoubtedly be followed by others, provided United States exhibitors demonstrate that they appreciate the throwing open of more shows at which wins will count as additions to what the dogs get south of the line.

"The opportunity for the American Kennel Club to show its appreciation of the Montreal club's action, and encourage other clubs to enroll themselves with the A. K. C., is to get better and more convenient regulations and procedure for the easy return of dogs into the States. . . . What may be done in

this direction is within the province of the American Kennel Club to find out, and it would be only a proper return to the Montreal Club which is its first member from Canada.

"We trust that the Canadian Kennel Club officials and members will not jump to the conclusion that we are opposed to their association because it is Canadian. Not at all. In dog matters America means the United States and Canada. Canada is a division, and we hold that it should be a division with executive powers, under one common set of laws for the entire country. It has no standing outside of its own division of America, being recognized by no national body, not even by the English Kennel Club, which recognizes only the A. K. C. Neither is it recognized for custom house purposes. It is local because it has made itself so, whereas there is every reason why it should become part of the American Kennel Club, with delegated powers such as are accorded to the Pacific coast."

The annual show of the Westminster Kennel Club, the most important fixture on the North American continent, opened in Madison Square Gardens, N. Y., on Feb. 19, continuing four days. Compared with 1901, which was a record year as far as entries and prize money went, the present year's show excelled it in almost every feature. There were nearly 250 more entries, while the prize money and specials greatly exceeded that of 1901, the amount put up for competition this year aggregating $12,000. There was a considerable falling off of exhibits in some of the breeds this year compared with last, while there was an enormous increase in others. This in some measure is to be accounted for through the varying taste of the public, but more, perhaps, from the tendency of professional fanciers to periodically "boom" certain breeds, from interested motives, and is scarcely reliable data on which to gauge a popularity, which, after all, may be only ephemeral. It is, however, pleasing to note that most of what may be called the standard breeds of both sporting and non-sporting dogs continue to hold their own. Among the breeds which show the greatest increases in entries are: Greyhounds, 35 to 29 in 1901; pointers, 118 to 108; Irish setters, 50 to 39; collies, 151 to 116; old English sheep dogs, 43 to 7; bull dogs, 159 to 67; bull terriers, 125 to 99; Airedale terriers, 53 to 29; Boston terriers, 215 to 167; beagles, 136 to 116; fox terriers, 160 to 148; Welsh terriers, 20 to 15; Skye terriers, 14 to 6. There was also a marked increase in the number of toy dog entries.

We are pleased to notice among the list of judges at the forthcoming Chicago show the name of a Canadian, Mr. H. B. Hungerford, formerly of Belleville, Ont. Mr. Hungerford's specialty is the collie, in which he is a firm believer. While resident in Ontario he, in conjunction with Mr. McAllister, of Peterborough, imported several good ones, the best of the lot probably being Laurel Laddie, who met with an untimely end not so long ago. Mr. Hungerford will judge his favorite breed, along with Old English sheep dogs, and from his reputation as a collie fancier will no doubt attract a large entry.

It is believed the C. K. C. will take action regarding the death of the deerhound, Scamp, at the Philadelphia show. Through the neglect of the officials he was not removed from his crate until the closing day, when he was accidentally discovered. He had been without food or water all of that time, and died from the effects. Scamp was owned by Mr. V. H. G. Pickering, Minnedosa, Man., and was valued at $500.

The Western Canada Kennel Club's bench show, at Winnipeg, Man., will be held March 20-22. Mr. A. H. M. Clark is secretary.

Mr. W. O. Roy's Wishaw May has presented him with a litter of six fine puppies. They are divided as to sex. The sire is Wellesbourne Hope, the Buffalo winner.

Mrs. A. Belasco arrived back in town, lately, accompanied by her handsome St. Bernard, Prince, who is looking remarkably well after his sojourn in the States. At the last show he competed (Chatham), although not in the best of condition, he got one first and reserve in winners. We understand that Prince is to be placed at stud for a short time here, and that he is booked for Atlantic City the latter part of March, which will be his home for the spring and summer.

The Montreal Collie Club will hold a show of collies on March 8th. Dr. Wesley Mills has kindly consented to judge. The classification provides for puppies under three, six, nine and twelve months, sex divided; dogs or bitches that have never won a prize at any show; novice dogs or bitches; open dogs; open bitches; winners, dogs; do., bitches; best in show; best litter (puppies only to count), and a selling class the limit of which is $25.

Mr. W. H. Tallis, of Grand Mere, Que., has a nice litter of bulldogs by Dubbo from a bitch that came out in whelp to this dog.

Mr. Geo. Douglas, of Woodstock, Ont., has sold Robin Hood, the red cocker winner at Philadelphia and elsewhere, to Miss Eleanor Macdonell, of Kingston, the owner of the well-known parti-color Braeside Blue Jacket.

Mr. Laurin has sold his interest in the Clonmel Kennels to his partner, Mr. Oscar Dufresne, who will continue the breeding of Irish terriers.

Dr. W. H. Drummond lately visited Father O'Gorman's kennels at Gananoque, and made him an offer for the Irish terrier Bullet Proof, but the reverend gentleman declined to part with him for a money consideration.

The Limefield Fox Terrier Kennels, of this city, have sold a good bitch puppy by Banker ex Limefield Vixen to Mr. Irving C. Ackerman, of San Francisco.

The Ottawa Kennel Club will hold a show on April 7-9. The committee are hustling to make the affair a success and are looking for the support of the Canadian fancy to help making it so by sending in entries.

A gentleman in the city has made what he believes to be a veritable find in the shape of a St. Bernard. It is claimed that he is a litter brother to Baden Powell and to Mayor of Watford, the latter owned by Mr. W. Johnston, and winner at New York the other day. Baden Powell is also a heavy winner, having been first at Buffalo, New York (Ladies' K. A.), Rhode Island, Hamilton, and third to his brother at New York. The new find is of good size, standing about 36 inches at the shoulder and possesses great bone. He has a solid orange body, perfect white markings, with dark head, and when licked into shape will not be unworthy company for his famous brothers.

Among the dogs entered at the Westminster Kennel Club's show at New York were Mr. Geo. Caverhill's Skye terriers; Mr. D. W. Ogilvie's fox terrier, Bank Note; Mr. Joseph Reid's collie, King Edward VII.; Mr. W. Ormiston Roy's sable and white collie, Coila Victor, and his tricolor, Coila Howdie. Messrs. Coulson & Ward also sent Irish setters and the Montreal Hunt a full kennel of foxhounds. The latter were in charge of Huntsman Nichols and competed for the special prize offered for the best kennel.

ROD AND GUN IN CANADA

DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

PUBLISHED MONTHLY

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"I recently ran across your sprightly and entertaining magazine on the counters of *Staats* newsroom. Your periodical ought to score a big hit in the States, because we are just beginning to learn the angling and hunting resources of Canada."

M. H. HOOVER,
Union-Sun Co., Lockport, N.Y.

The Chicago Sportsman's Show, opened on the 3rd of February, was a great success. The attendance was very large. One of the finest exhibits was that made by the Canadian Pacific Railway, which filled its 1,200 feet of space with a comprehensive display of pictures, oil paintings and those striking photographs which alone would serve to make the Canadian Pacific scenery world-famous. There was an abundance of skins, heads and other trophies of big game to be seen, and a very good working collection of maps and descriptive literature.

Mr. L. O. Armstrong was in charge of the exhibit, a thoroughly representative Canadian one, and was instrumental in taking to Chicago the dramatized version of "Hiawatha." The Hiawatha troupe included William Kabaoosa, Geo. Linklater, White Fish, Ont.; Hugh Irvine, Desbarat, Ont.; Joe Banngeseck, Tom Obtossoway, George Kabaoosa, Tom Kabaoosa, Bukwujimimi, Henry Bukwujimimi, Albert Wabunsa, Sam Wabunosa, Aleck Wabunosa, Shawano, Tom Shingwauk, Wm. Kabaoosa, Garden River, Ont.

✣

A western correspondent informs us that the pack of hounds owned in Crystal City, Manitoba, has been very successful during the past two seasons, having accounted for over 100 wolves. The method of hunting is said to be rather peculiar, and the pack somewhat of a scratch one. Three times each week the huntsmen sally forth to make life wretched for the coyotes. "Each farmer who comes to town reports any wolf that he may have seen. In a few minutes horses are hitched up to a buggy or cutter,—a few are mounted on their quads. If the snow is deep the hounds are put into a huge box which is placed on a wagon on bob-sleighs. The dogs are covered up with blankets. Mr. Coyote never shows any fear of a team, but the sight of a dog starts him off full gallop! When within forty yards the blankets are thrown off, the pack jumps out and away after the hunted one." As the pack is composed of animals of different breeds, the ambition of the English fox hunter—a pack which could be covered when in full cry by a carpet—is not attainable, but each hound, or rather each dog, does his best, and the leanest and longest-legged lead, while the fat, chunky dog labors along in the rear. Funds derived from the wolf bounty and sale of skins enable the Crystal City Hunt Club to hold an annual gathering, which is a red letter day in the life of each jolly sportsman.

✣

Our readers will be glad to learn that the beautiful Canadian National Park, at Banff, is to be added to largely. Its size, heretofore, has been 26 x 10 miles. Now it is to be made of triangular shape. The distance from the southern extremity to the most northerly latitude being 100 miles, and along the northern boundary, running due west from the same point, also 100 miles. The hypothenuse of the triangle will be the watershed of the Rocky Mountains, which has a northwesterly course in general, although it is full of minor irregularities, of course. Several passes exist in the range, a few, such as White Man's Pass, Simpson Pass, and Howe's Pass, being already known. Mt. Forbes, a very lofty peak, is on the line dividing the park from British Columbia. In addition to this park the British Columbia government will form a Yoho Valley reserve, which will include all the magnificent scenery of that wonderful region.

Mr. Howard Douglas is superintendent of the park. Dating from its inception the amount spent upon it has been $2,000,000, though the annual expenditure is now said to be but $1,200 a year, while the revenue is placed at $5,000.

✣

The Crown Lands Department of New Brunswick has recently issued a new edition of *Gun and Rod in New Brunswick*. All interested in the sporting attractions of that Province should procure a copy of this very useful little manual, which is to be had upon application to the Crown Lands Department.

✣

Introduced Mongolian pheasants have succeeded admirably in British Columbia, but it seems that the poacher is hard at work thinning their numbers, and this is what the *Westminster Columbian* has to say upon the subject:

"Under the Game Act it is unlawful to sell either pheasants or ruffed grouse, but it is a well-known fact that very little difficulty need be experienced in buying a brace or two any time after the season opens. Indians go from house to house offering grouse for sale, some market gardeners supply them to customers, and even on the city market it is possible to buy the birds, on the sly, of course, and under the guise of 'picked chicken.' All these things are going on under the eyes of the authorities, but they take no notice of them. The Act, as matters stand, is practically a dead letter, though there is no good reason why such should be the case, for one or two judicious prosecutions would serve to give all habitual lawbreakers a very wholesome dread of the consequences."

A Tourist Association has been formed at Victoria. It has not come a day too soon. Those who know the unrivalled attractions of Canada's western Province have always regretted that an out-of-place modesty, or a particularly aggravated attack of "coast langour," has prevented the inhabitants of the balmy Pacific Province from making known to the world the happy results which a sportsman, or even a mere tourist, will reap by a visit to British Columbia. The inaugurators of the Tourist Association are the most influential officials and merchants of the coast cities, and we shall be much disappointed if they do not achieve great things.

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We have received, through the courtesy of Mr. A. Knechtel, State Forester of the State of New York, a copy of the fifth annual report of the Commissioner of Fisheries, Game and Forests. It is, as its predecessors have always been, a model to which other commissioners may look with longing eyes, yet with little hope of being able to duplicate. It is rather a sad reflection, that with all our magnificent game and fish resources, Canada has yet produced nothing in the way of a government report to compare with this. Yet we could have no better advertisement. It may hardly be doubted that were Canada to issue year by year a report of equal excellence to that published by the State of New York, we should reap a very large return through the increased tourist travel which would result.

Mr. Denton's fish pictures are up to their usual high standard, and in this volume is figured our own beautiful red trout. Mr. Ridgway's birds are also very good, and wonderfully true to nature. The report is thoroughly illustrated by the work of these artists, and by numerous half-tones of photographs and wash drawings. We hope to be able to discuss this report at greater length in some future issue.

✠

On the eve of going to press it is not possible to describe the Boston Sportsman's Show of 1902 as it should be described; suffice it to say that on the opening day 7,000 persons visited Mechanics' Building.

A very interesting specimen is on view in the Canadian Pacific Company's log cabin. It is the head of a buck which was killed by wolves near Mattawa. Just as the wolves had hamstrung the deer a lumber boss happened to come along and the pack withdrew to a safe distance while he cut off the head, returning, however, as soon as he had left, and a few hours later only a few of the big bones remained.

The Boston Sportsman's Show opened on Feb. 22nd. In many respects it is more likely to appeal to the sportsman than any other show we have seen. The collection of live game animals, game birds and waterfowl is undoubtedly the best ever brought together in this country. It has been supposed that the ruffed grouse will not live in confinement, but here we have several dozen of these usually timid birds, not only in good health but, apparently, utterly indifferent to the people and the music of the bands. The entire credit of this wonderful feat is due to Mr. C. W. Dimick, the Vice-President and General Manager of the Association, who, personally, tamed these birds and taught them to feed in captivity by tempting them with such delicate dainties as Hungarian ants' eggs.

✠

We publish in the present issue a portion of a paper upon the sporting resources of the Kamloops district, British Columbia. We believe that this is the first serious attempt at making known to the world the attraction of a district which is second to none for all round sport. We hope to be able to follow this article with others describing the different districts of Canada's wonderful Pacific Province, and her unlimited game preserves in the North West Territories.

It is more difficult to get hold of accounts of western sport than it is to gather those relating to shooting and fishing in the east; the plainsman and the mountain man is each too busy to have much time or inclination to use the pen, nevertheless, Rod and Gun has many staunch friends from Winnipeg to the Pacific, and they have kindly promised to send in stories which while absolutely true will no doubt make the mouths of eastern sportsmen water at the feast of good things their brethren in the west enjoy.

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Professor Knight, of Queen's University, Kingston, has been experimenting upon the effects of sawdust and polluted water on fish. He came to the rather unexpected conclusion that sawdust does not injure adult fish, though it may be fatal to eggs, and by interfering with the development of aquatic life, diminish the food supply. His experiments, however, were with sawdust in clean running water. It is quite possible that sawdust rotting at the bottom of a stream may be very fatal to fish. Personally we believe it is. The professor further found that waste water leaving pulp mills has no bad effect upon fish if diluted with ten times its volume of clean water. The waste liquid from gas works is very poisonous, one part in two hundred proving fatal; and the refuse from nail works, containing, as it does, hydrochloric acid and iron, will kill when diluted to one part in every thousand.

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The American Ornithologist Union has issued a list of what are generally known as game birds. It comprises: The Anatidæ, commonly known as swans, geese, brant, river and sea ducks; the Rallidæ, commonly known as rails, coots, mud hens and gallinules; the Limicolæ, commonly known as shore birds, plovers, surf birds, snipe, woodcock, sandpipers, tattlers and curlews; the Gallinæ, commonly known as wild turkeys, grouse, prairie chickens, pheasants, partridges and quails, and the species of Icteridæ, commonly known as marsh blackbirds and reed birds or rice birds.

✠

This year's experience shows that the Manitoba open season on ducks begins two weeks too early. September 15th is quite early enough, as the young ducks are in the flapper stage at the end of August.

CONTENTS

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

RELATIVE VALUES IN EXPOSURE WORK.

Perhaps the greatest difficulty that the amateur photographer will encounter, is that fact that he is ignorant of the relative values of the various factors in negative making. He does not know how one light compares with another; how one stop and another agree; how a certain plate speed of one manufacturer will correspond with the same speed of another, or what the difference is between the various developers on the market. What is more, the text books issued for the beginner, will not help him out and he is left to flounder by himself hopelessly in the dark.

Let us look at the first of these troubles, i.e., the comparative strengths of lights. The worker who has been accustomed to making his pictures entirely by daylight and then takes it into his head some day to try a gas light exposure, finds himself absolutely without means of judging what exposure is necessary. He can experiment but that takes time and costs plates, and at best is a more or less unsatisfactory method. Then for the benefit of such workers, I have compiled the following table, showing the comparative strengths of the various illuminations by which it is possible to make photograms. It is as follows:

Sunlight,	1	Electric light (arc)	3
Diffused daylight,	60	Magnesium ribbon,	277
Oxyhydrogen light,	8,040	Common gas flame,	16,080

Knowing the proper exposure to give with the stop and plate he is employing, under conditions where the source of illumination is bright sunlight, it is the acme of simplicity to figure out the correct exposure with any of the other illuminates given from the figures therein supplied.

Next comes the question of what stop to employ and how the exposure must differ between f/8 and f/64. The question is frequently put, "Is it to be eight times as long in one case as in the other?" The answer is no. It is not. But first to a clear understanding of what is meant by the f value of the lens opening, let us look at the following simple and oft-repeated explanation. Suppose you are attempting to find the f value of your stop. Focus the camera without any stop on an object 50 ft. distant; then measure the distance from the ground glass to the place where the diaphragm is to be placed, and the result is what is commonly referred to as the "equivalent focal length of the lens"; next measuring the diameter of one of your stops, divide that diameter into the focal length. If the result be 32, then the f value of the stop is f/32, or by the Universal System, U.S. 128. Now, supposing, in order that you may be able to calculate the relative values of the stops, you look at another table which I have compiled, showing the relation one stop bears to another as far as exposure is concerned. It is as follows:

f/5.6,	or U.S.	2,	requires an exposure of	$\frac{1}{16}$	sec.
f/8,	"	4,	" "	$\frac{1}{8}$	"
f/11,	"	8,	" "	$\frac{1}{4}$	"
f/16,	"	16,	" "	$\frac{1}{2}$	"
f/22,	"	32,	" "	1	"
f/32,	"	64,	" "	2	"
f/45,	"	128,	" "	4	"
f/64,	"	256,	" "	8	"

You will see that the Universal System is the easier by far to manipulate. With it it becomes merely a matter of multiplication to find what exposure you desire to give with any particular stop. When using the f system, I find that the easiest way is to carry with one a copy of the preceding table, when its figuring will become very easy.

Perhaps next to the fact that plate makers throughout the world have never agreed upon certain standard sizes to make their plates, their most deplorable fault is that there are hardly any two manufacturers putting out plates of any three speeds whose relative values are similar. This forms one of the most serious questions that the amateur has to encounter in changing from one brand to another. He has been using the medium speed of one maker and resolves to change to the corresponding speed of another. He gives it the same exposure, and on developing it finds that it is hopelessly overtimed. To learn accurately where he stands he is forced to go through a series of experiments just as when he first started to take photograms. Of course the reason of all this difference is that there are no two factories using the same ingredients in mixing their emulsions, or when they do use the same they use it in vastly differing proportions. It is almost impossible to learn from manufacturers what they use to coat their plates, but one writer gives the following figures:

	Sulph. Soda	Sal Soda	Pyro
Stanley.....	18	18	3
Hammer	12	6	$1\frac{1}{2}$
American.....	24	12	$2\frac{1}{2}$

These figures represent grains to the ounce. It will be seen that the Sulphite of Soda varies all the way from 24 to 12 grains to the ounce; the Sal Soda from 18 to 6; the Pyro from $1\frac{1}{2}$ to 3. And the writer has only referred to three brands! How is it possible to think all brands the same? One of the exposure meters on the market has worked out the way that they think plates ought to be graded, and after trying it on a great many occasions I have come to the conclusion that their figures are correct and am consequently going to give them here. I am also giving the proportion of exposure required by each. It is as follows:

Class 1—Cramer Crown; Seed 27; Hammer Red Label; Eastman Red Seal and Film; New York P.D. Co. Record; Lovell Extra Rapid.

Class 2—Cramer Banner and Instantaneous Isochromatic; Seed 26x; Hammer Blue Label; Eclipse; Stanley 50.

Class 3—Seed 26; Carbutt Orthochromatic 27.

Class 4—Eastman Yellow Seal; Carbutt Special 25.

Class 5—Cramer Medium Isochromatic; $\frac{1}{2}$ Cramer, Seed and Hammer Non-Halation; Hammer Fast; New York D.P. Co. New Havard.

Class 6—Seed 23; Hammer Slow; New York D.P. Co. Crescent; Carbutt Orthochromatic.

Class 7—Cramer Slow Isochromatic.

Class 8—Carbutt B. 16.

The relation each class bears to the others in exposure is:

Class	1.....	1 second.
"	2	$1\frac{1}{4}$ "
"	3	$1\frac{1}{2}$ "
"	4.....	2 "
"	5	3 "
"	6.....	4 "
"	7.....	12 "
"	8.....	21 "

Now that we have gone over all this, let us compare the difference between two exposures, one made under the most

favorable conditions and the other made under the most unfavorable. For the first we will say that we have bright sunlight, Diaphragm U.S. 2, and a Cramer Crown plate (class 1). We are working about noon on a June day. The exposure ought to be for a landscape about $\frac{1}{50}$ of a sec. But see it from another point of view. We still have bright sunlight but are using Diaphragm U.S. 256 and a Carbutt B. 16 plate (class 8). The exposure at once changes to 6 seconds, or just 2,400 times as long. Between these two there is a whole scale to be run, depending, of course, upon the plate and the stop. Supposing, that instead of bright sunlight you are using gaslight, what a difference there is. With the fastest plate and the largest opening the exposure is 40½ secs., and with the slowest plate and smallest opening it will be 26 hours and 48 minutes! This seems preposterous, but figure it out for yourself and you will find that, like the exposures in bright sunlight, the one is just 2,400 times as long as the other. I am not supposing for an instant, you understand, that anyone would lack so much common sense as to make any 26¾-hour exposures. I am merely trying to attract your attention to the importance of relative values.

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About the Tripod.

It is worthy of note that not one amateur in five sets up his tripod correctly unless someone has shown him how. Instead they stand with two of the legs to the front and then straddle the third to focus. This is the wrong way. Suppose that you try it just *vice versa* and put one support to the front so that you may stand *between* the two back ones and make a study of the ground glass in comfort and without any danger of jarring the instrument after everything is ready to make the exposure. Easiest thing in the world you know to spoil a razor-edged definition by just the tiniest, little kick. Then, too, this method has another advantage. By the old way, when you want to lower the front of the camera (not lower the front board) you have to take hold of the two legs and let it down by spreading them apart at no small trouble to yourself in getting the top level again. If you have one leg in front it is the simplest thing in the world to merely loosen the screw of the lower section and let it slip up into the second one. This cannot possibly shift the level of the instrument. If by any chance it should get off the square all you have to do is to grasp the two legs that are right beside your hands, if indeed you are not resting them on them when you focus, and move them this way or that until it is straight. Or, simpler still, if the two legs be at the back, the top may be leveled by loosing the screw in one and either raising or lowering that side as the case may necessitate.

Another difficulty that has to be gotten around is the standing of the tripod on a smooth floor or a piece of very rough and uneven ground. The latter is the easier as it is only necessary to study the adjustment of the legs. Occasionally, however, one runs up against a floor that is as smooth as glass with neither crack nor crevice in which to locate the lower end of the leg. If there *is* one crack there is sure not to be another within yards. Sometimes it is possible to take chunks of rubber and stick them on the spikes, but very frequently this will fail to hold. Cork is also sometimes used, but it is not any better than the rubber—in fact, not so good. Take then a bit of string and after setting the tripod up in position, tie it from leg to leg about half way down. Then when it is moved to the slippery floor there is no room for a spreading and no possible chance of a slip. There are several small devices that are sold to attach to the legs in somewhat this manner, and though made of metal so as to keep the affair perfectly rigid, are so seldom required as to make it hardly worth while to throw away money on one.

In working in a high wind, as, for instance, in photographing clouds or any subject where the weather is apt to be gusty and jar the camera, some means are necessary to keep it steady. The remedy is so simple that it is a wonder that it is not more often used. Tie a bit of string between the screw in the top and a stake firmly driven in the ground; then raise the instrument until it is drawn taut and jar is next to impossible. Or you may tie it to anything that has sufficient weight to hold it down tight. A heavy stone or a small log will answer first rate.

Of the tremendous power that lies within the grasp of the operator through the tripod in the rendering of distance by raising or lowering, it is, I think, necessary to say but little. Six inches lower may accentuate the foreground so as to entirely alter the aspect of the scene being depicted.

There are many other uses to which the worker of an ingenious turn of mind may easily and advantageously put his tripod. Like anything else it only requires a little thought and figuring to devise methods of manipulating it in different cases as the circumstances may necessitate.

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The Scrap Bag.

Some Printing Processes.—The fact that most amateurs use the one printing process for all negatives is responsible for their not getting uniformly good results. Assuming that we have a series of negatives, from the thinnest and weakest to the densest and hardest, we may grade the different processes as follows:—

Collodio-chloride—thin negatives.

Gelatino-chloride—thin negatives with much detail.

Cold-development platinum, CC—weak, soft negatives inclining to thinness.

Gaslight development papers—rather thin negatives developed through with some contrast.

Sepia or hot-developed platinum—medium negatives, neither weak nor hard, inclining to strength.

Bromide for daylight printing—quite strong negatives.

Pigment processes—about the same but not very dense anywhere.

Albumen—quite strong, brilliant negatives without fog.

Plain salted paper, weak bath—medium strong to very hard negative.

Developing Solio Paper.—The development of Solio paper when the prints are insufficiently printed is thoroughly practicable if the paper be fresh and carefully handled. After development they must be well washed, care being taken that they are kept under water or the developer will continue to act strongly on the exposed parts, or oxidize and produce dirty-looking spots. After this washing tone in the following:

Ammonium Sulphocyanide	15 grs.
Gold	1½ "
Water, distilled	15 ozs.

Then wash for five minutes and fix as usual.

Changing Blue to Brown Prints.—To change the color of a blue print to a brown immerse the print in a caustic soda solution, composed of five ounces of water and a piece of caustic soda about the size of a pea, until the color changes to a yellow. After washing the print for about four or five minutes, place it in a bath consisting of about a teaspoonful of tannic acid in eight ounces of water. The longer it is allowed to remain in this bath the darker will the brown tint it has assumed become.

Flower Studies With a Camera.—I have recently received a number of flower photograms from a Mississippi amateur which have called to my mind the advisability of the present little paragraph. The pictures I have reference to are simply the natural flowers of the field posed against a plain background—light or dark as they may require—and then photographed with a color screen and an orthochromatic plate. The result shows all the most delicate half-tones and detail in the shadows that exist in the original, and to one who has never tried it—even though he may not have the slightest inclination to study botany—are a positive revelation. What must they mean to a botanist! Workers who have never tried it or seen it tried will do well, as soon as the now coming spring arrives, to get out and make some such studies of still-life. And that makes me think, What have you made during the past few months, while we have been snowed up? I have written to those amateurs with whom I am acquainted asking them if they will not send me what they consider their best print. But I don't know you all. I wish you all would send me prints occasionally. It encourages me, if nothing else, for then I know that you are interested.

A Lazy Morning by Shuswap Lake.

Developing Plates.—Referring to the developing of plates, Mr. Bayard E. Sparham, a Smith's Falls reader of Rod and Gun in Canada, sends us the following: "I am aware," he says, "that almost all the directions that are written say that by looking through a plate at the light, it can be ascertained whether the details are sufficiently out and whether the density of the high lights is great enough or not. While we are told all this, we are also informed that plates are so sensitive to light that even the subdued illumination of one's dark-room lamp is dangerous if the plate be exposed too near it. I have found it uncertain in examining a plate in that way. Sometimes the details do not show, though they can be seen by examining the face of the plate; especially in snow scenes is it difficult to arrive at any definite conclusions in that way. Then as to density: I have never yet been able to determine by this method, with any degree of certainty, when it is done. My lamp has a ruby and an orange glass. How close to the flame should the plate be held, and is it by means of the flame itself or only the light of the ruby-lamp that the density is examined? The plan I have adopted is to use these methods of determining the stage of development, but still continuing it until the unexposed edges of the plate begin to turn grey. Can you give me any more light on the subject?"

I do not think that any directions will say that the plate must not be exposed to the ruby light. I am inclined to believe that Mr. Sparham must be in error on that point. Directions do, however, advise care, and recommend that the plate be kept as much in the dark as possible unless it is being examined. Then it may be held right up against the ruby glass, if necessary, but only for a short time. You must bear in mind that the faster a plate is, the more sensitive it will be. Special care is necessary in the case of orthochromatic plates. On no account should an unfixed plate be held up to the flame of an ordinary lamp without a ruby glass in front of it. Nor can I say that I like the scheme of judging the development by looking at the edges of the plate. I don't believe in it. The only way to correctly judge development is by looking through it. The prints, however, that Mr. Sparham encloses are excellent, and no matter how wrong his theory of development may be, his results certainly do not show it.

Red Spots on Aristo Paper.—In many places where the water has in it a great deal of mineral or lime, red spots will make their appearance on Aristo paper. In trouble of this kind, add to the first wash water 2 oz. of a saturated solution of Sal Soda to the gallon, and handle the prints in this wash for about five minutes. It will do very little good in any but the first water. The Sal Soda has the effect of cutting loose the free silver and getting rid of it quickly.

Wetting a Lantern Sheet.—There is no advantage in having a lantern sheet wet unless it is to be used as a transparent screen, with the audience on one side and the lantern on the other. In this case the wetting of the sheet increases its translucency and is therefore an advantage. Otherwise it makes the screen less opaque and is therefore a disadvantage. As the slides are seen by the light which the screen reflects to the spectator, the more transparent the screen is the less light it reflects and the duller, therefore, is the picture. Under these circumstances you will easily see that it is an advantage to have the screen dry for ordinary use.

Avoiding Grain in Copying.—The "grain" in copying is simply the shadow cast by the texture of the paper, and it can be overcome by the simple expedient of giving a longer exposure. This is always possible, provided it be accompanied by careful development.

Cloud Negatives.—March is the month to get out after your cloud negatives—rather I might say, March and April. It is during these two months that, after heavy storms, they are likely to be most plentiful and assume their most fantastic forms. Focus upon the extreme distance in order that you may have the proper degree of sharpness, and make the exposure with a rapid shutter and a medium stop, say, f.22, using

a slow plate. Supposing you are using a Carbutt B. 16 plate, which is the slowest made. This ought to call for an exposure of about 1 sec. at noon during these two months. An orthochromatic plate should be used, and a color screen is an improvement, though of course with this latter, the exposure will be considerably longer. Development should be light and ought to be stopped just as soon as the detail is sufficiently out not to be lost in the fixing. Care is necessary not to overdo it in the dark room.

"Hemperley's" Fixing-Bath Formula.—Hemperley's fixing bath formula is a good one, and for the benefit of one worker who wrote me a short time ago, I am giving it here. It is as follows:—Take 32 oz. of sulphite of soda, hydrometer test 60 degrees, and add to this very slowly 1 oz. of sulphuric acid; then 8 oz. of solution of chrome alum, hydrometer test 60 degrees, then add the whole to 2 gal. of saturated solution of hyposulphite of soda, and it is ready for use. Leave the negatives in the bath a little longer than is required for fixing. As the permanency of the negative depends upon this, it is important. Also use a grooved box to fix in. A flat tray is apt to cause spots and dirt.

The 1902 American Annual.—Messrs. Scovill and Adams' yearly publication, the American Annual of Photography, is on the market. Mr. Woodbury has gotten together a very fine collection of matter for the 1902 issue, and is also to be congratulated upon the excellence of his pictures. Among other interesting articles, he has one on "Photography in China," by Mr. Isaac Taylor Headland, which, in view of Mr. Headland's being a recognized authority upon Chinese matters and an enthusiastic amateur photographer as well, is especially attractive. Altogether Mr. Woodbury's work this year bears evidence of much careful thought and plenty of hard labor, for he has succeeded in producing a volume that is not only a pleasant companion for idle hours but that is also full of practical, technical information.

Which Developer.—Different developing agents give widely different results,—a fact which ought to be borne in mind when one is in the habit of using several kinds. For instance, pyrogallic acid in combination with carbonate of sodium or carbonate of potassium will produce strong, vigorous negatives, while on the other hand, eikonegen and metol will give soft, delicate results. Hydrochinone added to either of the two latter will give greater contrast or more strength. Of course with any of them, quick development means a lack of half tones and more contrast.

Stains on the Fingers.—There is, perhaps, nothing more annoying to one than to find the fingers coated up with stains just at a critical moment when he has an engagement to go somewhere and wants to look at his best. I give here methods of removing a few of the commonest. Development stains will yield easily to the action of a little lemon juice. To remove nitrate of silver discolorations prepare a solution of water, 100 c.c.; chloride of lime, 25 grams.; sulphate of soda, 50 grams., and apply with a tooth brush. Nitric acid stains may be removed by applying a solution of permanganate of potash and then washing freely. Perhaps the most difficult stain to remove is that of amidol. You might try citric acid. Washing the stained parts in a 10 per cent. solution of oxalic acid will remove pyro troubles.

A Cracked Negative.—It is quite possible to make a good print from a cracked negative, if the film is not broken, and no one who looks at the result will be a bit the wiser. To do it, first place in the printing frame a piece of porcelain or ground glass with the rough side outward. Then put in the negative and paper on top in the usual way, and when it is all ready to put in the light to print, over the whole thing lay several layers of tissue paper or of that paper that comes wrapped around the various sensitized papers. Being waxed it is excellent. Do not put the frame in bright sunlight. While this will take quite a bit longer to print than ordinarily, the result is well worth while.

Luminous Labels.—Labels made with the ink described below are capable of being read in the dark room. The writing has the appearance of fire. It is as follows:

Phosphorus, - - -	½ dram
Oil of Cinnamon, - -	½ oz.

Mix in a vial and after corking tightly heat it slowly until it is well mixed. It may be applied with a pen. It is best to put it on the label after it has been pasted on the bottle.

Rapid Washing of Negatives.—Sometime when it is desirable to wash your negatives rapidly you might try the following bath. Put them for a short time in this bath:

Acetate of Lead -	90 grams.
Water - - -	500 c.c.

This solution keeps well. Let it stand for some time and then further dilute 90 cubic centimeters of the solution with 1000 c.c. of water and use this dilute solution as a washing bath.

Mr. F. Holland Day.—A short time ago I had the pleasure of spending half a day in the studio of Mr. F. Holland Day of Boston, and being shown, by the artist himself, the work he has accomplished in the past ten years or so. Mr. Day is a most pleasing man to talk to, and at the same time most interesting. He is one of the leaders in what he himself refers to as the "advanced movement" of photography and it is in no small degree owing to him that the new school has attained the prominence that it possesses to-day in America. The third American to be invited to join the Linked Ring of London, Eng., which is practically the Royal Academy of Photography, his fame is international. For one thing in particular are his pictures interesting, namely, the fact that hardly one of them possesses a single strong high light The highest tones in his pictures correspond to about the middle tone of the average worker, and altogether it cannot be said that the effects that he produces by this means are unpleasing. Mr. Day is, however, a consistent supporter (perhaps leader) of the fuzzytype school, though here it can hardly be said that his work so appeals to one. All round, however, judging his productions from every standpoint and looking at the main chance rather than at details, his work is a living example of photography's pictorial possibilities, and as such is worthy of consideration.

It is proposed to make the season for big game in New Brunswick begin on September 1st, instead of September 15th. Somebody ought to call the attention of the Ontario game officials to this. If it passes it means that New Brunswick will get all the gilt-edged hunters, and that Ontario will get left, unless it decides to make a common-sense open season each year.

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The Russian government, it is reported, has not found the same success in experimenting with dogs to be used in actual warfare as has the German. Possibly patience and intelligent treatment were lacking.

GOOSE SHOOTING IN THE NORTH-WEST.

In the current number of the *Badminton Magazine*, Senator Kirchhoffer, who entertained the Duke of Cornwall and York during his visit to Manitoba, describes the pleasures of wild goose shooting on the plains of the North-West. It seems that some of the Duke's party should have tasted the joys of this sport but for an accident beyond the control of the Senator.

"The royal shooting party comprised fifteen guns, and seeing that my own place would only accommodate eight, I arranged that as their special trains sped eastward on the Canadian Pacific Railway some of the sportsmen should be dropped off at other points, where friends of mine would attend to their wants. Thus, two were to step off and shoot geese at Moosejaw, two were to shoot ducks at Qu'Appelle lakes, and three to go snipe-shooting on marshes near Winnipeg, while the Prince of Wales and the remainder of the party were under my own personal care at York Lodge. Unfortunately there accompanied them on the train an inspector of the North-West Mounted Police, who assured them that in such fine weather as then prevailed they would not get a shot at geese at all. Naturally impressed by such a statement, the two gentlemen who had been told off for that sport preferred to come on and join their comrades who were to slay the ducks at Qu'Appelle, where they had most excellent sport and made a large bag. But I did not hear of their alteration in my programme until we met the rest of the party at the station. Then I learned it with sincere regret, as all the indications had pointed to a most successful wild geese chase. An old English gamekeeper had been out for a week locating the flights, the farms where they were feeding had been protected from shooters, and pits had been dug in the most favorable spots, so there would have been nothing to do but drive on to the stubble and put out the decoys. Duck-shooting, as I explained to our friends, they could get all over the world, but such a flight of geese as is to be seen on these plains of Assiniboia is, as far as my experience goes, unique, and they had missed a great and thrilling experience."

Naturally Senator Kirchhoffer was loth to let the preparations go entirely for naught, and remarked to the Duke that he would take advantage of them himself later on. "If you do," replied His Royal Highness, "be sure and telegraph me the result." The way to go about the sport is thus described by the Senator:—

"The first point is to locate the fields where some large body of birds have made a feeding ground. When this is ascertained do not disturb them, but allow them to leave of their own accord. Then get your pits dug, put out your decoys, and be ready for them at daybreak. With eager eyes you watch for the first streak of dawn. Long before you see them you hear the metallic but not unmusical 'honk, honk,' that tells the birds are on the wing. Then a thin line appears on the horizon, wavering, changing, rising and falling. It is followed by a second, and still another, until the whole sky is full of them. Now is the thrilling moment. Are they coming in your direction? Sometimes a change of wind or having been shot at on that line the previous evening, will cause them to alter their flight, and you may have the mortification of seeing them stream past a mile or two to the east or west of your location; but generally, when proper care has been observed, some flocks will come your way. They see your decoys and head straight for them, lowering towards the earth as they come. There is a momentary hesitation, as something arouses their suspicion, but an answering note or two from your goose-call steadies their nerves, and they hover and prepare to alight. Steady! Keep down! Surely they are near enough now? No; let them come in till they drop their legs. Now! and as you raise your head, with one mighty sweep of their wings the huge birds spring upward. It is too late. Their breasts are bared to the shot, and two heavy thuds tell that the 10-bore has done its work. Still keep down, for another flock is hard at their heels. Wary as he is, when once he has made up his mind as to the point he desires to reach, it takes a good deal to cause your grey goose to deflect from his course; and so the fun goes on for the better part of an hour, sometimes fast and furious, at others slacking and almost ceasing, till the flight is over. Then you gather your slain, the man drives out with the waggon to bring them in, and you to breakfast."

The net result of Senator Kirchhoffer's shoot over the plains around Moosejaw was a bag of 118 geese, and on his telegraphing the news to the Duke at Halifax he received the following gracious reply: "So glad to hear you had such good sport. I wish I could have been with you.—George." No doubt there are members of the royal party who are even now regretting that they did not avail themselves of the opportunity when it was offered.

The following highly important Order in Council has been passed:

Whereas there has been reported a decrease in the supply of fish in the Eastern Townships, due to improvident fishing,—

The Governor General in Council, in virtue of the provisions of section 16 of The Fisheries Act, chapter 95 of the Revised Statutes of Canada, is pleased to make and does hereby make the following Fishery Regulation for the Counties, in the Province of Quebec, hereinafter mentioned.

"Fishing with nets of any kind in the lakes and tributary "streams of Missisquoi, Shefford, Brome, Drummond, Rich- "mond, Wolfe, Sherbrooke, Stanstead, Compton, Megantic "and Beauce, in the Province of Quebec, is prohibited.

"And no night lines used in the above prohibited districts "to have more than 100 hooks each."

These regulations should prevent the excessive destruction of fish life which has taken place in the waters affected. Rod and Gun has given space on more than one occasion to a discussion of this important subject, and we congratulate ourselves, as well as the many good sportsmen living in the Eastern Townships, that the Federal Government has regulated the fishing in that part of the Province of Quebec.

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A four-day show, under the auspices of the Duquesne Kennel Club, will be held at Pittsburg, commencing March 5. There are 202 classes, the prizes being the same throughout, viz., for puppy and novice, $5 and $3; for limit and open, $10, $5, $3. There are also a splendid lot of specials, including several cups valued at from $50 to $75. The judging staff is a strong one, and includes Major J. M. Taylor, Mr. Muss Arnolt, Mr. W. T. Payne, Mr. A. Albright, jr., and Mr. Jas. Mortimer.

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The prefect of police of Paris recently bought five Newfoundland dogs to add to the number already owned and used as auxiliaries to the river police. The dogs are used to save persons from drowning and are also useful in discovering offenders in their hiding places on the wharves.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association.

BRITISH FORESTRY

A very suggestive article, by Herbert Maxwell, M.P., appeared in the October number of the Nineteenth Century under the title of "The Sad Plight of British Forestry." Reference to the report made in 1887 by Sir John Lubbock's School Committee of the House of Commons shows that that Committee pronounced British woodland management to be capable of material improvement and reported themselves as satisfied that a considerable proportion of the foreign timber imported might be grown at home under a more skilful system. These imports at that time were reckoned at the value of £16,000,000, exclusive of forest products other than timber to the value of £14,000,000. This value had increased to upwards of £21,000,000 in 1899, whereof £5,000,000 was paid for rough-hewn logs and £16,000,000 for sawn timber. The latter import consisted nearly entirely of pine and fir from the Baltic, Scandinavia and Canada, and Mr. Maxwell adds, "there exists no physical reason why every foot of this should not have been grown on British soil had it been the will of our people to do so." The Select Committee estimated the waste lands in Great Britain and Ireland at 16,000,000 acres. A considerable proportion yields a good revenue for sporting purposes, but much of it is put to practically no use whatever.

E. Brocklehurst, Esq., M.F.H., Kamloops, B.C.

The general situation in regard to the timber of the world is that the visible supply is decreasing while the demands are constantly increasing, particularly in Britain, America and Germany, with the result that the recent advance in prices will not only be maintained but will increase. If present forecasts are correct the demand must overtake the supply before many years have passed, but with the slow maturing of timber crops it is necessary to make provision far in advance of the need. In view of this approaching crisis, Mr. Maxwell asks the question, "What provision is being made to meet it."

The woodland of the United Kingdom extends to a little over three million acres. These three million acres would not suffice, even if they had been under the most skilful management for the past one hundred years, for the present requirements of the British timber market. In fact, it is estimated that at least three times that area would be required, or even twelve millions, to supply what would be required when plantations now formed would be available. But the situation is even worse than this would indicate, for the general quality of the timber grown on the three million acres is even more discouraging than the deficiency in extent. On only a few estates in Scotland is the forest properly managed. The average English landowner knows nothing of economic forestry; he has a desire for game and pride in great trees and can see nothing beyond. As an example of this, Mr. Maxwell quotes the following instance of the treatment of an oak grove on an estate in the Midlands:—

"These oaks have been grown well and sufficiently close to draw them up to a great height, thus taking full advantage of the good soil and propitious shelter; they averaged about 80 ft. in height, with noble, clean stems, some 40 or 50 ft. without a branch, and seemed to be about 200 years old. Assuming that the wood consisted of about 50 acres, there could not have been less than 9,000 or 10,000 cubic ft. of sound oak timber per acre (according to the reduced British measurement of square-of-quarter girths) when this oak crop reached maturity fifty years ago. At 1s. per foot, this represents a value of £22,500 or £25,000. The greater part of this value has been sacrificed in the supposed interest of the landscape. Ten or fifteen years ago the oaks were suddenly and severely thinned, by way of improving the beauty of the wood; and the admission of light has brought up a strong growth of ash and beech saplings, with other undergrowth, among which have been planted a number of what are usually classed as ornamental *coniferae*, but which, in such a scene, are simply so many eyesores. So far from the beauty of this fine woodland being enhanced by what has been done, it has been ruined. My host pointed out with much concern that the oaks were failing. His forester, had he known the rudiments of his business, when he was directed to change the close oak wood into an open one, should have warned his employer that the

trees left standing were bound to fail. The inevitable result of suddenly isolating an oak which has been grown to middle age or maturity in close highwood is that an eruption of twigs and branchlets springs from the trunk and from the branches below the crown; the tree becomes 'stag-headed,' and the timber is greatly spoilt. That is exactly what has happened in the wood I am describing. These oaks have passed their best; they could not have improved even had they been let alone; treated as they have been, they are past praying for, and the rest of their existence must be a long-drawn process of decay, diversified with random and morbid growth."

Turning to the State woodlands, the situation is not in any better condition. The forests of Belgium cover an area of 1,750,000 acres and yield a return of £4,000,000 sterling a year. Under equally careful and skilful management the existing 3,000,000 acres of British woodland should yield £7,000,000. But the New Forest, containing 63,000 acres, on account of the sentiment in favor of the vested rights in grazing, etc., is left largely as poor pasture, there being only 17,600 acres of thriving wood. In very few of the other State forests—even in those like the 25,000 acres of the Forest of Dean, where wood is grown and cut to supply the market—do the returns meet the expenditure, let alone paying the rent of the land. There is no net income, but a deficit.

Mr. Maxwell urges the importance of a proper management of the State forest, first, in order to establish a standard of management; second, to set up a regular trade in home timber; and third, for the social effect of establishing a healthy industry like forestry in a thinly-populated region. To put the matter in a practical shape, Mr. Maxwell submits the following calculation:

"Suppose that Parliament could be persuaded to vote a sum of £10,000 a year for the purchase and planting of suitable land. There are tens of thousands of acres now offered for sale in Scotland, producing an annual rent of not more than two shillings an acre as sheep pasture, of indifferent or no merit as grouse ground, but very suitable for growing timber. Thirty years' purchase—a liberal price, as times go—would secure 1,000 such acres for £3,000. Planting this at 3 feet by 3 (probably the most profitable distance on level ground, although many planters save expense by placing the trees 4 feet apart) will require 4,840,0 0 trees for the 1,000 acres (it will take one-third or one-half less on sloping ground), and will cost about £6 an acre = £6,000. Here we have an immediate initial outlay of £9,000, supposing the whole area to be planted at once; but it might be found expedient to spread the planting over five or even ten years, so as to secure a successional period of maturity, if the same kind of trees are used on the whole of the ground. The balance of the £10,000 voted, £1,000, invested at 3 per cent., would pay the annual tool bill, in addition to which an annual charge must be reckoned upon:

Head forester	£120
Four woodmen at £60	240
Repairs and buildings	100
[illegible]	[illegible]

or say £500 a year. Shall we be able to meet this charge, receive interest on the capital sunk, and find our capital in hand at the end of the century? We ought to do so, if the statistics of commercially managed woods on the Continent are trustworthy, for we intend to manage this forest on stringently economic principles, not planting oak here to please somebody's fancy, nor fir there because it will look romantic.

"For the first ten years no return can be expected from the plantation; therefore the capital of £9,000 originally sunk will have increased in that time at 4 per cent. compound interest to £13,322 3s. 6d. In order to receive 4 per cent. upon this money, and to defray the annual expense of £500, we must make a net profit of £1,033 a year off our 1,000 acres. Between ten and fifteen years' thinnings will be worth little except for fencing purposes, and cannot be reckoned on as doing more than covering the expense of cutting and removal. From fifteen years onwards the income will steadily increase, beginning with pit-props, for which there is an almost insatiable demand in this country, proceeding to the medium-sized trees removed, in judicious thinning, until the period of commercial maturity, which in the case of Scots fir and larch should be at about eighty years, when the regular falls will begin.

"Taking prices at the improbably low figure of 6d. a foot, 1,000 acres, yielding an annual average of 75 cubic feet per acre, will give a gross return of £1,875 5s., or £1 17s. 6d. an acre from land which, as sheep pasture, yielded a rent of two shillings an acre, or £100 for 1,000 acres. The average balance-sheet would appear as follows, subject to a slight additional charge for insurance.

Expenditure.	£ s.	Receipts.	£ s.
Interest at 4 per cent. on capital £13,332.	532 18	Sale of 75 cubic feet per acre at 6d. on 1,000 acres	1,875 5
Average annual expenses	500 0		
Net profit	842 7		
	£1,875 5		£1,875 5

"If no more than £10,000 were voted annually for the next fifty years the State would have made a progressive investment of half a million—*about the cost of four days' war against the Boers*—and earned a gross revenue of £93,750, supposing the price of timber fifty years hence at no more than 6d. a foot. The experiment would seem to be worth trying."

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FORESTRY BULLETINS

Anyone interested in forestry in any of its phases will find much interesting and useful information in the bulletins which are issued from time to time by the Bureau of Forestry of the United States. It was the intention to call attention to these bulletins as received by us through the kindness of the Bureau, but as this has not been done with regularity we wish briefly to mention those that have reached us during the past year:—

"The Forest Nursery," by Geo. B. Sudworth, Dendrologist of the Bureau, gives in a concise form the information in regard to the collection of tree seeds and the propagation of seedlings which enquiries made of the Bureau from time to time show to be required by farmers and others interested in tree planting. The aim is to supply the needs of those who have had little or no experience, and with this object in view definite instructions are given as to the time and means of collecting seeds, the proper methods of storing, testing vitality, identification, etc., the preparing of seed beds and setting out and care of seedlings, wintering and transplanting. The illustrations add much to the usefulness of the report, as does also the systematic list of useful timber trees suitable for planting, which occupies the last four pages.

"Practical Forestry in the Southern Appalachians," by Overton W. Price, Superintendent of Working Plans, is a re-

print from the Year Book of the Department of Agriculture for 1900. A description is given of the forest and the methods of lumbering followed up to the present time which, both as practised by farmers and lumbermen, have done much needless harm to the trees, while the fires, over which there is little control, are responsible for the destruction of much more. For cut-over land, now covered by a second growth of oak and pine chiefly, improvement cuttings to remove undesirable species and to promote a denser and healthier growth are suggested. Such cuttings have been found by experiments at Biltmore to involve no financial loss if properly managed. The procedure for dealing with the virgin forest is outlined in the two following suggestions:—

(1) Remove all diseased, over ripe, or otherwise faulty trees of a merchantable size, where there is already sufficient young growth upon the ground to protect the soil and to serve as a basis for a second crop of timber.

(2) So direct the cuttings that the reproduction of the timber trees may be encouraged in opposition to that of the less valuable kinds.

"Forest Extension in the Middle West," also a reprint from the Year Book, is by William L. Hall, Assistant Superintendent of Tree Planting. It is first pointed out that the two facts which are clear in regard to tree planting in the West in the past are:—First, that there is a general aimlessness and lack of system in both planting and management; second, there is but a small percentage of thrifty plantations. The aims to be served by the plantations, the conditions of growth, the relative usefulness and value of different species have not been understood. The rise of value consequent upon the diminution of the supply in the Mississippi Valley is illustrated by fence posts, which are now selling at ten to twenty cents instead of eight to twelve cents, the price ruling ten years ago. Telegraph and telephone poles are worth fifty per cent. more than twenty years ago, and railway ties twenty-five per cent. more. These increases have made growing profitable, and the subject is therefore deserving of study and attention. The different species suitable for planting are mentioned with some detail, and though many of them are not fitted for the Canadian West, there are many items of useful information that will be found of great interest by all who are considering the problem of forest extension.

"A Forest Working Plan for Township 40 in the New York State Forest Preserve," by Ralph S. Hosmer and Eugene S. Bruce, gives a detailed description of the plans adopted for managing this forest tract. The main purpose is to outline a method of management under which the merchantable timber may be cut in such a manner that successive crops may be obtained and the condition of the forest constantly improved. The total area of the tract is about 25,660 acres of rocky and mountainous land. An examination of the trees was made, and from the information thus obtained a calculation of the production was made, and from these data the method of cutting was decided upon. The species to be lumbered at present are pine, spruce and balsam. This pamphlet will be found of great value by those who are engaged in practical lumbering.

There have also recently come to hand "Notes on the Red Cedar," by Charles Mohr, Ph. D., and "Tree Planting on Rural School Grounds," by Wm. L. Hall, which will be noticed more at length at a later date. The latter pamphlet is specially valuable for those interested in the celebration of Arbor Day and the beautifying of school grounds.

The third annual meeting of the Canadian Forestry Association will be held at Ottawa on the 6th and 7th March. The following is the programme so far as arranged at the time of going to press: "Eastern Forest Trees grown at Victoria, B.C., from seed imported from the East," by His Honor Sir Henri Joly de Lotbinière; "Forestry in Ontario," by Thos. Southworth, Director of Forestry for Ontario; "The Management of Wood Lots," by W. N. Hutt; "The Growth of Forest Trees," by Professor E. C. Jeffrey, of the University of Toronto; "The Making of the West," by Professor John Macoun; "The Contribution of the Experimental Farms to Forestry," by Dr. Wm. Saunders; "Tree Planting on the Prairies," by Norman M. Ross, Assistant Superintendent of Forestry for the Dominion; "The Forest Fires of 1901," prepared by instruction of the Association; "Forestry in Prince Edward Island," by Rev. A. E. Burke, of Alberton. Circulars will be sent to all the members giving full particulars.

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The Canadian Forestry Association extends its heartiest congratulations to its Vice-President for the Province of New Brunswick, who is now His Honor J. B Snowball, Lieutenant-Governor of that province. His Honor has taken a great interest in the work of the Forestry Association, and his presence at the annual meeting will be much missed. His high position may, however, give larger opportunities for advancing forestry interests, and we feel convinced that full advantage will be taken of them. This is not the first time that a member of the Forestry Association has been so honored, as the respected President, Sir Henry Joly de Lotbinière, was some time ago appointed to a similar high office in our far western province, British Columbia. The Canadian Forestry Association cannot but feel honored in the honor thus done to its officers, and while it is to be regretted that it will not be possible for them to take such an active part in the work of the Association at Ottawa, the presence of energetic members in such influential positions means much for the future of the Association and—we may add—of the Dominion.

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Rev. Dean Paget, of Calgary, whom we are glad to welcome as a member of the Canadian Forestry Association, writes us that on the grounds of the rectory, which has recently been erected on virgin prairie, he has had a plantation of trees set out. The ground was ploughed, manured and planted thickly in front and on the sides with poplars, cottonwood and spruce alternately. The rule which has been followed in Calgary is that spruce must be planted in the spring, but as an experiment they were set out in this case early in November. We hope to be able to furnish information as to the results of this experiment when the plantation is sufficiently advanced.

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Question Drawer.

D. James, Thornhill, Ont.—1. On October, 1899, and again in October, 1901, I planted in clay soil, well drained and rich, about 100 shell bark hickory nuts. Not one grew. Can you suggest a cause? 2. In the fall of 1900 I planted a variety of nuts and seeds supplied from Guelph. None grew. Can you suggest a cause? 3. I have a hillside of about 1½ acres of good clay loam, cannot use it for grain; also a swamp of about ½ acre. How should I prepare it to grow a crop of trees? What would be a most suitable and profitable kind? 4. How many cubic feet per year per acre should a well wooded deciduous bush grow?

Answers to Questions 1 and 2.—It would be impossible, knowing none of the conditions, to assign any particular reason as the cause of your failure. Any one or more of the following may have had something to do with it :

1. The seed may have been poor, that is, the kernels dried or worm-eaten, thus having no vitality. 2. The seed may have been planted too deeply in the soil ; on an average a seed should be covered to a depth of not more than two or three times its own diameter. 3. After planting, squirrels or mice may have carried off or eaten the seeds and nuts. This is one of the chief dangers to be guarded against where nuts are planted. 4. The soil may not have been sufficiently moist to cause the hard shell of the hickory to disintegrate sufficiently to allow the kernel to sprout. Seeds often lie in the ground for one or two seasons without germinating if conditions of soil, moisture, etc., are unfavorable.

Answer to Question 3. — Preparation of Hillside.—The chief object in any preparation of soil for tree planting is first, to remove any soil covering such as sod, weed, scrub, etc., which might prevent young trees from growing, and second, to loosen the ground as deeply as possible in order to assist the young seedlings to make rapid foot growth during the first few years after planting. If the plot of land mentioned is at present in sod, it should be ploughed in the early summer about four inches deep and again in the fall as deeply as possible, at the same time using a subsoil plough. The ground should be left rough over winter. If the hillside is so steep that there is danger from washing, strips of sod two to three feet wide at intervals of about fifteen feet might be left running parallel with the contour lines of the slope. In any case the furrows should follow the contours.

Preparation of Swamp.—If the land is soaked with stagnant water it must be drained to a certain extent, as trees require a certain amount of air at the roots. Perhaps the best method of planting is what is commonly known as "mound planting." This consists of planting young seedlings on mounds of earth thrown up above the general level of the surface, either by digging holes or trenches.

Varieties to Plant.—This depends on, first, the sort of produce it is wished to obtain, whether fuel, fencing or other material, and second, the local conditions affecting tree growth. For instance, the hill may slope either north, south, east or west. The north and east slopes are most favorable to tree growth, as they are always moister, and here such trees as sugar maple, walnut, hickory, etc., may be planted. For a small plot perhaps sugar maple would be as good as anything. It is a rapid grower, produces good fuel, and after a few years sugar may be tapped. On dry, south slopes conifers, such as white, red or Scotch pine or larch, will generally prove more successful than broad leaf varieties. In the swamp or wet lands, ash, elm, willow, cedar, and other trees which grow naturally under such conditions, should be selected. Some forms of tree willow make very rapid growth and are easily propagated from cuttings.

Answer to Question 4.—It is absolutely impossible to answer this question with any degree of accuracy, as conditions of growth in this country have as yet received but very little attention. In order to determine the exact annual increment for any given species, it is necessary to make careful measurements, year after year, on the same plot of ground. Different classes of soil and differences in climate still further complicate the work.

The following figures are taken from the yield tables compiled in Germany by Baur, and apply to a beach forest :

	BEST SOIL		FOREST SOIL	
Age	Cub. ft. of wood-growing stock	Cub. ft. for thinnings	Cub. ft. of wood-growing stock	Cub. ft. for thinnings
20	1143	170	355	99
40	5121	397	1462	170
60	5992	539	1817	241
80	8235	497	3124	227
100	10238	304	5345	156
120	12942	255	.....	....

These figures may give some idea as to the growth of a fully-stocked broad leaf forest, but they cannot be taken as applying accurately to Canadian forests, as the rate of growth is so dependent upon local conditions.

N. M. Ross.

Answers to Correspondents.

L. C. Roberts—The best bass lakes we know of in Northern Ontario are Lady Evelyn, Diamond, Obabika and Temagaming, but there are many others in that region which are probably as good. You must not forget, however, that the waters wherein black bass are found form a very small percentage of the whole fishing area of the northern part of the province of Ontario. The apparently capricious distribution of the various species of fish is yet a puzzle to the foremost icthyologists. For instance, there is very excellent bass fishing in the Montreal River for a few miles above its junction with the Mattawabika, but higher up, according to Mr. Farr, a trustworthy authority, there is none. The two fish of almost universal distribution are pike and pike perch, usually called doré , in many of the larger lakes the lake trout is found, in a few of them the small and large mouthed bass exist, and in a very few streams and lakes, which the coarser species have been prevented from reaching owing to falls or a series of rapids, there is fishing for the brook trout. We do not believe there are mascalonge in any of the waters of northern Ontario or Quebec, but in the present state of our knowledge it would be rash to say that they do not exist. The pike run heavy and are very game and determined fighters, hence they have often been dubbed mascalonge.

Enquirer—No doubt as an old fisherman you have learned the wisdom of taking all such stories with a grain of salt. The catch in question may or may not have been made, but in any case it was a very unsportsmanlike proceeding, as the lake trout were then on their spawning grounds.

Fishing in Te-gou-sie-wabie.

To the Editor of Rod and Gun :

I was glad to see the correction in last month's issue to my statement that there was no trout fishing in Te-gou-sie-wabie. I can explain easily how I formed this erroneous conclusion : Owing to John's broken English I understood him to say that there were speckled trout in the lake, and I, therefore, only fished the shallower bays, whereas had I been after lake trout, or "salmon trout" as Mr. LeHeup calls them, I should have trolled in the very deepest water I could find, because in hot weather in August I do not think that Mr. LeHeup or anybody else would find them where he took them later, during the spawning season. As every fisherman knows, the lake trout leave the deeps in the fall, and during October are found in quite shallow water, as they spawn on the reefs and around rocky islands and shores.

I forgot to say that the Indian boy caught any number of small perch, but I don't count that kind of fishing.

Montreal, P.Q. Sr. Croix.

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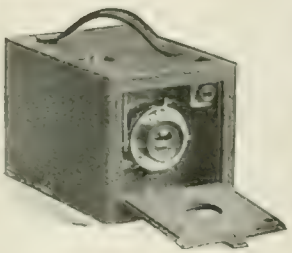

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DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

One Dollar Per Annum. MONTREAL, APRIL, 1902. Single Copies Ten Cents.

IN THE WILDS OF NORTHERN CANADA.

By M. H. Hoover.

(Concluded from the March issue.)

It is truly astounding how much pleasure the amiable doctor gets out of his outings, in view of his avowedly lazy disposition. Why, the toils of the portage give zest to the holiday, and make what is beyond all the more enjoyable. Moreover it is the barrier which makes possible the splendid isolation so dear to the true sportsman and lover of nature.

But hold! That last is an unworthy sentiment. Down with the portage barriers and let everybody have an opportunity to see the great region whose praises we sing "before the canal came." Build the canal, and meanwhile let us confess that this criticism of Dr. Van Dyke was uttered on this side of the portage! On the other side the average tourist, (or voyageur as he may want to call himself on the jaunt au large), is apt to repent any sentimentality about the enforced overland trips in sack and perspiration, especially if the addition to the necessities and luxuries of camp require still one more carry.

On the French River, Ontario.

This is a very characteristic scene in the Land of Hiawatha. The French River flows with a stately volume through the most picturesque scenery of the Nipissing district

The ordinary map represents the French River by a single sinuous line extending between Lake Nipissing and Georgian Bay. No map has ever portrayed it as it is. For 12 miles from the lake to the head of Okikendawt Island, there is indeed but one broad majestic channel. At this island, which is about 36 miles in area, even canoe navigation ceases, the boisterous Big Chaudiere Falls and rapids commanding the most daring Indian to walk around. From this portage to the Georgian Bay, 50 miles, there are two main channels, in places 25 miles apart, subdivided into countless minor ones, embracing islands innumerable. There are hundreds of rapids, many of them safe for the skilful paddle, but most of them treacherous and dangerous The tragedies of two successive seasons warned the Lockport campers to be unusually careful this year. The Chaudiere, which the natives say means "The Boiling Pot," is the Niagara Falls rapids in miniature, and twice as spiteful. No artist's brush has yet essayed their wild grandeur and picturesque beauty, a new and worthy subject for his skill.

"Au large! Envoyez au large!" cried Louis Beaucage to the lingering Le Blanc. The guide may be depended upon to see that the cook gets off in safety and stays with the party.

It was a morning to make one thankful that he was alive and out of doors. Each traveller was primitive man again. He had cast off from the sordid anchorage of civilization and was giving himself up unreservedly to the rehabilitating welcome of Mother Nature.

The Banker had long ceased counting up his gains, lost in contemplation of the reflection of a cardinal flower in the water. The Lawyer had forgotten his client and was gathering in the golden pond lilies. The Judge was not addressing the jury when, after an appreciative inhalation, he quoted Milton :

> "Now gentle gales
> Fanning their odoriferous wings, dispense
> Native perfumes, and whisper whence they stole
> These balmy spoils."

It was a long stretch of wild country to camp, but a court injunction could not restrain the forest lovers from running up to the foot of the Chaudiere Rapids on the way, to see if the 'lunge and bass were again at home. At the foot of a foam-flecked rock the Sheriff cast his line, and ere the protesting frog had disappeared from view a fine specimen of *Esox nobilior* gobbled up the bait. The angler thought he had made connection with an underground trolley cable. The 'lunge responded to an invitation to closer acquaintance, but with an angry shake of his wicked head he said good-bye, taking along the greater portion of the tackle as a souvenir of the brief meeting. In the eddies the bass were resting and waiting for prey. They took with equal rashness, trolling spoon, fly, grasshopper or frog. Louis and LeBlanc soon had the pans sputtering with a savory meal and the loss of the 'lunge was quickly forgotten in the juicy morsels of bass and pike, or pickerel, as the same fish are called in the States.*

Late in the afternoon Camp Niagara on Duquesne Bay was sighted, and the weary oarsmen spurted for the coveted goal. After a short rest fragrant boughs were cut for the bunk mattresses, and camp put in order for the pleasuring of the days to come. The "bite-'em-no-see-'em" flies were gone, and the pesky mosquitoes did not rise to the elevation of the two log cabins under the pines overlooking the broad bay. Angling around camp was magnificent. In the thickets back of the cabins were plenty of toothsome partridge. Deer were to be had for the hungry man in almost every reedy nook. The ordinary menu of that camp, hidden away from the cunningest paddle and the sharpest scout, although within rifle-shot of the route of the proposed ship canal, was something like this: Dinner—Tomatoe soup, frogs legs, broiled bass, venison roast, mascalonge steak, fried pike, blue-berries, wild-raspberry pie. When the canal runs through our way, overdined Lucullus of Boston, Chicago, New York, Philadelphia, Pittsburgh, just apply to the Lockport Tenderfeet for a more definite map, and come sup with us under the pines. From under the canopy of our forest restaurant we can see your smoke as you round the bend, down towards Masog-Masing, below the Five-Mile Rapids, and thus forewarned, we shall have everything in readiness for you.

But wait for the canal, the rapids are dangerous, as before observed. Two years ago three college men, all athletes, lost their lives on the Five-Mile Rapids, second portage, drowned while attempting to shoot the treacherous currents. Towards evening on the second night in camp this year a canoe rounded the point and headed for the cabins. An Indian was paddling and in front was the bowed form of a man. As they came nearer the white man burst out weeping. He was helped ashore and when his grief had subsided he gasped, "I have lost my comrade!"

Those words conveyed the whole sad story of the tragedy of the wilderness. In detail, Cook Bausman, of Pittsburgh, the visitor, related that with his companion, Robert Allen, of Pittsburgh, they had been making a canoe voyage from the Georgian Bay to the Mattawa. In coming up the second rapids of the Five-Mile their skiff had been upset in an apparently safe current. Allen clambered to a rock and shouted to the guide to save Bausman who was struggling in the water. The Indian obeyed, but when they looked for the man on the rock he had disappeared. Long hours they searched for him, but in vain. Reinforced by help from our camp, Bausman started on the long journey to Sturgeon Falls to wire the awful news to Allen's Pittsburgh relatives. Three days later the body was recovered in an eddy not far from where the accident had occurred, and the unfortunate forest traveller was taken home. As Bausman related the story, all the more harrowing under the circumstances of isolation, the south wind bore to our ears the sullen, muffled roar of the distant falls. In the sombre trees the breezes sobbed a requiem. The once pleasant sound of the waves beating upon the rocks now possessed all the dolesomeness of a dirge. The melodious notes of night had changed to the dreary, droning measure of far away monastery bells.

In this now isolated region, according to the designs of commerce soon to be put in touch with the out world, the hunter finds his paradise, the poet his heaven and the artist his elysium. It cannot be described in language adequate to the subject. Do not try to locate it on the map, but go and search it out with eyes, ears and all the senses God has given man, and memory's storehouse shall be amply prepared against gloomy days.

*[The writer is in error. These fish were pike, not pickerel, which are not found in Canada, though the natives often call the wall-eyed pike "pickerel."—Ed.]

*

SOME BRITISH COLUMBIAN FIELDS OF SPORT

(Continued from the March issue.)

The North Thompson Valley.

A most diversified field is the valley of the North Thompson River, including those of its tributaries. Fishing may here be combined with hunting and trapping. Large and small game abound, and beaver, marten, lynx and otter are found in fair numbers. From its mouth to the point where it tends to the westward, the North Thompson measures 200 miles and to its source is yet another hundred. This description must be understood to refer only to that part of the valley from its mouth to the junction of the North Thompson and Albreda Rivers, a stretch of 200 miles. The valley is tributary to Kamloops, which is its gateway. A wagon road extends for the first fifty miles, above that saddle horses and pack trains are needed. During five months of the year the North Thompson is navigable for a distance of 110 miles.

There is a post-office on the main road 36 miles out, at the junction of Louis creek with the main river, and there is also a mail service, semi-monthly in summer and monthly in winter (December 1st—March 1st). There is an hotel and store at Louis Creek, which is on the eastern bank of the stream. There is also a waggon road on the west side of the Thompson for the first 26 miles, after that the traveller has to follow the trails.

The mountain ranges which hem in this great valley abound with big and small game. Sportsmen may enjoy bear hunting as well as deer shooting, and there are numerous grouse and rabbits for the pot, but the duck shooting is not as good as in the regions further south, such as the Nicola Valley. There are no places of public accommodation, but travellers are always made welcome at the farm houses. To hunt this valley successfully pack and saddle horses are necessary and they, together with the rest of the equipment, should be secured in Kamloops.

Adam's Lake Valley.

This lake is on a large scale like most things in British Columbia, being 60 miles in length and varying in breadth from three to five miles. Adam's Lake may be reached either from the big Shuswap Lake, into which it discharges, or by the North Thompson River to Louis Creek, then south about eight

miles, turning east at this point into the Adam's Lake valley, 20 miles long. In the valley and in the mountains which fringe it on either side, there is capital hunting for bears and deer, and grouse and ducks may also be shot. The lake is famous for its fishing both with fly and troll.

Barrier River.

The Barrier River flows into the North Thompson, five miles north of Louis Creek (41 miles from Kamloops). This is as good a district for big game, small game and fish as any. A waggon road passes the mouth of the river from which a trail runs up its valley.

By continuing up the Thompson good deer shooting may be had, especially in the neighborhood of Little Fort, Mosquito Flat, Raft River and Pea Vine. Caribou are also often met with, though they are much more numerous in the ranges bordering Blue River further north. The river bottoms and hill sides harbour great numbers of grouse, and even the smaller streams swarm with trout. In the high, rugged chain which crosses the Gold Range at right angles, and which ends at the big bend of the Columbia, there are numbers of goat.

Camp at Fish Lake, B.C.

This is a very fair representation of the fishermen's camp in British Columbia It was taken twenty miles south of Kamloops.

Long Lake.

Long Lake has very exceptional advantages, as it is a good shooting and fishing ground and in close proximity to Kamloops. One of the most successful local sportsmen writes: "You are aware that duck and grouse shooting is one of our most popular autumn sports, and one of our leading shooting grounds is on the Long Lake ranges, which include Cherry Creek, Jacko Lake, and McConnell ranges. A long day's shoot usually embraces all these ranges, a stretch of about 30 miles, with good shooting all the way along. Small lakes abound, and in the early part of the season these furnish good goose shooting and there are, of course, plenty of duck—mallard, butterball and teal. McConnell's Lakes are admirably adapted for wing shooting, as the ducks will not leave the chain, but fly too and fro when put up. Geese are also plentiful around these lakes. Outside the famous Nicola Range, the Long Lake district offers the best shooting to those who only intend spending a few days in camp. The last time we were out we pitched our tent in an ideal spot, at the spring at the head of Long Lake, which, although one and a half miles in length and broad at each end, narrows to a width of 50 yards at the centre. Here excellent shooting is to be had when each end of the lake are properly guarded. Flight shooting is generally good, as it is a feeding ground at night. Near Long Lake are numerous other waters, including Rush Lake, a noted resort for geese. Several days may be spent profitably in the neighborhood. Owing to the fact that Long Lake is in the direct line between McConnell's Lake and Stump Lake, the course which the geese travel when flighting to either lake makes Long Lake one of their favourite resting places. It is about nine miles from McConnell's Lake and ten miles from Stump Lake. Prairie chicken are found in abundance on these ranges, Humphrey's, Hall's and Newman's fields being their favourite feeding ground, so that a day or two's outing affords a variety of shooting."

Useful Information.

Hotel accommodations at Kamloops are good. Charges run from $1 a day up.

Pack horses cost from $10 to $25.

Pack saddles and gear complete cost from $7 to $8.50 each.

Riding saddles cost from $8 to $50 and hire.

Assistant guides acting as packers as well, charge from $2 to $4 a day. As a rule they furnish their own saddle horse.

Hire of pack horses and packing gear (when obtainable), 75c. a day.

Pack horses without gear, 50 cents a day.

Livery stable horses, $2 a day (saddled).

Single horse and rig, $3 a day.

Single horse and rig, with driver, $5 a day.

Double rig, with driver, $6 a day.

Guides—There is no one in Kamloops who makes a business of guides, but Mr. John Freeman Smith, of Kamloops, if written to, will make satisfactory arrangements, and will secure the services of trustworthy guides to each district. Ammunition and fishing tackle are always on sale at the Hudson's Bay Company, and MacArthur & Harper.

To be continued.

*

THE WAYS OF THE FISHER.

As told by Henry Braithwaite to the late Frank H. Risteen.]

The black cat, or fisher, used to be much more plentiful in New Brunswick than of recent years, and was trapped without much trouble. The few survivors of the race seem to be very hard to trap. They are forever on the move and cover a big scope of country in their travels. The animal is classed as belonging to the marten family; he is really built more on the lines of the bear in front and the fox behind, but nature made a smoother job of it at both ends of the fisher because he never does any fishing.

Many wrong opinions exist as to the size and weight of the fisher. He will not average more than 12 or 15 pounds, and a specimen weighing 20 pounds would be very unusual. The color of the animal varies all the way from a good old-fashioned brindle to very nearly black. The darker the fur the greater its value. The cubs are all light colored, almost as light as a coon. The value of the skins in this country varies from $5 to $11. An average first-class skin will bring $7 to $8.

The fisher rambles around so much that he has very little time to give to his domestic affairs. His den is usually a hollow log, a hole under a root, or a crevice in the rocks similar to that of the pine marten or sable. He seems to have regular hunting grounds on which he appears every fortnight or three weeks. You find him here to-day and 15 or 20 miles away to-morrow. I once came upon the track of a fisher that had lost part of one foot in a trap, making it easy to distinguish his trail in the snow from that of any other fisher. This was in the Little Sou-West country, on one of the spurs of County Line Mountain. I was on my way north over my line of traps, which ran about 40 miles in that direction to within a few miles of the Nepisiguit River. I made the trip in two days, and on the following morning struck the trail of old hop-and-go-fetch-it within twenty rods of the camp. I wouldn't like to say where else the fisher had been, but he had certainly made 40 miles northing in a little over two days.

The cubs are born, I believe, in May or June. I have caught gravid females quite late in the spring. I never knew the female to have more than two kittens at a time, but I would think that, like the marten, they sometimes have three or four.

The fisher is the finest combination of strength, speed and courage to be found in our northern woods. Though smaller than either the Canada lynx or wildcat, he is fully able to take care of himself with any of these animals. If you give him room enough he can hold his own against as many dogs as you can pick up in a day's travel.

I once went after a fisher with a foxhound, a bull terrier and a thoroughbred mongrel belonging to Jack Gibson, of Marysville. The black cat had crossed my trail in the morning and I thought all I had to do was to set the hound on his track and the other dogs would follow the hound, and if they ever overtook the cat I would be lucky if I found anything but the pieces. I followed the trail till about 2 o'clock, when the dogs overhauled him and he took refuge in the top of a hollow pine that had broken off in a recent storm. The three dogs were at the hole when I came up, just threatening to chew up all one end of the tree in order to make a meal of the cat. I had no axe with me to cut him out, so standing my gun against a tree I cut a club with my sheath knife and hammered on the log to drive him out. I felt sure the dogs would eat the cat up so his fur would be useless, but I wanted to collect a few samples of the hide if possible. About the second clip I gave the log the cat stepped out. He just sprang from one dog to another and there was a bunch of fur floating in the air and a dog turned upside down every wipe he made. He just left a wake of dogs behind him and rambled off as if he had forgotten all about it. The dogs, however, got up right away and followed him yelping for all, or even more than, they were worth. I had the gun ready to shoot but the dogs kept so close to him that I couldn't fire without hitting them, and they all soon passed out of range. The cat would just trot along and when the dogs got too close for comfort he would turn about and chase them. I didn't get the cat and I had walked so far that I came near having to lay out that night without dinner or supper.

Fishers will occasionally tear a mink or sable to pieces in a trap, but, as a rule, are not so bold. The wooden trap is preferable to the steel trap for catching the fisher. It should be set the same as the sable trap, but heavier. The advantage of the deadfall is that it kills the animal before he has chance to thresh around and destroy the fur. Almost any kind of fish or meat is good for bait, but fresh trout is the best. They will take that when they will go by anything else. In setting the deadfall a tree is cut down and the trap set on top of the stump about breast high, but the fall should be three times as heavy as the one used for marten. If a steel trap is used it should be a large one that will catch the fisher very high up, or else he will twist his toes off.

The fisher is the only animal I know of that will tackle a porcupine. I have often caught them with their skins so full of quills as to be nearly worthless. I have never caught a fox, lynx or other animal with a porcupine quill in his hide. I once shot a moose that had his nose full of quills where he had evidently been inspecting a porcupine. The quills of the porcupine will not penetrate the flesh of a black cat as they will any other animal. They just go through the skin and then turn sideways, laying in layers between the flesh and the skin. You might, perhaps, find a quill driven through one of the paws where the porcupine struck him, but about the head and body the quills will not penetrate further than the skin.

The tail of the fisher is wide at the base and tapers almost to a point. When the snow is soft the tail is dragged through it so much that along the first part of April it gets very much damaged. The fisher is very short legged, but seems to have fully the speed of a fox. I think the animals mate when they are two years old. The best fur is obtained from animals of medium size. A very old fisher has very coarse fur. With regard to the fur of the fisher generally, I can hardly see where the value comes in, for it looks coarse and rough without any special beauty of gloss or color to recommend it.

NORTH AMERICAN FISH AND GAME PROTECTIVE ASSOCIATION.

Owing to a lack of space we were forced to omit several very important resolutions passed at the annual meeting of the North American Fish and Game Protective Association in our report. We make room for them in this issue :

That the open season for moose, caribou and red deer in all the border States and provinces should generally be from September 15th to November 30th inclusive, but that for certain sections of a province or State, where moose are decreasing, it may be desirable to make partial or entirely close seasons ; that in northern districts a longer season for caribou is desirable, though great care should be observed in extending it beyond that for moose, and that in districts where red deer are few in number it is desirable that the open season be further restricted.

That the numbers of moose, caribou and deer killed by one hunter during a single season be limited to one moose, one caribou and two deer, and that the pursuing of moose, caribou and deer with dogs be prohibited.

That spring shooting or killing of game birds be abolished.

That the close season for beaver should be extended until 1905 in all the States and border provinces.

That the open season be from September 15 to December 15 for all species of grouse with the exception of ptarmigan, for woodcock, snipe and duck of all kinds, including swans and

geese, rail, plover, and other birds known as shore birds or waders.

That every State and province should adopt laws limiting the number of game birds that may be killed by each hunter per day, and the number, weight and size of game fish which may be caught by each angler.

That a permanent protective law be urged against the destruction of insectivorous birds and other birds useful to agriculture.

That the exportation of speckled, or brook trout, be totally prohibited, save with the exception of fish caught by any tourist or summer visitor, the total weight of such fish not to exceed thirty pounds net, and limited to the lawful catch of two days' angling.

That in all the waters dividing the States and provinces, the open season for black bass shall be from July 1st to January 1st.

That all net fishing be prohibited in Lake Champlain, in the spring of the year, in New York, Vermont and the Province of Quebec.

That in the publication of the game and fish laws of the different States and provinces by the departments or officers in charge of the enforcement thereof, the open season, as well as the close season, should be stated.

That the pursuing, shooting at or killing of any of the animals or birds specified in the foregoing recommendations, should be entirely prohibited at all other times than those specified in such recommendations.

That the tag and coupon system in use in Ontario and Michigan be adopted by all the provinces and States, and that market men, game dealers, buyers, sellers and tanners of deer, moose and caribou skins and proprietors of hunting camps be duly licensed—if such a system can be legally so arranged—by the chief game authorities of the States and provinces, to whom they shall periodically report.

That the possession, sale and exportation of all game birds and animals should be prohibited after the expiry of fifteen days after the close of the open season for the birds or animals, as the case may be, in each State or province in which taken or killed, each article to be accompanied by a coupon from a license authorizing the killing or capture of the same in such state or province.

That a bounty sufficient to insure the trapping of wolves should be offered in Quebec, Ontario and New Brunswick, where these pests are sufficiently numerous to be a detriment to the game supply, and that the minimum amount of such bounty should be fifteen dollars.

Resolved, That this association favors the amendment of the Act of Congress, passed May 25th, 1900, known as the Lacey Act, in such form as to prohibit under penalty of forfeiture of goods and of imprisonment of the offenders the bringing into the United States of any fish or game, furs and fur bearing animals that shall have been killed or had in possession, in violation of the laws of the State or country in which the same shall be killed or in which any such fish or game, furs and fur bearing animals shall be unlawfully had in possession under or by the laws of the State into which any such fish or game, furs and fur bearing animals shall be brought into the United States.

Resolved, That the president of this association be and is directed to transmit a copy of this resolution to the Honorable Mr. Lacey, member of Congress, with the request that he make such efforts as he can to carry the resolution into effect.

Resolved, That it is the sense of this association that the members from the Provinces of Canada shall urge their several Governments to enact laws similar in scope to the Lacey Act of Congress, together with the above proposed amendment.

Resolved, That the secretary of this association is hereby instructed to send, as soon as printed, a copy of this preamble and resolution, together with a copy of the printed proceedings of this meeting and the constitution and by-laws to the chief game and fish authorities of Minnesota, Manitoba, North Dakota, Montana, Idaho, British Columbia and Washington, and the North West Territories of Alberta, Assiniboia and Saskatchewan, as a respectful suggestion from this association for their earnest consideration.

Resolved, That it is the sense of this association that it should in no respect become an advertising medium for any sportsmen's resort, sporting goods, railroad or steamboat lines or anything else in the way of merchandise or transportation.

Resolved, That this meeting believes that the best results in enforcing game laws cannot be gained unless their enforcement is altogether divorced from politics.

Resolved, That we believe a prosecution for infraction of game or fish laws should be pushed to a conclusion as soon as possible in every case.

Resolved, That we strongly object to the pernicious practice of remission or payment by provincial or State governments, or their officers, of fines imposed on offenders, or of suspended sentences or any other device of which the intent is to defeat the ends of justice for any reason, political or otherwise.

Resolved, That copies of this resolution be sent to all interested governments.

Mr. Wilson introduced the following resolution, which was adopted: Whereas, the general laws of adjoining States of the American Union, except New York and of the provinces of Canada, except the Province of Quebec, which having a general law prohibiting spring shooting, makes an exception in regard to divers or buffle heads, which practically nullifies the law, and in the opinion of this association it is desirable that such shooting and exceptions should be prohibited, therefore, resolved, that this association respectfully petition the Legislatures of the State of New York and of the Province of Quebec to enact legislative measures, which will entirely prohibit spring shooting of all wildfowl in that State and Province.

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A SUMMER IN ALGOMA.

By H G. Tyrrell, C. E.

In the summer of 1884 the writer was appointed the chief assistant on the survey of Fairbank Township, in Algoma, Canada. This lies about sixty miles inland, north of Georgian Bay, and up to that time had remained in its original wild condition. It was, however, known to be of the same general nature as the rest of Algoma, a wild, mountainous region, almost entirely unfit for cultivation, and valuable chiefly for its timber and minerals. Up to that time, however, not even the prospector had ventured far into the country, and the mines now being worked in the vicinity of Sudbury were then unknown. Year after year the work of exploring and surveying the country was being carried on, and the summer's work now to be described was but one step towards opening up this new and valuable region. The survey was in charge of Mr. Francis Bolger, an Ontario Land Surveyor of Penetanguisheen.

A study of such maps as existed showed that the easiest route to our township was by way of a chain of lakes and

rivers, northward from Georgian Bay. It was therefore decided to go by boat to Killarney, and from there westward along the north shore, to the mouth of White Fish River, which we would ascend, and after portaging through a chain of lakes, to reach the Virmillion River, which would take us to our destination. This river was known to have its rise in a lake which we found to lie mostly within the limits of our township, and which we called Virmillion Lake.

Accordingly, on the morning of July 8, the writer took an early train to Toronto, where he was joined by his old friend and college mate, Robert Laird, who was to be an assistant on the survey. We had also for part of the journey the company of our former teachers, Professors Galbraith and Baker, of Toronto University.

The trip northward to Killarney contained nothing of unusual interest. It lay by way of Allendale, Collingwood, Meaford, Owen Sound and Wiarton.

We left Toronto at 7 a.m., reached Allendale at 1.30 p.m., and Collingwood at five, where we took passage on the steamer Pacific, arriving at Killarney at 9.30 on the following morning. Short stops of an hour or so at Meaford and Owen Sound gave some of the passengers a chance to go ashore and prepare for the night sail up through Georgian Bay, which, on account of its great extent, is often as rough as the open sea. But we had fine weather, and very much enjoyed the evening on the bay. How delightful it is to watch the daylight as it fades away, and the moon steal quietly up from the water. The surroundings on this occasion seemed to invite sentiment, and I very well remember how much it was enjoyed by us, who were soon to leave the comforts and luxuries of civilization for rough life in the woods.

In the early morning, before we had yet reached the shore, we were surprised at the presence of so many seagulls, and, in fact, had been wakened by their noise. They seemed to fill the air, and were floating on the water everywhere. As we neared the village of Killarney we found the air to be loaded with a heavy, sickening stench, which increased as we neared the shore. It came from the islands, where the offal of fish was piled as food for the water birds.

At the time of my visit to Killarney it was then a village of only twenty to thirty houses, and the inhabitants were mostly Indian half-breds. It was, however, quite an important fishing station, as it shipped out daily not less than seven tons of fish to the principal cities of Ontario, and some across to the United States. Mr. J. C. Noble was the principal business man and trader of the place. He owned and operated a packing house, where the fishermen would come to sell their fish. A common daily catch, I was told, was about a thousand fish, and as these were sold for about eight and a half cents apiece, the fisherman would receive eighty-five dollars for his load. To make the catch would require the use of a large net and the service of three or four Indians for several days. In connection with the packing house, there was a barrel factory in operation, employing eight men. The fish taken were principally maskilonge, pickerel, white fish and trout. At the time the village boasted of two hotels and a post office which was built of logs. We expected to be detained at Killarney for several days in collecting an outfit and employing Indian choppers. We therefore secured accommodations at one of the hotels—the Algoma House—which we were very glad to leave a few days later for the better accommodation of our camp.

The principal Indian villages in the vicinity were across the channel on Manitoulin Island, and it was there we went to employ our Indians. Nine were hired at the village of Wekwimikoug, and while Mr. Bolger was off on this errand, Laird and I were busy in getting blankets and provisions ready for a start. On the morning of July 12th the Indians arrived—nine good, able-bodied men, who were experienced woodmen and expert in canoes. Their leader was one Wauba-gaesic—a well-built, clever-looking fellow who could speak English fairly well; two or three others could also speak some English, and all of them knew a few of the common words, so it was not long before we could understand each other fairly well.

With the assistance of Wauba-gaesic, I at once set to work learning the Ojibway language, and I soon mastered enough to be easily understood. There is much regularity in the language, and when systematically studied is very interesting.

Three staunch birch bark canoes were purchased at Killarney. These were eighteen feet long and capable of carrying two thousand pounds each.

It was very important to take the least possible amount of goods with us, that would last us for the journey, for much portaging would be necessary, and every unnecessary pound of baggage was just so much hindrance to our progress. Personal baggage was put in dunnage bags, which are heavy canvas sacks, painted or oiled to make them waterproof. The openings in the end or side may be fastened tight with strap and lock, and other straps may serve as handles. Dunnage bags are easily carried; in camp they serve well as pillows, and they will always hold a little more. Blankets were carried in oil cloth bags to keep them dry. The outfit contained also two transits, a surveyor's compass, several pocket compasses, barometer, thermometer, chronometer, field glasses, chains, steel tapes, etc., all as required to complete the township survey according to the Government specifications.

At noon, then, on July 12th, all things being ready, we started westward in our three birch bark canoes, having altogether 5,000 pounds of baggage and thirteen men.

We retained our course till five o'clock, when a head wind began to blow, and our heavily loaded canoes were in danger of taking too much water. It was thought to go ashore till morning, or till weather would permit us to continue. All next day the waves continued running high, and though we made a start in the afternoon, we were obliged to go ashore again and wait for smoother water. Towards evening we saw two sail boats passing and hailed them, thinking to get passage over to McGregor's Island, at the mouth of White Fish River. As they came into shore we bargained with them to take us all aboard, canoes and all, and carry us over the rough water. All the afternoon we sailed along the north shore, passing the mouth of Manitowaning Bay on Manitoulin Island, and a little later, the La Cloche mountains on the mainland. It was 10 o'clock when we took passage on the fishing boat, and we had only a cold lunch for dinner. So when six o'clock came, rather than take the whole party ashore for supper, we sent two men off in a canoe, with meal and flour, with instructions to make a pot of tea and bring back some cakes and stew to us on board. Our sails were lowered till they should return. On getting back to us with a kettle full of dumplings they found a hungry lot of men. We had taken very little food since morning, and were ready for a hearty supper. But some of the Indians partook too freely, and were obliged to lie on deck the remainder of the evening. The rest of us enjoyed a moonlight sail along the shore, and arrived at McGregor's Island at nine o'clock. This Mr. McGregor had the distinction of having forty children most of whom were sons, and still living with him. They lived

in log houses, and there had been no effort made to improve the surroundings. A feeling of loneliness comes over one as he approaches an Indian dwelling. Frequently the house is almost hidden by weeds and bushes. On one occasion I remember an old log house standing in a hundred yards from the shore, and almost hidden by a rank growth of sun-flowers. Curiosity prompted me to investigate it, and on going to the door I found the lonely place inhabited by a solitary Indian and his daughter. The old man lay on his death-bed, dying apparently from old age. Around the bare log walls were hung a few, but very few, implements—gun, hatchet, paddles, fishing lines, and a few pieces of dried meat, while in the centre of the floor was a pile of stones where they used to make a fire. It was indeed a scene of desolation. We gave them all we could, and left them to their fate. After the old man had gone, the daughter intended going to live with some of her people in the Indian village.

There is much poetry written about the noble redman, but their real condition as seen by the writer on this and several other occasions, both in their wild and semi-civilized state, is very deplorable. And yet there are many interesting features in their existence. I thought them morose and taciturn. But when I became acquainted with them, and came to live with them day by day, this all wore off, and they often appeared quite happy. The eleven Indians employed by us had a tent by themselves, and when the day's work was done, they would lie down in camp, singing their Indian songs. The airs are often very catchy, and easily remembered. The Ojibway language is a very rhythmical one, with soft guttural tones rather than harsh ones. Many of the natives talk rapidly and a sentence might easily sound like one long word. They are very expert, too, at gestures. A stranger can soon get their meaning, their gestures are so expressive. They are very expert boatmen, having a world wide reputation. It will be remembered when a few years ago the British Government required the services of expert boatmen to accompany Lord Wolseley on his voyage to the Nile, during the war in Egypt, these were selected from the Ojibway Indians. In the woods, too, they are smarter than white men, and are willing to work for the same or smaller wages. So we found them altogether very satisfactory.

These semi-civilized ones had of course adopted the regular white man's dress, excepting when they would supplement it with a feather, or some highly colored sash or fringe. Taken altogether they have about the same proportion of good and bad in their natures as do their white brothers, and, occasionally, as will be seen later, some of them exhibited noble and manly traits of character.

At McGregor Island we employed two more men, one an Indian and the other a Frenchman, Samuel Bean, to act as cook. Our party contained three surveyors, the French cook, and eleven Indians, or fifteen men in all. As there was a party going over to Little Current, on Manitoulin Island, we took this last opportunity of sending out some home letters. These were written on our transit cases, as no such luxury as a table was available.

On the morning of July 15th we were all astir at daybreak, and by 5 o'clock had started our canoes up the White Fish River. The first morning we encountered no less than six portages, the last of which required three hours to pass. At the outset this was discouraging, but the afternoon we had a clear course and nothing to delay our progress excepting the advent of a brown bear. He was first seen by Wauba-gaesic, feeding on blueberries upon shore among the bushes. Though I had only a large revolver with me, I landed with the Indian and gave chase. It was in the berry season when bears have plenty of food, so bruin lost no time in hiding himself in the woods. We followed him along a beaten track for an hour or more, at times having to travel on our hands and knees along his path through the underbush. But Mr. Bear took no chances on a fight, and, as he had evidently escaped, we returned to our canoes.

We paddled on up the White Fish River till 7 o'clock, and then camped for the night. This was our usual fourteen-hour day. When camp was pitched and supper over we were ready for a rest. There were no sleepless ones after such vigorous exercise in the open air. Whoever is troubled with insomnia will find a quick and certain cure in such employment as this. It was raining hard and the ground and trees were very wet, so there was little chance of cutting boughs with which to make a bed. Camping places were generally chosen where spruce or tamarack trees were found. When several layers of these are spread and covered with a rubber cloth or blanket the bed so formed is very comfortable. Perhaps it was the absence of these branches that helped to give us an early start on the following morning, for we were off again at five o'clock in our canoes. It rained all day, and we paddled on against the stream with heavy loads. Two short portages were passed, and we camped again at 7 o'clock. And though the work was hard each day brought new pleasures and experiences. Ducks were often found, and we seldom lost a chance of having some in the pot for supper. They had not been hunted, and were easily shot. Instead of flying away they would flap along on the water with their wings till they were under shelter. Or if they left the water they would light again a little further on.

While travelling we were seldom stopped by rain, for the canoes were easily covered with tarpaulins. The unpleasant part of continued rain was that the tents and clothing when once wet could not well be dried. The blankets, though not exposed directly to the weather, would absorb the moisture, and after several days of continued rain, it was difficult to find anything that was dry.

At three o'clock on the afternoon of July 17th, after passing a half-mile portage, over fairly level ground, and going across a little lake, we reached the Indian village, where lived the chief of the Ojibways.

He was an old man, and in appearance like the rest. His dress consisted of a red flannel shirt, with blue trousers that were ornamented with colored beads and grass. They were tied below the knees with a colored scarf. On his head he wore a broad felt hat and on his feet a pair of moccasins.

The village was situated on the summit of a hill, two hundred feet above the water. The Jesuit missionaries had been there, for conspicuously on the hill was a white cross made of hewn timber and standing sixteen feet above the ground.

The Indians lived mostly in skin-covered wigwams, though a few had log houses built for them by the Government. The chief himself had a good log house, but he would not live in it, for he preferred the wigwam of his fathers.

TO BE CONTINUED.

An association was formed at Nelson, B.C., on March 4th, of leading business and professional men with the object of advertising the attractions of the district as a field for sportsmen and fishermen. It will be known as the Kootenay Tourist Association.

KENNEL DEPARTMENT

Conducted by D. Taylor

MONTREAL COLLIE CLUB SHOW.

On Saturday afternoon, 8th March, the Victoria Rifles Armory Hall was the habitat for the time being of a large number of collies, brought together under the auspices of the Montreal Collie Club to decide which were to be singled out for favor. Competition was confined to members of the club and was open to puppies of the age of three months and upwards. The members themselves took a great deal of interest in the show and the amount of hustling they did previously in the way of securing entries, selling admission tickets, etc., was responsible for the success of the show, which, we are pleased to note, proved satisfactory from the view point of quality and numbers as well as financially. The dogs were not benched, being simply "nailed to the floor," as a lady visitor expressed it, and in the evening, when sightseers were pretty numerous, this was somewhat of a drawback, and certainly the exhibits were not seen to the best advantage. There was also an ever present danger of the visitor getting tangled up in a dog chain with a snappish collie at one end of it, but withal there was a well-pleased string of visitors, among them being a fair sprinkling of ladies.

The judging was done by Dr. Wesley Mills, who seemed to give very general satisfaction, the percentage of disgruntled ones being perceptibly small. It is as easy as rolling off a log for some people to show up the faults in a dog, especially if the dog belongs to someone else, but it is another and more difficult matter to collocate all the good features and place the proper value on each so as to make a harmonious whole. This is where the art or science of judging comes in, and it is only one in a hundred who is equal to the task of diverting his mind from his pet proclivity for a good head or well carried ears, to be able to appreciate all that goes to make up a really good animal. And this is the reason why some of our specialty judges are such failures—they have their mind set upon one particular feature of a dog's appearance and quite ignore qualities which are equally important or go blind to faults which are obvious to the veriest tyro in dog knowledge. We will not say that Dr. Mills is the ideal judge we are all looking for, but this much can be said in perfect justice: that he is always conscientious, with an eye for one end of the chain only (a quality not always observable in the show ring), and if he does not always follow his type strictly it is more from lack of subjects than from lack of knowledge.

Mr. R. C. Binning acted as Superintendent, and he, in conjunction with Mr. A. F. Gault, president; Mr. J. R. Lewis, secretary, and the committee composed of Messrs. Wm. McGlashan, H. Mackenzie, D. Coull, Chas. Wilson, A. B. Stalker, Wm. McRae and James Ainslie, are to be congratulated on the way in which the show was conducted. The ring was kept well supplied, and there was therefore no delay in the judging.

The classes for young puppies, both sexes, were very well filled, but it is hardly safe to venture an opinion upon their merits, and the awarding of the ribbons was more or less a matter of guesswork.

The classes for dogs under nine and twelve months brought out a remarkably good specimen in Wallace, belonging to Mr. McGlashan, who deservedly scored, and was also placed reserve in winners class. He is a very fine pup all over, well marked, good head, correctly carried ears, fair size for his age, with good body and coat. We should say there is a future before him. Braehead Beaver, Laddie and Strathcona Chief were also possessed of many fine qualities.

In the bitches, same ages, the best shown was undoubtedly T. S. McGee's St. Louis Violet. She is a handsome light-colored sable, with a very fine head and splendid ear carriage, a racy-looking dog of good size for her age. She had a very taking appearance and will no doubt improve. If any fault were to be noticed, she stood a little wide in front. She won in all her classes, and eventually carried off the ribbon for the best collie in the show, which, judging from the applause when the award was made, proved a popular win. Cairngorm Belle (R. C. Binning), came a pretty close second. She is a beautifully formed bitch, although rather undersized, with a nice head and a very sweet expression. In the open class she had to go back a place for Strathardle Queen (A. B. Stalker). Braehead Dollie (A. F. Gault), and Lass o' Gowrie (A. B. Stalker) were also worthy of special mention in these classes.

In novice dogs, Mr. McRae's Minto took first place. He is a well built dog with correct ear carriage and a fairly good head. Regarding second and third places, there was room for a difference of opinion. We can scarcely understand why Joe Perfection and Prince Rightaway were not given a better place than "highly commended." The former is getting on in years and a little thick in the head, but is a true collie all over, with a magnificent coat, which would have been all the better for a little more grooming, and great bone. He did not show well in the ring, and owing to the absence of face markings, lacks somewhat in expression; but taken all round, he is a representative collie. Prince Rightaway is a big upstanding dog, and well marked, rather short in the head for his size and a trifle leggy, otherwise he is a remarkably good dog and rather stylish in appearance.

The class for open dogs brought out Braehead Royal Scot, a dog which, since his arrival in this country, has been the subject of a good deal of criticism, adverse and otherwise. There is no doubt Royal Scot is full of the best collie quality and strongly built, with a good head and excellent ear carriage, finely marked, good expression and fine dark eyes properly set in the head. Yet, notwithstanding all these qualities, at first sight he does not make that favorable impression which the possession of such collie characteristics should demand. In the first place, he is not a good shower in the ring, and being short in the back, he has a "crulged" look that detracts very much from his general appearance. Out in the open, on the go, we have no doubt he would appear quite differently; in fact, he should make a splendid hill dog, which, after all, is the true purpose of a collie. However, he was easily and worthily first, and it was only when St. Louis Violet and he came together to be judged for the best collie in the show that his general appearance, compared with that of the bitch, went against him. Minto was second in the class.

In the open bitch class Mr. A. P. Stalker's Strathardle Queen got in front of Cairngorm Belle, beating her in size and condition.

Three litters were shown, the best of which was judged to be from Queen Bess; Jas. Ainslie, owner.

An old English sheep dog, or "Bobtail," was on exhibition and proved quite an attraction. These dogs are comparatively rare in this country, but are fast coming into popularity

in the States, as was shown by the large entry at the last New York show. When well broken, the "bobtail" is an exceedingly useful animal among sheep or cattle, and for sticking to his master and fidelity to what is entrusted to his care, there is hardly another dog his equal. The present one came from Beaconsfield, and is, we understand, thoroughly broken and an excellent worker.

We trust the Club will see its way to give another show at a future time, and would suggest, in the event of their doing so, that they should provide at least one unconfined class. We regret that space will not permit us giving the prize list in detail.

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Mr. G. H. Webber, who is well known as a successful breeder of cockers in connection with the Longueuil Cocker Kennels, has migrated to Stanhope, Que., where he has rented a small farm of about eighty-five acres. There are two convenient barns on the farm, one of which he is converting into a hennery and rabbitry and the other into a kennel. Mr. Webber has lately fallen a victim to the Belgian hare craze and has imported fifteen does and bucks to start on. His specialty in fowls is White and Buff Rocks, and he calculates to set between four and five hundred eggs the next month. Although Mr. Webber's time will be pretty much taken up with these two branches of his business, he is not going back on his old love. At present he has a strong kennel of eight bitches and two stud dogs from the very best strains, from which he hopes to add to the reputation he has already gained in the show ring.

It is gratifying to be able to report that the Show Committee is receiving much encouragement from outside sources in the way of specials for the coming exhibition at the Arena in May. Nearly all the American specialty clubs are putting up their medals or cups, and in this respect almost every breed will be amply provided for. The Collie Club in particular have donated everything they have in sight, amongst them being two or three valuable cups and trophies. The Vancroft Kennels send a beautiful shield. The local patrons are also responding very generously to the appeal of the Committee. Mr. Jos. A. Laurin has given a handsome trophy, to be known as the "Colne," for competition between packs of foxhounds, a feature introduced at the last New York show for the first time, and which proved very attractive. The conditions are five couples, to be shown under master, or master and whip, in full hunt uniform, and the competition will take place on Saturday afternoon, the third day of the show. Points will count as follows: Levelness, 25 per cent.; appointments, 25; color, 20; type, 20; control, 10. The popular breeds will be judged at advertised hours, so that those interested may be able to time their visit accordingly, and it is also probable that a parade of all the prize-winning dogs will be held at a stated hour. Mr. James Mortimer, of Hempstead, L. I., will judge the majority of the classes but it is expected that a lady will undertake the toy dog section.

The annual meeting of the Canadian Collie Club was held in the Natural History Rooms on March 11th. Mr. A. E. Coleman, president, was in the chair. The secretary-treasurer, Mr. J. A. Brosseau, read his annual report, which was a very favorable one, showing that the club had a bank account of over $125 to its credit. The chairman congratulated the members on their position and also on the fact that, included in the membership were some of the most prominent collie fanciers in Canada—men who always take a front place in competition against the best on the other side of the line. He was also proud to say that one of their members, Mr. Robert McEwen, of Byron, Ont., had frequently been called upon to judge at the most important shows in the States, as well as in the Dominion. The matter of providing medals for competition at the forthcoming show of the Canine Association was favorably entertained and the matter was left in the hands of a small committee. The meeting then proceeded to the election of officers for the current year, with the following result: Patron, Lord Strathcona; Hon. President, R. B. Angus, Esq.; President, Joseph Reid; Vice-President, A. E. Coleman; Sec.-Treasurer, J. A. Brosseau (re-elected); Committee, Messrs. C. B. McAllister, Peterborough, Ont.; Robert McEwen, Byron, Ont.; W. O. Roy, John Lee, John Cummings, Alex. Smith and R. S. Kellie.

A largely attended meeting of the Canine Association was held in the Natural History Hall, Saturday evening, 22nd March. The meeting was called on the requisition of six members to consider the action of the committee in holding the show under A.K.C. rules. The case of the protestants was fully and ably put by Dr. Wesley Mills, and explanations were given by the president and others of the committee, who disclaimed any idea of absorption of the C.K.C. by the A.K.C. The present venture was in the nature of an experiment and in the hope that a better show and higher quality of dogs would be the result. A sort of non-confidence motion was proposed but afterwards withdrawn, and at the close of the meeting the best of good feeling prevailed, nothing but congratulatory speeches being in order.

The Victoria (B.C.) Kennel Club can boast of a membership of about two hundred, and a great deal of enthusiasm is manifested over its first show, which will be held April 3rd to 5th. The Victorian committee are to be congratulated on their energy in securing such a large membership, and we hope their first venture will prove a success, financially as well as from an exhibition point of view.

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To Correspondents.

H. B. Hungerford, Minneapolis.—Many thanks for the information received.

Jennie D——, Toronto.—We agree with the authority you quote. No dog can be said to possess reason in the sense we understand the term. They have certainly a sharpness of intelligence which breaks out by fits and starts, but are not capable of exhibiting this sharpness of intelligence in a sustained manner. Besides this well-developed intelligence, the dog is usually endowed with an excellent memory, as is evidenced by the fact of his frequently finding his way home over a road which he had only travelled once, and that after a considerable lapse of time. Through his retentive memory he is thus capable of conjuring up mental pictures of objects he has seen before, as well as of perceiving associations of ideas. A professional dog trainer, for instance, does not rely in training his dogs for trick performances on the stage, upon the intelligence of the animal, which is too erratic to be trustworthy, but rather on the constant repetition of certain exercises which become automatic by constant practice. This, with the fear of punishment ever present before his eyes in case of failure, or a kind word or encouraging pat on the head in the event of success, is the cause of his going through exercises which so astonish and delight an audience.

ROD AND GUN IN CANADA

DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

PUBLISHED MONTHLY

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When the May issue of ROD AND GUN shall appear it will have completed the first three years of its existence, and as its growth has been very gratifying and its success is now assured, it has been resolved to give it a new make-up, which, though an additional expense to ourselves, will, we are sure, meet with the favor of our readers.

Any angler who has fished in Canada knows that it is a paradise for the lover of the rod—and leafy June is the best month in the year. Therefore, we have decided to make the June issue a fishing number, and we hope that those kind correspondents who have sent us so many delightful stories of their experiences in the Canadian bush, will make a special effort to sent us in some good material for our June number. We should like to have the last of it in hand by May 10th.

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A new service explosive is to replace cordite. The new powder, which is known as "Cordite M.D.," or modified cordite, contains less, and not more nitro-glycerine than does cordite. "Cordite M.D." has a nitro-cellulose base, while cordite has a nitro-glycerine base. The percentage of nitro-glycerine in cordite was 58 per cent.; in "Cordite M.D." it is believed to be not more than 30 per cent. It may be noted that pure nitro-cellulose powders are gradually replacing the older nitro-glycerine powders for naval and military purposes. As the propelling agent in rifles nitro-glycerine powders are employed only by Great Britain, which uses cordite, Italy, which uses solenite and ballistite, and Norway, which also uses ballistite. All the other Powers, with the exception of Greece and Portugal, which adhere to the old black powder, use nitro-cellulose powders. With regard to guns, Germany, France, Russia and the United States use on the whole pure nitro-cellulose powders for their modern artillery, both in the army and in the navy. Great Britain, Italy and Austria still hold to a nitro-glycerine powder. The Explosives Committee is still sitting, and it is possible that after more experiments have been made it will be found that a pure nitro-cellulose powder possesses greater advantages than "Cordite M.D."

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Our frontispiece shows the royal party at Poplar Point, Manitoba. Some of our readers may be of the impression that royal sport is only to be had by royal personages; in other words, that the cream of the thing may be tasted but by those of exalted rank or of great wealth. But this is far from being the case. Any sportsman who cares to take a run out to Manitoba, and who can shoot straight, can have just as good sport as that enjoyed by the heir apparent to the British crown.

Each fall, when the north wind has acquired an added keenness, owing to the formation of the young ice in the Arctic regions, vast flocks of wildfowl, from the swan to the little green-winged teal, reach the great province of Manitoba and its sister territories to the westward, remaining there until the waters are sealed by frost. There are thousands of sloughs, lakes and deadwaters, where it is no trick at all to shoot off all the cartridges you could carry to the ground, and yet find that you have made no impression whatever upon the ranks of the fowl.

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On March 13th the Legislative Assembly of the Province of Ontario passed several enactments, which are substituted for certain subsections of section 4 of The Ontario Game Protection Act. The most important alteration is this:

"No moose, reindeer or caribou shall be hunted, taken or "killed in that part of Ontario lying to the south of the main "line of the Canadian Pacific Railway from the town of "Mattawa to the town of Port Arthur except from the first day "of November to the fifteenth day of November, both days "inclusive in each year. Throughout all that part of the "Province of Ontario lying north and west of the main line of "the Canadian Pacific Railway from Mattawa to Port Arthur "the open season for moose and reindeer or caribou shall be "from October 16th to November 15th, both days inclusive."

As all experienced men know, and as ROD AND GUN has always maintained, there are more moose north of the Canadian Pacific line between Mattawa and Port Arthur than there are on any ground further south or east. This statement is indisputable. Hence it was extremely unwise to prevent the legal shooting of moose where they are the most abundant, and where the toll taken by the rifle could do no damage.

Last season the back settlers of the Province of Ontario, as as well as the outfitters and dealers in sportsmen's goods, must have lost a large sum of money owing to the close season which was enforced. And we are glad that this mistake is not to be repeated. If it be made known, far and wide, that the great Province of Ontario has thrown open her unrivalled moose preserves to all fair sportsmen, large numbers of them are sure to avail themselves of this opportunity.

Yet, we are of the opinion that the powers that be would have been even better advised had they opened the season on Oct. 1st and closed it on Nov. 1st. The bulls are all on the rut before October 1st, and, as the Indians say, they are then "travelling." This is the best time for sport, and as the weather is cool enough by that time to save the meat, which is as yet fit for food, there would seem to be no good reason for preventing the sportsman from shooting on the first day of the month. Later on the bulls have been with the cows too long, and their flesh has become so rank that even the Indians do not care for it, and many sportsmen content themselves with merely taking the head and hide of their trophy. Also, after the beginning of November much of that northern country is unsafe to travel in. All journeys are made in birch bark canoes, and between the 1st and 15th of November the smaller lakes and deadwaters are generally frozen over, and the ice, although sufficiently thick to cut through a canoe will not carry a man. A party frozen in on a remote lake would have to wait for some

weeks before it would be safe to come out on the ice, and during that time they might endure great hardships. The astute Indian does as little travelling as possible after the first week in November until such time as the ice shall be strong enough to carry himself and his loaded toboggan, and in such matters it is always wise to do as the Indian does.

Of course, the Legislature of Ontario had a reason for choosing the dates they have. They wished to give the moose hunters thirty days open season, and to make the legal time for killing moose and deer coincide, and as the deer season is from November 1st to November 15th, the only way of reconciling these two requirements was to fix the open season for moose as they have done; but while we congratulate the lawgivers of Ontario upon their wisdom in doing away with a close season, which debarred sportsmen from hunting for two consecutive years, we are of the opinion that the open season for moose north and west of the main C.P.R. track should begin on October 1st and close on November 1st.

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The season for quail in Ontario has been changed. It is now illegal to shoot them after the first day of December or before the first day of November. The law previously was more generous, quail being legal game between October 15th and December 15th.

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The following has been substituted for subsection 6 of section 4 of The Ontario Game Protection Act: Notwithstanding anything in this Act, the woodhare or cottontail rabbit may be taken or killed in any manner by the owner, occupant or lessee of any land upon which it can be proved to cause actual damage to trees and shrubs, or by any member of the family of such owner, occupant or lessee, or by any person holding a written license or permit to shoot from such owner, occupant or lessee.

REVELSTOKE, BRITISH COLUMBIA, RIFLE ASSOCIATION.

On Wednesday, March 5th, there was a largely attended meeting held in the City Hall, for the purpose of completing work of organization, election of officers and general business. Mr. D. O. Lewis in the chair. The chairman announced amidst much applause that the necessary number of signatures, forty, had been duly secured to service roll, and members sworn in before a Justice of the Peace.

The objects of the association having been discussed, the meeting proceeded to appoint officers, and the following were duly elected:

Hon. President, T. Kilpatrick.
President, H. A. Brown.
Vice-President, Dr. Carruthers.
Captain, D. O. Lewis.
1st Lieutenant, B. Lawson.
2nd Lieutenant and Secretary, W. Foster.
Treasurer, A. E. Phipps.
Committee, H. N. Coursier, W. M. Lawrence.

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HUNTING BEAR ON THE CANADIAN BORDER.

By the Gabriel Brothers

After the beef round-up in the North-West Territory, we headed for our home ranch on Belly River. After turning our horses loose on the home range we got out our pack horses and camping outfit, and hit the trail for the head of the Milk River, where we thought we could find a bear. There were three of us in the party.

Our first night camp was in the bad lands of the Cypress Hills. At daybreak the next morning we hit the trail, and after meandering some five miles up a dry creek we came upon a yearling steer that had just been killed. After trailing, I should judge two miles, we got sight of the gentleman, a big, fine silver tip. He reared up on his haunches and with a growl challenged us. We were hunting trouble, and in rapid succession started to pump our 45-125 Winchesters into him. Our shooting wasn't accurate, and as we hit, the dust would fly out of his coat. It reminded one of beating an old blanket. The game, however, soon became a little too hot, and with a growl he started for us, and we sanded down the trail. We all made the nearest pines, and it was amusing the way we went up those trees. The old fellow by this time was getting mighty sick, and as he came towards us he reared up, with a look as much as to say, "Let's quit." A well aimed shot pierced his heart, but it took us some moments to get up enough courage to meet Bruno face to face, and then he had passed in his checks.

Now came the work. Our nearest railroad point was 124 miles off, at the town of Medicine Hat, on the Canadian Pacific. We went back to camp, got our outfit together, and it took us all one day to cut him up and get him on our pack horses. After getting under way it took us four days to make our destination. The hide weighed in the green 175 pounds, and is to-day in the Smithsonian Institute in Washington as a relic of the bad lands of the North-West Territory, showing how much lead an old bear could carry.

Duck Shooting, Campbell's Meadows, B.C.

Campbell's Meadows are very favored resorts for Kamloops sportsmen. A great many birds are shot annually, and there is very little, if any, hardship connected with the sport.

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AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

SUNSET PICTURES AS CLOUD EFFECTS.

Perhaps in landscape and seascape photography,—particularly the latter,—there is no more important part of the picture to be considered that the sky half. Clouds in a photogram at once stamp it as the production not only of a skilled technical worker but as the work of a photographer who is able to fully appreciate the comparative ugliness of a bare sky. It is difficult for one who has never compared two prints of the same subject, the one with and the other without clouds, to fully realize just the exact drawback that a bare heaven is to a picture. It is truly astonishing how a most uninteresting bit of composition will be transformed into a brisk, cheery picture when there is, so to speak, an essence of "really truly sky" infused into it, and when it is no longer topped by a stretch of blank white paper. Far more important than the uninitiated could be brought to believe, is the sky in a photogram.

In securing clouds in a picture, while it is quite possible to print them in from another negative, it is by far the better plan to get them in the original. When faked in, there is always apt to be a dissimilarity of lighting between the upper and lower half of the print, an incongruity which is only too apparent. The actual process of printing-in has so often been described, as to make a description of it almost superfluous. Over printing is a very common fault, as is also the apparent lack of care shown in welding the sky to the subject. This lack of joining is as a rule, painfully obvious. Instead of adding distance to the view, the clouds frequently appear to project in front of the trees and overlap the horizon! There is a simple way to avoid this. Print the sky part *first*. It gives a far more natural effect. In making a cloud negative, make a trial print of your negative and then cut away the upper part roughly at the sky line and, after carefully adjusting the print on the glass side of the cloud negative, with a fine camel's hair brush take some India ink and run along the horizon on the glass. Trees, etc., ought to be cut away, as standing out against the sky they will print over the sky in the after-process. A print of the desired clouds must then be made, using the trial print as a mask and moving it up and down within about one inch of the painted line until the necessary depth of print is secured. This makes a soft vignette along the horizon. The cloud negative is now replaced by the subject negative which will print out correctly over the vignetting and ought not only to leave no trace of the manipulations, but the clouds will appear naturally at the back of the picture. It must be borne in mind, however, that clouds are subject to the same rules of perspective as terrestrial objects and that it should never be attempted to photograph a cloud at the horizon and then introduce it in a picture at the zenith. Judgment must be used in placing them at the proper distance above the sky line. Also, always try to take them with the same sort of lens that is used for the landscape and endeavor to have the strength, quality of lighting and direction the same in both.

While it is possible that one has greater latitude of composition in a composite picture, the best results as far as naturalness is concerned, are the result of one exposure. The average amateur seems hardly to be able to discriminate and is unable to select the skies that best fit his landscapes; therefore it is best that he find a number of good standpoints and then await a suitable day. One of the prettiest effects to be had is the result of placing the camera facing directly against the sun when the sky is half covered with heavy clouds. Besides these photograms where the sun is shown, it is possible to make others almost equally good with the source of illumination just outside the boundary of the plate. Care must be taken, however, in such cases to make sure that there is not any halation apparent. To make sure of this important point, set the instrument in position and loosen the tripod screw so that the lens may be swung round to some other view where the sun will be on one side. Then keeping a careful watch on the ground glass, bring the camera back to its original position, and if no change is apparent while swinging it round it is reasonably safe to go ahead and make an exposure. An orthochromatic color screen is not a necessity, but if the operator possess one, it may be used to advantage. It is a little inclined to make the picture too harsh to suit me, but that is a matter of taste perhaps. Certain it is that when it is used in connection with an iso plate, it destroys the truth of the color values. Perhaps the very best results are to be had on a backed iso plate without a screen. Then, when the sun is only half sheltered by the light fleecy edge of the heavier masses, just so that one may look at it for a second or two with the naked eye, there is a very fair opportunity for you to secure a good result. You will have to bear in mind in making your exposure that when a plate is backed for non-halation, it is necessary to give it one-fourth more exposure than otherwise. This is to compensate for the extra light absorbed by the backing.

Difficulty will be found in the choice of a day, not because of inexperience, but because except in March and April, such days as one needs are few and far between. What is needed is a sky of a fairly intense blue, such as is seen when the atmosphere is very clear, and a number of white, well-separated clouds of a fair density. The question of foreground is again a matter of individual taste. Personally I prefer a little pool where just the faintest breath of air causes the quiet surface to be broken into innumerable points of light that sparkle and glitter like so many priceless jewels in the morning-gold. If the photogram is being taken before sunset in evening, or any time later than three or four o'clock in the afternoon, the clouds will either be of the light, fleecy variety or black with white tips. In either case they will photograph well. But in picturing a sunset where a number of warm colors are intermingled, more care is necessary. If the bars of light be yellow, green or white, the picture will have more contrast than if they were red or some other color that takes darker. These tones may to a very large extent be retained in the print if the paper used be a rich sepia or a blue carbon. For some, however, black and white is most suitable. When using the negative to make a fake moonlight, blue carbon gives a strange, weird charm that adds wonderfully to the beauty of the composition.

In developing, have the developer rich in pyro, metal, or whatever agent is used, and weak in accelerator. Let the aim be to bring out the high lights first and secure in them good printing power by restrained,—not weak—developer. As a rule, as soon as the high lights are what you desire, the rest of the negative is just right, though it is true that to secure this end it is sometimes necessary to use a large amount of restrainer.

A developer which I saw somewhere once and which I frequently use is as follows:—

Pyrocatechine	1 pwt. 15 gr.
Sulphite soda	4 pwt. ½ gr.
Carbonate soda	8 pwt. 1 gr.
Water	10 oz

This will not stain either plate or fingers, and even with a prolonged exposure will not fog an underexposed plate, thus making it possible to very often save such. It produces clear, brilliant negatives, just such as one needs in this class of work.

It is true that while photography of clouds alone may not be a very high form of art, it is nevertheless in connection with straight landscape work a very important subject, and as such is deserving of considerably more attention than is now allowed to it. To any who are not familiar with this class of work, its careful study is earnestly recommended.

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The Planes in Landscape Photography.

While I realize most thoroughly that, as Rudyard Kipling says in his "General Summary,"

"The artless songs I sing
Do not deal with anything
New or never said before,"

it seems to me that on this subject—the accurate rendering of all the different planes that exist in an ordinary landscape—there is much that might well bear repetition In the search for pictorial effect in this class of work, everything from foreground to background ought not to be of one degree of sharpness and all equally bold and vigorous. The different distances are, or ought to be, always more or less subdued and softened by the haze which is ever present in the air, in order that proper atmosphere may be had, for, as Mr. A. H. Wall puts it: "Atmosphere is the great harmonizing element of a picture: it is the eye's music giving order and proportion. It supplies the prevailing tone, high or low, and with it the pervading sentiment or feeling. A rich effect or a simple one may be made to prevail by its judicious introduction, selection or treatment. Without atmospheric peculiarities or characteristics a landscape picture seems flat, monotonous and uninteresting. The photographer who goes to the study of nature as an artist or poet does, reverently, with trained perceptive organs, will find the pleasure and delight of his work largely increased, even if he does not realize what Shakespeare calls 'the utmost reachings of his soul.'" Of course if the aim be to secure merely a photogram of general topographical excellence, such as might be desired by a surveyor, the negative must possess as much detail as possible all over, or, in fact, must not be divided into planes at all.

Now it seems to me, after having put into practice almost every known method, that, though by suppressing the detail, distributing the focus to secure the effective masses of light only, and trying various other schemes, good results may be arrived at, nothing can be secured quite equal to the scene photographed under natural conditions, provided they be appropriate of course. And to catch this feeling, we are not to go out in the middle of the day when the sun is high over head, but rather in the early morning or late afternoon, then the long wavering shadows creep across our path and the air is full of vague sentiments and feelings. It is said that you can't photograph a feeling because it is something that appeals to one's senses and not to the eye. I contend that that is wrong. You can,—if you know how. Perhaps after selecting the time of day, the most important item to be considered is the focus, for here it is quite evident that there will be certain points that have to be emphasized, while, again, others have to be subordinated. As a general thing these principal points will be found in the foreground, and then they will have to be made sharp. But just because you have read somewhere else that your principal object ought always to have razor-edged definitions, don't make the error of always bringing out the hair lines. It is a mistake to say that the principal object should always be sharp and clear. There are other methods that may be used to give it prominence; but supposing that your principal point of interest lies well back toward the middle distance and you focus for it regardless of everything else, you are going to have in your resulting picture a state of affairs that is absolutely false. Foreground and background will be out of focus and middle distance will be sharp. Now, in order to make the most of the depth of focus of your lens, you must adopt the following rule that I have advocated from time to time. First, get into focus the most distant object that is desired to be sharp without any diaphragm. Now put in the stop you have decided on using and note the one spot nearer than the first taken where absolute sharpness ceases. Take the stop out and get a hair line on this latter point: then reinsert the diaphragm and the operation is finished. This will give you sufficient sharpness on the object you desire and yet not falsify your values.

Let us suppose that the scene we are desirous of securing on our dry plate consists of a strongly marked foreground, a flat, impossible middle distance and a background filled with hills, half hidden in a veil of faint, blue mist. The difficulty is that our distance, having so little local coloring, is extremely apt to be all washed in with the sky. It's true we don't want it to be very strong, but it must show a little. It has been suggested that in such an event the best method of procedure is to make two negatives identically the same, exposing the one for the foreground and the other for the distance. Theoretically and practically this may be possible. But in nine cases out of ten what will the resulting print look like. No matter how excellent the combination, I have never succeeded in getting a result that did not look patchy and not so true as a print from one single negative, so that after all the question is how to produce one negative with proper graduation between sky and foreground. Now considering that the blue veil that causes all the trouble is due to the advent of a semi-transparent blue mist in front of us that we have to remove, it is possible to a very large extent to remedy the difficulty by the use of an orthochromatic plate and ray-screen. But there is a better plan yet. Our object is to bring those hills up to within speaking distance as it were. Now after you have your negative, make from it by contact, a positive, and then from that in turn, another negative. This is an extremely simple process, and it is only necessary that you make the exposure long enough to reduce the contrast and at the same time to preserve the detail. You may not make a success of it the first time, however, as it requires, I find, a little practice. It is a trick easily picked up, however.

Winter work is still more difficult. I have been trying a number of experiments of late with orthochromatic plates, and though hitherto I have more or less advocated their working in this class of photography, I have recently come to the conclusion that I do not like them but prefer the ordinary. I see that Mr. Osborne I. Yellott is in favor of orthochromatic, and though, judging from the winter work he exhibits he makes a success of it, I must say that I myself cannot succeed in getting anything

soft enough for me. Just the other day, by the way, I was looking at a photogram by a prominent worker of the "New School" of a white, fluffy snow-bank that was inexpressibly delicately rendered (too much so to reproduce), and that bore all round, a charm impossible to catch on orthos. He told me himself that he had tried the same thing with a color screen but had succeeded in getting nothing so good. Of course where it is desired to show the distance by the perspective instead of by aerial peculiarities, the orthochromatic plate may be useful. For soft effects, full of feeling and daintiness, it is worthless.

A negative that is intended for the purpose of showing all the different planes of a landscape, that is intended to be purely pictorial and not topographical, must be thin, with no solid high lights and with that thin veiling which lends such an indescribable charm to the finished picture. There must be no clear glass in the shadows and no unprintable density in the high lights. A strong foreground and delicate distance is desirable. In other words, like a lantern slide, it requires utmost tonality combined with delicate translucency. To get this, development ought to be carried on with a developer admitting of unlimited control, which, of course, bars all one-solution developers as well as all with which you are not thoroughly familiar. Suppose you begin with a very weak pyro-soda solution to which has been added a minute quantity of bromide of potassium. The distance will soon appear and may be painted over with a restrainer. Keep the developer in the foreground with occasional tilts of the dish to wash the sky and prevent the formation of a definite line. The foreground will probably now be coming up and if so, the operation will probably be automatic and require but little alteration other then perhaps to give the requisite density by the addition of small quantities of pyro-soda from time to time. Another method is to employ an extremely dilute developer, treating the negative as previously mentioned, and then when a mere ghost of an image is secured all over the plate, change the solution to one containing a normal proportion of pyro and a small quantity of accelerator and so obtain uniform density and no fog. It is very necessary to avoid over-exposure, and even if a very strongly restrained developer be used, there will necessarily be considerable fog and a very poorly defined distance. Also it would make a slow printing negative. But why go farther on the developer question? It is important that all developers be used rationally and with views to certain definite effects. That is the only way to ever hope to get the best out of a negative.

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The Scrap Bag.

A Sepia Toning Bath.—The following bath is recommended by A. Horsley Hinton for toning gelatine papers to brown and sepia tones:

Sodium tungstate	[illegible]
Ammonium sulphocyanide	10 "
[illegible]	[illegible]
Distilled water to make	[illegible]

Add a little at a time to this solution:

Chloride of gold	[illegible]
Water	[illegible]

In this bath the print passes from a yellow to a brown tone, and does not only lose not at all in toning but also darkens a little in drying. Mr. Hinton claims to have proved that if the prints are properly washed they are entirely permanent.

Card Mounts.—It is interesting to note the gradual outcasting of the "regular size" mount for photographic purposes and the growing tendency to use only such board, both in shape and color, as will be suitable for the print. A few years ago amateur photographers were buying just whatever the mount maker offered them,—a selection was put out in front of them and they took their pick. Now they are doing it differently, the proof of which is to be seen in the fact that instead of making regular sizes any more the manufacturers have placed on the maket a profusion of odd sizes and colors that will suit almost anything. More than that, if you cannot choose from what they show, you can have your own material of any quality you like and cut your own mounts to suit. All of which is an indication of the advancing of artistic photography.

SPORT BETWEEN KINGSTON AND PEMBROKE

By F. Conway.

As it may prove of interest to your readers, I send you a few pointers as to where sport is to obtained between Kingston and Pembroke, along the line of the K. and P.:

Verona: Rock Lake, Silver Lake—Bass, doré and pike. Duck shooting.

Hinchinbrooke: Cole Lake, fishing first-class. Shooting, partridge, snipe and woodcock.

Parham: Eagle Lake, Bob's Lake. Fishing in these lakes is first-class, bass, lake trout, doré and pike. Duck and partridge very plentiful in the fall.

Sharbot Lake: Sharbot Lake, black bass and lake trout. Duck shooting.

Clarendon: Crotch Lake, lake trout and doré.

Lavant: Trout Lake, lake trout, duck and partridge.

Flower: Clyde Lake and Round Lake, bass, doré and pike. Deer, duck and partridge.

Calabogie: Calabogie Lake, bass and mascalonge. Deer and partridge.

Kingston: Lake Ontario, River St. Lawrence and Rideau River, first-class fishing, bass, doré and pike. Small game.

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A Newark, N.Y., sportsman wrote recently to Mr. J. D. McKeown, of North Bay, for information as to sport in that region, and received the following letter in reply, which we publish in the hope it may be useful to others contemplating a visit to the same region:

"Your favor of March 8th. You had better come to North Bay and come without boats. You can hire a Peterboro canoe or two from J. G. Crews, boatbuilder here, for two or three weeks, at fifty cents per day, or bark canoe for 25 cents. This will save you railway carriage, etc. You cannot do very much portage work without a competent guide, as the rapids are dangerous and it is not safe. He will cook and do chores, and the investment is a good one, costing about $1.50 per day. On the south shore of Lake Nipissing, about 28 miles across, there is very deep water and nature in its primeval state, foliage to the shore and perfect solitude. There is great fishing and it is a great resort for New Yorkers. There is the outlet into the French River, many going down the river, and the fishing for forty miles is varied and very good. I will ask Mr. Ussher to send you some copies of his fishing and sporting guide, which relate more particularly to the north shore up from Mattawa into the Kippewa and Temiskaming countries. You can also take the train here to Nepigon, which is a great resort for speckled trout. I think you will be pleased with a visit to North Bay and Lake Nipissing, and have no doubt you will determine on Lake Nipissing and French River for two or three weeks."

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association.

THIRD ANNUAL MEETING OF THE CANADIAN FORESTRY ASSOCIATION.

The third annual meeting of the Canadian Forestry Association convened at Ottawa, in the Railway Committee Room of the House of Commons, on the 6th March, at 10 a.m. In the absence of the President and Vice-President, Mr. Hiram Robinson was elected Chairman.

Among those present were Thos. Southworth, Hon. Senator Power, J. R. Booth, C. Jackson Booth, A. C. Campbell, J. B. McWilliams, E. G. Joly de Lotbinière, Mr. Hall, Professor Macoun, T. S. Young, C. E. E. Ussher, Robt. Gorman, Dr. Jas. Fletcher, T. B. Flint, M.P., Jabel Robinson, M.P., Dr. Wm. Saunders, D. Lorne McGibbon, W. N. Hutt, A. Wright, M.P., W. T. Macoun, Mr. Davies, C. J. Thompson, Professor W. L. Goodwin, R. B. Whyte, Hon. Senator Primrose, F. W. Cowie, Professor Robertson, Colonel Neilson, D. B. Dowling, S. Stewart, W. R. Ross, H. C. Ross, W. H. Boyd, E. Stewart, R. W. Campbell.

The report of the Board of Directors showed that the membership was 348, an increase for the year of 104, and that the number of life members had been increased from five to nine. The membership according to Provinces and Districts is as follows: Prince Edward Island, 1; Nova Scotia, 6; New Brunswick, 9; Quebec, 28; Ontario, 117; Manitoba, 73; Assiniboia, 17; Saskatchewan, 4, Alberta, 58; British Columbia, 16; Yukon, 2; United States, 15; England, 1; Germany, 1.

The revenue for the year ending 31st December, 1901, was $454.70, and the expenditure $140.74, leaving a balance of $313.86. Since then the receipts have been $71.86 and the expenditure $150.90, and the amount standing to the credit of the Association in the bank now is $234.71. The expenses of the annual meeting and other liabilities will however reduce this amount by about $150.00, leaving a net balance of $80.71.

Dealing with the forests, the report states that the attention of the British Columbia authorities was drawn last year to the extensive forest fires in that province and a request sent that the penalty clause in the British Columbia Fire Act should be amended. The British Columbia Forestry Association is working in conjunction with the Dominion Association, but the directors recommend that there should be a closer affiliation.

The report goes on to deal with the results of the forestry exhibits made at Winnipeg during the past summer, stating that they were very satisfactory.

The system of co-operation with the settlers of the western prairies in forest tree planting adopted by the Dominion Government is developing into large proportions. Upwards of 500 farmers prepared their land last season under instruction from the agents of the Forestry branch, and will be supplied with seedling trees to plant shelter belts this spring. As this work will be done from the Red River to the Rocky Mountains, the result will be an object lesson to the settlers in the whole plain regions.

The work of guarding the forests from destruction by fire has from all reports been attended during the past year with gratifying results. This is brought out by the report of the chief of the Forestry Bureau in Ontario, who states that the damage to timber on Crown lands has been very small. The reports from the other provinces of the Dominion are equally gratifying except Quebec, where the measures taken were not effective in preventing a serious loss in the Temiscamingue.

An effort has also been made to induce the Game Protective Association to co-operate in the protection of the forests.

Mr. E. G. Joly de Lotbinière read a very instructive paper on "Eastern Forest Trees Grown at Victoria, B.C." The paper was prepared by His Honour Sir Henri Joly, the Lieutenant-Governor of British Columbia.

Sir Henri Joly no sooner arrived in Victoria than he set about experimenting in tree planting, his old and favorite occupation. For this purpose he procured from the East seed of the butternut, black walnut, red oak, ashleaved maple, and green ash, and sowed them in the Government garden in Victoria in the autumn of 1900. These gave very good results, the seeds germinating well and in very fair proportion to the number sown. Sir Henri considers that the most valuable wood that can be grown in British Columbia is the black walnut, as it grows more rapidly than either Eastern pine or white spruce.

The Secretary called attention to a number of specimens of wood which had been sent from British Columbia by Mr. J. R. Anderson, Deputy Minister of Agriculture for British Columbia, and which were very much admired. Mr. Anderson also kindly prepared a paper, but it arrived too late for submission. It will, however, be included in the printed report of the proceedings.

At the afternoon session the chair was taken by the Vice-President, Mr. Wm. Little. This meeting was devoted first to Ontario, the larger phases of the subject being treated by Mr. Thos. Southworth, the Director of Forestry for Ontario, in a paper entitled, "Forestry in Ontario." One of the great divisions of Ontario dealt with in this paper was that lying beyond the height of land, which is a good agricultural district with a clay soil. A railway into this district is now projected by the Government, and Mr. Southwell pointed out the advisability of constructing this as a colonization road, extending it only as the necessities of settlement required, instead of running a line rapidly through to James Bay, or some other point, thus scattering the settlements and greatly adding to the danger from fire to the 288,000,000 cords of pulpwood which the survey parties sent out in 1900 estimated as growing in that district.

The great district, however, which presents its forestry administration for more immediate attention, is the great rocky belt lying along the height of land and which is mainly fitted only for timber production. To sum up briefly what has been done in the direction of establishing a practical system of forestry in Ontario, it is sufficient to state that a fairly effective system of fire protection has been established; the fee simple of the forest lands remains in the Crown; there has been definitely inaugurated a system of forest reserves intended to form part of an extensive and permanent Crown forest from which the province may derive a large annual revenue and from which the individual people of the province may obtain wealth and employment. To the scientific treatment of this Crown forest we

are only gradually approaching but we are steadily ascertaining the problems to be solved and there is no doubt that the solution will be found. A reference to the map of the Province will show that this forest will extend across the province from East to West with large agricultural communities settled upon very rich land both north and south of it, and forming the watershed of all the principal streams flowing south into the great lakes and north into Hudson's Bay. The Crown forest of Ontario, ultimately, will comprise 25,000,000 acres, a forest larger than is possessed by any other country. With wasteful methods and only a part of the territory operated the province receives a revenue of $1,000,000, and with proper management this great forest should produce an enormously increased revenue.

In the southern part of the province, which is good agricultural land, denudation has been carried on to such an extent that in eleven counties have less than ten per cent. of their area in timber, while in sixteen other counties the area is less than twenty per cent. Mr. W. N. Hutt spoke on "The Management of Wood Lots" in this district, with the object of laying down the lines upon which action could be taken to have this aspect of affairs changed. He first called attention to the fact that the streams generally in Western Ontario were characterized by freshets in the spring, while they practically dried up in summer. An example of the loss thus occasioned is that which the city of Brantford has suffered from the overflowing of the Grand River, to guard against which a large expenditure is now being made by that city. The reason of the unproductiveness of wood lots, and the general effort to cut them off as soon as possible, is the result of a belief that wood lots are not capable of management. The first thing to do is to have the whole of the land made to produce trees, and in order to accomplish this stock must be kept out, for their browsing and trampling make it impossible for the seedlings to grow up. It is best to plant seed, but if the land is rough or stumpy small seedlings might be planted in. The wood must be made so thick that grass will not grow under it. Then take out the least useful trees such as hawthorn, blue beech, ironwood, also poplar and swamp oak. Trees that have grown in the open and have low spreading branches should also be gradually cut out and finally there will be a wood lot of valuable species of trees with high clear trunks. The elm, black walnut, basswood and hickory are valuable trees, but the best results will be obtained from mixed varieties.

Mr. Davies stated that he had fenced up the wood lot on his farm with the result that it grew up thickly and became a refuge for small game.

The Assistant Secretary of the Association submitted a paper on "The Forest Fires of 1901," which gave information of very much interest. It appears from this report that the forests in every province of the Dominion have been threatened by fire, and it was only by the determined efforts of the fire rangers that serious loss was prevented. It spite of these preventive measures, however, the Province of Quebec suffered heavily by a fire which occurred in the Temiscamingue District in June last, and which swept away a large area of valuable pine timber. This fire has already been fully dealt with in our columns.

The Illecillewaet Valley, B.C.

Until the year 1884 this valley had never been trodden by a white foot. The Kootenay Indians did not care to penetrate to its head, as they had some superstitious fears, which were encouraged by the frowning peaks, great glaciers and other marvels of a similar nature. Even to-day, you need only go a few miles on either side to find canyons and peaks as yet unmapped.

The Governments of all the Provinces, except Prince Edward Island, Nova Scotia and British Columbia, have organized a fire ranging system, and all bear testimony to the value of the services rendered by this force. This results not only from the direct efforts of the rangers in extinguishing fire, but from the educative effect of their presence, and their pressing the subject on the attention of those with whom they come in contact.

In the Province of Ontario the efforts of the rangers prevented any serious loss in the districts patrolled by them, but in Northern Ontario a district of fully 3,000 square miles on the Missinaibi River was burnt. This fire was not in valuable timber, but there was no reason why it might not have been started in the best of the timber rather than where it did.

The chief causes of forest fires were noted as—settlers clearing land, hunters, railway locomotives and prospectors, and the preventive measures suggested are—an effective law with adequate penalties and its proper enforcement, education of public opinion, spark arresting devices on locomotives. The fire

warden system should be extended in order to assure that the territory to be covered by each man would not be so large that fires could not be caught in their inception in any part of it, for a forest fire is most easily fought and frequently can only be fought when it is starting. The fire in the Temiscamingue district shows the necessity for some better supervision of the setting out of fires for clearing land, and the defining of the lines between the districts suited for agriculture and timber growing respectively.

A very important discussion on the fire question, which was participated in by Messrs. J. R. Booth, J. B. McWilliams, E. Stewart, Thos. Southworth, Geo. Johnson and others, followed. The main point discussed was the relation between the settlers and the forest, and the prevailing opinion was that the Governments of the Dominion and the Provinces should take steps to have land surveyed in advance of settlement, with the object both for the sake of the forests and the settlers of directing settlement to lands fitted for that purpose, while the non-agricultural lands were retained for timber.

Friday morning was mainly devoted to Manitoba and the North-West Territories, and the whole of that great country was shown graphically on a relief map which had been prepared by Mr. D. B. Dowling, of the Geological Survey staff, and was explained by him to the meeting. Professor Macoun, in a paper entitled "The Second Discovery of the West," showed how in the early days, after the acquisition of the territory by Canada, people scoffed at the idea that it was a great agricultural country. He maintained then, what the result has shown to be the case, that the West is the richest agricultural district in the whole of Canada, and he further made this prophecy, that it would yet be demonstrated that trees could be grown in any part of it. This is clearly shown by the trees still existing in some parts, such as the Cypress Hills, and by the very successful experiments carried on at the Indian Head Farm and elsewhere.

Dr. Wm. Saunders, Director of the Experimental Farms, gave the results of some of the experiments in tree planting made by him, particularly at the Farm at Indian Head. When the location was chosen it was bare prairie, but now the farm is sheltered on the north and west by a belt of trees one hundred feet wide and nearly two miles in length. In all there are now about 130,000 trees growing on the farm, and many of them have now reached a height of from 25 to 30 feet. The influence of the larger plantations on the crops of grain grown in their vicinity is very marked in protecting them from destructive winds, which at times blow the soil to such an extent as to lay bare the roots of the young plants and cause them to wither and perish. Wind-storms were very frequent and severe in the Indian Head district in 1900. The yield of spring wheat on plots partly protected by the growth was over 30 bushels per acre, while unprotected sections were in some instances totally destroyed, while in others the yields varied from 5 to 17 bushels. In oats, many exposed plots were destroyed; those more or less protected varied in crop from 76 to 32 bushels. Every foot in height of the tree protects from fifty to sixty feet of grain in the field. Where the tree belts were from eight to twelve feet high the grain was preserved quite green for from 400 to 600 feet from the trees, whereas a few yards beyond this influence the crops were so wind-swept that not a single green blade could be seen. There have been distributed from the farms to settlers 1,500,200 young forest trees and cuttings and 17,306 one-pound bags of tree seeds.

"The Work of the Forestry Branch in Tree Planting in the North-West Territories and Manitoba" was the subject of a paper by Norman M. Ross, Assistant Superintendent of Forestry for the Dominion. During last year a beginning under the co-operative system was made, and about forty settlers in Manitoba and the Territories were supplied, about 60,000 seedlings being apportioned among them, these being set out in plots varying in size from three acres downward. The varieties used were principally Manitoba maple, Dakota cottonwood, elm and green ash, as these were the most easily obtained. The results of these first plantings are very encouraging, as with only one or two exceptions all the plantations were in good condition last fall, and out of the number inspected in the Territories at least 78% of all trees planted were alive at the commencement of the winter. The lack of snow in the West this winter is an unfavorable circumstance. About 500 settlers in Manitoba and 200 in the Territories expressed a desire to avail themselves of the proposed scheme. About 450 of these will receive trees this spring. One of the great difficulties of the work is a supply of seedlings to meet the demands. 500,000 or more will be required to supply those who have already applied, and next year two or three millions will be required to meet the demand. Practically the only way in which a certain supply of young stock can be obtained is by establishing large nurseries which can be managed under the control of the Forestry Board.

Mr. Wm. Pearce, of Calgary, submitted a scheme to promote an interest in the growth of trees, shrubs, flowers and plants, throughout the treeless portion of the Territories, pointing out that if the school population was interested the whole question would be advanced more largely than it could be in any other way. The plan is to have a plot of about three or four acres in connection with each school, or in towns and villages or places where a combination can easily be made, a plot for a number of schools together. The land should be thoroughly prepared and the pupils supplied with trees, shrubs, flowers and plants that are likely to succeed. Instructors should be sent out, or in some places the teachers would be competent. Literature on the subject should be prepared and text books attractive in style provided. The subject could be extended so as to create an interest in the chemistry of the soil and other studies directly connected with agriculture.

A paper on "Forestry in Prince Edward Island," by Rev. Father Burke, of Alberton, was read. In eloquent language Father Burke pictured the change that had come over the Island through the ruthless destruction of its forests. Streams, which were supposed to be perennial springs, have become dry; whole settlements may be visited where the farm buildings stand out bleak, bare and storm-beaten, without a single tree to protect, beautify or endear. The forests of Prince Edward Island were most beautiful and varied, and in sacrificing them as has been done all now recognize that a great element of wealth and comfort has been eliminated from the list of the provincial resources, while agriculture has also suffered from the opening of the land to the cold and drying effect of the winds. Out of the 1,280,000 acres which comprise the Province only about 16,000 acres remain in the hands of the Crown, and even this is in scattered tracts. It is proposed that a Commission should be appointed to manage the state holdings and encourage forest growth on private lands. Fires have done much damage during last year, and although a Fire Act has been passed no attempt has been made to enforce it.

Hon. Sydney Fisher, Minister of Agriculture, addressed the meeting and expressed his interest in the objects of the

Forestry Association, one of the most important matters that could engage the attention of Canadians. He urged that the work should be carried on perseveringly and there could be no doubt of its ultimate success.

At the afternoon session, Mr. D. Lorne McGibbon, Manager of the Laurentide Pulp Company, read a paper on "The Pulp Industry in Canada." In establishing a pulp mill it is necessary to have good water power and a plentiful supply of raw material. The establishment of such a mill as that at Grand'Mere requires an investment of fully four million dollars, and the investment of such a sum is a guarantee that the owners will use the forests conservatively. The Laurentide Company cut in accordance with the regulations, and handle the cutting as much as possible with their own camps, as in this way the best average as to cost, etc., in cutting can be made, and the full use of every available part of the timber can be secured. Mr. McGibbon's main argument was, however, devoted to show that the first guarantee of a proper system of management of pulpwood forests is that the manufacturing of pulp and paper should be done in Canada. There is no question whatever that the Canadian manufacturer, who has large investments dependent on the continuation of the wood supply, will be more considerate of the future than a foreign manufacturer. The benefit of the manufacture in Canada is the difference between $3.50 per cord which the pulp wood produces and $40.00 which the finished product is worth. Mr. McGibbon therefore strongly urged that the Government, Provincial and Dominion, should ensure by adequate dues or regulations that the manufacture should be carried on in Canada, and the result would be greatly to the benefit of the wealth of the Dominion as a whole and of the revenue of the Provincial Government more immediately concerned.

A Day's Bag on the South Thompson.

The bag of wildfowl shown in this picture would be considered excessive in some parts of Canada, but in British Columbia the birds are so numerous that the toll taken by these sportsmen will never be missed.

Mr. Austin Cary, of Brunswick, Maine, who is probably the only forester employed by a pulp company, gave a sketch of the method followed by him in the management of pulpwood lands. The key to success is the variation of the cutting according to the stand and the lay of the land. The critical matter is the safety of what is left from wind. Mixed growths, that is, where hardwoods predominate, can usually be cut with ease. Elsewhere great care has to be exercised, and there is a great deal in picking strips and clumps to be left entire. The arrangement in regard to cutting is that spruce and fir timber shall be cut to the size of 12 inches on the stump, but this rule may be varied with a view to leaving the land in good growing condition. Mr. Cary suggested that for Canada, with large tracts of timber and low stumpage, the main thing was to study the health and condition of the timber so that it would not be allowed to decay or be destroyed to no profit. Some specimens of wood showing the work of a beetle, Dendroctonus, were forwarded by Mr. Cary and were examined with much interest.

Mr. E. G. Joly de Lotbiniere read a paper on "The Danger Threatening the Crown Lands Forests of the Province of Quebec through the Cutting of Pulpwood as at present sanctioned by the Regulations concerning 'Woods and Forests.'" Mr. Joly made careful examination of one hundred specimens of white spruce which showed an average growth of one inch in eight years, while for black spruce one inch in fifteen years, hemlock one inch in twelve years, and balsam one inch in five to seven years, are the averages found. He therefore concludes that if we are to secure a continuous supply of pulpwood, and at the same time give our forests a proper measure of protection so as to permit of natural renewal, the regulations of the Province of Quebec should prohibit the felling of white spruce and hemlock under thirteen inches, and that of black spruce, balsam, aspen and poplar under nine inches on the stump. Mr. Joly also urges the advisability of having the pulp manufactured in Canada.

Dr. B. E. Fernow, Director and Dean of the New York State College of Forestry, Cornell University, was present during the meeting, and gave the benefit of his extensive experience in many of the discussions that were held. On Thursday evening in the lecture hall of the Normal School Dr. Fernow lectured to a large audience on "Evolution of a Forest Growth." The lecturer sketched the steps by which tree growth came into existence and gradually spread itself over the earth, its struggle with the adverse elements of soil and climate, and its various adaptations in species and form to the special needs of its situation. Then came the struggle between tree and tree and the development finally of what we call "the virgin forest," varying in composition according to latitude or elevation. The man came with axe and fire, destroying the work that nature had built up, and he is only now beginning to make an effort to repair the harm that was done. Dr. Fernow went on to show the great expense and labor which France had to undertake to repair the damage caused by the denudation of her mountains, and, in contrast, the beautiful regularity of the forests of Germany. In conclusion, Dr. Fernow explained the work that was being undertaken in the demonstration forest of the New York State College of Forestry. The lecture was splendidly illustrated by limelight views, and was thoroughly enjoyed by all who had the pleasure of hearing it.

Officers were elected for the Association as follows:—Patron, His Excellency the Governor-General; Honorary

President, His Honor Sir Henri Joly de Lotbiniere ; President, Mr. Wm. Little ; Vice-President, Mr. Hiram Robinson ; Secretary, E. Stewart ; Assistant Secretary and Treasurer, R. H. Campbell ; Board of Directors, Professor John Macoun, C. Jackson Booth, W. C. Edwards, M.P., Thos. Southworth, E. G. Joly de Lotbiniere, C. E. E. Ussher.

Forest Culture.

Rev. James Lang, Estevan, Assa.

No subject now before the people of Canada approaches in importance the "Enforesting" of our prairies.

Its urgent need, supreme utility, assured results are beyond cavil or controversy. Its practicability should also be unquestionable. But the recital of truisms will not arouse public interest or attention. Existing conditions must be practically contrasted with what should be and what may be brought about in pursuance of a definite plan of action. A Forestry Department has been established by the Dominion Government, with provision for liberal aid to private effort, and this is so far good that in say a quarter of a century large results will doubtless follow if that policy continue. But more vigorous action is imperatively called for if the country is to be spared a recurrence of such disasters from frost, hail and drought as have mocked the hopes of our farmers in past years.

I invite attention to the following propositions and suggestions :—

There can be placed around every section of land on open prairie throughout the West a belt of timber, 50 feet wide, a graded road 32 feet wide, with a like 50 feet timber strip fringing the adjoining sections, the whole forming two gigantic hedge rows with the road between.

As an immediate and certain result of the above the "Prairie Fire" would be abolished once for all, permitting benign Mother Nature to clothe by spontaneous growth, with wood and shrubbery, every acre of unused land on hillside, valley, ravine and coulee.

Every natural watercourse throughout the country can be made to retain a large measure of the flood from melted snow in spring and a lesser measure of the rainfall during summer, and that, not in stagnant mud puddles, but in many thousands of pools and lakelets of varying depth, fringed with a dense growth of willows and fenced against pollution.

The processes named being completed, travel would be rendered absolutely safe at all seasons, despite darkness or storm, and social life in the country be rendered possible, even among a busy and hard-worked people. An abundant supply of fuel and water would be assured, the sanitary and industrial conditions of life in North Western Canada immeasurably improved, and the face of Nature marvellously transformed.

Who will venture to limit the advantages of such a work, with such results, to the agricultural, manufacturing and commercial interests of the Dominion.

The Mode.

Let every road allowance in open prairie be taken possession of for purposes of improvement, not obstructing necessary travel, and increased in width to 132 feet by expropriating additional land from adjoining property, the whole broken and backset, a roadway 32 feet wide graded up to a bold curve to avoid snowdrifts, the remaining strips 50 feet wide on each side thoroughly cultivated and planted with cuttings or seedlings of cottonwood, Russian poplar, maple and elm, intermixed, with small plots at intervals sown with tree seeds to replace failures in growth. Let the statute labor or commutation tax,—preferably the latter,—be expended with vigorous exactitude in the care and culture of the plantations during the first years.

Let all watercourses be improved by deepening the depressions and raising intervening ridges, forming many thousand pools from 5 to 20 feet deep. Plant around with quick growing willows and fence to keep off cattle. Water, when needed, to be drawn off by pumping.

Cost.

The estimated cost would be $200 per lineal mile of roadway and timber belts, or six millions of dollars for fifteen thousand square miles of country, the Forestry Department supplying seed, cuttings and seedlings at public expense. One million should be ample to supplement individual enterprise in the improvement of the waterways and probably half a million for superintendence. Thus the expenditure of an amount about equal to the loss on one year's crop from causes which all admit can be modified or removed, would "save the country" in a very practical and non-partizan sense. We are safe to say that by covering one-twentieth of the country's surface with timber, scrub or water, Nature's equilibrium between evaporation and precipitation would be established.

Difficulties of detail will, of course, appear. Objections will of course commend themselves to many minds, but all these will be of little account if honestly weighed against the interests imperilled by existing conditions, and the vast and enduring benefits to be gained.

Ways and Means.

The simplest and most effective plan would be make the improvement as a matter of Government Policy—the logical sequence of deepening the canals, subsidizing railways and steamship lines and promoting immigration,—and provide the entire sum by Parliamentary appropriation. If, however, party exigencies would render this too difficult, the Provincial Government could do the work by borrowing the funds on a Dominion Government guarantee for interest at three per cent. Or, say, one half the yearly interest might by municipal action, legalized by statute, be chargeable as a special tax upon the property benefited, the other half, as for a national undertaking, provided by the State.

Shade Trees.

A recent note in the Toronto papers has called attention to a dispute between some of the citizens and an electric company over the question of the cutting of the tops of the shade trees for the passage of the wires. This raises an important question as to the management of shade trees on public streets. On the grounds of wholesomeness, utility and beauty, it is desirable that the planting of shade trees in towns and cities should be encouraged. How pleasant to pass from the blinding heat of the sun blazing on staring walls and pavements to the coolness and shelter of a shaded street. The tension on brain and eye is relieved and the grateful shade lays its calming touch on the jarring nerves of the wayfarer. How far this is beneficial may be illustrated from the experience of a southern city, namely, Savannah, Georgia, which with its fourfold rows of trees shading every principal street, is reported to have a much less numerous record of sunstrokes than the more elevated settlements of the prairie states which stand unsheltered in the scorching sun. The relief afforded to the eye by the green of the leaves and the

shadowed light will help to prevent the injury to that delicate organ which the glare of the unshaded sun causes in many cases. Dr. Felix L. Oswald recently writing of this subject in "Health Culture," cites the following illustration :

"I am still haunted by the recollection of a scene in the harbor suburbs of Girgenti, where children with red, swollen eyelids were foraging in a dump pile. There was not a tree in sight. Far up and down the undulating beach the heat of the sun made the air tremble and the glare of its reflection from the refuse of old salt pans was almost as afflictive as the glitter of a snowfield. Yet on that same spot Agrigentum with its population of keen-eyed Greeks flourished for three hundred years, a city of gardens and groves, rivalling the wealth of Carthage, the mistress of the Mediterranean."

And by means less obvious the trees are working in ways beneficial, drawing up the moisture from deep down in the earth and exhaling it into the atmosphere, inhaling carbon dioxide by the leaves which tear it apart and free the oxygen, and thus cooling and clearing the air.

The beauty of avenues of stately trees has an attractiveness which nothing else can rival. They add a charm to the streets of a town or city which appeals to all. Without them no place will be pleasing to the eye either of the dweller in the land or of the stranger within the gates.

It is rather amusing to see the efforts which have been put forth at times in some cities to improve the shade trees. A man, or perhaps two men, are started out with a saw and a hatchet and turned loose at their own sweet will. They cut the trees up and they cut them down. They cut off one side of the tree and when they find it lop-sided they cut off the other side to make things even. No tree is too small to receive their attention. Despite the protests of indignant householders, pretty little Norway maples, inoffensive and unobstructive, are reduced to almost bare poles. But nothing must stand in the way of improvement. Sky-scraper trees are decreed and shade and ornament are secondary considerations.

And the gravest danger which results from improper trimming is still but little appreciated. It is not an uncommon thing to see the stumps of branches which have been carelessly cut dying and forming an avenue to convey decay to the heart of the tree. In the majority of cases of rot in trees it will be found on examination that it has resulted from the invitation to dampness and fungi offered by the broken ends of branches. Anyone who gives attention to the question will see examples of this coming under his own observation. As an instance of the careless methods followed may be cited a case where but recently a large branch has been cut from a grand old tree to make room for an electric wire, leaving a splintered stump about eighteen inches long. Could any fungus resist such a pressing invitation to make its way to the heart of the tree? It would be decidedly a step in the right direction if the trees were put under the protection of some official who understood something of their nature and the proper method of handling them, and would have authority sufficient to give him effective control of the situation.

The Massachusetts Tree Warden Law is an attempt to deal with this question which is of much interest. This law, which came into effect in that State in 1899, obliges every town in the State to elect annually an officer known as a tree warden. Cities do not come under this Act, but separate provision will probably be made for them later on. The warden has exclusive care and control of all public shade trees in the town outside of such grounds as may be under the control of a board of park commissioners. The law also specifies that all trees within the limits of the highways are deemed to be public shade trees. No tree on the highways can be cut down without the warden's consent, and this consent he cannot give without first posting notices upon the tree in question and in two other public places, in which he calls a hearing. Even after a hearing the warden's decision is final. Adequate penalties are provided in the shape of fines and imprisonment for all violations of the provisions of the law. The law is specific as to the duties of the wardens, and under it every root and twig is protected from mutilation. No posters are permitted on the trees, and electrical companies are required to run their wires in accordance with the warden's wishes. When it is absolutely necessary that wires should pass through the tops of street trees, and trimming is required to give free passage, the warden's men do the cutting under the direction of that officer but at the expense of the corporation thereby accommodated.

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In many countries where the necessity for forest preservation has become more pressing and acute than it is at present in Canada, the destruction of the forests is looked upon as nothing less than criminal, but we may perhaps look elsewhere in vain for an example of such a strong deliverance upon the subject as that given recently by the Greek Church. National and patriotic as that church is, it takes a deep and proprietory interest in everything that affects the national welfare. A few months ago the Holy Synod of Greece issued an encyclical, which was publicly proclaimed by the Government in all parts of the kingdom, in which the utmost wrath of the Church was visited upon all who indulged in "the unholy practice, abhorred of God" of setting fire to forests; and also against all who, knowing others to have been guilty of such deeds, failed to denounce and testify against them and to aid in every possible way in securing their punishment. All thus guilty through commission or omission are to be "excommunicated from the Church, accursed and shut out from forgiveness." "The wrath of God" continues the encyclical "and the curse of the Church be upon their heads, and may they never see the success of their labors."

It may be deemed that the Greek Church is unnecessarily autocratic and aggressive in this action, but if it is remembered that Greece has but to lift her eyes eastward across the sea to look upon deserts which were once fruitful and the support of a numerous and prosperous people; when we look with her eyes upon her green hills and fair valleys and realize the desolation and suffering that examples within her own borders also sufficiently demonstrate would follow the sweeping away of the forest covering, we may perhaps begin to realize that a useless destruction of the forest is an act essentially unchristian, and exemplifies the spirit of disregard for others which is undoubtedly deserving of the condemnation of those who speak with authority for the Christian Church.

The New York Sportsman's Show has been a great success. It would appear from the press clippings that have come into our hands that the well-known guide, George Crawford, of Mattawa, was king-pin. Some of the sportsmen's journals published in Gotham devote considerable space to Crawford and his bears—for if there is one thing that your genuine New Yorker loves better than another it is a good blood-curdling bear story. For some years bears have been extremely scarce south of the Bronx, though the Gothamites have suffered severely from the incursions of the tiger.

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A SUMMER IN ALGOMA.

By H. G. Tyrrell, C.E.

(Continued from the April issue.)

Our visit to the village may have been a rare occasion, for as we climbed the hill, the chief took his stand at the open door of his log-house, where we went to see him. Perhaps the most interesting feature of the village was the graveyard, a little further up the river. The bodies of their dead were placed on platforms, built high up in the trees among the branches. They were rolled up in sheets of birch bark. It was a lonesome sight to see so many of these little silent platforms through the woods. Many of them contained, besides the bodies of the departed Indians, their guns and implements for use in the Happy Hunting Ground. We left it all as we found it, unmolested. Before leaving the village, we procured a new stock of spruce gum for repairing the canoes, and as will presently be seen, it was much needed.

BRINGING HOME THE DEER.

Last season 12,000 deer were shot in Ontario, and yet they ar increasing in number.

At the Hudson's Bay Company's Trading Post at White Fish Lake, it was necessary to make a long portage. This was over high ground, two or three hundred feet above the river, and it occupied a whole afternoon. The station contained altogether six log-houses, one of which was occupied by the family of Mr. and Mrs. Ross, keepers of the place. We all very much appreciated the hospitality of these kind people. I remember especially the large bowls of milk that we received, a luxury in hot weather that we did not expect in this wild region. After being cramped in small canoes, and having our meals on the ground, it was a treat indeed to sit down again to a white spread table, in comfortable chairs. Mr. Ross expected soon to make a trip down to Little Current, so we wrote a number of letters and left with him to be posted in that village.

We arranged also with him that on this or any future trips, he would bring any letters there might be for our party up to White Fish Trading Post. Then if there was opportunity we would send an Indian down for the mail, and if not, we would get it on our return home in the autumn.

After making a long portage at the post we crossed Clear Lake, and made another portage over high ground into Vermilion River. The water of this river is highly colored, and hence its name.

An early start at four o'clock in the following morning soon brought us to the foot of a long and difficult rapids that we decided to ascend without portaging. Ropes were fastened to the canoes and these were towed up stream by men on shore, two Indians remaining in each canoe to steer it, one in the bow, and the other in the stern. Two of the canoes passed safely through the rapids, but the third was not so fortunate, for, striking on a hidden rock, a large hole was torn in the birch bark bottom, and the canoe rapidly filled with water. The Indians used their best efforts to keep it afloat, while the writer bailed out

the water. The blankets and baggage sustained a serious wetting, but we managed to get ashore, and built a fire, where our goods were spread out to dry. The country was more or less well supplied with birch trees, and it was a comparatively easy matter to find a patch large enough to cover the hole in our canoe. A supply of gum was kept on hand for such occasion, and after an hour or two delay we again loaded the canoe and started on our way.

The change from college life to this laborious work in the untravelled woods, naturally made the coming of Sunday very welcome. Instead of the early start before sunrise, it was our custom to make it a day of rest. To Laird and I the experience was new, and it is natural that we should enter into it with enthusiasm. All day paddling in our bark canoes, working our way with heavy loads, against the stream, frequently climbing rapids or portaging our goods, up hill and down, through tangled woods and swamps, all this left us ready to enjoy a Sunday rest. It was necessary for those of us who passed the time in reading, to select a breezy spot, where the mosquitoes and black flies would be driven away. A point of rock out by the river, or a shady hill top were favorite retreats. The Indians were scattered about at various occupations. Some were down in the meadows berry-picking, others off in search of game, while others fished or remained in camp. If the day was fine, it was usual to take astronomical observation of the sun for solar time.

We were all amused at the efforts of Wauba-gaesic to be a tailor. He had met with some unfortunate accident, that had left him much in need of a pair of trousers. But his ingenuity rose to the occasion. Taking an ordinary flour bag, woven without a seam, he split it up the centre to within eighteen inches of the top ; he then ran up two seams to form the legs. At the top he made a running string to tie about his waist, and behold, he had a pair of trousers. Surely, we thought, "Necessity is the mother of invention."

During the journey up the river, when other days were spent in travelling, it was necessary for the cook to spend part of his Sunday in baking. All through the summer, the regular camp fare consisted almost entirely of pork, beans, and crackers, commonly known as hardtacks. There were, however, a few cans of molasses, and a bag or two of dried apples, as well as several sacks of flour. The bread was made in an iron bake kettle. This was a pot, eighteen inches in diameter, and twelve inches deep, fitted with a tight iron cover. In this the dough was placed, and the whole then covered over with a layer of ashes. A fire was built over and around it, and in a short time there would be as fine a loaf of bread as would come from any bakery.

On the morning of July 21, the usual four o'clock start was made, and by noon we reached a large body of water which we knew must be Virmilion Lake. We had, therefore, passed the south boundary line of our township without seeing it, for we knew that it intersected the Virmilion River several miles below the Lake. It was therefore necessary to retrace our course, keeping all the while a careful watch for the boundary where it crossed the river. On the shore of Virmilion Lake we found the tracks of deer and bears, though the animals were not seen.

As this Lake lay largely in Fairbank Township, it was decided to lighten up our load, by making a cache of the greater part of our food supply. Then, as more would be required from time to time at camp, it would be an easy matter to dispatch an Indian to the cache for a new supply. This place was chosen for a cache, for it was easier reached from many points by canoe. To place our goods away from the reach of bears, a platform was built up in the trees twenty feet or more above the ground. On this the goods were placed, and covered over with a rubber sheet, securely fastened down with rope. One canoe was left behind, and with the other two, and lightened loads, we retraced our course southward in search of our boundary line.

Both the wind and current were in our favor, and to increase our speed, holes were cut for masts, and blankets used for sails. The first rapid was easily passed, but the next one, where we had damaged a canoe before, must be run with care.

Landing above the rapids, Wauba-gaesic made a careful survey of the course. For a while he stood on some high rock overlooking the river, and then returned to us, his face beaming with delight. Taking with him one other boatman, he pushed out from shore, giving orders for the other canoe to follow him. Each canoe was manned by two Indians. In a moment they were in the rapids, dashing past protruding rocks, through the foaming water. Sometimes it seemed that they were lost, but the careful boatmen knew their trade. We had trusted them before, and had confidence in their skill and judgment. Eagerly the rest of us watched our canoes from shore. At times they almost disappeared from sight, but in a few minutes they shot out safely on the smooth water below.

Wauba-gaesic was a faithful guide, and I never questioned his judgment either in the woods or on the river. Nothing brought more pleasure to him than such an experience as this. And while he delighted in excitement, still he was cautious, and never undertook to run a rapids that proved disastrous to him.

Eight miles below the lake we saw some blazing on the trees, which proved to be the long sought-for survey line. A mile or so in from shore was the starting point of our township survey. Bags and baggage were brought ashore, and preparations made for packing through the woods.

A bundle as large as one man could carry was securely bound up with a leather strap called a tote line, the end of which was passed in a loop over the packer's forehead, leaving his arms entirely free. Loaded in this way, with his head bent forward, and balancing the load upon his back, the packer is obliged to travel through the woods, jumping from stone to stone, and log to log, climbing over fallen trees and through tangled bushes, up hill and down, through marshes and swamps, often exposed to the heat of a blazing sun, and more often tormented, in the low land, by myriads of mosquitoes. One of his greatest trials is the frequent absence of drinking water. He was often obliged to go entirely without water, and when on the rocks, exposed to the blazing sun, this is a severe hardship. It was often necessary for the men to leave their packs, and go down in search of water into the swamps and valleys. And while the work is very tiresome, yet the experienced packer frequently enjoys himself. A great variety of amusing incidents are liable to happen, such, for instance, as encountering hornets, falling from slippery logs with load on one side and packer on the other, sinking perhaps to the waist while wading through swamps and assisting each other out of difficult places. The Indians, however, keep good-natured through it all, and it was seldom that they were provoked to anger.

The greater part of a day was spent in preparing for a start. Bush hooks and axes must be ground, and an astronomical observation made of the north star, to establish the

meridian. The duties of the men were now allotted out to them. Mr. Bolger and myself were each to have the service of five Indians to chop our lines through the wood. Laird also had the assistance of an Indian to drag the survey chain, and Sam was to have the charge of camp and be the cook.

The two survey parties now started out to run the south and east boundaries of the township, Mr. Laird taking turns in chaining, one day following up the work that I had done and the next day chaining after the other party.

The Indians are experts in the woods, and soon learn to run a straight line without much assistance. It was necessary to establish mile posts, and others intermediate at the quarter points. These were carefully set with the transit, and on them were cut the lot and concession numbers. Wherever possible I would set my transit on high ground, to secure long sights, and avoid frequent moving. In hilly country sights of half mile or more could usually be made. These long sights hastened the work greatly, not by saving time in resetting the instrument, but by requiring much less chopping. The Government required not only that posts be planted at the corners of all sections, but also that blazed lines be made marking the boundaries.

Where the growth of timber was heavy, it was necessary to cut down all the trees and bushes, leaving a clear path through the woods, three to four feet in width. This was necessary, not only to mark the line but also to give the transit man the opportunity of sighting to his pickets through the woods. Open or hilly country meant then rapid progress and easy work, but at the same time exposure to the sun and frequently the absence of water.

Wooded country meant heavy chopping and slower progress, but at the same time, shelter from the sun and plenty of water.

Camp was established in a convenient position, and all the lines in that vicinity run before moving forward. Then a day was spent in moving to a new position, which would be headquarters till all the lines in that vicinity were surveyed. In this way it was seldom necessary to walk more than three to four miles in the morning to our work, or back again to camp at night. When the line was to be continued on the following day, the instrument and axes were left on the line over night, the transit being covered with a rubber hood to keep it from the rain and weather.

To know and understand a people you must see them at their play. Sunday was the Indians' play day. Often at early morning they would go off in search of beavers. These little animals built their houses along the water courses, or in the beaver meadows along the hills. These meadows are low lands, where the water collects in ponds or marshes, and they are frequently grown thickly over with moss or filled with reeds and long grass. On the larger rivers the beaver houses stand along the bank beside the water, or sometimes they are found on floating logs or driftwood clinging to the shore. Where the supply of water is small these intelligent little animals build what are known as beaver dams, and thus form ponds of water, around which they build their houses. To form these dams small trees along the river bank are gnawed off and felled in to the stream. The beaver understands his trade, for he makes the deepest cut in the tree trunk on the side next the stream, so the tree will fall that way. Trees as large as twelve to fifteen inches in diameter are frequently cut. The chips taken out in a single bite are often three to four inches in length. Gnawing is done by the four front teeth, two upper and two lower, which are sharpened on the outside edge. These cutting teeth are about one half-inch thick and three inches in length, curved nearly to a semi-circle.

Beaver houses are circular in form, and from six to twelve feet in diameter. The entrance is always from beneath the water. This is a safeguard to exclude land animals or other enemies. The houses are made by piling up sticks and other rubbish, and filling the openings with mud. Houses have been found completely and neatly plastered both inside and out.

The beaver has many uses for his broad, flat tail. It is his mud shovel, and plastering trowel as well. When swimming in the water it is his rudder. It is indeed an unique little animal, and well selected as an emblem of Canada. The Indians hunt the beaver, not simply for the sport of hunting, but also for the furs, which bring good prices, especially if killed in the winter season. The country contains also plenty of otters and other fur bearing animals. On this expedition, however, the Indians were not permitted to bring any fire arms, so whatever shooting was done was by the principals of the parties.

On the evening of July 28th, after finishing a hard day's work, Laird and I, thinking to make our five miles back to camp somewhat shorter, left the survey line and cut across lots. The country was hilly, and had lately been burned over by a forest fire. From the summit of a hill-top, as far as the eye could see, was a blackened wilderness. On the high ground, where the wood was dry, the fire had made a clean sweep, but the swamps and meadows between the hills were still green. Down in the bottoms, berries were found in great abundance. Fine large raspberries that would delight many a city home were rotting in the sun. In the rich swamp soil they grow to an unusually large size, and at the lowest estimate there must be many hundred tons of delicious berries annually wasted. Blueberries grow principally on the hills and open ground. Everywhere, acre by acre, and mile by mile, the country was covered with small fruit. A pity it seems that this should all be wasted, when it would be so much enjoyed by our people, especially in the hot summer season.

The journey home to camp lay over a succession of hills and valleys. One ridge would be ascended only to descend again into another valley. The heat was intense, and on the blackened hills there was no relief from the blazing sun.

For an hour or more we trudged on, trusting to our compasses to bring us safely to our camp. We descended once more in a beaver meadow, thickly covered with grass and moss. At every step our feet would sink through the moss and water. Perspiration was rolling from our faces, and it seemed as if we could go no further Poor Laird seemed even more exhausted than I was myself. We wondered if our compasses had taken us astray. But as we rested for a few minutes to discuss the prospect I espied a light across the valley and knew that it was our camp. We were not long in reaching it, and with some refreshing food we soon revived. But the effects remained for several days.

On the way home we had seen a number of partridges, some of which we killed with sticks, they were so tame. An old bear with three young cubs also crossed our path, but we were in no mood for hunting. Once more there was occasion to appreciate our faithful Indian, Wauba-gaesic. Swamp water and fatigue had left us very sick, so sick that we were unable to stir from the ground. But the Indian knew a remedy. He found some roots and ground them up, so that we could drink

them in a cup of water. We submitted to his treatment, and under the Indian doctor's care we soon recovered. While Laird and I were sick the Indians employed their time in moving camp forward three miles along the line. This took us through a cedar windfall. It was a continuation of climbing over and under fallen cedars, and progress was very slow. The cedar branches are so sharp and numerous that much care is necessary to keep from being torn or injured. Bags of pork and flour, tents and instruments, together with a bark canoe, had all to be carried through the woods, and it took all day to make the move.

Where lakes or rivers were encountered, that must be crossed, it was our practice, if a canoe was not available, to build a raft. For this purpose each party carried a small lot of rope to bind the logs together. It was a matter of only half an hour or so to make a raft substantial enough to take us across any of the large ponds or streams. A rough-hewn paddle or a pole was sufficient to propel it. After crossing, the raft would be fastened to the other shore, and used again when coming home at night. On one occasion, when impatient to get home at night, too many of the men crowded on at one load, and, as a result, they gave themselves a free dip and scramble in the water. This incident delayed Laird and his Indians so late that it was six o'clock before they started home for camp. They had four miles to come. A heavy rain came on, and it was very dark. They had no food with them, and as it had been raining now for several hours we knew they must be soaking wet. We hoped they might have matches to light a fire, but this was doubtful, for the rain was very heavy, and without matches it would be impossible to see the compass after dark. The hope for their home-coming lay in the fact that there was an Indian along with them. To add to our alarm the rain brought on a change of temperature, so that the night was growing cold. I was very anxious that my friend should not be exposed to the danger of sleeping out overnight in a cold rain with neither food nor shelter. I called as loud as I could call but there was no reply. I built a fire to attract him in the dark, but the rain was pouring in such torrents it was difficult to keep the fire burning. At frequent intervals I fired off my largest gun, hoping to attract him by the sound. He had only four miles to come and as he had now been out four hours it seemed as if he must be lost. We resolved, however, that he would not suffer if we could at all assist him. I therefore kept up calling and firing. At ten o'clock I caught a sound and then again another, which I quickly answered. It was Laird's welcome voice. He had, he said, been guided through the woods wholly by my gun shots. He had not heard our call neither had he seen our fire. But the gun shots reached his ears and he groped on in the direction of the sound. The last mile or two of the journey home through the black, dark woods had occupied a space of two hours. We had hot food ready and he was soon refreshed.

Up till now I had experienced no trouble with the Indians. They had been willing to work hard and long. But now one of them that I called Joe seemed to be dissatisfied, and he said he would not work. He appeared to be tired of his job, and was anxious to get back again to the lazy life of the village. I could hear him muttering threats at the Shoganos (white men). We said but little to him, but did our talking with Wauba-gaesic, our Indian chief. Here, again, he was successful, for on the second day Joe went off again to work.

A Manitoba Moose.

This noble bull was shot by a Winnipeg sportsman in Northern Manitoba. It fell to a bullet from a .30 in Winchester

The time had now come for us to leave the green bush camp beside a lake of clear water and move to the north shore of Vermilion Lake, to camp in the open country. The country here had all been burned, and it is known as Brûlé. While in camp here we had a visit from an old Indian and his daughter, a child of five years old. They told us they were starving, and begged for food. They lived in a wigwam across on the south shore and depended for their food on fishing. Whether they were really starving or not we could not tell, but they appeared to be. The cook was ordered to give them what they needed. Salt pork and beans were heaped upon their plates, and were eagerly devoured. The capacity even of the child was wonderful. It was necessary to serve them several times before we could get rid of them. They were given food to take along with them, and told to come again if they needed more. Of course they came, and they were again given all that

they could eat. The Indian was an old man, and this little girl was his only companion.

North of the lake, when running a line across the brûlé, I suddenly came upon three bears. The meeting was so unexpected, it was difficult to say which of us was most surprised. It was an old bear with two cubs. When I met them they were all sitting on their haunches eating raspberries. The old bear was seated beside the berry bush, and had its arms or front paws, around a lot of branches, drawing them in to get the berries. Its nose was thrust in to the leaves, and this may account for its not seeing me. They were not ten feet distant from me, and the old bear paused for a moment before all three of them bounded off across the rocks and down into the ravine. The black bear's hind legs are so much longer than the front ones, that their gait when running is very peculiar. Our tame bears, and those in the parks or circuses, are so confined in small quarters that it is seldom if ever that we have a chance of seeing one on the run. Whoever sees their gait will long remember it.

To the north-west of Virmilion Lake I discovered a fine bush of sugar maples, and still further north, a lot of heavy hard pine timber. Many of the pine trees were four feet in diameter. The growth elsewhere has been mostly birch, tamarack, spruce, balsam, and cedar.

It had been an unusual summer for thunderstorms. It was our custom to observe the weather indications before starting out to work, but notwithstanding this, we were often caught in heavy storms. Rubber coats were too hot and burdensome to carry, and when it rained, we could only let it rain. The transit would be covered with a rubber hood, while the men would seek the shelter of trees or rocks. After the storm had passed a fire would be built to dry ourselves, and the work then proceed. Or if the day were very hot, the men would enjoy a wetting as a means of keeping cool.

On the evening of September 1st I located the last survey post at the north-east corner of the township, thus completing the summer's contract. Early on the following morning camp was struck and the homeward journey begun. The men were eager to get back to their native village and worked enthusiastically. The remaining provisions from the cache were taken, and with light loads and the current in our favor we made good progress. As we journeyed homeward there were mingled feelings of pleasure and regret. We certainly had passed a period of laborious work. We had endured hardships and had worked late and early, and yet for all the whole party was in excellent health.

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THE HORSE SHOW.

By Dr C. J. Alloway.

The word fad, is supposed to be the initial letters of something which for-a-day strikes the fancy, but which being ephemeral, passes away as suddenly as it came. If such is the history of the term, then it can in no sense be applied to the modern horse show.

In by-gone years the exhibition of horses in the prize ring, displaying their qualities and mettle in competition was entirely associated with the country fair, and naturally the horses exhibited were mainly the property of those immediately interested in agriculture, and the animals shown bore the marks of having been bred for farming purposes alone, the grand Cleveland Bays, the magnificent Norman Percherons and Clydes showing to what perfection draught animals could be brought. It was a healthy emulation and aroused a laudable desire for the best and a willingness to spend money on obtaining the choicest imported strains. This ambition has resulted in raising the standard over all our farming districts, and made the proudest day in the husbandman's life, that in which his prize animal with tail and main woven into strands and gaily bedecked, pranced out of the ring with the blue ribbon floating on the breeze.

It is, however, no disparagement to the attainments of the rural communities to assert that, to bring the display of horse flesh to a fine art it was necessary to come to the populous centers, and there to find what wise choosing, intelligent training, and perfect care can do in bringing the native or acquired qualities of the horse to the acme of equine development. Nor should the farmer be unwilling that such is the case, for although horse shows now yearly held in all the great cities of America are exponents of urban life and conditions, yet it is on the meadow lands and pastures far away from the fashionable centres that are raised the materials for these charming exhibitions. One of the most delightful features of these cosmopolitan gatherings is the fact that for the moment the innate love of the horse, which from time immemorial has found a place in the heart of man, makes all meet on equal terms. It is true that the owners of the high-stepping pairs and graceful saddle hacks look on from the exclusiveness of comfortable boxes, but their pleasure is no more keen in the grand jumping and magnificent action of the favorites than is the more boisterous enjoyment of their grooms grouped together in fraternal good fellowship at the end of the tan bark. Certainly the owners of the prize winners in the carriage pairs have no more elation over their success than has the well-appointed man in livery on the box, whose deft and skilful handling of the ribbons has in no slight measure contributed to the result.

Another feature which has been instrumental in instituting the popularity of the horse show on a firm and permanent basis is that its patrons and exhibitors are not men alone, ladies entering into it with the spirit and enthusiasm which ever mark anything which they delight to honor. For it they don their most bewildering millinery, their daintiest costumes, and give their unwearied attendance, until the whole amphitheatre is a delight to look upon, and indirectly those who are called upon to furnish these triumphs of the needle woman's craft feel the beneficial influence of the horse show in stimulating trade. Not only does the fashionable gown-maker share in the business interest aroused, but a wide circle of buyers and sellers are affected; beginning at the remote breeding farms, the stimulus ramifies in all directions to the personal gratification of all concerned. The wagon-maker, harness-maker, dealer in up-to-date supplies, the landlord, and a great variety of mechanics find a demand for their best. As prizes are offered for such unpoetical yet eminently useful turnouts as even the baker and butcher carts, a marked improvement in their style and general appearance has followed.

Unlike many other popular amusements there seems in the horse show to be an utter absence of objectionable adjuncts. All is honest, fair and healthy. In it an opportunity is given to the general public to witness a competition between individual animals of the several classes, which merits the warmest support. It proves that an American population will sustain with enthusiasm and interest an entertainment without any of the brutalizing tendencies which degrade other forms of so-called sport.

Another benefit which is arising from these competitive exhibits is the increasing popularity of horseback riding as a

recreation and health builder. The sedentary habits of the ordinary man or woman, and especially of those whose means render compulsory work unnecessary, are the greatest enemy to sound health. The many outdoor games in which the young indulge are somewhat unsuited to the dignity and physique of middle life, but there is no "dead line" in the use of the saddle, and the most casual observer must see that it is steadily increasing in favor year by year, while in many an attic the erstwhile delightful wheel is quietly rusting in dust and oblivion, while the horse that it endeavored to supersede, still holds his throne as the comfort and delight of the human race as a means of locomotion.

There are those who are doing their utmost to cultivate his natural powers and qualities to bring him as near perfection as possible. The present attainment is the result of unwearied experiment, the high culture of years and the survival of the fittest, which make possible the great diversity of breeds and classes containing specimens of such grace of contour and refinement of muscular development. The quality of bone, deep chest, fine head and perfect lines of the hunter are the result of years of selection and the heritage of generations of hunting sires bred in the blue grass of Kentucky, or on the pastures of English and Irish shires, and in cobs, carriage horses and other classes the prize winners are undoubtedly the result of similar care and attention.

If the Canadian people show a proper interest in this laudable emulation among horse lovers and horse owners they are doing something to lift the national taste. This can be done by heartily supporting the coming horse show, which is to take place in this city from the 6th of May to the 10th at the Arena. There is every indication of its surpassing in every way its predecessors. The management have fairly exhausted every resource both by alterations and additions to make the programme and prize list entirely satisfactory and attractive.

The entries, which closed on the 19th of April are considerably in excess of the show of last year, and as the executive have engaged a professional manager from New York, there can be no doubt that the entire entertainment will meet with an amount of appreciation commensurate with its merits and the energies the directors of the Arena have spent upon its preparation.

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GAME IN WESTERN QUEBEC.

The reports made by the fire rangers of the Province of Quebec contain a good deal of information that is valuable to sportsmen. We have recently been furnished with a copy of the reports covering the period intervening between May 1 and September 1, 1901, and select the following extracts as being most to the point :

Mr. W. Snoddy, whose beat is the Upper Gatineau, East, says : "There are a lot of red deer on my territory but very few moose. There are a few wolves but not any great number. The Indians and their dogs do more harm than the wolves, at least in the months of March and April when the crust is on the snow. They destroy a lot of them for the pelts and leave the venison in the woods. Fish in this country are abundant. Some large lakes in my territory, Baskatong, Baskatochin, George, Silver and Pikwakonagog Lakes are good fishing waters. There are lots of grey trout, black bass, doré, pike and sturgeon. The small lakes and creeks are full of brook trout. There is no disease among the game, and last spring the snows were not very deep. Indians and dogs do all the damage. Partridges hatched out well this year. Not a day passes but I see deer, and I consider this a fine territory for sportsmen in the fall. I take good care that the Indians do not set nets."

Mr. J. A. Campbell, who looks after the Blanche and Nation Rivers, reports : "My territory is so large that I cannot even estimate the amount of game. Deer are as abundant as ever, and the same may be said of the fish, but the fur bearing animals and partridges seem scarce."

Mr. John Kelly, sr., one of the joint guardians of the Lower St. Maurice, says : "We have abundance of caribou and moose, also quite a few red deer, and any quantity of partridge and fish."

Mr. W. D. Richer, who watches over the Upper Lièvre River, sends in an interesting report, in French, which we translate in part : "The fish which are the most numerous in the Lièvre, and its tributary the Kiamika, are the pike, the doré the brook trout, the grey trout and the whitefish. I have given their names in the order of their abundance. The pike are numerous and run to a large size, sometimes being taken of a weight of 25 lb. The doré is also found in company with the pike in the larger lakes. Some very fine ones are found in Lake Kiamika, Lac de la Carne, and Burnt Lake. The grey trout is especially abundant in Island Lake, behind the Wabassee Farm, in Green Lake, which is near the larger Bark Lake, Lake Kiamike, and, occasionally, in Tapanee. There is some poaching in Island Lake and Green Lake, where nets are used to take the grey trout on the spawning beds. The brook trout is not as abundant as some people think. Very few waters in the settled portion of my district hold these fish. They are more abundant in the Tapanee River, and in the little lakes near the forks of the Lièvre than in any other waters. Lake Busby, at the head of Busby Creek, which flows into the Tapanee, holds the largest trout. Whitefish are scarce and rapidly diminishing in number as the settlers net them on their spawning beds.

"The best parts of my district for hunting are those surrounding Lake Kiamika, the smaller Bark Lake and the Kiamika River. I cannot imagine a better ground for deer and duck. One or other is always in sight, and very often ten or a dozen deer may be seen from the canoe. One day last August we counted over a hundred in passing from Lake Kiamika to Little Bark Lake. On the preceding day we had caught a glimpse of a large moose. The shooting on the Lièvre is not so good. There are plenty of deer about the Wabassee and at L'Original, but they disappear as one goes up stream, and above the forks there are very few. On the lower parts of the river the deer are continually increasing, and it is evident they prefer to face the bullet rather than the hungry wolf. The moose has little to fear from the wolf, and a few are found along the Lièvre down to the Tapanee Farm, and along the banks of the Tapanee River, but in a few years the Indians will have killed the last one, just as they did the last beaver, unless the Government can find some means of making them submit to the same laws as the white man."

✦

The poacher has been having a bad time in Quebec lately. A resident of St. Adolphe, county of Chambly, was fined $100 for killing a moose, and two brothers from Point Blue, county Roberval, had to pay $113 for the destruction of four beavers. Let the good work proceed.

✦

"'Tain't de fellow wid de longes' line dat catch de mos' fish," said Charcoal Eph, in another of his ruminating moods ; "hit's de man wid de longes' 'magination."—Atlanta Constitution.

A NEW HAMMERLESS GUN.

One of the most useful weapons a man can take into the Canadian forest is a light shotgun. Partridge, rabbit and duck are found almost everywhere. Anticipating a great demand for this class of firearm, now that the tide of sporting travel is setting so strongly to Canada, the Stevens Arms Company, of Chicopee Falls, Mass., has put a new gun on the market, to which the following description applies: Top snap, special "Pyro-Electro" steel barrel, choke bored for nitro powder, walnut stock, rubber butt plate, case-hardened frame. Has pistol grip, checked and capped, with a patent forearm, checked. This gun has a new cocking device, by which it

A New "Stevens."

cannot be opened to insert a shell until the gun is at full cock. Also has automatic safety, making it impossible to discharge gun before it is pushed forward. Has an automatic shell ejector with a special device by which operator can at will change the gun from an ejector to an extractor by two turns of the screw. The simplest mechanism of any hammerless gun and by removing one screw that holds the trigger guard in place, the mechanism can be removed for inspection or repair.

12-gauge 28-30-32-inch barrel. Weight about 6¾ pounds.
Price..... $12.00

16-gauge 28-30-inch barrel. Weight about 6½ pounds.
Price..... $12.00

20-gauge 26-28-inch barrel. Weight about 6¼ pounds.
Price..... $12.00

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CORRESPONDENCE.

The Ontario Game Laws.

To the Editor of Rod and Gun:

Sir,—A few days ago a copy of the Ontario Game Laws, or rather an abstract of them, came into my possession, and as this is a subject in which I am vitally interested I have given it considerable study. It appears to me that all the amendments which have been made during the last session of the Ontario Legislature are moves in the right direction, and if I have any fault to find with them it is that they show a certain timidity, which seems to me uncalled for. Perhaps, however, Mr. Editor, you will allow me sufficient space to touch upon the provisions of this abstract at some little length, and if so I beg to offer the following criticisms:

In the first place it appears to me that the wording is, in almost every case, clumsy—instead of saying that a person may not hunt or kill without having procured a non-resident license, or that only one moose may be taken in one season by one person, or that no cow or young moose can be killed, would it not be better to have said "It shall not be legal, etc." It is no use telling an old woodsman that no cow moose can be killed, because he has probably seen cow moose killed in those parts of the province where the heavens are high and the law far off, and knows that a bullet behind the shoulder will kill a moose no matter what its sex or age.

Then it would appear as if the person who wrote the paragraph dealing with the restrictions on the killing of moose was not very well up in that sort of work. No moose or caribou are to be killed in that part of Ontario lying to the south of the main line of the C. P. R., from Mattawa to Port Arthur, except etc Is not this provision intended to apply also to the district south of the line between Mattawa and the boundary line of the Province of Quebec? If so, why not say so? Then, again, we are told, throughout all that part of Ontario lying north and west of the main line of the C.P.R., from Mattawa to Port Arthur, moose and caribou are legal game from October 16th to November 15th, both days inclusive. Now this description is a very unfortunate one, because it is ambiguous. I cannot conceive of a district which should lie west of an infinite east and west line. What I think is intended, is that moose may be killed north of the C.P.R. main line from Mattawa to Port Arthur, and on either side of it from Port Arthur to the Manitoban boundary.

Also, why is it necessary that the alternative for caribou, which is reindeer, should be inserted in the act while the synonym for moose, which is elk, is omitted? Perhaps the correct English word for the moose has been left out in order not to create confusion with the incorrect name for the wapiti, which is inserted, but in that case would it not have been better to have dispensed with "reindeer" as well?

By the bye, the law relating to muskrats is a gem of legislative eccentricity. We are told that the open season is from January 1st to May 1st, both days inclusive, but no muskrat may be shot during the month of April. So it would seem that we may shoot merrily until the evening of the 31st of March, when we must give Bre'r Muskrat a rest until the first morning in May, when we may slaughter him again until the going down of the sun, after which the little fellow is safe until January 1st of the succeeding year. F. M.

✠

Desbarats Islands.

To the Editor of Rod and Gun:

Many of your readers have doubtless heard of the Desbarats Islands, and as some of them may think of visiting this charming region during the coming summer I have ventured to trouble you with the following notes relating to them:

There is good fishing and canoeing here, pike and doré being abundant in Georgian Bay, and many of the smaller lakes a few miles back in the forests hold black bass and lake trout. There is fair hotel accommodation both at the station and the Indian Playgrounds, where Hiawatha is given every summer.

A good many summer residents live on the islands surrounding Desbarats, finding it easy to obtain all the luxuries of civilization owing to the excellent railway and steamship

service. A large number of these islands are for sale within four miles of the station, the Government asking about $5 an acre.

A novel attraction at Desbarats will be a number of Indian wigwams or tepees, that have been erected at various desirable spots and which may be hired at a merely nominal rental. Those who have never lived in an Indian wigwam have a fresh and delightful experience in store.

Desbarats is at all times easy of access by way of the Sault Ste. Marie and the C. P. R. There is also steamer service from several of the American cities. Guides cost from $1.50 to $2.00 a day, but they are not indispensable.

Desbarats, Ont. STRAW HAT.

P. S.—I notice that the open season for moose and caribou in Ontario will be one month north of the main line and a fortnight south thereof. Those who are afraid that the season will be a little late north of the main line might take with much pleasure the following trip: Go to Biscotasing, on the main line of the Canadian Pacific Railway, and hunt north of that point for a fortnight, then during the open season south travel from Biscotasing down to Dayton or Dean Lake, on the Soo Branch, where the altitude is considerably less and the climate about the same as that to the north of New York State. There would not then be the slightest danger of ice for bark canoes, and the trip down the Mississaga River between the points above mentioned is a very delightful one.

ONTARIO'S GAME AND GAME LAWS.

James Dickson, O. L. S.

Although for probably half a century or upwards before Confederation there were laws for the preservation of game, and a close season during which none might be either hunted, taken or killed, on the statutes of Canada, and an occasional transgressor brought to the bar of justice for having shot a deer or trapped a beaver during the prohibited period, it was not until near the close of the year 1890 that any serious or effectual attempt was made to protect, or put a stop to, the indiscriminate slaughter of either the denizens of our woods or waters. The wanton destruction at all seasons of the year of our moose, deer, fur-bearing animals and game birds, had gone on to such an extent that even the most callous had come to realize the fact that, unless some trenchant steps were immediately taken to put a stop to such practices, the game fields of Ontario would soon be as completely cleaned out as were the plains of the Northwest of the buffalo. In the month of November of that year the government of Ontario realized that the time had arrived when some measures for its protection must be promptly adopted, and also felt that probably the best method they could adopt to enlist public sympathy in any steps they might take for the preservation of our game was to take that public into their confidence, and endeavor to find out in what localities the various kinds of game was most abundant, the best methods to be adopted for its preservation, and ensure at the same time a fair chance of success in the chase to all, without infringing on the rights of any, or affording to any one class of the community any undue advantage over the other.

The Lieutenant-Governor-in-Council of the Province of Ontario appointed a commission to visit all parts of the province where there were any settlements, and any variety of game, hold public meetings, invite any and all persons to attend and freely express their opinions as to what kind of legislation would prove the most effective and so commend itself to public favor as to stand a chance of being reasonably well enforced.

All the evidence taken was reduced to writing, a careful compilation of it made and a valuable report submitted to the government. The result of which was the passing of the Game Act of 1892.

By this Act the Fish and Game Commission was established, consisting of five members selected from various parts of the province, and composed of gentlemen who were known to be ardent sportsmen either with rod or gun, but who would not countenance the taking of any variety of game during the close season. They were to hold office for a term of three years. With the exception of the chairman they were to act without salary. Their duty was to give all necessary directions and take all reasonable measures for the enforcement of the law, to collect statistics, and basing their recommendations upon such information as was available, submit an annual report to the government, making such recommendations as to changes in the law as they deemed advisable.

There was also appointed a chief game and fish warden, and four deputy wardens. These were permanent salaried officials. The chief warden located in the parliament buildings, Toronto, the others at different points, each having a certain district under his supervision; each to look after the enforcement of the laws in his district. It is no more than justice to those gentlemen to say that, taking into consideration the opposing elements they met, and difficulties they had to contend with, they have performed their duties remarkably well.

There was also a large staff of unsalaried deputy wardens appointed, scattered all over the province. Their remuneration consisted of a moiety of penalties imposed and collected.

By this Act the hunting or killing of deer was only permissible during the first two weeks of November in each year. Each hunter was restricted to two only, and no fawns were allowed to be hunted, taken or killed. Also no moose, elk or caribou was to be taken before the month of November, 1895. Game birds and fur-bearing animals were also protected during the breeding season. Settlers and Indians in unorganized districts were exempt from the provisions of the game laws in so far as they might take game for the use of themselves and families, but were not allowed to sell any. And no person but a resident of the province was allowed to hunt without paying an annual fee of $25.

All peace officers, wood rangers, fire wardens, crown lands and timber agents were also vested with the powers of deputy wardens, and it was made a part of their duty to assist in enforcing the game laws.

Previous to the passing of this Act there was no bounty for killing wolves except where there was municipal organization. It was then enacted that a bounty should be paid for wolves destroyed in any part of the province, and the amount increased from $6 to $10.

Although so much care had been taken to ascertain the trend of public opinion before the passing of this Act, it was found when it came to be enforced that there were many loopholes that required closing, and additions and alterations desirable, consequently the Act was recast the following year, 1893, when several additions and a few alterations were made. The powers of the wardens were somewhat extended and a license fee of $2 exacted from residents of the province, and no insectiverous birds were allowed to be killed at any time. The only birds that were allowed to be killed at all were crows, hawks, black birds, English sparrows, and game birds during the open season.

The destruction of the eggs of game birds was also prohibited, and additional restrictions placed on the exportation of any variety of game.

In order that residents might be put to as little trouble as possible in procuring their license, parties were appointed to grant them in every town, township and village. A great wail went forth over the length and breadth of the land that a hardship was loaded on to the "poor backwoods settler," because he had to pay a fee of two dollars for the privilege of killing two deer, and as a consequence the fee to be paid by the poor settler was reduced to the nominal sum of 25 cents.

At nearly every session of the legislature some additions were added to or alterations made in the game laws, until the session of 1900, when the whole Act was revised and remodelled, additional restrictions placed on the sale and exportation of game, the close season for beaver extended until November, 1905, and permission given to kill one bull moose or caribou during the first two weeks of November in every third year, on payment of a special license of $5.

Power was also given to the Lieutenant-Governor-in-Council to vary the close season as they might deem necessary in certain outlying districts, and also to extend further protection to migratory or other birds in danger of extinction. A section was also added forbidding the hiring of hunters to shoot game animals, thereby making it clear that the holder of a license, and no other, should have the right to either hunt, take or kill any variety of game.

Power was also bestowed upon the Lieutenant-Governor-in-Council to exempt Indians or white settlers in certain outlying sparsely settled districts, whether organized or not, from any of the provisions of the Act which was deemed necessary. Thus it will be seen that the interests of the "poor settler" were always carefully guarded.

When such an amount of time and money had been expended by the Government and their subordinates to ascertain the wants and desires of all classes interested in the preservation of game, and such care taken so to mould the law as to conform with the views of the greatest number, it was not too much to expect every law-abiding citizen to put his shoulder to the wheel and assist in its enforcement. But instead of this being the case what have the game wardens found? Opposition on every hand, not only by the man who has speared a trout, trapped a muskrat or shot a deer out of season, but by nearly every inhabitant of the community in which the offence occurred; clearly showing that public sympathy was on the side of the law-breaker. It is always a difficult matter to enforce a law with which the public is not in sympathy. If smuggling was held in as much abhorrence as burglary, there would be little use for preventive officers. And if fish spearing or deer hunting at unlawful seasons were looked upon with as much detestation as robbing a hen-roost or hog-pen, no man's conscience would prick him, nor would he dread getting the cold shoulder for playing the role of informer. But because wild game is not the private property of any particular individual or class, but belongs to the State, and that which belongs to the State is the property of everyone, share and share alike, some people (and, unfortunately, they are in the majority), think it is their individual right to take all they can at all seasons and at all times, no matter what effect their actions may have on the rights of others. Oblivious of the fact that in order to obtain a slight temporary advantage, they are leading towards the extermination of an element which if reasonably well protected would be a source of healthful recreation, and also a source from which many a delicacy and comfort could be extracted for all time, to say nothing of the actual cash value of the game so mercilessly slaughtered.

The professional burglar has generally a confederate to whom he can go with his spoil and be sure of a certain percentage of what the goods are worth, the dealer retaining the lion's share to offset the risk he runs. And when the gentlemen fall into the toils it is generally found that neither of them occupy a very high position in the social scale, and when the reward of their labors is meted out to them neither of them gets much the start of the other. In like manner the professional hunter and trapper knows where he can at any time dispose of a beaver or otter pelt, a saddle of venison or set of moose antlers, without any questions being asked as to how or when the animals were taken. Were this not the case they would be permitted to live.

It is a notorious fact that the dealers are almost invariably men of standing in their community. Many of them can even tag J.P. or even a higher title after their name. Box up the goods and hurry them to the station just before the train is due to leave, and with a smirk and a smile call that business tact.

If they are occasionally caught and a trifling penalty imposed, large although it may sometimes appear in proportion to the value of the goods in their possession at the particular time, yet a bagatelle in comparison with the value of contraband goods disposed of in a season; for like the burglars' "fence," they also get the articles very much below their value.

Judging from the tone of most of the articles which so frequently appear from the pen of so-called sportsmen, one would infer that the writers have not perused the game laws so much for the purpose of finding out their good points and using their influence in assisting to enforce them as to finding out what, from their standpoint, is a flaw. And reading between the lines, it is readily seen that the man who violates any section which does not merit their individual approval has their sympathy. These gentlemen ought to bear in mind that there is a wide diversity of opinion, and a wide diversity of interests to be taken into consideration by the framers of the law, and that, from the highest to the lowest, the opinion of each is entitled to due consideration.

One class of writers strenuously oppose the killing of deer in the water, others as vigorously maintain that this is the only and proper method by which they should be taken; each arguing, no doubt, from the standpoint of his own experience. For my own part, I fail to see that it makes much difference whether the animal is slain in the water or on dry land, so long as the number allowed to be taken is not exceeded, and that others are disturbed as little as possible.

One class maintain that hounding is the only proper way to hunt deer, and that the still hunter is simply a pot hunter; while the still hunter maintains that the reverse is the case. My whole life and professional practice has been spent in the heart of the deer districts, and in any section where there was any reasonable percentage of the country unfit for agriculture I cannot recall an instance of them becoming scarce so long as hunting was indulged in by the still hunters only. Nor have I ever met an individual whose experience teaches otherwise. Surely this is the most conclusive evidence that hounding, and not still hunting, is the most likely to lead to the rapid extermination of the game.

TO BE CONTINUED.

ROD AND GUN IN CANADA

DEVOTED TO THE FISHING GAME AND FOREST INTERESTS OF CANADA.

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ROD AND GUN IN CANADA does not assume any responsibility for, or necessarily endorse, any views expressed by contributors in these columns.

All communications should be addressed to:

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

We have been favored with a copy of the following report made by the non-commissioned officer stationed at Fort Chipewyan, to the officer commanding Northwest Mounted Police, Fort Saskatchewan:—

"I notified the Hudson's Bay Company's officer at Forts Smith and Resolution re the extension of the close season for buffalo, and requested them to warn all Indians and Half Breeds in their districts of the same.

"The buffalo this winter have been seen by the Indians within two days' travel of Fort Smith. The Indians say the herds seem to be getting smaller. They put it down to the destruction of the calves by wolves. Wolves are very numerous in this part of the district and are constantly seen following the herds around. I enquired from several of the Indians who hunt in that part of the country, and frequently see the buffalo, if they could give an estimate of the number of animals in the herds. They say it is impossible to give a correct estimate of the number, as they range over a large area of the country, from Peace Point, on the Peace River, down to the shores of Great Slave Lake."

✠

In a recent issue a New York weekly gave a sketch of the work accomplished by Mr. Andrew J. Stone in the extreme north of the Dominion and in Alaska. It is most humiliating that Canadians should stand aside and allow others to investigate and explore the great, little known regions of the north. We have men whose early training has fitted them most perfectly for the work of the explorer, but they are handicapped by lack of means, and there seems to be in this great Dominion of ours no wealthy men sufficiently interested in geographical and scientific discoveries to volunteer the necessary funds.

But though we may envy Mr. Stone his opportunities, we cannot certainly begrudge him a full meed of praise for his magnificent work. He has been a pioneer in so many distant parts of the Dominion that he is entitled to rank with Richardson, Fraser, Hearn, Back and Franklin; in fact, although his geographical discoveries may not be so important as were theirs, his zoological work has been far more valuable.

Among the new species that Mr. Stone has introduced to science are Ovis stonei, the black sheep of the Northern Rockies; R. montanus, a new caribou from Cassiar, and another species of caribou from the western part of the Alaskan peninsula, R. [illegible]. We are also led to expect that when the specimens Mr. Stone has just brought back from the north shall have been examined and classified, it will be found that he has added considerably to the existing number of species, as he is said to have deposited in the American Museum of Natural History, New York, some 350 specimens of northern mammals and 300 birds.

Mr. Stone commenced his explorations in 1896, having prepared himself in his Missouri home by five years of close study. Like every other man who has tasted the delights of the wilderness, Mr. Stone is anxious to return to the north, and is now planning another trip.

✠

The following order-in-council, recently passed in Ottawa will explain itself:

Whereas, there has been reported a decrease in the supply of fish in the Eastern Townships, due to improvident fishing,—

The Governor-General in Council, in virtue of the provisions of section 16 of the Fisheries Act, chapter 95 of the revised statutes of Canada, is pleased to make and does hereby make the following fishery regulation for the counties, in the Province of Quebec, hereinafter mentioned:—

"Fishing with nets of any kind in the lakes and tributary "streams of Missisquoi, Shefford, Brome, Drummond, Rich-"mond, Wolfe, Sherbrooke, Stanstead, Compton, Megantic and "Beauce, in the Province of Quebec, is prohibited.

"And no night lines used in the above prohibited districts "to have more than 100 hooks each."

[This order would, in our opinion, be a good one if the last clause allowing night lines with not over 100 hooks each were cancelled. A pot-hunter could use as many of these lines as he chose, provided the number of hooks on each did not exceed 100. Such night lines are most destructive in land-locked lakes.—Ed.]

✠

The subject of our frontispiece this month is one of those charming bays which are so common in the neighborhood of Desbarats. It is essentially a region of pine and rock, and the visitor is sure to concede that Hiawatha had a pretty eye for a country when he "located" in this part of the world.

✠

The following Order in Council has been issued: The Governor General in Council, in virtue of the provisions of Section 16 of The Fisheries Act, is pleased to order that the Order of the Governor in Council dated 26th March, 1892, providing a close season for speckled trout in the Province of Quebec, between 1st of October and the 30th of April, both days inclusive, shall be and is hereby amended so as to permit during the season of 1902 only, the fishing for speckled trout in Maxwell's Lake until 1st November, and in Lake St. Germain until 15th October, and the same is ordered accordingly.

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KENNEL DEPARTMENT

Conducted by D. Taylor

MONTREAL SHOW.

As the time approaches for the close of entries for the annual event of the Montreal Canine Association the committee are becoming more and more convinced of the ultimate success of the experiment in holding their show under American Kennel Club rules. Up to the time of writing (April 23) the encouragement received in the way of entries from the other side of line 45 has been very gratifying, while at the same date, compared with former years, there has been no apparent falling off in local entries, neither is there any diminution in the number from other parts of Canada. At previous shows held under the auspices of the Canine Association, American dogs were conspicuous by their absence, now the dog-loving public of Montreal will have the opportunity of seeing some of the most prominent dogs of different breeds there are on the continent of America to-day, and this in itself should justify the committee in their action. The superintendent Mr. H. M. Walters (who, by the way, seems to the manor born, and is pushing things along with an energy and vigor that deserves success), reports that some local exhibitors felt a little shy at entering in the opening classes with the chance, perhaps, of having to compete against trans-atlantic cracks, but after a little heart to heart talk they came to see things in another light. The true dog-lover does not enter his dog solely for the purpose of winning; he desires to see him alongside some acknowledged specimen of merit, compare the two together and find out for himself where his own is lacking. The experience is an object lesson which will serve him in years to come.

A Cree Tepee.

This scene was taken in Alberta, N.T.W.; while not a thing of beauty, this style of habitation has its many advantages.

Besides cash prizes in the open classes for each breed there is a great array of very valuable specials offered, comprising cups, medals, articles of utility and cash.

Among specials the Collie Club of America offers, open to members only: Collie Club Trophy, value $300, for best American bred collie, with a medal to best of opposite sex to winner; the Van Schaick Cup, value $300, for the best collie, and a medal to best of opposite sex to winner.

J. Cromwell Cox, Esq., and A. Percy Mutchmor, of Ottawa, offer a silver challenge cup, value $100, to the best specimen of any breed in show.

The Ladies' Kennel Association of America offers a silver medal for the best Blenheim spaniel, owned and shown by a lady; a silver medal for the best fox terrier owned and shown by a lady; the Meadowbrooke Challenge Cup for best dachshunde owned and bred by a member of the L. K. A.; the Hickory Valley Challenge Cup for the best cocker spaniel owned and bred by a member of the L. K. A.

St. Bernards, Russian wolfhounds, Irish setters, cocker spaniels, collies, bulldogs, fox terriers, and Irish terriers are exceptionally well provided for with specials, but indeed none of the breeds have been overlooked. The Association also offers $20 for the largest exhibit of dogs entered and owned by one kennel or exhibitor, and $20 to the handler in charge of the largest string of dogs.

It is quite safe to say that every local dog with any pretensions to quality will be entered, and to encourage local competition as much as possible, confined classes have been provided for all the standard breeds, with cash prizes and specials. The superintendent has received a great many assurances of entries from American kennels and among those who have already sent them in are G. M. Carnochan, Riverdale-on-Hudson, who will show his celebrated string of fox terriers; Mr. W. P. Earle, New York, bulldogs; Mr. E. P. Woodbury, Burlington, Vt., Boston terriers, and others.

The following are the officials of the show. They have worked with well-directed energy and zeal in the preliminary work, and it is believed their efforts will result in the best dog show ever held in Montreal:

Superintendent—H. M. Walters, Room 21, Stock Exchange Building.

Dog Show Committee—A. F. Brittain, S. Britcher, S. Coulson, Dr. W. H. Drummond, Arthur F. Gault, W. Henry, Jos. A. Laurin, D. W. Ogilvie (Chairman), N. C. Ogilvie, J. A. Pitt, Jos. Reid, D. Robertson, W. O. Roy, F. Stuart, D. Taylor, H. L. Thomas, H. M. Walters.

Veterinarians—Drs. O. Bruneau, V.S., A. Lesperance, V.S.

Secretary—J. R. Innes, Canada Life Building, Montreal.

The Ottawa Show.

During the past few months there has been quite a revival of interest in canine matters in the Capital City of the Dominion, a state of affairs brought about through the reorganization of the erstwhile defunct Kennel Club by a few enthusiastic fanciers, at the head of whom is Mr. J. Cromwell Cox. This gentleman had an able and willing lieutenant in Mr. A. Percy Mutchmor, and between them, and with the assistance of the committee, they made a pronounced success of their initial show. The result of these gentlemen's efforts shows what can be accomplished by energy when backed up by enthusiasm, and also confirms the truth of the statement frequently made that the true fancier will sacrifice a good deal financially to obtain the covetted blue ribbon for his dog, and that it needs not the putting up of big cash prizes to induce him to show. We trust that the present success will induce the Kennel Club to make it an annual event, and the only suggestion we would offer is that it be fixed on dates around Montreal's show, and under different judges. If this were done we are certain the change would benefit both.

As far as entries were concerned it was quite up to, if not beyond, expectations. There were 287 dogs benched, making a total of 521 entries. The place was not very suitable for a show, being in two flats of a store, and some inconvenience was felt in the larger classes owing to the circumscribed ring area. But the judge (Mr. James Watson, of collie fame) got through his work with remarkable celerity, looking to the difficulties he had to encounter, and on the whole there was an unusually small percentage of grumblers. Montreal dogs were quite a feature in the show, and the majority of them came home with blue or red ribbons. Mr. Geo. Caverhill's Skye terrier, Queen, was awarded the special for the best specimen of any breed in the show, and Mr. T. S. McGee's collie bitch, St. Louis Violet, obtained all the honors she was looking for. Mr. H. T. Thomas' recently imported bulldog was also singled out for special honors, while Messrs. F. and A. Stuart's St. Bernards were a prominent feature.

Quite a contingent of Montreal fanciers went to Ottawa and report receiving the heartiest of welcomes and the best of treatment from the president and others of the committee. The following were the officials:

President—J. Cromwell Cox.

Vice-President—R. H. Elliott.

Executive Committee—Dr. R. E. Webster, Dr. H. S. Kirby, W. G. Young, T. A. Armstrong, W. J. E. Newton, J. E. Montgomery, F. McLean, J. W. Graham.

Veterinary Surgeons—W. G. E. Austin, V. S.; Wm. G. Gilpin, V. S.

Secretary-Treasurer—A. Percy Mutchmor.

Superintendent of Show—A. P. Mutchmor.

Judge—James Watson, all classes.

Of the dogs quite a large number were only of mediocre quality, with one or two in several breeds standing out prominently in front. St. Bernards were a very fair show, the cream of the lot being from the St. Louis du Mile End Kennels, and they had no difficulty in winning. American foxhounds were quite numerous, but of a very mixed description. The other sporting classes were not filled as they ought to have been, while the entries in fox terriers was a distinct disappointment, and to add to this several western dogs entered did not put in appearance. Collies were the great feature of the show, the acknowledged reputation of Mr. Watson as a collie expert no doubt contributing largely to swell the number. Of course there was a lot of just fair, every-day dogs, but also quite a number fit to be seen in any company. We have been favored with the following criticism on the collie classes by one who knows all about them:

"The collie classes were wonderfully well filled, the total entry being one hundred and seventeen in nine classes. There were of course a good many duplicates, and each novice class held the key to the situation. Of the ten puppies, first was the good bodied Guy Long. He is not quite so long or clear in head as Coila Brankstone who, after having his ears weighted until led into the ring held them well, but the next day they pointed to the zenith. Cawning Hero, third, is a big fellow with plenty of body coat, but he is clumsy and wide in front. Pilot's Bob, too small, has a good texture of coat for a black and tan. In novice dogs Brandane Abbot, a very true built collie, excellent legs and feet, good coat, nice expression, could be improved with more length of head, won well from the first two in puppy class, and for reserve a good choice was made in Sir Humphrey II. With nearly forty dogs in the class the ring was packed, but the judge starting in the right way, sent out all the prick-eared and worthless one's and winnowed them down, gave C. or H. C. where there was any merit, by way of encouragement, and finally reached the best eight. Of those not mentioned before there were Fullerton, Edgeworth Tim and Don in the V. H. C., all showing character but short of quality in head. The limit dogs included King Edward VII., and the judge was some time deciding between him and Brandane Abbot. The Montreal dog has come on in coat of late, but there Abbott beats him, his skull is also flatter, but the former has a cleaner head which looks, if it is not, longer, and his make and shape suggest going faster and travelling farther. The other than sable and white class had Brandane Abbot and Guy Long for first and second, and in the open class it was a repetition of previous placing.

"The bitches were fewer but showed more quality than the dogs. First in every class came St. Louis Violet followed by Coila Kelpie, and in novice, limit and open, Dominion Patti was third. The winner is a beautiful bitch, her head, ears, expression, outline, stern and carriage being all of the best. She has yet time to put on a bit of substance as she is a June puppy, but she will never be a heavy bitch. She eventually got the breed specials, of which there were three, and the owner of King Edward VII. consoled himself with the fact that the bitch was by Logan's Earl. Coila Kelpie is a very neat, evenly turned bitch, a little better in head than Dominion Patti, and looks good enough to show in any company."

A correspondent also sends us the following: "Mr. Watson being a specialist on collies, brought out a big entry, there being no less than 36 in novice dogs. In puppy dogs Guy Long was first, a tricolor shown in fine condition; has nice expression, head, ears and coat, but carried his tail over his back. Coila Brankstone, second, had he not shown his ears had been weighted, would have won. He is very near what the collie fanciers are looking for and, with age, will be heard of again. Cawning Hero and Pilot's Bob are both on the skully side. In novice dogs Brandane Abbot won. He is a big tricolor and was shown in tip-top condition. He has a nice head and ears, grand coat, but his gaily carried tail spoils him. Guy Long, second, and Coila Brankstone, third, reserve going to Sir Humphrey II., a sable and white, with grand head and ears, good coat, legs and feet, and with lots of collie character, but shown very thin. A hardly used dog in only getting H. C. was Joe Perfection. True he is six years old and shows age, but for size, length of head, small ears well carried, and quality of coat there was

nothing in the class to equal him. Several others getting commended tickets were good useful collies. Limit class dogs were much the same, excepting King Edward, which won over Brandane Abbot. King Edward was shown in better coat and condition than in New York, but still lacks undercoat and is getting checky in head, and therefore might have given way to Brandane Abbot, Open dogs were a repetition of the same. Bitch puppies: St. Louis Violet won right through her classes, and at the finish discounted King Edward for the best in show. She is keeping herself well and, as she stands to-day, can win in the very best company. The second went to Coila Kelpie, a sweet bitch with fine head and good coat. Her ears, carried too low, spoil her. Novice class: St. Louis Voilet, first; Coila Kelpie, second; Dominion Patti, third, is showing age, but a big useful dog, and is showing herself to be a grand brood bitch, being dam of St. Louis Violet and the new States winner, Coila Victor; reserve went to Lassie, a big sable and white, good head, ears and expression, and only wants a little more undercoat to make her a nice one. The others behind reserve were hardly worth mentioning. Limit and open classes a repetition of former class."

The following are the Montreal winners:

St. Bernards.—Novice, dogs—1, Uncle Homer, F. & A. Stuart and E. Starr: limit and open—1, Uncle Homer. Bitch puppies—1, Alpine Peggy, F. & A. Stuart; novice—1, Alpine Peggy. Limit and open—1, Rosie O'Grady, F. & A. Stuart. Russian Wolfhounds.—Limit and open, dogs—1, Sir Roswald, Terra Cotta Kennels, Montreal and Toronto. Collies—Puppies, dogs—2, Roy, W. Ormiston Roy. Novice, dogs—3, Coila Brankstone, W. O. Roy; H. C.—Joe Perfection, P. J. McManus. Limit—1, Logan's King Edward VII., Joseph Reid; 3, Coila Brankstone, W. O. Roy; H. C.—Joe Perfection. Open, dogs—King Edward VII.; reserve—Coila Brankstone; H. C.—Joe Perfection. Puppies, bitches—1, St. Louis Violet, Thos. S. McGee; 2, Coila Kelpie, W. O. Roy. Limit and open—same order. Winners class—St. Louis Violet; reserve—King Edward VII. Bulldogs.—Novice dogs and bitches—1, Rose of Kent, H. L. Thomas. Bitches, open and winners class—Rose of Kent. Bull Terriers—Puppies, bitches—1, Newmarket Pride, Newmarket Kennels. Novice—1, Newmarket Pride. Airedale Terriers.—Novice, limit and open, dogs—Colne Master Nut, Jos. A. Laurin. Bitches, novice, limit, open and winners class—Colne Walton Flyaway. Fox Terriers (smooth).—Bitches, limit and open—2, Elmwood Electra, Mrs. C. Thomson. Fox Terriers (wirehaired).—Bitches, novice—1, Norfolk Peerless, D. W. Ogilvie. Open—1, Flashlight, D. W. Ogilvie. Winners—Flashlight. Scottish Terriers.—Open, dogs—1, Balmoral Toughie, Miss Isabel M. Lindsay; 2, York, Miss Eadie; 3, McGregor, Miss Eadie; reserve, Wishaw General, W. O. Roy. Bitches, open—Snapshot, Miss Eadie. Skye Terriers.—Open, dogs—Moorland Lad, George Caverhill. Bitches, open and winners — 1, Queen, Geo. Caverhill. Welsh Terriers.—Open, dogs and bitches—1, Teddy, W. O. Roy. Prince Charles Spaniels.—Open, dogs—Lord Bobs, E. Bradford; 2, Baden Powell, E. Bradford. Bitches, open—Minnie Warren, E. Bradford.

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At a recent meeting of the Brandon (Man.) Kennel Club the following officers were elected: Patron, Capt. P. H. B. Ramsay; president, J. P. Brisbin; vice-presidents, Vere H. G. G. Pickering and C. Arthur Rea; secretary-treasurer, Dr. H. James Elliott; executive committee, R. Fortune, E. H. White, W. J. Currie, W. McChesney; auditors, C. Arthur Rea and R. Fortune.

Manitoba Field Trial Club.

The annual meeting of this club was held on March 27 at Winnipeg, Mr. John Wootten, the president, in the chair. The secretary-treasurer's report for the past year was the most favorable ever presented, and consequently gave great satisfaction. The purses in the Derby and All-Age stakes were increased by $100 each, making a purse of $325 for each event, divided as follows: $150 to first, $100 to second, $50 to third, $25 to fourth. The date fixed for this year's trials, September 4, is a little earlier than last year. The conditions of the championship stakes have been changed and is now open only "to dogs that have won a place in competition in field trials." The entrance fees and a gold medal will be given to the winner. The club was instrumental in securing an amendment to the game laws of the province which will permit of the training of setters and pointers during the close season. Prof. Eric Hamber, Winnipeg, is the secretary, and all communications regarding the entries of dogs to the field trials should be made to him.

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Victoria, B.C., Bench Show.

The newly organized Kennel Club of Victoria, B.C., held its initial show April 3–5, and were favored with a very generous measure of public support as far as entries and the attendance of sightseers were concerned. From the abundance of both wing and ground game in the almost immediate vicinity of the city, dogs which can be used for sporting purposes were largely in the majority, and nowhere else in Canada do we find such a number of well trained setters. The number of dogs benched was 226, totalling about 300 entries, and of these nearly one quarter, or fifty to be exact, were English setters. In point of numbers cockers came next, thirty-nine being actually shown. The judging ring was outside the exhibition building, in the open air, and the glorious sunshine made it very pleasant for visitors. Mr. E. Davis judged all classes and placed the ribbons to the apparent satisfaction of the majority. The following officials deserve every credit for the success they worked so hard to obtain: President, Hon. D. M. Eberts; vice-president, J. W. Creighton; secretary, T. P. McConnell; treasurer, T. H. Plimley; superintendent, Frank T. Turner; show committee, W. F. Hall, T. Astle, E. Pierdner, C. A. Goodwin and J. McSweeney.

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Mr. J. Cromwell Cox, the popular president of the Ottawa Kennel Club, is, we understand, importing a new collie from the Old Country which he hopes to do a lot of winning with. The dog is now on the water and, if he arrives in anything like condition, will make his first appearance on this side at Montreal show. A gentleman who has an intimate acquaintance with the breeder and knows the stock from which the dog is bred, informs us that he is more than likely to prove a cracker-jack. Mr. Cox is a keen fancier and does not allow a dollar or two to stand in the way of getting the best. We understand he pays a high price for his last purchase.

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Mr. Eric Hamber, secretary of the Manitoba Field Trials Club, writes that Mr. N. Wallace, of Farmington, Conn., has consented to act as one of the judges at the trials to be held early next September at Carmen, Man. Mr. Wallace's abilities are so well known to field trial men that his selection as judge ought to prove a large factor in ensuring a successful meet. The second judge will be announced later.

On 7th April Alex Smith's ("Auchcairnie") Kincardine Maple Leaf (Champion Laurel Laddie ex Logan's Apple Blossom) whelped fourteen pups—eleven dogs, three bitches - to Mr. H. Jarret's dog Coila Victor, which took a good place at New York. Coila Victor is by Knight Errant II. ex Dominion Pattie. "Auchcairnie" has kept seven and thinks he should have some prize winners in the bunch.

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The collie bitch Broadlin' Maytlower (Champion Laurel Laddie ex Logan's Apple Blossom) has given birth to seven puppies—five dogs, two bitches—to the owner's (Mr. P. J. McManus) stud dog, Joe Perfection. They are all beautifully marked sable and white.

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Mr. W. Ormiston Roy's collie bitch, Logan's Whin Blossom (Woodmansterne Conrad ex Logan's Apple Blossom), has whelped ten perfectly marked puppies to Mr. P. McManus' stud dog, Joe Perfection (Shrewsbury Perfection ex Fanny).

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Distemper in Dogs.

From a timely article on "Distemper in Dogs" by a correspondent of a contemporary, we extract the following:

"Primarily, distemper, at its inception, shows a disturbed and inflamed condition of the membraneous tissue of the alimentary canal. It is likely a condition corresponding to typhoid, as some maintain. Its germ certainly finds ready cultivation in the unhealthy conditions which result from worms. Its first usual symptom is a hard bronchial cough, with some retching, irritated by excitement or nervousness, all no doubt caused by the stomach's disturbed membraneous condition. Whether at two or three months, or at six to ten months, or any age, the first thing to do when this cough appears is to chain the dog up in some inside quarters where air is good and floor dry.

"Distemper develops much slower than generally thought for. A dog is first noticed to be "off his food;" soon the cough is noticed in the morning and towards night, and in a week or ten days it is more than likely that the eyes show a sticky discharge and the nose sooner or later begins perhaps to discharge likewise thick purulent yellow mucus.

"Of great importance is the isolation of the patient, chained up free from activity and excitement from other dogs. If your puppy is young, and you have an old bitch (that has had the distemper), no harm can follow shutting her in with the patient. She will aid the puppy in keeping clean and be very helpful in quieting him. Your chances are that if this first move is made promptly, and faithfully adhered to, your dog will have but a "mild case."

"In treatment, the writer does not believe in the speedy use of any medicine; the less used the better you are off, and the dog, generally. If at first your dog is suddenly prostrated, as is common, one good large dose of rochelle salts or castor oil is a good beginning. If indications of worms are present, treat for their removal. If the patient refuses food for a couple of days, it will do no harm to let him go without, but rather good. The first stage is no time to force food, but, on the contrary, does injury. Should much mucous discharge develop at the eyes and nose, and a general fevered condition exist, with quick breathing and much loss of energy, quinine in moderate doses, or any tried "grippe" tablet that has been found good in family use will prove beneficial. The condition of the stomach is the most important factor to keep in mind, for on getting the dog back to a good appetite depends his recovery.

"Right here, begin at once, something that will, if followed up regularly, allay the development of the worst tendencies of the disease. After the general cleansing, begin to give, three or four times a day for several days, and continually as long as its helpfulness is indicated, a tablet that can be purchased from any druggist, being a compound of pepsin (one or two grains, according to age), bismuth and charcoal. These tablets are inexpensive and should be given after each meal, if the patient takes food, and, if not, four times a day. They are easily taken or given, and their beneficial effect will soon be observed.

"These simple and harmless tablets will first digest the food and enable the dog to assimilate it. They sooth and tone up the inflamed intestinal conditions and gradually make a dog's appetite good again and slowly but surely bring about the conditions which permit healthy, well formed feces. When this is accomplished more than half the battle is fought.

"Should the patient show general debility and indications of the disease rather generally poisoning the system, in fact, if the nasal form develops, lose no time in arranging to put in a seton. Any veterinary can do it, but you can do it yourself fully as well, as follows: Clip the hair on neck back of skull close to skin for three or four inches square. Secure a piece of ordinary (tarred) tarpaulin or common hemp cord, which should be soaked in a solution of carbolic acid and water. Cut cord at length of eight or ten inches. Catch one end of it in the joint of a pair of small curved sharp-pointed nail scissors or sail-cloth needle; hold skin just below occiput of skull bone, well up away from inner tissues and puncture point through from one side of neck to the other, drawing cord through so that holes will be about two inches apart; tie good large knots in each end of cord, dressing at first with antiseptic vaseline, and leave it in from five to ten days, dependent upon profuseness of discharge. Draw cord from knot to knot each day often, in order to keep outlet free.

"In almost all cases where the seton is used soon enough its aid is largely responsible for safe recovery. The writer has seen most wonderful cures by its assistance in the last stages of the disease. Its use is of English origin, and one theory advanced to explain its benefit in dogs is that as a dog perspires only through the glands of nose and mouth, and never through the outer skin and coat, this outlet affords an immediate drain much needed to carry off the poisonous accumulations about the inner body tissues. When the system is generally much poisoned with the effects of distemper, this drain is very beneficial and never harmful.

"Many dog owners have special food theories for distemper, a popular delusion being that meat fed to young dogs produces distemper. All young dogs should have meat in moderation, and don't forget that dogs need salt in their food, as well as the human race and animals. The frequent continual diet absolutely without salt, is sufficient to cause most any ailment. The writer's observation has been that a dog in distemper gets along best when given limited quantities of what it craves, three to five times daily, always bearing in mind the aim to make the stomach's work easy. Raw (fresh) beef cut fine on bread, fed three or four times daily is most excellent. If milk is relied upon, sterilize it (rather than boil) and give in moderate quantities. Raw eggs with milk is generally very good and strengthening.

"The most important safeguards to bear in mind are: (1) Absolute quiet on chain in dry quarters. (2) Tablets regularly given and constant care. (3) The seton promptly put in before the case has advanced to the fatal or acute form of the disease."

AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

The Scrap Bag.

A Hint on Fixing.—The first action of a solution of hypo on the unaltered silver bromide emulsion of a plate, is to form an insoluable compound that is invisible because it is transparent. This change begins at the surface and is immediately followed by another action which changes the first chemical into a soluable salt easily removable by water. It is evident that if the plate is removed and washed at the exact moment the last trace of white disappears from the back, there will be spots, where the white last appeared, containing this insoluable compound that cannot be removed by any amount of washing. This is what turns yellow or brown after a time. It is another case of an ounce of prevention saving a pound of cure, for I have never yet seen any sure method for getting rid of them completely.

An Inexpensive Background for Portraits.—Get some muslin at the dry goods store that is at least two yards wide. It will cost perhaps twenty cents a yard. Get enough to make several backgrounds and, leaving one white, color the rest with Diamond Dyes. Slate color, brown and black are most desirable. Nail one edge of each on one strip of wood and put a screw eye in each end of the stick. Nails or brass hooks placed at different parts of the room will allow the ground to be hung in any desired position by running a stout cord through the two eyes from one point to another. This will allow of the ground being swung from side to side, and by changing one end of the cord to a different hook, the angle of the ground may be altered. Vibrating the cord a trifle during exposure will prevent the texture of the material from showing.

Blue Prints.—At this time of year, the month for cloud pictures, blue prints will be found to express very adequately the feeling of spring, and are worth using. If you have not been using them all winter get some paper and have a change. "It's time for a change." Print your negative in the centre of a large sheet of paper by marking off the edges; then cover the print and a narrow strip of the print all around (say a quarter of an inch) with a card a little larger than the matt you have just used, and print the margin of the paper. By shading it diagonally so as to let one corner print stronger than the rest and keeping the shade in motion, you can produce that same effect as is shown in the popular Rembrandt mounts.

Gardening with a Camera.—In *Country Life in America* a few months ago, Mr. L. M. Bailey gives us a lesson in gardening, in which he tells us that the camera is one of the most important aids and also shows us some of the beautiful photograms which he says have helped him. He says: "The best preparation for gardening is to go afield and see the things that grow there. Take photograms in order to focus your attention on specific objects, to concentrate your observation, to train your artistic sense. An ardent admirer of nature once told me that he never knew nature till he purchased a camera. If you have a camera, stop taking pictures of your friends and the making of mere souvenirs and try the photographing of plants and animals and small landscapes. Notice that the ground-glass of your camera limits your landscape. The border pieces frame it. Always see how your picture looks on your ground-glass before you make your exposure. Move your camera until you have an artistic composition — one that will have a pictorial or picturesque character. Avoid snap-shots for such work as this. Take your time. At the end of a year, tell me if you are not a nature lover. If to-day you care only for pinks and roses and other prim flowers, next year you will admire also the weedy tangles, the spray of wild convolvulus on the old fence, the winter walks of the sun-flower, the dripping water trough by the roadside, the abandoned bird's nest, the pose of the grass-hopper." In some ways Mr. Bailey seems to have gottenoff his subject, but at the same time there is much in what he says. Try it and see!

On the Range.

A Canadian cowboy breaking in a pony for the British troops to use in South Africa.

Lantern Slide Work.—Lantern slides in two colors by development only are very effective, especially in the case of sunset scenes. To make such, make an ordinary lantern slide of suitable depth and tint from the desirable negative. Then instead of binding it with the plain cover glass, expose one of the lantern plates for red tones in contact with the slide already made. The denser part of the slide will shield the plate which is to take the place of the usual cover glass, but the thin part of

the slide representing sky, etc., will allow considerable light to pass through. When this plate is developed to a warm red tone, and eventually bound up in exact registrar with the original slide, we have, instead of a sunset slide in monotone, a composite one in which the sky, water, reflections, etc., are suffused in a warm sunset glow, intense or otherwise, according to the depth to which the plate used as a cover-glass has been developed.

Bromide of Potassium.—One must bear in mind that bromide of potassium used in the developer will have the effect of spoiling the gradation. A negative that is to be used for any special purpose and shows signs of being under-exposed might just as well be thrown away and taken over again as wasting time over it with a restrainer. Gradation is essential to pictorial excellence.

A Platinum Toning Formula.—Here is a new formula for toning platinum prints. It is being largely used by all the wholesale makers of platinum prints for the art stores :

A	
Uranium nitrate	48 gr.
Glacial acetic acid	48 gr.
Water	1 oz.
B	
Potassium ferricyanide	48 gr.
Water	1 oz.
C	
Ammonium sulphocyanide	280 gr.
Water	1 oz.

Use ten parts of each of the three solutions to 1,000 parts of water. Wash all prints thoroughly, as the slightest trace of iron will be fatal.

A Word on Trimming.—There is nothing that will detract more from the finished appearance of a print than poor trimming. A straggling, wavering edge that looks as though a cyclone had struck it just as its maker was slicing off its sides, will effectually take the charm off any photogram, no matter how excellent it may be in composition or technical workmanship. It does not cost much for a trimming board with a square and rule at the top, (about 90 cents, I think, for a 4x5,) but if you feel that you can't afford one, get a common square. But don't have 'em crooked.

Making Carbon Transparencies.—Take an unused dry-plate, fix it, and then wash well. Immerse the plate for a few minutes or hours (it does not matter) in a strong solution of chrome alum, well wash again and dry. The plate is now ready for carbon tissue in the ordinary way. In this manner, stale plates or light struck ones may be made useful to the carbon transparency worker.

Velox.—Velox develops too rapidly to suit some workers. If therefore a teaspoonful of sugar be dissolved in four ounces of the developer, it about doubles the time required for development. Two teaspoonfuls quadruple it. This superficial method of retarding development will be found useful, since potassium bromide alters the color of the print, while sugar, if it has any effect on the color of the blacks, only makes them richer.

Renovating Leather.—When the leather in a hand camera becomes worn and brown in some parts, apply a good dead black varnish and when thoroughly dry polish with furniture cream polish. Or it may be given a coat of shellac, 3 grains ; alcohol, 8 drams ; nig-rosin, 4 grains. Either of these will make it look almost as good as new.

Removing Varnish from a Negative.—Place the negative in a flat dish and pour methylated spirits on it which has previously been made distinctly alkaline by the addition of a few drops of strong ammonium solution. Let the plate soak one or two minutes and then remove by gentle friction with a tuft of soft cotton wool, the remainder of the gum, after which the plate may be well washed by two or three changes of fresh spirit and well washed by soaking in three changes of fresh water, face downward, and then dried. This will effectually clean the negative.

The sixth report of the Department of Agriculture of the Province of British Columbia is certainly a credit to that department and to its compiler, Mr. J. R. Anderson, the Deputy Minister. It is a very full compendium of information in regard to the agricultural and forest resources of the Pacific Province. The feature that attracts special attention at a first glance is the splendid illustrations of the lumbering and agricultural industries, which are evidently reproduced from good photographs, and with a clearness and definiteness almost equal to the original. In this respect this report is the superior of any we have seen issued by any other Government Department in the Dominion. Considerable information in detail is given of the different districts by the agents resident therein, and under the heading of forest fires the almost unanimous statement is that such fires as have occurred are caused by carelessness. An agent on Vancouver Island is divided against himself in attempting to harmonize the agricultural interests and forest preservation. He says : "To destroy such fine timber as we have up here for farming is not only a waste but a sin ; but how to get it taken off soon is a question. It will be taken some day, but surely the pioneers are entitled to some present benefits as we do all we can to preserve the timber."

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The fifth annual report of the Commissioners of Fisheries, Game and Forests for the State of New York, being for the year ending 30th September, 1899, has been received. This annual report, one of the most elaborate issued by any State authority, is splendidly illustrated with colored plates of fish and game, and with numerous monochrone pictures of forest and other scenes. The leading articles of interest to foresters are : "Timber Product of the Adirondacks" and "Forest Fires in 1899," by Wm. F. Fox ; "Insects Injurious to Elm Trees," by E. P. Felt ; "Some European Forest Scenes," by Dr. John Gifford ; "Forest Taxation," by Dr. C. A. Schenck ; "Beginnings of Professional Forestry in the Adirondacks," by Dr. B. E. Fernow.

✠

We have received from the Union Metallic Cartridge Co., of Bridgeport, Conn., a very useful little treatise on shotgun ammunition. We notice that the well-known "Smokeless" shells have been changed into "Arrow," and that, for the first time, the company has listed special tournament loads with heavy charges of powder, special wadding, and chilled shot. This publication will be sent gratis upon application.

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The Department of Fisheries of the Province of Ontario will shortly resume the work, so successfully prosecuted during the past two seasons, of restocking the inland waters of the Province with bass and other game fish. It is intended to expend some $2,000 in this way this year, which will accomplish more than has been done previously.

FORESTRY

"Rod and Gun" is the official organ of the Canadian Forestry Association. The Editors will welcome contributions on topics relating to Forestry.

Edited by the Officers of the Canadian Forestry Association.

PINUS BANKSIANA.

Among the ten characteristic trees of the northern forests is *Pinus Banksiana*, commonly known as Jack, Scrub or Grey Pine, and by the French Canadians as Cypré. A casual observer, not well acquainted with trees, might perhaps be pardoned for deciding that a young tree of this species is a spruce, for the leaves, instead of being clustered toward the ends of the branches, as in the Red and the White Pines, are scattered along them more after the manner of a spruce, but the characteristics which distinguish the species are quite clear and easily recognizable. The leaves, which are arranged in pairs in a sheath, are about one inch in length, flat on the interior and rounded on the exterior sides. The cones are commonly in twos or more, and are pointing in the same direction as the branches. They are curved a little to one side, and are very hard and thorny. Their grey color is supposed to be the reason for the name Grey Pine, which Michaux reports as the name most generally used in Canada.

Michaux's description of the distribution of this tree is interesting, though the facts since gathered have shown its incompleteness in some respects. It is as follows:

"In the environs of Hudson's Bay and of the great Misstassini Lakes the trees which compose the forests a few degrees farther south disappear almost, entirely in consequence of the severity of the winter and the sterility of the soil. The face of the country is almost everywhere broken by innumerable lakes, and covered by large rocks piled upon each other and usually overgrown with large black lichens, which deepen the gloomy aspect of these desolate and almost uninhabitable regions. Here and there in the intervals of the rocks are seen a few individuals of this species of pine, which fructify and even exhibit the appearance of decrepitude at a height of three feet. One hundred and fifty miles farther south its vegetation is more vigorous, but it is still not more than eight or ten feet high and in Nova Scotia, where it is confined to the summit of the rocks, it rarely exceeds this stature."

Professor Macoun finds that this tree extends from Halifax in Nova Scotia, north-westerly to the Athabasca River, near old Fort Assiniboine, and northerly down the Mackenzie River to the arctic circle. In the East it scarcely forms a tree, but going west it increases in size until north of Lake Superior it forms groves of tall trees, and westward of Lake Winnepeg and north of the Saskatchewan River it equals the Red Pine of the East in height and diameter. The Banksian Pine, whether small or grown to the stature of a tree in the forest, has an irregularity in branching which is an easily distinguishable feature. Its favourite habitat is rocky or sandy soils, and the presence of a grove of these trees may usually be taken as an indication of light soil. This is a characteristic which makes this tree, comparatively of little value, one which may render otherwise useless land productive.

PINUS BANKSIANA.

These trees grew up surrounded by numerous companions, and in their efforts to reach the light produced long, straight stems, branchless until near the top.

The wood is not of much value, the main use to which it has been put being for railway ties, though as "any tree may be used for pulp" it might be made of some use for this purpose. Michaux states that the Canadians find a speedy cure for obstinate colds in a drink made by boiling the cones in water.

A curious controversy has arisen over the method of opening of the cones, and the fact that such a controversy is possible is a striking commentary on the ordeal of fire through which our forests have had to pass. The cones are very hard and are slow in opening, taking at least two or three years, and it is asserted that this tree has so adapted itself

to its environment that usually the cones will not open at all, and the seed will not be scattered until fire has assisted in the operation. It is quite true that the cones gape open and allow the seed to escape after they have been scorched by fire, but there are so many instances of the freeing of the seed by the natural development of the cone that the evidence to establish the necessity for the intervention of fire can hardly be considered as sufficient.

Dr. W. H. Muldrew, of Gravenhurst, writes us referring to the statement of Dr. Bell, that fire is the chief, if not the sole, cause for the opening of the cones of *Pinus Banksiana*, and forwards cones from a young tree which are now opening naturally, and are apparently neither diseased or immature. This tree is on a little island in Muskoka Lake, and Dr. Muldrew states that as sufficient seeds have been liberated to grow seedlings of all sizes, it would be necessary, adopting the theory of opening by fire, to conclude that young white pines, as well as the parent scrub pines, must have successfully withstood a series of severe fires, which is clearly an untenable position.

Arbor Day.

The schools have so established themselves in the minds of the public as the proper medium for training the youth of the country, that no person who has any new movement to launch which affects the general interest of the people, but feels that he must secure the assistance of the schools. And the view which dictates such a policy is well based, for those things which are emphasized in the schools of the present will most easily be impressed upon and understood by the public of the future. But while this tribute is paid to the influence of the school teacher, there is a danger, partly from over enthusiasm in special directions and possibly sometimes from a desire to shirk responsibility, of placing upon both himself and the scholars burdens greater than they can bear. No new demand, however, is being made in urging the general observance of so well-established a custom as the celebration of Arbor Day and the making of efforts to render its results more permanent, both educationally and practically.

The day was first observed in Nebraska in 1872, and its celebration has become more and more widespread. While its observation was not primarily a school function, and is not necessarily still so, it has been generally connected with the public schools. The ceremonies by which the day has been observed have been usually more poetical than practical. Trees are planted in commemoration of noted persons or events, and the ceremonies are made as impressive as possible by songs, recitations, addresses, etc. The tree planting has not always been done judiciously or understandingly, while the esthetic effect, which has been mainly kept in view, has often been lost by neglect to follow up perseveringly the beginning which had been made. Until, however, through the kindness of Sir Wm. Macdonald, or in some other way, school gardens are established, Arbor Day has an important function to fill.

In most of the provinces of the Dominion the day is observed in the schools, British Columbia being apparently the only exception.

In Prince Edward Island a day to be observed as Arbor Day in the schools was set apart in 1886, but the observance has not been at all general or persevering.

In New Brunswick Arbor Day is observed on a day appointed by the Inspectors each year, but the observation is not obligatory. During 1900, 462 school districts celebrated the day, about 2,000 trees and shrubs were planted, and 500 flower beds made. This is about the annual average, but the Chief Superintendent of Education states that little attention is paid to the trees and shrubs after they have been planted, and consequently many of them die or are destroyed before the next Arbor Day!

In Nova Scotia the Superintendent of Education is also Vice-President of the Canadian Forestry Association, so that it will not be surprising to know that Arbor Day has had his hearty support. Dr. McKay has gone further than this and has had established in the schools a system of nature study, in which the teacher and scholars unite to record their observations of the natural phenomena in their particular districts, with the result that much permanently interesting material is gathered and the children are trained to observe natural processes and their effects.

In Quebec Arbor Day was established by general act of the Legislature in 1887, but it appears to have largely dropped out of notice, as no mention is made of it in recent school reports.

In Ontario the first Friday in May is Arbor Day, and the occasion is generally observed in rural schools. The former Minister of Education issued a small volume giving suggestive programmes for such celebrations, with suitable poems and selections, which has been very helpful.

Manitoba has given the day special prominence. The trees planted since 1892 number 32,321, and last year a circular was sent to the trustees and teachers directing attention to the importance of observing Arbor Day in a fitting manner, and with the circulars were distributed 10,000 copies of "William Silvering's Surrender," a little work prepared by Rev. Dr. Bryce, which gives much useful information in regard to forestry and tree planting.

In the North-West Territories, where the need of trees is most felt, considerable attention has been given to the subject. Public school children in the higher classes are given instruction on the cultivation of trees for shade, ornament and protection. These subjects are continued in the High Schools and form part of the papers set for non-professional teachers' certificates. In the Normal School the planting, care and uses of trees are discussed and instruction given on the objects of Arbor Day, modes of conducting Arbor Day exercises and ways of interesting the people in tree culture. The influence of examples is mentioned by the Superintendent of Education in order to urge the advisability of having plots planted with trees in each district.

The outline thus given will suggest some ways in which action may be taken to make the celebration of Arbor Day more effective. The practical work should be carried out on a proper plan and under competent supervision, and should not be confined to one day's celebration.

We quote the following from a pamphlet on "Tree Planting on Rural School Grounds," by Wm. L. Hall, Assistant Superintendent of Tree Planting of the United States Bureau of Forestry:

"The need of the school grounds is for plantations of hardy trees, cared for by such methods as will keep them constantly thrifty. The trees should be selected and planted in the most careful manner. They should be properly placed and in sufficient numbers. To plant in this way requires a great deal of attention to details. It may be the work of several days. The perishable nature of trees also makes it extremely important to plant them when the weather conditions are just right. Dry, windy weather may cause several days' delay in planting. It

is therefore impracticable to depend wholly on a specified day for the work. Let the trees be planted at the right time; then, if public exercises are planned, they may be held on an appointed day after the planting is completed."

The theoretical work might include studies of particular trees, their development and their uses, the beneficial effects of sheltering trees on crops and the added beauty and comfort which they bring to the home, the effects of forests on climate, water supply and sanitation, their great value as revenue producers, the varied ways in which they minister to the needs of modern civilization and industry, the great dangers to which they are subject from fire and the loss which has been occasioned in this way, the results of the methods of forest management adopted on the Continent of Europe. Information on these subjects should be made available for the use of teachers, as it would make the work of Arbor Day much more effective and permanent in its results.

PINUS BANKSIANA.
A young "scrub pine" growing on rocky land that has been swept by fire

The wider basis on which the celebration of the day was at first established has been largely lost sight of, but the utter carelessness with which the beauties of nature are often destroyed by the advent of human habitation, the clear running streams turned into stagnating pools choked with rubbish, and bareness and ugliness replacing nature's charm, gives reason for urging that the wider significance of the celebration should be kept in view. The Canadian people are not making any advance if they permit an ugly utilitarianism or an animal blindness to so dull their intellect and their imagination that the thousand appeals which the unmarred work of nature makes to the higher nature are unseen and unheeded.

*

Pulpwood Forests in Quebec.

Hon. Thomas Duffy, Treasurer of the Province of Quebec, in submitting his annual statement to the Legislature, called attention to the regulations for the cutting of woods used for pulp, which limit the diameter of spruce allowed to be cut to eleven inches, and trees of other descriptions to nine inches, but allow black spruce, poplar, balsam and hemlock and other small timber intended for the manufacture of paper pulp to be cut at a diameter of seven inches at the stump, and went on to say:

"This is a system of forestry which for this province is far superior to that of planting new trees, adopted in some of the countries of Europe. Under our system it is only the old and large trees that are cut down, and the young trees of the size above indicated are preserved to renew by their natural growth the forests for all time. Lumbermen say that spruce limits under these regulations are renewed in fifteen years. It is a great mistake to suppose that our forests comprised in the Crown domain are being depleted of timber. Under the present regulations they constitute an asset that will endure for all time if they escape the ravages of fire. The holders of the limits themselves are equally interested with the Government in not destroying their limits by cutting the small trees and, as a matter of fact, some of the limit holders have adopted a higher stumpage than that provided by the regulations."

Everyone must agree with Hon. Mr. Duffy's statement that it would not be a statesmanlike act for the Government to leave its great forest areas unproductive if they can be made to produce a revenue and at the same time be not reduced in value as an asset of the province, and also with the statement that the intensive forms of forest management practised in Europe are impossible of adoption in Canada at the present time, but the question still remains as to whether the policy laid down in the regulations is the best and most complete that can be adopted, and whether it is actually accomplishing the purpose for which it is intended.

This question was under discussion at the annual meeting of the Forestry Association and much information was brought out that will be of use in the determination of the best policy, an outline of which will be opportune at the present time.

To have the holders of pulpwood forests fully in sympathy with the policy sought by the regulations is, as suggested, a

desirable aim, and if it can be brought about in all cases, a great step forward has been made. To do this the holder must have some assurance of permanency in his tenure and must feel the necessity for providing a permanent supply of material. The first proposition hardly need be discussed at length, but its bearing on the main question should not be overlooked or misunderstood. Permanence of tenure, of course, does not mean perpetual tenure or unchangeable conditions, and a serious error will be made if they are confounded. In order to supply the second condition, there can be no more compelling motive than the investment of a large capital which is only made revenue-producing by a supply of wood material, and which will be practically a dead loss if the supply should fail. This is exactly the position in which the Canadian pulp mill owner finds himself. He invests millions in obtaining the necessary plant for his business, and would be utterly lacking in common sense if he did not take precautions to see that a permanent and convenient supply of raw material was assured. The exporter or foreign importer of pulpwood has no such responsibility upon him, and it may be a question as to whether or not the Canadian forests are exploited at times to save the forests abroad. When the wood is manufactured into pulp, the difference in the contribution to the wealth of Canada is about the difference between $3.50 a cord for pulpwood and $40.00 per cord for the finished product. The objections to the adoption of a policy requiring manufacture in Canada, are interference with the farmer's market for such pulpwood as may be upon his land and the necessities of revenue. There seems to be no valid reason, however, for considering that a Canadian manufacturer would not be as willing to buy the settler's pulpwood as the exporter, and, unless the necessities of revenue are very pressing, indeed, it would certainly not be a statesmanlike policy to sacrifice the future for the present, while the great reduction in Quebec of the dues on pulpwood for export seems to be largely a sacrifice of both.

Another question is as to the reproduction of the crop. It may be doubted whether the regulations are always strictly adhered to, but that may be left out of consideration for the present. The Government has not taken steps for an adequate investigation of the rate of growth and conditions of reproduction, and recourse must be had to estimates which are largely guesswork, to calculations made by private persons which are on too small a scale to give results of sufficiently general application, or to investigations elsewhere which cannot with safety be adopted as an absolute criterion for Canada. The investigations made by foresters of the United States with the Adirondack spruce (*Abies rubra*) show an average growth of one inch in nine years in the original forest, and the same in seven years on cut-over lands. The average number per acre of spruce trees over ten inches in diameter, breast high, was 31.40—yielding 3,703 feet, board measure—out of a total of 73.44, made up in addition of birch, beech, hard maple, hemlock, balsam, soft maple, white pine, ash, cedar and cherry in descending ratio. The number of spruce trees six inches in diameter and over was 68; two to six inches, 75; two inches and over, 143; under two inches, 158. The conditions for white spruce (*Abies alba*) are probably somewhat similar in Quebec, as Mr. E. G. Joly de Lotbinière found an average growth of one inch in eight years in one hundred specimens examined by him. Of course, individual trees will show faster growth, but, on the other hand, some will show a slower growth. In New Brunswick the claim is made that spruce has grown from the bud to a merchantable log in thirty years, and a growth of half an inch in a year has been known, but this certainly is not an average, and while Mr. Joly records one instance of a growth of one inch in four years, there is over against it a growth as slow as one inch in thirteen years. While there would seem to be no special reason, so far as the present diameter regulations are concerned, why a continued crop might not be secured, it does not necessarily follow that the best return is secured by cutting to the diameter fixed, and Mr. Joly shows that if the trees were allowed to grow to thirteen inches, the increase in diameter and height would mean an increase from 52 feet board measure, to 84 feet board measure; thus, the time required to add only two inches in diameter, would mean an increase of more than one-third in volume.

The diameter regulation is not the only consideration, though it has a place of importance and may be effective as far as it goes. Is it at all certain that in taking out the mature timber, proper care is taken that the young trees should not be destroyed? Even if such care is exercised, is there any assurance that the less valuable species which are left uncut will not have gained the ground to the exclusion, or, at least, the suppression of the spruce? Another result of the trimming out of a forest frequently is that the trees left are unable to stand unsheltered against the wind, and so have to be removed or left to destruction.

On this subject a quotation may be made from the remarks of Dr. Fernow:

"When a lumberman says that the reproduction is such that in twenty years he can go back, he means that in twenty years some of the trees which he did not cut, have grown up, but the young crop that starts without a diameter may not be there. When you are in the woods you can see that the new crop is beyond your control to a very large extent. You find that the very kind of crop that you do not want to produce is the one that seeds. And it is generally so. Nature seems to take a delight in reproducing weed trees rather than the good trees. Whenever you begin to apply a particular diameter, it is useless to put it on paper merely. It must be looked to in the woods, or else there will not be any obedience to your rule, and there will be mischief otherwise. As Mr. Cary has pointed out, there are conditions in your spruce wood that when you cut only to the twelve-inch diameter, you do more mischief than if you had cut down to a seven-inch diameter. My very first experience in the college tract was in that line. We, too, were struck by a gale, and the nice trees that we allowed to stand for the future generation and for reproducing themselves—that is, for throwing seed over the area—were blown down by those winds, and we had to go to the extra expense of going to the same ground again and taking away the less valuable material. There are many cases in which there would not be any satisfaction in the diameter limitation, which points out the necessity of having educated foresters direct the work of cutting the trees."

The last word has not, however, been said upon the question, and an expression of views or records of any observations bearing on this subject, will be welcomed from our readers. The Canadian forestry problem is distinct from that of any other country, and must be considered from its own standpoint. Information from those who have seen the conditions and know whereof they speak, is a necessity for any rational conclusion, and we therefore urge that this subject, so important to the future of the Province of Quebec and of Canada, be taken hold of and fully discussed.

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