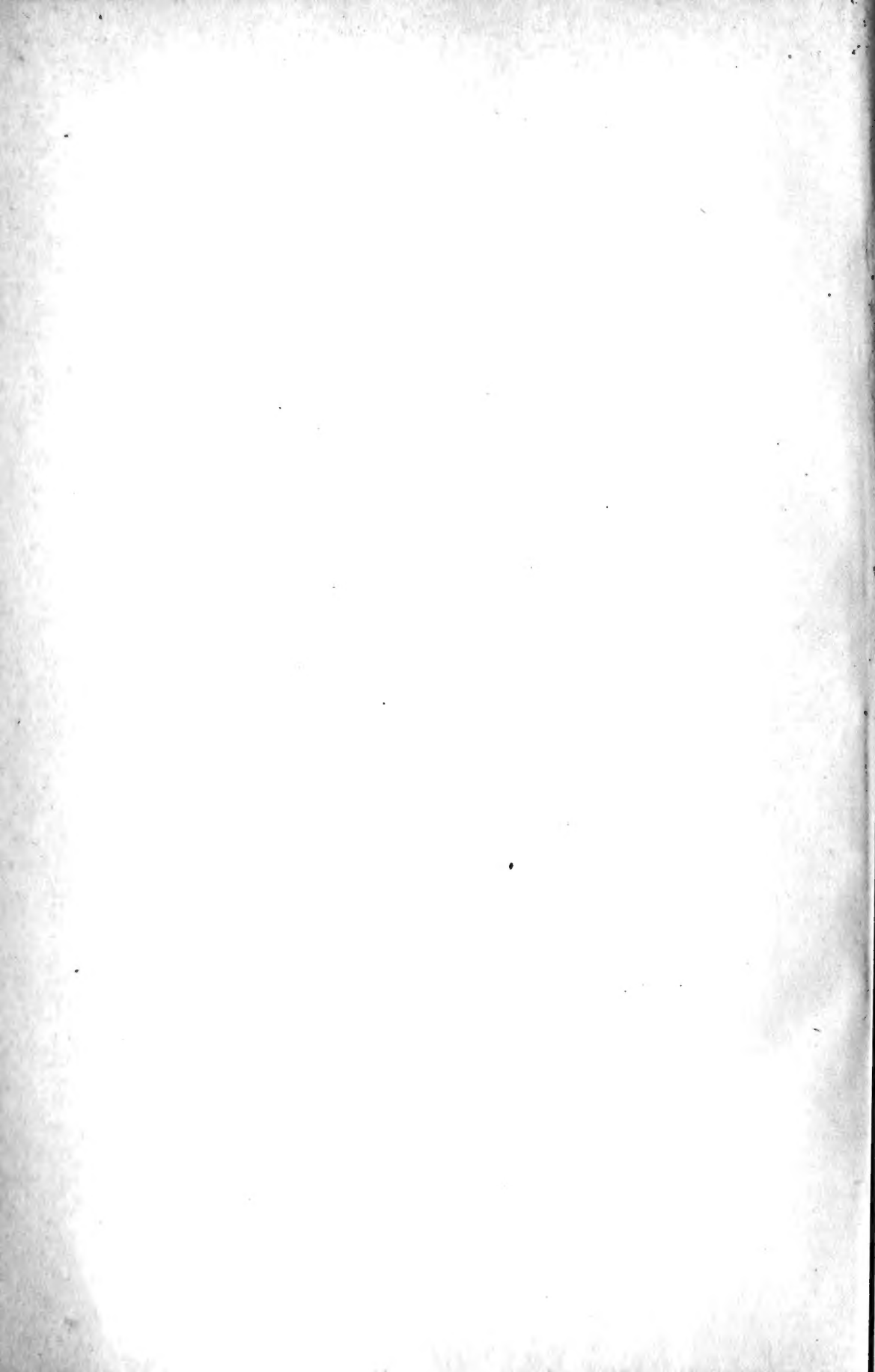


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ROD AND GUN
IN CANADA



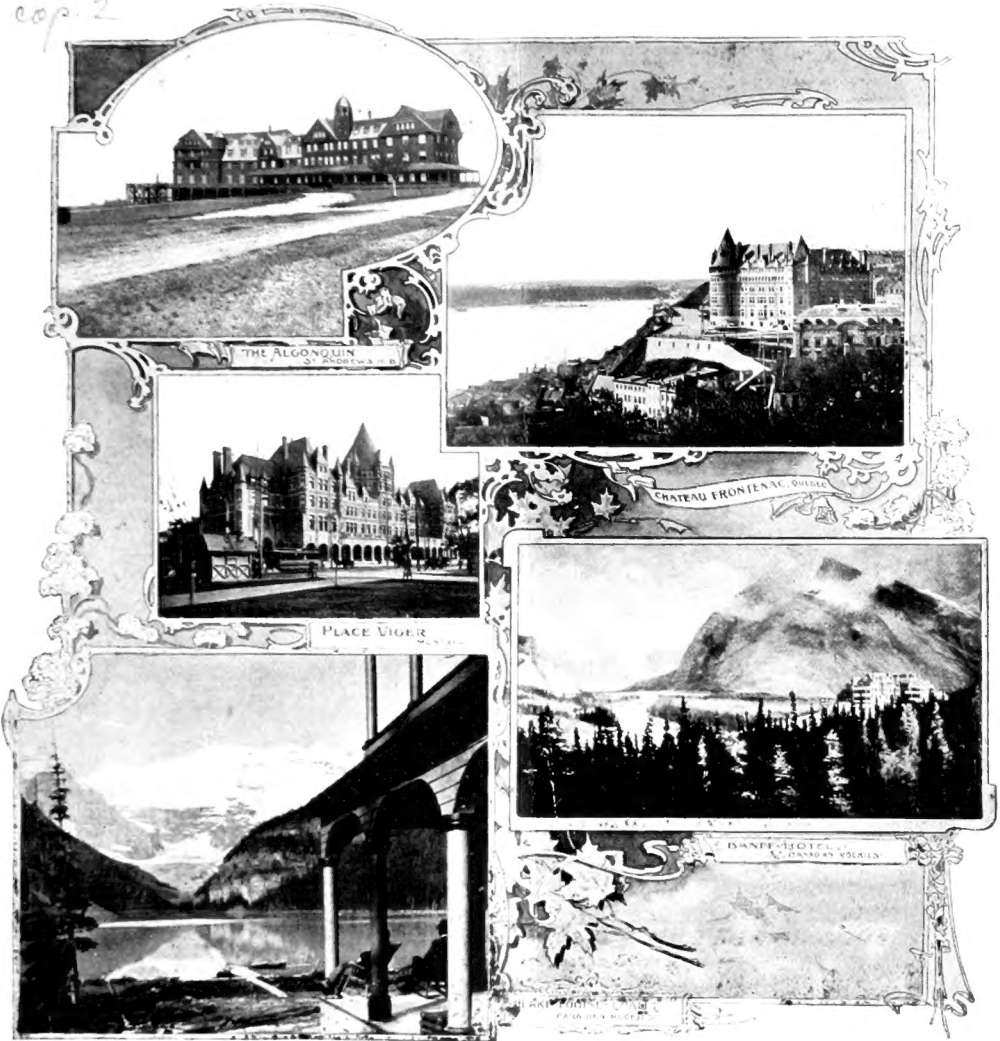
“Bear Dogs”

**A MAGAZINE
OF CANADIAN SPORT
AND EXPLORATION**



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Canadian Pacific Railway



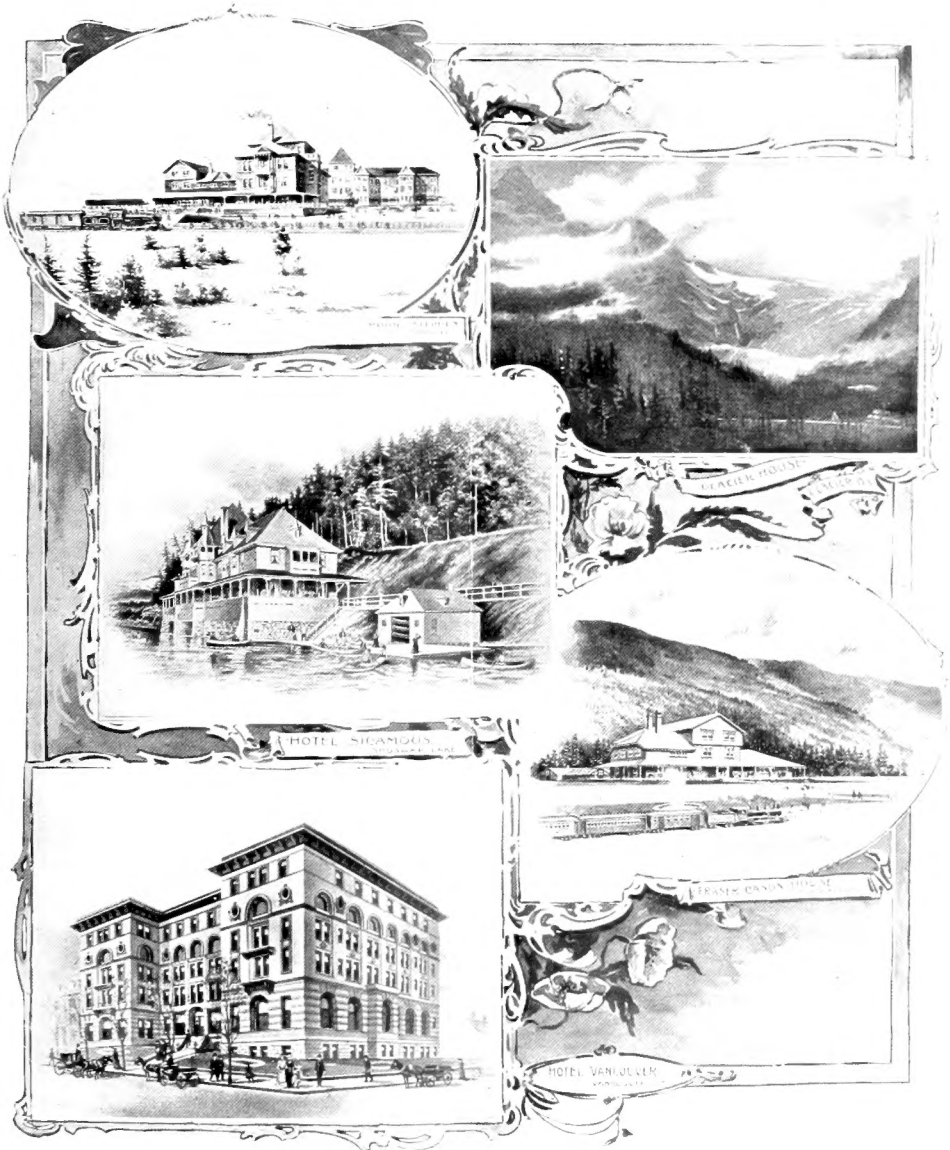
Algonquin,	- -	St. Andrews, N.P.,	- -	from \$3.00 upward
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For further particulars as to any of these hotels, apply to the respective Managers, to any of the Company's Agents, or to

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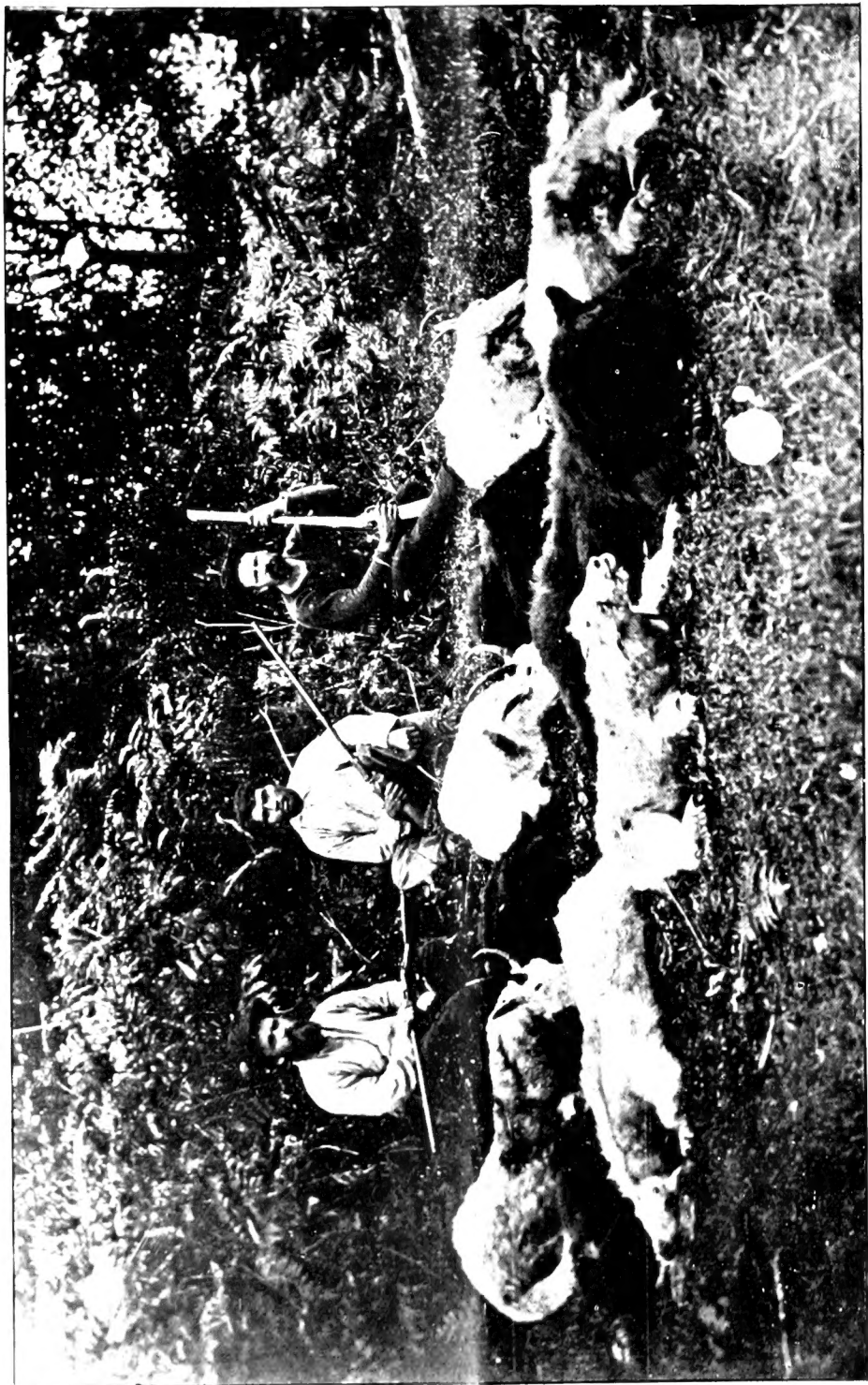
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Mount Stephen House,	- - -	Field, B.C.,	- - -	from \$3.00 upward
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A DAY'S SPORT.
Mr. John Fannin and party at Burrard Inlet, B.C.

ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, JUNE, 1903

No. 1

New Waters.

BY L. O. A.

Dame Juliana Berners, Prioress of Sopswell Nunnery, wrote "A Treatysee of Fysshinge wyth an angle." It was published in England, A. D. 1496. In it she gives the names of "All flies wyth wyche ye shall angle to ye trought and grayllyng."

Modern fly makers and fly anglers say that if Dame Juliana Berners were alive to-day she would be the most accomplished of our sportswomen. We offer in the following pages information that will afford ladies of our day an opportunity to rival the fair Prioress of Sopswell. We hope that in this, as in tennis and golf, they will show their superiority to men, and if their husbands have not learned the delights of angling they will exercise their divine right of discontent so successfully as to shame these unaccomplished men into acquiring some knowledge of the ancient art.

The hour and the opportunity are here. The day of the canoe and the camp, of the lake and the woods, of the fishing rod and the trolling spoon has come.

The place is in a country which has fortunately been overlooked, and yet there are four hundred square miles of it in one block. The fishing and shooting have improved here in the latter days. There is surface fishing, mid-water fishing and deep-water fishing. All these are protected by good laws pretty well carried out, and the fishing five years hence will be better than it is

to-day. Its inhabitants can truly say of this pretty hill country :

" Now the roads is good and hard
For our narrow buggy tires,
And the fish is swimmin' lazy
Waitin' for the liars,
And the cows is comin' home,
And the frogs sing in the pools,
And the prettiest girls is sittin'
On their three legged milkin' stools."

This description of Frank L. Stanton's is literally correct of very many places in the territory whereof we now speak ; for instance, about Peterboro, at Burketon, Havelock, Blairton, Tweed, Kaladar, Ardendale, Mountain Grove, Sharbot Lake and about Smith's Falls.

The Angler-Saxons and Angler-Americans who come here, and all anglers indeed, would need to be provided with tackle for bass and salmon trout, and for brook trout and land-locked salmon ; for I verily believe that all these will be found in this territory. My belief amounts to conviction about all but the last, and my faith even in the Onananche is good to strong. Before our next circular is published we will have certain and full information about this and other matters not fully dealt with now.

Let us suppose ourselves leaving Toronto, Ont., in quest of fishing grounds. On enquiry we would likely be told that there was brook-trout north-west of the city at the Forks of the Credit and at Dundalk, Flesherton,

Markdale and Chatsworth towards Owen Sound. We are glad to hear it, and we some day hope to visit these streams, but we have heard of a much larger district where we can get, as well as the speckled beauties, many other varieties of game fish.

There is fair trout fishing at Burketon, forty-six miles from Toronto, and we noticed a nice old mill pond and a trout stream running from it close to the track all the way from Manvers to Cavanville. We were told that there was a very fair quantity of brook trout in this pond and that any one could fish in it. This would suit the average Toronto man.

We take the morning express at Toronto at 9.15 a.m. and reach Peterboro, seventy-six miles, at 11.35 a.m. This enables us to dine comfortably in Peterboro. From here we can go north by train to Lakefield, or fish up the Otonabee River to Lakefield, and there take a small boat or steamer for Clear Lake, Stoney Lake, Chenong and a string of lakes one hundred miles long. The Strickland Canoe Company's Manager at Lakefield, ten miles north of Peterboro, and others have boats. He has also a long experience in fishing and shooting north of Lakefield, of which he cheerfully gives the visitor the benefit. Peterboro, Lakefield and Rice Lake are points to which families can be brought for the entire summer with satisfaction to all concerned. There is quite an abundance of accommodation here. The Peterboro region is not however to my knowledge a good point for brook trout; bass, salmon-trout and maskinonge can be caught there in satisfactory quantities. It is headquarters for good canoe building concerns, of which there are three in Peterboro and two in Lakefield.

Havelock, 100 miles from Toronto, brings us to a much less fished section. Lakes Kosh (contraction for abogamog), Oak Lake and a long-looped chain of well-stocked sheets of water, now affording good fishing, will, under the new laws, remain good for all time. Here are summer homes for thousands, needing only the inexpensive summer camp or the Indian tepee, with the slight improvements needed by the white man. At present there are odd farm-houses that

will accommodate the sportsman for the night, but it is well to bring a tent and a canoe with one. It is likely altogether that the fisherman or sportsman coming in here will select a summer house. There are two good skiffs on Oak Lake. Bass, maskinonge, salmon trout are to be had in the larger lakes on the lower levels and brook trout on the generally smaller higher level lakes and their outlets. There are pretty good roads to drive to these lakes. The county of Hastings is famous for its roads, and Peterboro comes next. Havelock, all things considered, is an excellent jumping off place for the fisherman and deer hunter. There are a few moose as well in the back country.

Tweed is the junction point with the Bay of Quinte Ry., and is a good centre for fishing. The livery stables and horses are good and the roads excellent. Mr. Wm. Bushby, the shoemaker of Tweed, is an enthusiastic fisherman, and anyone securing him as guide, counsellor and friend will get fishing and entertainment together. If he cannot be secured himself, he will put any bona fide fisherman in the way of getting good guides and good fishing. Messrs. Wm. and John Keller, of Bridgewater, a village on the way to the back lakes, are great sportsmen, better hunters than fishermen perhaps, but they know of good speckled trout lakes and bass and salmon lakes.

I was told to see Mr. Clarke, jeweller at Tweed, who has done much fishing in the north country. I called on Mr. Clarke, whom I found to be very conservative in his fish stories. In fact, "his word is his bond" in Tweed, even about matters pertaining to fishing. I described to him the landlocked salmon, or Ouananiche, and asked him if he had come across any. "If I have not," he answered, "then I have come across something better." And when he described in detail the gamy nature of the salmon trout in some few of these northern lakes, I made up my mind that these fish were so like the landlocked salmon that I would make a fishing trip up there in the near future to ascertain.

"We have the gamiest salmon," he said, "that I have tackled in a long fisherman's life. Fish that will jump eight feet in the air and land right over

your canoe before they will let you land them." Take the time to see Mr. Clarke at Tweed.

Kaladar will soon be better known than it is. North of it are some of nature's masterpieces in the way of fishing lakes, hunting-grounds and scenic beauty. Here is Dr. Price's hotel on lovely Massenonga Lake. Near it are some excellent speckled trout lakes and not far from the hotel is Loon Lake, a grand lake, large and with water clear as crystal, in which local fishermen declare there are plenty of Ouananiche. We shall know of it ere this summer has joined the great majority.

There is no hotel at Kaladar. Take a day train to get there and wire the agent in advance and he will get you a team to take you to Dr. Price's hotel, or to any of the mountain lakes. The roads are good for a backwoods country.

Upon arrival at Sharbot Lake I found it to be infinitely the most picturesque of all the stations between Toronto and Montreal. Sharbot is the name of an Ojibway Indian who settled there years ago and who gave his name to the lake. Here the Kingston & Pembroke Ry. crosses the Canadian Pacific, giving splendid connections with Kingston and the Thousand Islands, Toronto, Brockville and Montreal. The clear, cold water in the lake is inhabited by growing colonies of black bass and salmon trout, with a few maskinonge and pike. There is a pretty good hotel, boats and guides. The writer saw fishing rods and reels and a good sprinkling of likely-looking fishermen upon his arrival at the hotel, and his heart warmed to the place and to them. It was in April—only salmon trout were in season—but he was quickly the happy possessor of a six-pounder.

"A small one for Sharbot," said my guide; but it made a good dinner for four. I had a clean bed, a clean, plain breakfast, a good cigar and a drink of good whisky—one only—three times a day. I am temperate and conservative in the use of whisky and want it good. The hotel charges are \$1.00 per day, but you can order extras and you pay a very reasonable figure for them.

How much we lose through ignorance. I have travelled one thousand miles

from Montreal to fish; I have sent friends past Sharbot Lake hundreds of miles for bass; I have been to Lake St. John for Ouananiche; I have been to Maine looking for rainbow trout, when there was as good a country as any of them within four hours of my front door. When the writer wants bass fishing, speckled trout, salmon trout and land-locked salmon, he will go to Sharbot Lake, Kaladar or Havelock. If he were a Torontonion, he should be satisfied with the Burketon or Peterboro country. Bostonians, New Yorkers, Buffalonians, Torontonians and Mont-realers, the residents of the Thousand Islands and the summer inhabitants of the shores of Lake Ontario have herein a distinct call to Sharbot Lake, and its many companion lakes northward. The genial landlord of the Sharbot Lake Hotel will supply boats and horses, and good guides are to be had. All fruits and vegetables are to be obtained.

The writer thinks that the only tent to live in is the Indian tepee; with that to sleep in and the hotel to go to for a change of diet as often as one feels inclined, the locally unhappy would deserve no sympathy. In a tepee one so much enjoys sitting round the small fire in the middle of the lodge at night that an odd rainy day is no great punishment.

For leisure moments there are some enjoyable studies in human nature at Sharbot Lake. One genial old gentleman of seventy-nine years of age is always the first camper at Sharbot Lake. He lives with his wife on a small island in a comfortable camp. He has poultry and a good garden, and, of course, fish galore. He also has a little brown jug which is brought out for visitors. He is a splendid example of the good effects of temperance. He says he drank nothing until he was about forty, and has used good whisky ever since. He has been Alderman of one of the Canadian cities for thirty-eight years. Mayor twice, and member of Parliament once, at least. His many summers on his little island have, he says, added ten years to his life. "Go ye and do likewise." I am proud to know so sensible a man and brother fisherman, and hope to exchange many visits with him in the

future. The old moral is learned again from a visit to him: "A man is a fool if he drink before forty, and he is a fool if he does not drink temperately after."

Via Smith Falls one reaches the

Rideau waters. There we have very good bass fishing and conveniences of all kinds. From here we can reach the Gatineau fishing district and the Ottawa Valley.



New Brunswick Rivers.

BY G. U. HAY, D.SC., ST. JOHN, N.B.

The rivers of Northern New Brunswick present a most inviting field for the angler, and I can imagine no place more congenial for the canoeman and general lover of the woods than the Restigouche, the Nepisiguit and the Tobique. The very names arouse eager longings and are suggestive of a woodsman's paradise. The weary dweller in far-off cities, as he hears these potent names, sniffs the breath of the forest and has day dreams of the exciting chase of the antlered moose and caribou, through woodland stretches of lordly pine and spruce, or the struggles with gamy salmon and trout in deep pools at the foot of cataracts and rapids. He may spend days lazily paddling with the current, at intervals rushing down the incline of strong waters or alternately climbing up the foaming waves of rapids, or making weary portages around cataracts or through the forests that separate the source of one river from another. At night he may be gently lulled to refreshing slumber by the sough of the winds through the trees or the distant murmur of rushing waters, music ever dear to the woodsman's ears. As his canoe glides over the swift pebbly stretches of the Restigouche, or through the rock strewn rapids of the Nepisiguit, or among the many devious windings of the Tobique and Serpentine, he will say:—"Were there ever woodland rivers like these!"

No country of the world, perhaps, presents a greater variety and beauty of river scenery than New Brunswick. From the tidal streams of Westmoreland and Albert rushing in from the Bay of

Fundy with impetuous haste to cover up muddy flats, on past the stretches of the Lower St. John and the Kennebecasis, winding smoothly among green fields and meadows we come farther north to the Miramichi, Nepisiguit, Tobique, Restigouche, leaping down from their mountain homes and running races with each other to the sea. Every river and stream has numberless tributaries, cradled among forests of pine and spruce and maple, rushing down the mountain sides, resting occasionally in quiet lakes, and gathering strength and volume from other tributaries as they sweep onward to the sea. These streams form a network over the whole province,—the delight of the sportsman now as they were in the long ago of his brother the dusky savage.

Let me describe a canoe trip made recently with my friend, Dr. W. F. Ganong, up the Nepisiguit and down the Tobique—across the northern part of the province from the Bay Chaleur to the River St. John. The course of a canoe trip on these waters is usually the reverse of the one we took, that is, up the Tobique from Andover, and down the Nepisiguit to Bathurst. There is a good reason for this. The Nepisiguit is the more difficult river to ascend, having a rise of one thousand feet from Bathurst harbor to Big Nepisiguit Lake at its source, a length of about eighty miles; while the Tobique, from the St. John River to Lake Victor, the source of the Little Tobique, rises a little over six hundred feet in a course of ninety-five miles.

We started from Bathurst the second week in August, with a birch canoe, camping outfit and a four weeks' supply of provisions, and were carried by team to Grand Falls, twenty-one miles up the river. A few miles beyond Bathurst we left the last settlement and soon the last house. Our course stretched through a wilderness, which for over one hundred miles contained no sign of a human habitation except a fishing lodge at Grand Falls. The lower Nepisiguit is very rough, and well deserves its name (*win-peg-y-a-wik*, angry waters). Everywhere the scenery is strikingly wild and picturesque, and the river tossed into foam by numerous rapids and small cataracts or whirling round huge granite boulders which lie scattered everywhere in the bed of the stream. The occasional glimpses obtained of the river as we lumbered along over the rough wagon road gave it a great fascination compared with the dreary stretches of burnt lands that lay at intervals along the road.

The Pabineau Falls, about twelve miles from Bathurst, is a wild and beautiful spot, the river tumbling and breaking over a granite ledge into a deep chasm beneath—a choice spot for salmon fishers. The Grand Falls, eight miles further on, is a series of three pitches, the first being a descent of about fifty feet. After these plunges the dark waters pour swiftly through a narrow gorge, three-fourths of a mile in length, with perpendicular walls of rock on each side. So narrow is the space between these opposing walls of rock that in times of freshet the falls are obliterated and the gorge becomes one long rapid of seething, tumultuous waters. In the deep recesses of this gorge the salmon may be seen at times, tier on tier, in the waters, being unable to get above the cataract.

From Grand Falls to Indian Falls, thirty miles farther up, the river is very rough, and we had hired two guides to take us over this part. We began the ascent in a large dug-out, in which we stowed ourselves and our baggage, with the bark canoe towed alongside. A horse was attached to the dug-out, with the driver on his back. The other guide stood in the bow of this uncouth-looking barge, with a long pole in his hand to

fend off the vessels from the rocks. By such conveyance as this it is possible to carry a large party and their baggage up stream. As many as five or six dug-outs, with canoes in tow, may be placed side by side, and one horse with skilful guiding to avoid shoals and rocks may pull the whole fleet up stream except where rapids and cataracts intervene. But it is a very slow and prosaic—even miserable way to get up a stream.

The monotony of our voyage by the novel (to us) "horse and dug-out team" was destined to be rudely interrupted, and the interruption came about in this wise. After we had gone about four or five miles we came to the "Narrows," a gorge with walls of nearly precipitous rock and dangerous water. Most of the baggage had to be portaged, and the remainder was entrusted to the guides who undertook to pole the dug-out up through the rapids, resulting in an upset and total wreck of the vessel. Our supplies went to the bottom or floated down stream. Hurrying to the spot in our bark canoe we recued ham, butter, pork, fishing tackle, etc. But there were some things dear to our hearts that the greedy waters would not yield up, and these were baked beans and our aluminum outfit, containing cooking utensils and dishes.

Guides are a necessity. They are also an encumbrance if not of the right kind. We decided to dispense with ours. The generous sportsman (Mr. D. Honeywell, of Boston) at the fishing lodge below Grand Falls, on being appealed to, improvised for us cooking utensils, supplementing them with various luxuries. Meantime our aluminum outfit had been recovered from a pool in the river. Left to our own resources, we pictured the delights of making our way unaided through the wilderness ahead of us, taking our own time and examining whatever we chose,—a free life, indeed, with a prospect of abundant ingenuity and exercise in overcoming the obstacles that lay strewn in our pathway.

Three days after we pitched our tent at Indian Falls, fifty miles from Bathurst, having poled our own canoe through twenty miles of very bad water. But we rejoiced in the prospect

of a Sunday's rest in one of the wildest and most picturesque spots on the river, and the opportunity to review the events of the past week, estimate our resources of strength and provisions, and form plans to reach the second haven of rest—the Nepisiguit lakes, thirty miles beyond Indian Falls. We had devoted ourselves almost exclusively during the past three days to the task of getting our canoe up through the rapids and over rocks that strewn our pathway, "thick as autumn leaves in Vallambrosa." The hills on each side of the river became higher and gradually drew nearer the banks as we ascended, occasionally forming overhanging precipices. Cool springs and rivulets of ice-cold water were always refreshingly near us. Everywhere along the banks thickets of shrubbery, among which were clematis and Joe Pye-Weed, formed a tangle of vegetation delightful to look upon.

What a charm there was about that camping ground at Indian Falls, with the pale light of the full moon coming to us over the dark hills of spruce and pine beyond our tent! There was no sound except the rushing of waters, which was continually in our ears. A spirit of contentment was in the air. We had paid off our guides three days before in good Canadian currency, and then transferred our wallets to the *Ultima Thule* of our baggage, the scrap-bag, that contained pain-killer, ointments, lint-bags, sticking-plaster, and the thousand nameless articles provided for our comfort and safety by those who rule our destinies and our households. But just think of being in a world where you don't need a pocket-book for at least three weeks! Where no newspapers are within fifty miles, where you are not engaged, in spare moments, in reading the thoughts and views of other men, but where some original thoughts—if you happen to have any—may come out and air themselves; where the native animals of the forest, the flowers, and the stars by night come out to teach us as they taught men in the infancy of the world.

It is good to break off this habit of being always busy,—to forget the worries and annoyances of life once in a while, to

nestle closer up to Mother Nature and learn of her how to work slowly and contentedly, and yet more effectively. The world can wag along tolerably well without any of us for a few weeks every year, and will not go entirely astray if we sever complete connection for a while with telegraph and daily newspaper. At the end of four weeks we found the Boer war was not any nearer an end, and the Chinese question which had threatened to set the world in an uproar was as much muddled as ever; and further—which comforts us not a little—the financial world had not suffered any serious embarrassment from the amounts that lay in our pocketbooks withdrawn from circulation.

On the twelfth day of our journey we reached the first Nepisiguit lake, seventy-seven miles from Bathurst, and pitched camp Number Ten on a piece of low ground at the source of the river. Since leaving our guides we had made an average of six and a-half miles each day. Next morning we started bright and early to explore the Nepisiguit lakes, four in number, and connected by short thoroughfares. Nature smiled on us, for never was there a clearer or brighter morning. We enjoyed to the full the rare luxury of sitting down and paddling our canoe. That was a red letter day in our calendar. Moose were frequently in sight, three plants new to the province were found, and we discovered a stream flowing into Big Nepisiguit Lake not laid down on the maps. In a harbour at the west end of this beautiful lake we found a well-worn camping-ground. Here we pitched our tent, and that night and the next day (Sunday) we called up in imagination, and made them pass before us, that motley host of warriors, hunters and guides that for generations had ascended the Tobique, crossed the portage, and passed down the Nepisiguit.

On Monday we "carried" across the portage, nearly three miles, to the Tobique lakes, and on Tuesday climbed Sagamook Mountain, which rises more than two thousand feet on the south side of Victor Lake. From the top of this a fine view can be obtained of the whole of Northern New Brunswick, while far off to the west rises Mt. Katahdin in Maine. The scenery of this part of the province

is strikingly wild and picturesque. The two lakes which give rise to the Little Tobique are irregular in outline, with rounded points and deep coves and with virgin forests on all sides, the abode of moose, deer and caribou. This is the place which the New Brunswick government has in view to lay off a great natural park and game preserve, and no

more suitable place could be chosen for that purpose.

We reached Andover a week later, after a pleasant and safe run of nearly one hundred miles down the Tobique, through rapids and quiet stretches of river, rendered the more enjoyable from our toilsome ascent of the Nepisiguit.



Kootenay.*

BY E. K. BEESTON.

How little is known of this beautiful country, with its magnificent mountain ranges, its peaceful valleys, rapid rivers and placid lakes, with its variety of sport, its unrivalled accommodation for travellers and hunters, its vast mineral resources, and its wealth of beautiful scenery and invigorating climate!

Lying in the centre of the "Sea of Mountains" of British Columbia, Kootenay may be briefly described as the district watered by the streams that fall into the Columbia and Kootenay rivers. Rising in the western foothills of the Rocky Mountains these rivers pass one another in the north-eastern part of the district—the Columbia on its journey northward and the Kootenay southward bound, only after their long wanderings to meet again in the south-western part of the district, where, joining together at the foot of Arrow Lake, their mingled waters flow onward for a thousand miles, until at last they fall into the Pacific Ocean. The Columbia having gone some 200 miles to the north, has cleft its way through the mountains and changed to a southern course, while the Kootenay, which passed by it, has flowed through the States of Montana and Idaho, diverting again northward to join its sister stream. These important rivers with their tributaries almost encircle the district of Kootenay.

But a few short years ago this vast

region was almost unknown, except to the hunter, the trapper and the Indian. Exploration was difficult and though the excitement of placer mining in British Columbia attracted some passing attention in the early sixties, it was not until the completion of the great highways of travel, the transcontinental railroads, that its wealth and beauty began even partially to be known and easily accessible.

Nelson, its chief city, little more than a decade ago was to be reached from the Canadian Pacific Railway only from Revelstoke, on the Columbia River. A wearisome journey by small steamer along the Arrow Lakes, which may be more fully described as the widened Columbia River, brought one to the mouth of the Kootenay River, whence on foot, or, if he were fortunate enough, on the back of a cayuse, he travelled over the thirty miles along its rough bank. That rushing stream, with foam-covered torrents dashing over precipitous rocks, its whirlpools and clouds of spray, its pools suggestive of trout, was grand and beautiful then, as for millions of ages it has been; but to the wearied traveller it offered few attractions, and he was only to reach his goal and start in the race for wealth, that as everywhere induces men to go into a new and unexplored country.

His plank bed, his coarse food, his

* From the advance sheets of a guide, issued by the Kootenay Association.

hotel accommodation, often the "wide canopy of heaven," had not given him the desire to linger and enjoy the scenery, nor was he tempted to stop, even for the sake of sport, except as a chance to obtain a delicious change from the limited bill of fare of bacon and beans.

From the south the only way formerly to reach the Nelson country was from Spokane to Northport or Bonner's Ferry. There was a small steamer plying on Kootenay Lake, which brought one again to the mouth of the Kootenay River, whence one travelled as already described on horseback or on foot, as means or opportunity afforded.

The traveller from the East comes to Dunmore Junction, near the crossing of the South Saskatchewan River, and then journeys over the Crow's Nest Branch as far as Kootenay Landing. From this point a line of magnificently equipped steamers run along Kootenay Lake and down the Kootenay River to Nelson—a charming and delightful break in the monotony of a long railway journey.

Coming from the long stretches of the "illimitable boundless prairie" the tourist finds relief in the contemplation of the varied scenery of the foothills of the Rockies, and the grand but easy passes through the mountains. Glimpses of mountain streams and forest glades give to the sportsman enjoyable contemplation of sport with Fin and Fur and Feather.

Revelstoke is the point of departure from the main line for the traveller from the West, who intends to visit the Kootenays. Here the steamers of the railroad company are joined for the trip down the Columbia River to Robson. What can be imagined as wanting in wonder and in beauty and in personal comfort on this romantic journey through the Swiss-like scenery of the Arrow Lakes. On either side of the lake are snow-capped mountains with forests of pine and fir and spruce reaching down to the water's edge, with here and there a cascade flashing amidst the dark green surroundings, grey precipices and shores of silver sands. What a marvellous picture of sweet serenity!

The hunter, if he wanders back amongst these same forests and hills,

may find reward for his toil in the deer and mountain goat and bear that are here to be found.

Throughout the whole of this large district, the paradise of the fisherman, the sportsman, the hunter of big game, the artist and the tourist in search of beautiful scenery and refreshing climate, will be found hospitality and comfort. It is a wild and rugged region, and little hunted except near the towns and mining camps. The man who has time and muscle at his command can find large game of every kind in season. The enthusiastic fisherman can get in every brook and mountain-hemmed lake, sport that can nowhere be surpassed. The artist and lover of scenery can see amidst the mighty upheavals of Nature that have formed the mountain ranges, charms of beauty, form and color that will entrance and mystify. The mountain climber looking for new peaks to conquer, may here find them innumerable and of difficulty more than sufficient to satisfy the most adventurous.

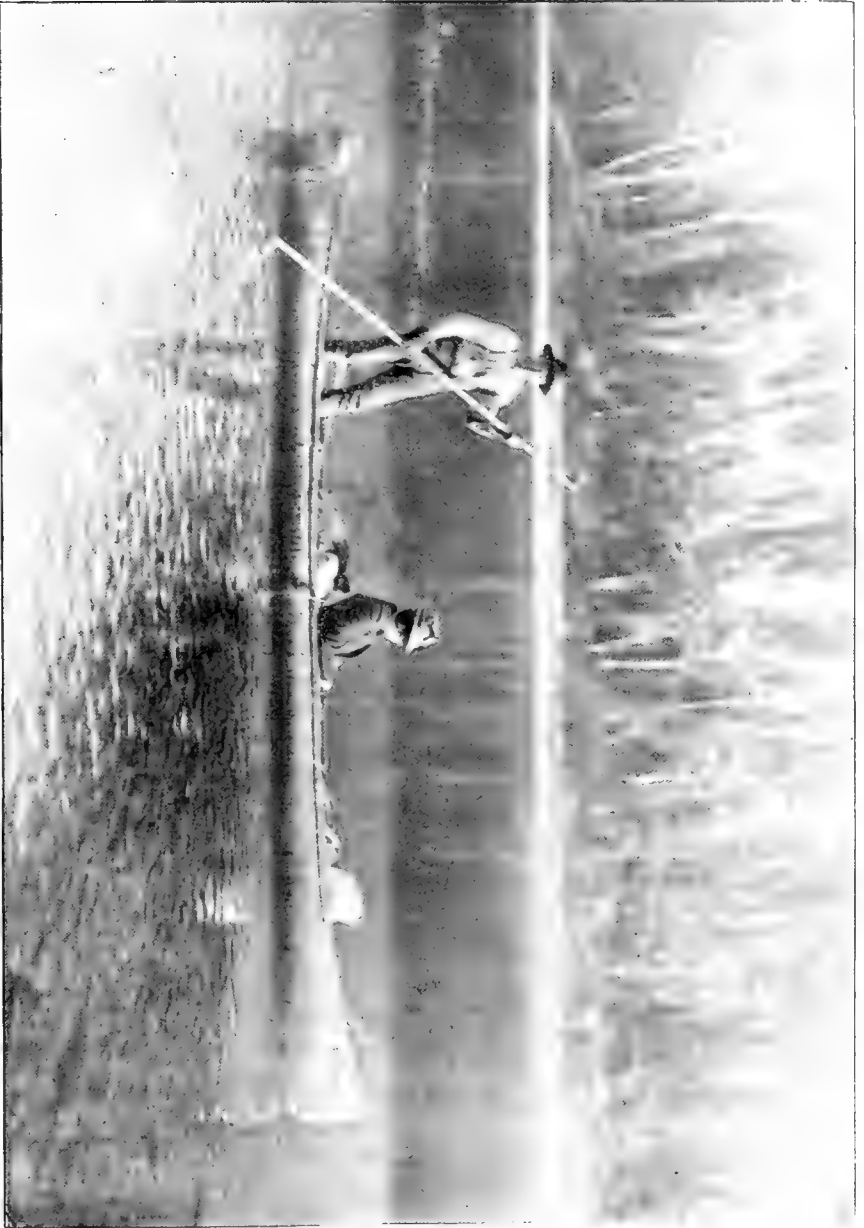
Boating and fishing are the most pleasant of Nelson's many advantages, and many are the gas and steam launches, boats and canoes, owned by the citizens and for hire.

It is almost impossible to say too much in favor of the fishing near Nelson, which extends for 20 miles east and west on the Kootenay River, and into the numerous smaller streams falling into it. The rainbow trout in the Kootenay River are said not to be surpassed in game qualities, and fishing with delicate tackle and small flies gives the sportsman all the excitement he requires.

A few hours by boat or rail from Nelson brings the hunter to the game he is wanting, whether big game, fur or feather.

At Procter, about 20 miles east of Nelson, at the outlet of Kootenay Lake into the west arm, or Kootenay River, is a good hotel, where excellent accommodation is afforded for sportsmen. Some of the best fishing of the district is to be found here, and there is good shooting within easy reach, and house boats, launches, row-boats and guides can be obtained.

Excellent trout fishing can be obtained in the immediate neighborhood o



CANOEING IN NEW BRUNSWICK.

This Scene represents a Reach on a famous Salmon River.



WHERE THE WATERS ROAR.
Grand Falls of the Nepisiguit—a New Brunswick Salmon River



A SPORTSMAN'S PARADISE.
Mouth of the Tahsis River, Nootka Sound, Vancouver Island.

Sandon, and the adjacent mountains abound with grouse, while larger game is also to be found, bear being plentiful within a few miles of the town.

Ymir is a young and thriving mining camp, charmingly situated on the banks of the Salmon River, at the foot of the great mineral mountain from which it takes its name. He who would enjoy attractions, other than those to be found in the well beaten track of ordinary travel, will find in this district much of interest. The lovers of the rod and gun will here find ample opportunity to test their prowess. Among big game, bear, caribou and deer are always in evidence at the proper season, within a reasonable distance from the ordinary haunts of civilization. Short and pleasant trips from Ymir afford splendid trout fishing, a couple of hundred speckled trout being no exceptional catch for a single day's sport. The kodak will be found useful, as many are the enticing views that can be taken.

And what shall we say with regard to New Denver, that beauty spot on the most beautiful lake in North America, Slocan Lake, 28 miles long; two to three miles wide, and from 900 to 2000 ft. deep.

Switzerland has its Lucerne, to which thousands flock, but its scenery is mild, so travellers say, compared with that of New Denver. Here majestic mountains lift their snow capped peaks thousands of feet heavenward, rising in some in-

stances abruptly from the water's edge and in others being lapped by rolling hills, in the heavy timber on which can be found wild game of every description. From here can be viewed the grandest sunsets that can be conceived of, and the lake and mountain scenery form one grand panorama.

In a few hours one can be taken to mountain streams alive with speckled beauties, and steam and naphtha launches will convey one to the most charming grounds that can be imagined. Pack horses will convey your camp outfit to the mountain fastnesses, where deer, caribou, black and grizzly bear are found, and a half-day's climb will take you to the summit of Glacier Mountain, where you can examine the great glacier field of ice and enjoy on the lake the most exciting of troll fishing.

The Slocan River runs through a valley, averaging two miles wide, for about 30 miles before joining the Kootenay. It is a typical trout stream, and with the lake and numerous mountain streams, gives all the sport the fisherman can require. The valley is well stocked with willow grouse, and the first range of hills is the home of the blue grouse. Here, too, deer, both black and white tail, range thickly. In the lower mountains are numbers of black bear, and in the higher ranges the grizzly. Mountain goat are still common within a few miles of the town.



The Census statistics for Manitoba show that in 1901 there were 8,843,347 acres occupied as farm lands out of a total land area of 41,169,098 acres. Of the area so occupied 258,729 acres are in forest and 4,848,042 acres are unimproved. There were 1808 forest plantations and 2,413,012 trees had been planted. Of these 68,668 were on holdings under five acres in area.

In the North-West Territories, i. e., the Districts of Alberta, Assiniboia and Saskatchewan, out of a total land area of 187,932,617 acres only 6,569,064 acres

are occupied as farm lands. Of the latter mentioned area 110,350 acres are forest, there were 270 forest plantations and there were 178,127 trees planted. Of these 20,249 were on holdings under five acres in extent.

In British Columbia, with an area of 236,922,177 acres, 1,497,382 acres are occupied as farm lands, 391,096 of which are in forest. There were 471 forest plantations and 42,852 trees were planted, 18,038 being on holdings of less than five acres in extent.

The Rifle.

BY J. F. BOWEN.

(*Concluded from the April issue*)

The Hon. T. F. Freemantle gives some very pertinent advice upon the subject of smokeless powders, and I consider the following extracts from his writings are well worth the attention of every rifleman :

"But the days of black powder are surely numbered. Slowly, but with a relentless certainty, the so-called 'smokeless' powders are invading the ground in which for so many years it held undisputed supremacy. Schultze, and E. C., and their newer rivals, all sharing the great advantage of substituting for a heavy cloud of smoke a thin vapour, and giving less kick and less dirt and fouling, now almost monopolize both game and trap shooting with the shot gun. For the new type of small-calibre military and sporting rifle, of which the Lee-Metford is in this country the best known example, black powder is for several reasons distinctly unsuitable. There has now been produced quite a crop of powders for arms of this class, of which it may be said that most have some good points, although none of them can be pronounced perfect in every respect. A successful invader very rarely fails to push his advantages to the uttermost, and there is good reason to think that the new explosives will eventually monopolize the pistol and the sporting rifle, as well as the shot gun, the military rifle, and the cannon. It may, however, be some time yet before black powder is entirely beaten out of these departments at home, while it certainly has advantages of simplicity—as in its capacity for ignition by the spark of a flint—which will long ensure its use in remote and uncivilized countries.

"All powders, and not least those due to the inventiveness of the last few years, are susceptible, as regards the violence of their explosive force, to the variations of the temperature at which they are when fired. The force developed by a given weight of explosive is greater with

a high than with a low thermometer. But it would only be in very exceptional circumstances that this effect would be great enough to be material at sporting distances.

"We may conclude the present chapter with a word of advice as to the preservation of small-arms. The interior surface of a rifle barrel when it comes from the maker should be—and usually is—in perfect order, the grooving smooth, and yet not brutally scrubbed away with emery to give it a polish, a process which leaves the surface uneven and wavy, instead of 'true.' If the shooting qualities of the weapon are to remain unimpaired, the perfection of the surface must never be allowed to deteriorate. Scrupulous care in cleaning it and in never leaving it dirty a moment longer than necessary, is essential. If the grooving be deep and have sharp edges, the difficulty of thoroughly cleansing every atom of the bore from the fouling, which loves to lurk in any corner it can find, is much increased. This anyone can testify to who has had to clean both a Martini-Henry and a Metford rifle of similar bore ; the latter needs infinitely the less labour of the two. Nothing but fine, soft tow, flannel, or swansdown calico should be used. The cleaning rod should be, where the size of the bore allows it, of wood, and in any case it should be straight, so as not to rub against the sides of the bore. It should also be wiped before being used, to make sure that there is no grit upon it. The barrel should be cleaned from the breech end, as a comparatively small amount of wear from the friction of the rod at the muzzle end will seriously impair its accuracy. Special attention should be given to cleaning the chamber. The writer prefers generally, and more especially with black powder, to wash out the fouling by passing two or three times through the barrel a wad of tow, or a small square of some soft fabric,

soaked in water or a strong solution of soda in water, and then wrung out. The barrel is then dried out thoroughly with fresh tow or flannel, which must be scrupulously dry, and next, when all traces of damp are entirely gone, oiled with vaseline or good Rangoon oil, the former for preference if it is to remain for some time unused. Cheap vegetable oils, such as salad oil and the cotton oil commonly sold as olive oil, usually contain a proportion of water, and have a fatal tendency to become rancid. In keeping either guns or rifles, as in other things, prevention is better than cure. It is not difficult to preserve the polish of the barrel if the owner is blessed with anything of a conscience in such matters; but if its surface be once dimmed by the slightest deposit of rust, the plague grows and grows, and unless prompt and drastic measures are taken by competent hands, the dreaded incurable "honeycombing" soon appears unmistakably, and all real accuracy is gone. A single cleaning, especially after a wetting, cannot be relied on for more than a temporary effect, and too often that cleaning is delayed, and the weapon laid by dirty in the gunroom till the morning; also some keepers make a point of slurring over the cleaning, and doing it with as little trouble as possible. The rifle, then—and indeed these remarks apply equally to shot guns—should be cleaned at once after use; and, if not to be used again the next day, should be wiped out and oiled afresh before twenty-four hours have elapsed. If it is to be put away for any time it is well to repeat this process after about a week. If kept in a dry cupboard little attention will now be required beyond an occasional wiping-out every few weeks *ex abundantia cautela*. There is nothing to be gained by plugging the muzzle and breech, as some do, to keep the air out; but it should be remembered that both damp and a free circulation of air carrying dust are great promoters of rust. With proper care there should be no difficulty in keeping a barrel as good as new for many years. It has been the writer's experience that the tendency to rust, which is thought to depend partly upon the residuum from the fulminate of the cap, is much greater with black powder

than with some of the smokeless powders, like Schultze, used in the 'scatter-gun,' which apparently leave a neutral deposit. On the other hand, the fouling of some of the smokeless powders now used in rifles, while it is in some cases very difficult indeed to remove it thoroughly, also seems to attack the metal rapidly, and to have a very deplorable tendency to set up rust. With these, accordingly, very special care is required, and very prompt attention. The writer has known a considerable number of cases in which small-bore barrels of the modern military type have been rendered quite useless from rust after an amount of cleaning which would with black powder have been very sufficient.

"There is one undeniable benefit attending upon the use of new powders. Their weight and bulk being smaller than that of black powder, gives an important advantage (for example) in the storage and handling of cannon charges. And this advantage extends in its degree to smaller weapons. Whatever allows of a reduction in the weight and bulk of the ammunition carried by the soldier or the sportsmen is to be welcomed. It is well known that there are only 31 grs. of cordite in the .303 cartridges, while that of the Martini-Heury contains 85 grs. of black powder. Yet the propulsive power of the latter is no greater than that of the former. True, the whole amount of the weight of the powder is small; but the same cannot be said in comparing the bulk of the cartridges.

"We seem here to have clear indication of a change which appears as if it were inevitable in the near future. Why should we carry about ammunition unnecessarily bulky for sporting purposes? By the use of concentrated powders, of which ballistite and cannonite are an example, we can diminish considerably the length of the cartridge for either the rifle or the shot gun, without in any way diminishing the efficiency of the charge. It would certainly be an advantage to reduce the length of a 12-bore cartridge by half an inch; loading and extraction would be easier, and a material saving effected in the space occupied by ammunition. Why should we have to fill up (as is now done for such powders) the

superfluous room in the base of the cartridge, when we might simply abolish it? And why should we have long and bulky bottle-shaped express cartridges, if we can shorten their length considerably and have no thicker a body to the cartridge than the size of the bullet makes necessary? Then there have been a number of accidents to guns and rifles in the last few years from the charge of concentrated powder being loaded by measure as if it had been black powder. Any change which would make this impossible, by reducing the capacity of the cartridge, would make a great addition to the sportsman's safety.

The smokeless explosives of the present day (they will probably always continue to be called powders, although for many of them this name, in its liberal meaning, is entirely out of place) may be divided into two classes, in accordance with their composition. First, we will put the class containing both nitrated cotton or other fibre, and nitro-glycerine, of which cordite is, in this country, the best known example; and second, those whose basis is nitro-cotton or fibre, but which contain no nitro-glycerine. Both explosives just mentioned are among the most violent known. Glycerine, when treated with a mixture of nitric and sulphuric acids (and it may very easily explode in the process), becomes nitro-glycerine, a substance liable to explode on concussion, or, if frozen, almost at a touch. It has been a favourite compound of Fenian extremists, Nihilists and Anarchists, and is the basis of blasting gelatine and dynamite. Gun-cotton is finely shredded cotton fibre treated on the same principle with nitric and sulphuric acids, and is the explosive used by the Royal Engineers. It would hardly have been supposed that an intimate mixture of nitro-glycerine with very finely divided gun-cotton would have produced anything but a very violent explosive. Yet quite the contrary was found to be the case by Nobel, and by Maxim, and the Service explosive—cordite—is merely an adaptation of this discovery. It consists of 58 per cent. of nitro-glycerine, 37 per cent. of gun-cotton, and 5 per cent. of a mineral jelly, vaseline. This explosive, while it is said to have great stability, and to be proof against

changes of temperature and the lapse of time, certainly is of a very mild nature when not ignited by fulminate. The form in which it is made is that of cords, of diameters to suit the weapons for which it is intended, varying from large ropes of perhaps three inches in diameter for the biggest guns, to fine strings like thin catgut for the Lee-Metford. There are sixty strings of cordite, each about $2\frac{1}{4}$ inches long, lying lengthwise in every Lee-Metford cartridge, and if one of these be taken in the fingers, and a light applied to its end, it will burn quite gradually, and may even be blown out. In 1890 experiments were officially made to determine the liability of cordite to explode when in bulk. The account of the trials, given in the report of 1890 of H. M. Inspectors of Explosives, is curious and instructive. Four separate times was the experiment made of letting off 100 lbs. of cordite fastened in a large and strong wooden box. 'Coarse' cordite, 3 inches in diameter, was first tried, and it was found that a tube and small priming charge of gun-cotton would not ignite it. When lit by means of a small priming charge of fine cordite (.05 inch in diameter), the whole mass burst immediately into flame, and burned with great rapidity and brilliancy for about three seconds. On a repetition of the experiment it burned similarly for about seven and a-half seconds. But the box was in neither case broken up; only the lid was forced off. Then was tried a similar experiment with 100 lbs., first of coarse, and then of fine cordite, ignited by the box in which it was placed being surrounded by wood and shavings, which were set on fire. The coarse cordite ignited in fifteen minutes, and the fine in half that time; the former blazed for four or five seconds, and the latter went off with a sort of mild explosion, but only forced off one side of the box. Then six boxes, containing 100 lbs. of coarse cordite each, were placed together, five on end, and one on the top. The cordite in the centre box of the lower ones was set fire to, and burned for about five seconds; but it did not throw off the top box, and no other box caught fire.

Next, the five uninjured boxes were put in a heap and a bonfire lit around them; after a quarter of an hour one

caught fire and blazed, and the others followed suit at intervals of a few seconds. A very similar result attended a final experiment on the same lines with six boxes of 75 lbs. each. The cordite in each box ignited quite independently, and merely burned without explosion.

"These results are interesting as showing the sluggish nature of the compound formed by the union of two very violent explosives. It is perfectly well known to ammunition makers that the ordinary cap used for black powder is too quick to ignite cordite at all; and, indeed, some of the other smokeless powders seem to be equally slow. It is obvious, then, that cordite is not nearly so dangerous an explosive to deal with in bulk as ordinary gunpowder, although it is beyond doubt that in the factories its constituents, nitro-glycerine and gun-cotton, may, before they have been combined, continue to be occasionally a source of dangerous and deplorable explosions. There are other nitro-powders of very similar composition to cordite; Nobel's ballastite, used by Italy for small-arm ammunition, is almost identical with it, while Mr. Maxim's powder, and the Leonard and Peyton powders made in America, also contain nitro-glycerine.

"The power of endurance shown by any explosive is a most important point when any question arises of its adoption for the British naval or military service, and equally so from the point of view of the British sportsmen. The most rigorous cold of Canada, and long hours of exposure to an Indian sun, must leave it practically unaffected, while the presence or absence of moisture must be almost immaterial to its behaviour. For cordite it is claimed that it has emerged triumphant from exhaustive official trials under many conditions, and that its stability is entirely to be relied on. How far it may be superior in these respects to other powders, and especially to those containing no nitro-glycerine, we have no official information. The American

trials would seem to point to a slight superiority in the stability of the nitro-glycerine powders. It is, however, noteworthy, that the majority of the European nations seem to be quite satisfied with the nitro-cotton powders which they have adopted, although it must be allowed that their requirements are, from the nature of the case, by no means so difficult to satisfy as those of the Empire on which the sun never sets.

"There remains one defect of the powders containing nitro-glycerine which it is most desirable to avoid. Erosion of the surface of the bore seems to be, in a greater or less degree, the inevitable concomitant of all smokeless powder in the small-calibre rifles; but cordite, and no doubt also the other powders which contain nitro-glycerine, are many times more destructive in this respect than the nitro-cellulose powders. It would seem that the heat which they develop in combustion is so enormous as positively to melt the surface of the steel, and to vaporize a minute portion of it at every shot. Certain it is that a very few score rounds of cordite leave unmistakable signs of damage in the .303 Metford barrel, and that a few hundreds will so injure it that it can no longer be depended on when real accuracy is required. This is a serious drawback, and one which seems extremely difficult to overcome. It can hardly fail, too, to have one lamentable effect—that of tending to put a limit upon the number of rounds which the soldier or volunteer can be allowed to fire in practice in the course of the year, and so to reduce both the interest taken in marksmanship and the standard of skill—a deplorable prospect, and one which it is hoped will never be realized."

I regret that lack of space prevents my giving additional extracts from Mr. Freemantle's book, but no doubt those sufficiently interested will procure a copy of his "Notes on the Rifle," from the publishers, Vinton & Co., Ltd., 9 New Bridge Street, London, E.C.



Kensington Point.

BY HELEN M. MERRILL.

With the Lake of the Woods at the western extremity, the Lake of the Thousand Islands in the east, the islands of Lake Nipissing, French River, Georgian Bay, Lake Huron, and Lake Superior along the frontier, and those of Lakes Timiskaming and Timagaming inland, the Province of Ontario offers no limited choice in the line of island summer resorts. Among those now attracting a goodly number of tourists from all points on the continent are the Desbarats islands, which are situated off the north shore of Lake Huron, twenty-eight miles east of Sault Ste. Marie.

It was late on a summer afternoon when we arrived by train at the little station of Desbarats, and collected our baggage barely in time to hail the mail-carrier whose river-boat was the only immediate means of transportation to our destination: Kensington Point, the head-quarters of tourists visiting these now far-famed islands.

The Desbarats River, down which our course lay, is a narrow stream, broadly bordered with beaver meadows and reed-belts, and it was delightful to be afloat in the open sunshine, and pure, balmy air on its gently flowing waters, winding by pine-clad heights and uncultivated fields of sweet beaver hay. The river and environment seemed lonely enough with but one habitation in the field of vision, and that apparently a summer house. And here the mail-carrier, a young man, plied to and fro daily between Richard's Landing and Desbarats to meet the train at the latter place. The incidents which he related to us pertaining to his seeking a livelihood in this new country were interesting. As a farmer he has succeeded beyond expectations, and was soon in a position to obtain the responsible office of mail-carrier. Despite the loneliness of the route, he traversed it unarmed. At first he had carried revolvers, but finding it difficult to keep the rust off, he finally gave up carrying any. Even as he spoke I, however, knew well where I might lay my

hand on a trusty one, but as I did not wish to run up against the Crown at so early a stage in our travels, the mail was distributed as usual that night at Richard's Landing.

Now, how shall be described that which awaited us at Kensington Point, the novelty, the unusual beauty of the place? Being in a light craft, we landed almost at the threshold of "The Camp," a summer hotel, having to climb but an easy flight of stairs to the broad veranda which encircles the artistic structure, built verily on a point where there are several little landings as well as a steamer pier. One might toss a stone into the lake from the veranda on either side, or in front; which may give some idea of the novelty of location. The building itself is of uncommon workmanship; hemlock slabs with the bark on, and hemlock lumber, a prettily grained wood, stained brown, being generally employed outside and in; with ceilings of burlap, and floors of oak, the sitting-room being quite a museum with its decorations of valuable Indian curios. This house accommodates some sixty persons, there being no room from which a glimmer of blue waves and green islands may not be obtained.

Outside, a few steps to the right of the building, with the vast sky for a dome, and the steep shores of islands, and sunlit waters for stage-setting, "Hiawatha," the musical Indian play, is performed on summer afternoons by Ojibway Indians. Imagine a spacious amphitheatre walled round with granite, on which pines and blueberries grow, and ferns and other decorative foliage — an artistic bit of nature's handicraft designed countless ages ago, apparently for none other than the present purpose. Edging the half-circle, at the foot of the sloping walls, dispose a dozen or more teepees, and a group of happy Indian children, and camp-fires, the soft, blue, curling smoke of which lends an essentially aboriginal atmosphere to the quaint scene. That is the usual spectacle. In the teepees,

and in other habitations in the vicinity, live the Indian actors and their families. In this little encampment are Indians of all ages, from papooses to very old men and women, and one is impressed particularly with the fact that they all seem happy, and regrets that more red men do not fall into such good hands. It is a pleasure to go about among them, to watch them perform their daily duties, such as preparing their meals at their little camp-fires, sewing perhaps, or constructing a new tepee; and to hear them speak or sing, for the voice of the Indian is musical with minor tones, hinting of the unhappy history of his people. The children, too, are interesting, their hearty laughter sounding on all least occasions in their play. They are comely children, one little, dusky boy being more beautiful than any white child I have ever seen. They were shy at first, but soon made friends with us, and together we picked blueberries on the hills.

The summer of 1900 marked the first season of the play, which has proved a success, attracting tourists from all parts of America. One happy result has been the revival, by aid of designs preserved at the Smithsonian Institute, of original Ojibway costumes and bead work, which had been almost forgotten among these Indians.

From under the broad, white awnings in the amphitheatre, let us now view the play. The stage is ingeniously constructed in the lake, a stone's throw from shore. For setting, there are breadths of sapphire waters, wind-rippled, and full of gleams; majestic islands with precipitous shores faced with granite; and wonderful crystalline skies of that far-shining blue of northern climates; and as we wait expectantly for the play to begin, from a wooded cliff on the mainland the signal smoke presently rises, curling grey on the light wind, and the song of the Great Spirit is heard, accompanied by the music of the waves. At this the assembled warriors throw down their weapons and wash the war paint from their faces, after which the peace pipe is smoked. This is an old treaty pipe, a valuable relic, and is lit with flint and touchwood by an Indian Chief who is 86 years old. Then follows

Nokomis's lullaby at the door of her tepee; the procession of Indians, in canoes round and round the stage, singing weird Indian songs; the departure of Hiawatha, and his home-coming; the several dances round the campfire in the centre of the stage, a most impressive feature of the play, and ceremony, each dance being a prayer, for in his dances the Indian is serious, the caribou dance, for instance, being a prayer for plenty. It may here be related that on an island in the vicinity of Kensington Point, Indians used to stop over long enough to smoke a pipe to the Manitou for wind; those sailing from the east, for favoring gales going west, and *vice versa*. To skeptical minds a meeting here of Indians offering the two prayers in the same hour, peradventure, is suggested, certainly not injuring their skepticism. To any sort of a sailor, however, a way out of the difficulty would be at once apparent. With either a southern or northern wind, the one might go on a long tack west, the other east. Where the white man kneels in prayer, the red man dances or smokes, it being a matter of form, in either case tending toward concentrating the mind on one's desire.

To return to the play. As it proceeds—the voices of the Indians mingling with that of the summer wind on the water, the white gulls dipping and veering in the sunlight, bright paddles flashing, and canoes moving silently—little by little a spell is woven, and through the spirit's purple mists of necromancy one drifts back to a day in which the Ojibways came and went as they listed over these northern lands and waters, enacting in daily life similar dramas handed down to us, as was this one, only in legends. The moment seems indeed as one deep-set in the past, all is so realistic, even to the departure of Hiawatha at the close, when, standing with outstretched arms he drifts in his canoe over the water toward the setting sun, and is lost to view among the islands.

Apart from the play, there are various other attractions at Kensington Point. The fishing is excellent among the islands, while inland there are trout and bass lakes, and in the forests deer, moose, caribou, foxes and bears. Indian

guides and canoes may be engaged at "The Camp." Protected as are these waters from the flow of Lake Huron in high winds, canoeing and sailing are safe pastimes. This section of the Desbarats River was held until recently as a British naval reserve. The islands are among the most beautiful in Lake Huron, rising to a height of over two hundred feet. On several, in the vicinity of Kensington Point, summer residences, artis-

tic in design, have already been erected. At one period or another in life, one has dreamed night and day dreams of little sapphire seas where no waves beat roughly; of gull-haunted islands with green and grey walls; of white sails and Favonian winds, and golden and purple sunsets. On sojourning, then, among these lovely northern islands, one may say, as did Robert Louis Stevenson, at Apia: "For me it has come true."



Our Park.

BY R. J. BURDE.

The many improvements to the National park, undertaken by the Dominion government, have reached a stage that promises an early completion, and when all the work is finished there will be much greater accommodation at the cave and basin sulphur baths, and many more attractions for the visitors.

There will be two sulphur basins, the new one being larger than the old. The parlors and dressing rooms are being enlarged accordingly and additional comforts and conveniences are being put in.

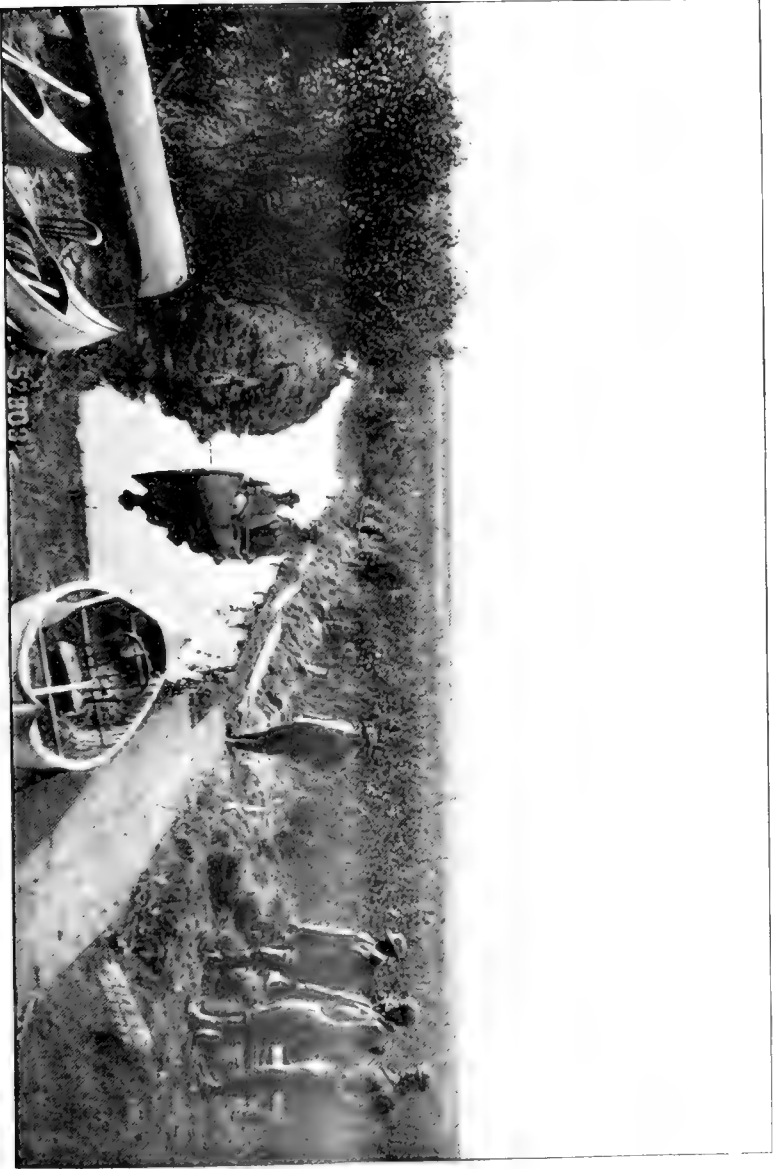
At the upper hot springs, two and one-quarter miles from the village, a new building, with a system of baths up to date in every particular, is to be constructed. The system includes a hot plunge, a large swimming basin, tubs, sweat rooms, showers and cooling rooms. The grounds around the structure will be improved, and a rustic cottage built

for the caretaker and attendants who will be always on the premises.

The new museum is now ready for the placing of the exhibits. It is a large architectural attraction with a rustic finish outside and a fine showing of handiwork inside. The exhibits will include selected specimens of every variety of wild animal inhabiting the Rocky mountains. A number of Indian and other curios will also be shown.

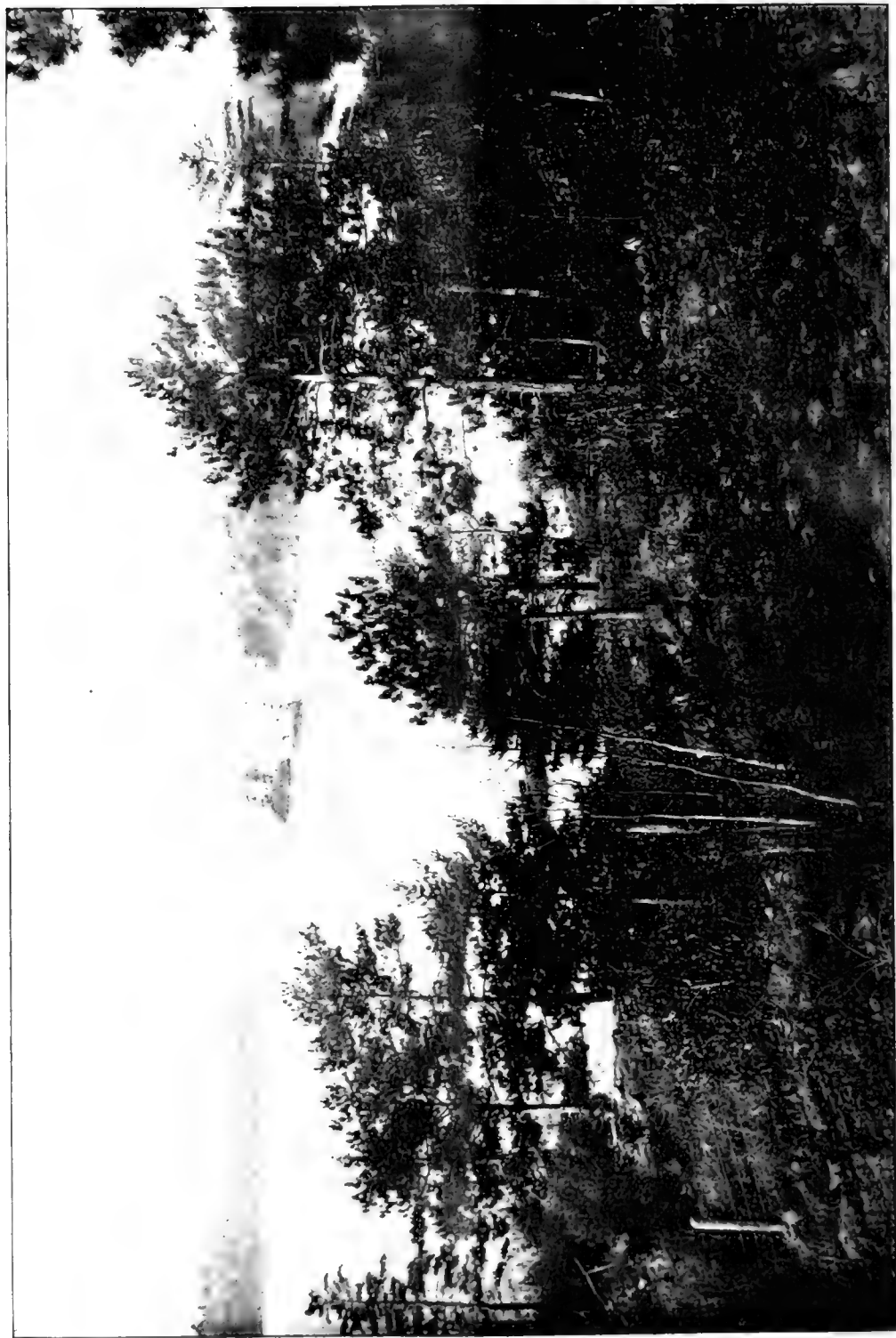
In the Buffalo paddock there are some new live attractions and more are to be added. The stock now consists of thirty-six buffaloes of all ages from two months up, twenty Angora goats and kids, nine elk, eight deer, three moose, one golden eagle and other birds. A large collection of pheasants and quail, a dozen different varieties, have been purchased and will arrive soon. It is intended to breed these birds, and as they multiply to let them free to make their homes in the surrounding woods.





PRAIRIE DUCK SHOOTING.

Scene taken at Senator Kirschoffer's Manitoban preserve, during the Royal visit.



IN THE LAND OF HIWATHIA.
Desbarats Islands, from Kensington Point.

A Voice from the Bush.*

BY W. S. C.

I will hear below drope you a few Remarks. I have your ROD AND GUN over one year and I have not seen scarsely a word about Nova Scotia. I have had a quite a large Experience booth of the Forrest and the game of the Province in 1874 our Government Passest a Stringent Game Law Giving our moose 3 years Close Season this at first Seemed very hard as a first Stepp. Before this our noble Game had no Shelter from being Hunted and Torne Down by Large Bull Dogs when the Snow was Harde and Deep in the Winter and Spring of 1856. I was in a position to know the No. of Moose that was Killed and brought over the first Lake on the Liverpool River this No. was 74 all killed by the means of Dogs We now thank our Game Law for the Great No. of Moose in N. S. Our Forrest is Completely Stolked with this Noble Animals it is True our Province is not very Large but it is a Beautifull Park Compleatly Fenced by the Briney Ocean Away North and west of me is a better Moose Country than can be found. I think I can Saftley say Eather in New Brunswick or Maine. We have the Great Blue Mountain Rainge Ware all of our Rivers West of me take ther Rise We have the Most Delightfull Waters good Roads to Carry our Connes and Lugges to the Lake Rosignale and from that to A No. of fine Streems finding ther way to the Alliantic Ocean I have had the Pleasure of bringing a No of fine Moose from these waters, if Gentleman coming hear on a hunting Ture they can have there choiuse a Splended Forrest without much conning in fact none or otherwise Just as they wish hear is over 500 Squar Miles in this one Localetey a Land compleatly Adapted for the

Moose Carrebus Dear And a few Black Bears fur Barring Animaes is not Verry Plenty Partridge and the blue wing Duck Quite Plenty this Localetey West of me is Dotted all over With Lakes and Bays. No Farmes no Settlements to truble our game.

Now hear below: I will just give you one of my little moose hunts to Show your Readers that we can get at our Moose Easy and Quick

in the fall of 1897 A Young Man Living in Liverpool by the name of Freem, this being his first name in Short he being one of my Friends wished me to take him out with me calling moose. I told him I Would Send him A Card When I Was Redey to go. I Sent the Card Oct the 6 he came to my Place that Night I Was all Readey to Start at one aclock P.M. took with me A Single ox and Waggon also My Boy Archie the ox Drawing all matters and we Could Ride as we wished. We went out on a Road Knoone as the Nictaux Road to the County Line cooked Brakfast And then took a Woods Road that Lad to the Kanlbrok Meadow, this being two miles, hear we find Plenty of Moose Tracks And one Verry Large track hear we Pitch our tent cut wood for night having a good time weather fine and all well, after supper we soon went to Sleepe. I Waked up Earley about an hour before Daylight. I Said to the Boyes we will go out to the Rock ware Solected to call the Boys being Sleepy concluded that they Would have a nother nap I took my big coat also my Moose Call and my 45.70 winchester went to the Rock by the Side of a Small Brook About 300 yds from the tent I Waited untill near Day brake then called. Waiting about 20 minutes called again Waiting about the saime time called again. I now hear A Large Bull Moose Speaking at Every Sup he coms on and on. And he comes in site at the Distance of 80 yds. I Shot and then Rune quick for about 4 Rodds Clearing the Smoak of my Rifle. I then See my moose had gone back a Short

* The bright young schoolmarm who reads the proof of all our moose stories has struck, out of sympathy with the 'longshoremen, so we are compelled to print this contribution as received. It will possibly prove a welcome change from the Addisonian English of our staff correspondents. We are half inclined to the belief that W. S. C. has been filling in the time between hunts by reading GEORGE ADE.

Distance but Stood Broad Side to I at once Shot again. Down dropped My Moose, I then Called for my Boys they just come in time to See the Last Struggle we then got Brakfast and Dressed our Moose he was a fine one we took our ox and waggon to the moose Putting the Large Quarters on the team. Braking our tent and arrived home before Dark that night We all Was Verry muche the

better. on the way home the Boys Bagged a No of Partridges and two Blue Wing Ducks this was a Easy Luckey Hunt I can tell you a No of such Hunts also some very harde and Dangreas hunts I have killed a quite a Large No. of Bears as well as moose if you think best to give your Reeders the advantage of thes few Remarks you can use your own Judgment.



Reforeesting.*

The reforestation work which is being carried on by the Forest, Fish and Game Commission of the State of New York, has a definite bearing on the question of reforestation in general as it affects at least the northern half of the continent of North America. In the Adirondacks the conditions are similar in the most vital respects to those of the great forest areas of Canada, and the knowledge gained by the experiences of the Commission will serve as a guide in any project, whether small or extensive, which may be undertaken in the same direction in Canada.

In the Adirondack Park, there is an area of 50,592 acres of land classed as waste, burned or denuded. Some replanting had been done in the Catskills in 1900 and 1901, and at such a comparatively small expense that it was decided to undertake a more extensive experiment in the Adirondacks. The tract in which the work was done is described generally as follows:—

"In Franklin Country, near Lake Clear Junction, there is a large area of State land that had been closely lumbered, after which it became denuded by repeated fires. The ground, which originally sustained a growth of large white pine, was covered with ferns and huckleberry bushes, with here and there small areas of swampy land or thickets of young evergreens and poplars. It was mostly an open plain extending several miles in either direction, its level expanse being broken in places by low hills or

long, rolling ridges. The soil is sandy, covered with a thin deposit of ashes left from forest fires. The latter conditions, however, were not unfavourable; for a sandy soil forms the natural habitat of the White Pine, and the small admixture of ashes has some value as a fertilizer."

A careful examination of the territory was made in the spring, and the first question that arose was as to the danger from fire. This is always the crucial point in considering any forward step in forest management. Will the investment be a safe one? No expenditure could be justified unless provision was made to ensure this as far as possible, and there is little use of talking of any outlay for reforestation in Canada or elsewhere until we can have some assurance that the forest fires will be kept in check. In the tract referred to, the chief danger was from the close proximity of a branch of the New York Central Railway, but to offset this there was a fire warden living close by and a number of other people in the vicinity who could always be called on for assistance. Even while the planting was in progress, this danger was emphasized, for a fire, started by a spark from a locomotive and driven by a high wind, became threatening, and the forester in charge found it necessary to set a number of his men to fight it, and it was finally extinguished without having done any serious damage.

The replanting of an area of 700 acres was undertaken, but owing to frequent obstruction, swampy places, and

* Contributed by the Officers of the Canadian Forestry Association.

thickets of sapling trees, the land on which the trees were actually set out amounted to only 414 acres. The white pine, as the natural forest growth of that district and most adapted to a sandy soil, was selected as the best species for reforesting this tract. As, however, a sufficient supply of white pine seedlings could not be obtained, spruce was chosen for second place, and it was necessary to resort to the Norway spruce, as plants of the native spruce could not be obtained in nurseries either at home or abroad. European larch was also purchased for the wet places, and other species for experimental purposes, as shown in the following statement :

50,000	White Pine transplants,		
	4 years old, at	\$6.25	\$312.50
10,000	" " seedlings,		
	2 years old, at	5.00	50.00
40,000	Scotch Pine transplants,		
	3 years old, at	4.00	160.00
10,000	" " seedlings,		
	2 years old, at	3.00	30.00
50,000	Norway Spruce transplants,		
	3 years old, at	4.00	200.00
200,000	" " seedlings,		
	2 years old, at	1.50	300.00
25,000	Douglas Fir seedlings,		
	2 years old, at	5.00	125.00
30,000	European Larch seedlings,		
	2 years old, at	2.00	60.00
5,000	Black Locust seedlings,		
	2 years old, at	1.00	5.00
			\$1,242.50

Planting was commenced on April 22nd and was completed May 13th, half a million trees having been set out in rows six feet apart each way, or 1,210 plants to the acre. The placing of the trees at this distance will facilitate the shedding of the lower limbs and height growth, and will permit of thinning for pulpwood or fuel in 15 to 18 years. Pure stands were set out, but a mixture of Norway spruce with white pine or larch was given the preference.

The men were divided into two gangs, one provided with mattocks which preceded the other and made the holes to receive the plants. The planters followed with the seedlings in pails, one of which was placed in each hole, the earth being gathered about it with the hand and pressed down by the foot. Under favorable circumstances two men could set out about 1,600 plants in eight hours or one day's work, but the average was 669

plants per day for each man and boy on the job. The laborers received \$1.50 for a day of eight hours, and the foremen, of whom there were three, \$2.00; and the total expense of the plantation, including all items, was \$2,496.22, or less than half a cent per plant. It can readily be calculated that this would make the average cost slightly over \$6.00 for each acre actually planted. Possibly, however, it might be fair to consider that this 700 acres is an average tract of denuded land, and that to provide for getting it all in fair forest condition the planting of only a portion is required. In this view of the case the average might be stated at a considerably lower figure. Against this, however, is set the fact that the seedlings were obtained from the nursery of the New York College of Forestry at a low price, and the usual market rate would be considerably higher.

The ground on which the plantation was made was covered with a thick growth of ferns, which could not be removed without too great expense, and it was feared that they might interfere with the growth of the young trees. This fear was unfounded, however, and on the contrary, the ferns gave valuable protection against the heat of the sun in July and August, and the trees are growing well. The Superintendent considers the condition of the plantation in the fall as very encouraging. Of the half million of plants set out, the percentage of loss was very small and far below the usual percentage given in authoritative tables. It was only after long and careful search that a dead plant could be found. Most of the seedlings showed a rapid growth, the leaders on the white pine attaining a length of from four to ten inches during the summer following the planting.

The difficulty in obtaining nursery stock for the plantation has induced the Commission to undertake the establishment of a nursery of their own in the Catskills and the Adirondacks. In the Adirondacks a field of seven acres, sheltered by standing forest and with a soil of the sandy loam best suited to the propagation of coniferous trees, has been selected. This nursery will have a capacity of 3,000,000 seedlings and transplants, and is expected in time to

furnish all the material required for seedlings and transplants. The ground has been cultivated and will be laid out in beds, four feet by twenty, in which will be planted seeds of white pine and the native Adirondack spruce, together with other species for experimental purposes. The expense will be met by a small annual appropriation of about \$450, although a little additional may be required at first for the erection of a few small buildings for the storage of seed, etc.

Further, it is proposed that the seed for this nursery should be collected by the foresters employed by the Commission, thus ensuring a cheap supply of good fresh seed. Last year was not a seed year for white pine, and it was

impossible to get a supply either in the United States or Canada. The Adirondack spruce produced, however, a good supply of seed, which will be used in the nursery and also in a broadcast sowing of some denuded lands. The market price of red spruce seed is \$2.00 per lb. The total cost for picking two hundred and one-half bushels of cones was \$157.25, an average of seventy-eight cents per bushel. 375 lbs. of seed were obtained from the 200 bushels of cones, and of this quantity 205 lbs. were seeds of the first quality. The total cost was \$355.72, making the cost per lb. 95 cents. This could be made less when the men gain experience and understand what is required of them.



The Bitternut Hickory.*

Toughness and strength and hardness are the qualities that are associated in popular thought with the word hickory. When the settler wished an axe handle that could be relied on, he chose the hickory tree. From it he bent the yoke for his oxen, and formed the teeth of the primitive harrow with which he broke the clods of his new-tilled fields, and its sturdy branches supplied material for the flail which, swung strongly in the hands of its owner, did the work of the threshing mill of the present day. And from those early days its traditional reputation has been carried down to the present.

The Bitternut or Swamp Hickory (*Carya amara* or *Hicoria minima*), although not the typical tree of this genus in Canada, is perhaps the one that occurs most frequently. Its range is from Montreal westward through Southern Ontario and north as far as the Ottawa and Muskoka districts. In young trees the bark is grey and smooth. As age increases and the pressure from the expanding wood beneath makes itself felt, cracks, yellow in their depth, appear irregularly and finally develop the hard corrugated bark of the mature

tree. The leaflets are seven to eleven, sharply serrate and are placed opposite to one another, with the exception of one terminal leaflet. When looked at against the light they are marked with many small, pellucid dots. The fruit is globular and narrowly six-ridged, and the nut is white, short-pointed and thin-walled. At first sweet tasted, it soon becomes very bitter, so that even the squirrels will not take it. Although known as the Swamp Hickory and usually found in such locations in its more southern range, as it reaches its northern limit in Canada it is found on higher lands, as shown in the illustration. The wood of this species, though partaking largely of the nature of the hickory, is probably the least valuable of all, and some other tree of the genus *Carya* might have been chosen as an introduction to it if our special illustrators had not failed as yet to supply the necessary photograph. However, when this deficiency is supplied we hope to give our readers a little closer acquaintance with a hickory nut which, unlike our friend of the present article, will leave a good taste in the mouth.

* Contributed by the Officers of the Canadian Forestry Association.

The Stocking of Inland Waters with Black Bass.*

BY S. T. B.

This is a subject which I must treat chiefly by the aid of such light as I have obtained in the discharge of my official duties, rather than as the result of special observation and investigation otherwise ; and my paper will therefore of necessity be more of a relation of the work as it has been conducted in this province, than a treatment of the question from a technical or scientific standpoint.

The work of re-stocking the inland waters of Ontario with black bass on an extensive scale is but of recent origin. It is recorded that bass were transplanted by the Dominion Government as long ago as 1873, and have been transplanted at irregular intervals since ; but the instances are few, and the work does not seem to have been prosecuted to any considerable extent or with any special vigor, for only incidental references are made to it in the official reports. It appears to have been treated merely as an incident to what presumably was considered more important, or at least more necessary, work, the propagation of the greater food fishes—the trout and whitefish. The Provincial Government, while the dispute with the Dominion Government as to the ownership of the fisheries remained unsettled, probably felt a difficulty in doing more than grant pecuniary aid to localities which were undertaking a little stocking on their own account. But, be this as it may be, no systematized or organized plan was inaugurated or carried into execution by the province until the Judicial Committee of the Privy Council of England had decided that the fisheries were the property of the province, and the province had assumed the duties which the committee determined belonged to it, and had organized a department. The fact was at once appreciated by the Ontario Government that our inland waters could be made a fruitful and lasting source of profit and pleasure to our people if good fishing

could be established and maintained therein, and that it was manifestly a public duty to put forth every effort for the accomplishment of that great end, and as speedily as possible. Most, if not all, of the inland lakes and rivers of Ontario are well adapted to the black bass. It is well known that, given a fair chance, a few pair will in a short time populate the waters in which they are placed, their fecundity being great, and their habit of protecting their young ensuring them immunity, to a great extent, from the depredations of other fish ; consequently, a relatively large number reach maturity ; they will thrive under conditions where the brook trout could not exist, and in water of a much higher temperature ; and they can be successfully introduced into waters in which they are not indigenous. These, and other reasons, seemed to indicate the black bass to be the ideal fish with which to re-stock our waters ; and the most practical, successful and speedy means of accomplishing this, having regard to the success which had signaled the work already referred to, to transplant the parent fish. Many lakes in the sparsely settled districts are already naturally well stocked, and it was suggested that these waters might be drawn upon for stocking waters which had become more or less depleted in the older and settled portions. But such a policy was open to objection, because these lakes would in turn, it might reasonably be expected, soon themselves become popular as a resort for anglers and tourists. Besides, they were so difficult of access, and so far from railway communication, that the primitive means of transportation which would have to be adopted would be tedious and expensive, and accompanied by so much loss as to make it impossible to enter upon the work as extensively and as economically as would be desirable and necessary to meet

* From the Fourth Annual Report of the Department of Fisheries of the Province of Ontario.

the demand which was known to exist. The department therefore felt that such a plan could not be entertained; that the fish would have to be obtained from waters where a minimum of opposition would be raised to their removal, where they could be obtained in large numbers, and convenient to railway points. Such points having been located upon one or more of our great lakes, the next matter to be considered was that of rapid transportation. The province was not yet prepared to build a car for the purpose, and therefore the Government approached the railways, which it was thought would be interested in the work, with a view to obtaining their active co-operation to the extent of fitting up and placing at the disposal of the department a car for the purpose of carrying fish, bearing in mind that in some of the States the railways had co-operated in that way. A well-known passenger agent has observed: "What would the interior travel amount to if no effort was made to keep up the supply of fish and game. It is not to be supposed for an instant that persons are going to our interior just to see what the rivers and lakes look like. It is, of course, for the pleasure derived in the way of sport incident to the catching of fish and the hunting of game." It was not suggested that a car on anything like so elaborate a scale as some of the United States fish cars should be provided, but merely that a superannuated passenger or express coach should be adapted to the purpose. Ultimately it was found that a greater part of the work, or that which, in the opinion of the department should first be done, was at points to be reached by the Grand Trunk Railway, and therefore the matter of the construction of the car was thoroughly gone into with representatives of that road. Their willingness to co-operate was graciously and readily expressed, a plan was prepared, and the car was equipped. Originally a first-class passenger coach, it is divided into sections, with a passageway down the middle. A double door in the centre on either side is provided for convenience in loading

and unloading, taking on ice, etc. There are ten tanks, besides two compartments for ice. The tanks are lined with heavy galvanized iron, and are so constructed that the water may freely circulate from one tank to the other. The car is charged from a railway hydrant or tank en route. At one end of the car is a double lower and upper berth, a lavatory and a compartment for storing the various utensils in use. The fish are taken by seines and in pound nets under contract, which provides that they be delivered on the car. The Government pay for the catching and the loading of the fish, the railway company furnish the car and practically free transportation, and the fish are distributed at the point of destination by interested parties under the supervision of the Government overseers. During the first season (1901), in a few weeks' time, nearly 10,000 adult bass, ranging from 12 to 20 inches in length, were deposited in some 18 different lakes and rivers, a greater number than had theretofore been introduced in the province's whole history. The bulk of these fish were deposited before they had spawned that year.

The main essentials to successful transportation are, (1) healthy and vigorous stock, and (2) unceasing attention while in transit. The water should be changed as often as possible, kept at a proper temperature, and frequently oxygenated. The latter is done by means of a hand pump. Our attendant in charge of the car has been much interested in and most devoted to the work. The success of our operations so far may be characterized as almost phenomenal. The fish have been transported in some cases nearly 400 miles; 850 was the largest number carried at any one time, with a loss of only ten per cent.; 720 were carried 225 miles with a loss of not more than two per cent. Of course, without the car, we should have been unable to pursue the work with anything like the success that has attended it. Where the car has been hauled over other systems than the G.T.R., this has been done gratuitously, and at times special service furnished.

(To be continued.)

The Nepigon.

BY THE PROVINCIAL OVERSEERS.

The Fourth Annual Report of the Department of Fishery in the Province of Ontario, has been issued. Some interesting facts are published in it regarding Nepigon.

A Duluth, Minnesota, paper published an item to the effect that trout fishing in the Nepigon River was likely to be impaired, owing to a mysterious disease which, it was alleged, had been prevalent among the trout; that the disease was gaining in virulence, and that hundreds of the fish were to be found dead on the shore daily. The attention of our agent at Nepigon was directed to the report, which he pronounced utterly false. The story must have been manufactured out of whole cloth, as there was not the slightest foundation for it; and its object cannot be even conjectured. The fishing has not been so good for years as it has been this year.

Reference was made in the report of last year to the increase of pike in the River Nepigon, and the extermination of the speckled trout was predicted unless vigorous steps were early taken to eradicate the pest. During the summer the work of destruction of the coarse fish was entered upon, and 1800 pike, 389 pickerel, and 803 suckers were taken and destroyed. The good work should be continued during the coming season, and no doubt a ready market may then be found for the fish taken, as it is expected the Canadian Fish Co., to which Lake Nepigon has been leased, will have by that time begun fishing operations.

Application was received from the Board of Trade of Rat Portage for trout to be placed in waters in the vicinity of that town. Overseer McKirdy was instructed to arrange for taking 100 trout, provided free transportation for the fish was furnished by the C. P. R. Owing to some delay in obtaining the requisite tanks for carrying the fish and in perfecting the details, a number died while in captivity. The remainder were safely deposited in good condition. Their average weight was about two pounds.

Overseer McKirdy has suggested the advisability of erecting one or two ice houses along the river, where ice may be obtained by tourists who come from long distances, and who are anxious to take home with them trophies of the rod. He thinks that it will be possible to obtain lumber on the spot, as the Nepigon Pulp Co. expect next year to have a portable sawmill there cutting material for their prospective works. The cost would be inconsiderable, and with a little assistance the structures could be put up by the overseer before the season opens. No doubt many would visit the river who do not now do so, if they could take away with them a few noble specimens.

The matter will be considered in good time.

Overseer McKirdy, Nepigon, reports that there has been an increase of visitors to Nepigon. The number of permits issued were 64 foreign, netting \$990.00; 21 Canadian, netting \$105.00; total \$1,095.00, an increase of eleven permits and \$145 over last year. The fish taken has been fully better than the average weight of other years, being slightly over 2½ lbs. each. As usual, those who visit the stream during June and early in July had the best fishing. They had a few more flies to contend with, but were better satisfied, as there were not the number of visitors then as there were during August. The river has been patrolled by Overseer Charles de Laronde, and the camping grounds were never in better condition. A gentleman who revisited the river after a number of years expressed himself as delighted with the change in the sanitary condition of the camps. He is pleased to report that the war waged against the pike (which were fast taking control of certain portions of the river) has been a decided success. Some thousands of pike which would average 10 lbs. each have been destroyed, as well as large numbers of pickerel (equally destructive to the trout) and suckers. He thinks it would be advisable to continue the net-

ting of these destructive fish during the coming season, as there are still large quantities left, and the more that are taken out the better will be the fishing. As usual, during August the river was taxed to its utmost to accommodate the visitors, frequently three or four parties

having to camp at one place, which is undesirable. He would suggest that Overseer Charles de Laronde be instructed to commence his duties earlier and be supplied with a man to help him lay out three or four new camping grounds in favorable locations.



Our Medicine Bag.

April has been a very dry month. Practically no rain has fallen throughout the month, the few showers that came being so light as hardly to wet the ground. As a result the country has been in the worst condition for the starting of forest fires, and the occasion being provided, the active cause has not been wanting. A day of high wind following this dry spell fanned the fire from burning brush and other causes into violent conflagrations, which caused serious loss to many.

In Ontario a serious fire, started from where farmers were clearing land by burning underbrush, swept over the Township of Clarendon in the northern part of the County of Frontenac. Many of the farmers lost everything they possessed, buildings and stock; there was considerable loss to lumbermen. The village of Vennochar in Addington County, adjoining, was destroyed; two long and important bridges were burned, and a large tract of good timber land was laid waste. The fire travelled swiftly and fiercely, and many people were suddenly surrounded and had very narrow escapes. The Provincial Forest Reserve in the vicinity was not touched by the fire. The village of Casselman, near Ottawa, which suffered severely from this cause in 1897, also was threatened by fire started in the same way. The loss in this vicinity is stated at \$10,000. Fires also occurred in Renfrew County and other northern districts along the Parry Sound and Canadian Pacific Railways. A fire which threatened to be serious occurred north of Lake Nipissing near North Bay, and, as it was in the vicinity of valuable timber, a force

was sent to cope with it. Latest reports are that the fire was got under control without having done a great deal of damage.

In the Province of Quebec the farmers along the Gatineau and Lievre Rivers suffered severely. Probably thirty or more lost everything in the La Salette district and at Kazabazua and Quyon, many more suffered. Appeals for aid for these people have been made by the authorities of the Roman Catholic Church, to which most of the sufferers belonged. The village of Morrison was wiped out, and there were also fires at Shawinigan Falls and Napierville.

There was not much snow in Manitoba last winter, and the dryness of the season has made great vigilance necessary. Numerous fires occurred in the vicinity of the Turtle Mountain Reserve, and it was impossible to entirely keep them out of the reserve. No green timber of any size was, however, destroyed. The village of Edrans, near the Canadian Pacific Railway, suffered severely from a fire in that district. Near Moose Mountain Reserve in Assiniboia several prairie fires were started by sparks from locomotives.



The Macmillan Company has just made arrangements with Mr. Caspar Whitney for ten additional volumes in The American Sportsman's Library. These books have proven exceedingly popular—not only the one on The Deer Family, a large portion of which President Roosevelt wrote, but also the succeeding volumes on Salmon and Trout and Upland Game Birds. The next



Shot at Hanleybury, on Lake Timiskaming, in January, 1903.

SHARP-TAILED GROUSE.



Six Trout taken in October near Quesnelle, B.C.

FROM SWIFT RIVER.



BUTTERNUT HICKORY.

One of the most useful trees of Southern Ontario

volume to appear will be that on The Water Fowl Family, to be followed shortly by others on Big Game Fishes ; The Bison ; Musk Ox, Sheep and Goat Family ; Guns, Ammunition and Tackle ; Bass, Pike, Perch and Pickerel ; The Bear Family ; and The Cougar, Wild Cat, Wolf and Fox.

The first of the additional volumes will deal with the very important theme of Photography for the Sportsman Naturalist. More and more sportsmen every day are bringing down their game with the camera instead of the rifle. The volumes to follow are concerned with these themes : The Sporting Dog ; The American Race Horse and Running Horse ; Trotting and Pacing ; Riding and Driving ; Yachting, Small Boat Sailing and Canoeing ; Baseball and Football ; Rowing, Track Athletics and Swimming ; Lacrosse, Lawn-Tennis, Wrestling, Racquets, Squash, Court-Tennis ; Skating, Hockey, Ice-Yachting, Coasting and Skate Sailing.

These beautifully made and exceptionally well edited books are in every case written by experts. Each of these has furnished for the Library, practically speaking, a monograph on the portion of the whole field of sport on which he is best fitted to speak. For instance, the volume on The Bison ; Musk-Ox, Sheep and Goat Family is the joint work of George Bird Grinnell, Owen Wister and Caspar Whitney. No one knows the sad but picturesque story of the Bison so well as Mr. Grinnell ; while Mr. Wister is specially well informed about the Sheep and Goat Family, which supplies the trophies best loved by sportsmen. Mr. Whitney is almost the only white man capable of writing with authority about the Musk-Ox. This library is the most important publication or series of publications in the world of sport for a decade ; and the additions for which arrangements have just been made render it inclusive, when completed, of every branch of manly sport.



Baily's Magazine for May contains some excellent articles that would interest a sportsman, no matter where his lines were cast ; but it is rather galling to find so little in this excellent magazine bear-

ing upon Canadian sport. Canada is the brightest jewel in England's Colonial crown, and, moreover, we have, without exception, the grandest sporting country in the world ; and one would naturally expect to find more written in the English magazines respecting such sports than is the case. However, the present number atones in some measure for the neglect, for there is an article entitled "Alone on the Prairie," which deals with Manitoba and life therein. The following sentences are pregnant with truth : "There is a great deal of work in Manitoba, and a great deal of happiness, if people have it within themselves. Anyone going out to the prairie should try, somehow, to have some knowledge of horses, cows and all farm animals, and above all, rough carpentering, and how to make use of their hands and brains. Settlers must have money to start, as horses, farm implements and other farm necessities must be paid for, as beginning on credit is a ruinous system. A growing up family has a better chance than the individuals running their own farms with outside aid." In "Our Van," an article on miniature rifles at the Crystal Palace, states that there are already 24,000 members of miniature rifle clubs in England, so that it has become a British national sport without any great fuss being made over its advent. The Boer war taught us a lot, and we should be thankful that we had the grace to see our failings, and to turn over a new leaf.

"Miniature Rifle Shooting" is the name of a little work by Mr. L. R. Tippins, which will interest all who use the grooved barrel. It is published by Messrs. Samson, Low, Marston & Co., Ltd., London, E.C. Mr. Tippins is the author of "Modern Rifle Shooting," "The Service Rifle," and other works that have had a large sale. A careful study of this little manual shows that although it was written for the benefit of English, it cannot fail to interest Canadian and American readers. Methods and first principles are discussed, then gallery and miniature cartridges are considered, after which rifle sights, ranges, targets and other kindred subjects are very thoroughly explained. The price of this most useful hand-book is two shillings.

We have received so many applications for information as to the British Columbia Express Company's service from Ashcroft, as it is a means of reaching some of the best big game districts of the continent, that we have had a map compiled showing the stage routes.

Mr. John A. Bremner, secretary-treasurer of the British Columbia Express Company, Ashcroft, B.C., informs us that he endeavors to run his long stage route on schedule time, but, owing to various interfering causes, arrivals, departures and connections are not guaranteed.

Special conveyances are supplied by arrangement, and trustworthy drivers having a thorough knowledge of the country always accompany conveyances. Relays are provided every few miles to ensure despatch.

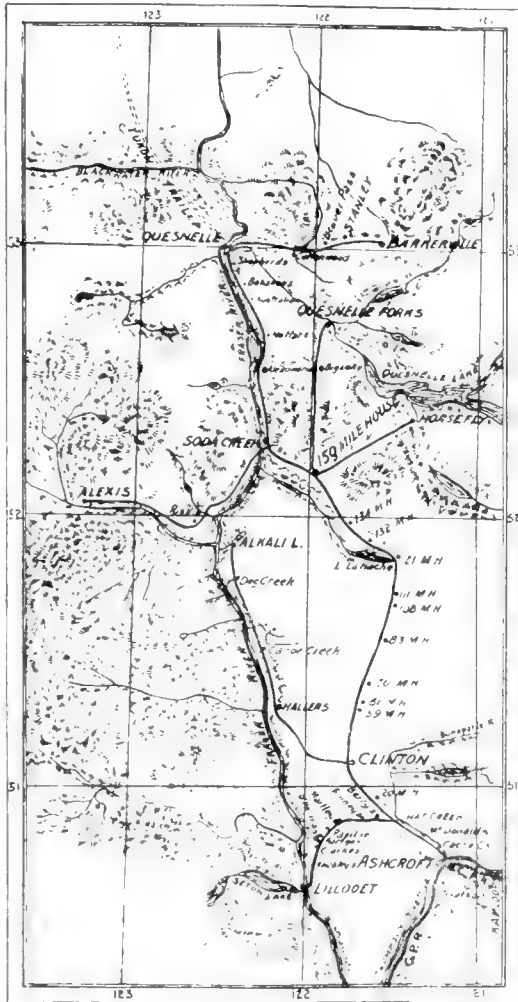
The stage leaves Ashcroft at 4 a.m. on Mondays and Fridays, and arrives at Barkerville at 3 p.m. on Thursdays and Mondays. The distance to Barkerville is about 300 miles. The Lillooet line branches off from the main Barkerville Road at Hat Creek, and the stage which leaves Ashcroft at 4 a.m. arrives at Lillooet at 5.30 p.m. This is a semi-weekly service.

The Nechaco Valley is one of the subjects discussed in Bulletin No. 9, issued

by the Bureau of Provincial Information, Victoria, B.C.,—"The Undeveloped Areas of the Great Interior of British Columbia." Speaking of the fish and game found in the Nechaco Valley, Mr. D. T. Thomson, Provincial Land Surveyor, writes:

"During the latter part of August and the month of September, the Nechaco

abounds with salmon, which make their way from the sea to their spawning grounds, and are at this time taken in thousands by the Indians, who dry them for their winter supply of food. Trout and sturgeon are also numerous, and a small fish that the Indians call whitefish, though it has no resemblance to the whitefish of the North-West Territories. Deer are not numerous in the summer season, although numbers of tracks were seen. Bears are very plentiful, and are caught by the Indians with snares set in the same manner as a rabbit snare. Coyotes are plentiful, and, as a rule, make the night hideous with their howlings until one gets used to them. Rabbits are there



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in abundance, and with fish make up the chief article of food the Indian has to depend on.

"The fur-bearing animals, though not so plentiful now as in the past, are still numerous, and are composed of beaver, otter, fisher, lynx, marten, wolverine, fox and muskrat. During the

fall and until late in the season the lakes and rivers teem with ducks and geese of all kinds, and are easily got at, as one finds plenty of cover all along the shore line."

There is an optical effect caused by certain contrasts of white and black, which might possibly have considerable interest for sportsmen if their attention were called to it. Paint two bullseyes, one black on a white background, the other white on a black background, make these bullseyes similar in size—and to the eye the white bullseye will appear considerably larger than the other. The explanation of this is found in what is technically called irradiation. When the rays of light are reflected from a white object into the eye, they spread out or irradiate, and this irradiating causes a white object to look larger than a black object of the same size.

This being the case, would it not be advantageous to paint our bullseye white on a black background, instead of the reverse?

The report of Mr. Gifford Pinchot, Forester of the United States for the year 1902, shows the varied and useful character of the work done by the Bureau. It includes the making of working plans for private lands and also for the National Forest Reserves. The field work necessary for detailed working plans was completed during the year for seven

tracts with a total area of 421,000 acres in Maine, New York, Michigan, South Carolina and Tennessee. The data obtained by these and other investigations are being worked up in a systematic way by the division of forest management. Studies of special trees and of the forests in different districts are being made. A special report of the result of the investigations of forest fires is also soon to be issued. Grazing in the forest reserves, an important question in the West, is also being given special attention. Dendro-chemical researches of special interest to the pulp industry are also being carried on with the object of ascertaining the fitness of different woods for paper making. The work of the Bureau is of a very varied character and the value of its investigations and publications cannot be over-estimated. Much of the forestry practice in Canada will be based on the foundation laid by the activity of the Forest Bureau of the United States, and it is therefore a matter of much interest to Canada that the work is being done on a thorough and practical basis.

Mr. Hiram Robinson, President of the Canadian Forestry Association, while in Washington recently, attended a forestry meeting of a series which are held regularly by the members of the American Forestry Association resident there. He found the proceedings very interesting and carried away many pleasant impressions of the visit.

Now that the season of summer travel has begun, those who intend to pay a visit to Canada will find of great service a recent publication of the Canadian Pacific Railway Company, entitled "Montreal, The Canadian Metropolis." The booklet is printed in dainty form with numerous views of the different points of interest in the city and neighborhood, and contains an excellent map of the city. There are in Canada few more attractive cities than Montreal,

both from its natural situation and from the historic associations connected with it. It is a city of contrasts, where the picturesque quaintness of a vanished age is found mingled with modern luxury and enterprise; where the old French Canadian customs exist harmoniously side by side with the latest fashions from Europe. In short, the city and vicinity present to tourists countless and varied features of interest.



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

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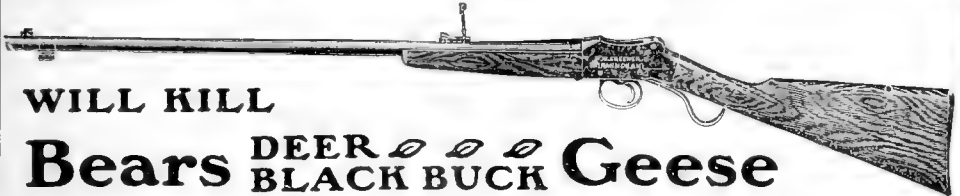
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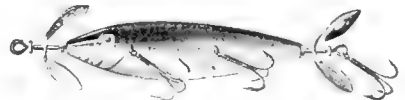
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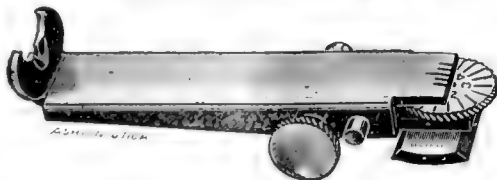
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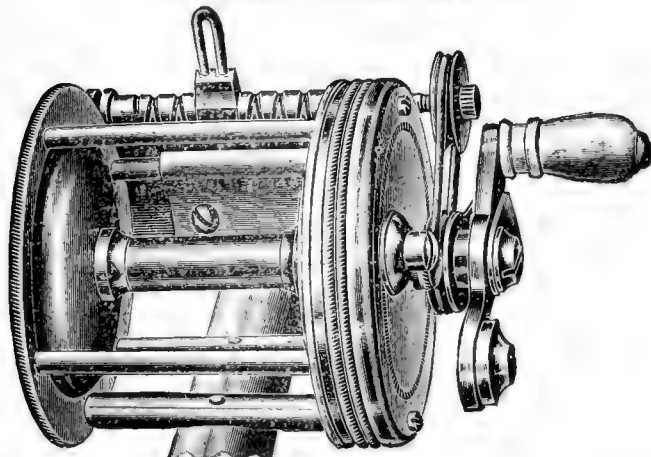
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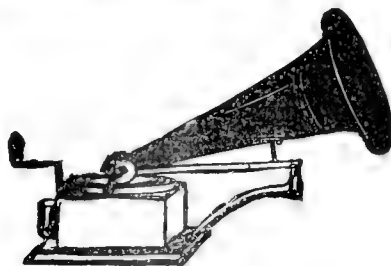
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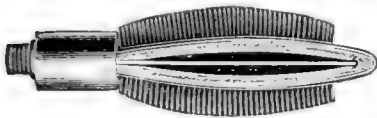
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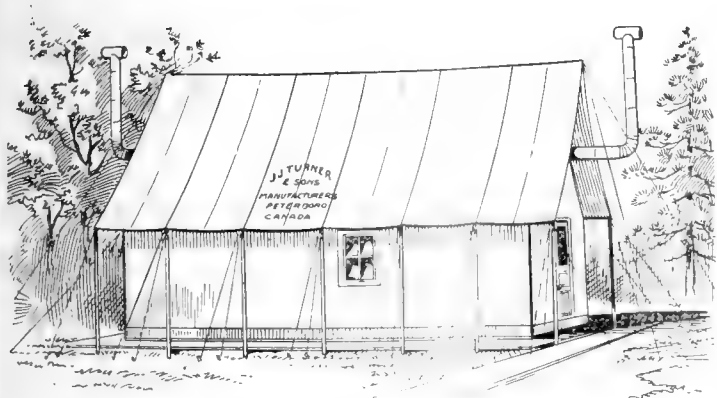
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ROD AND GUN IN CANADA

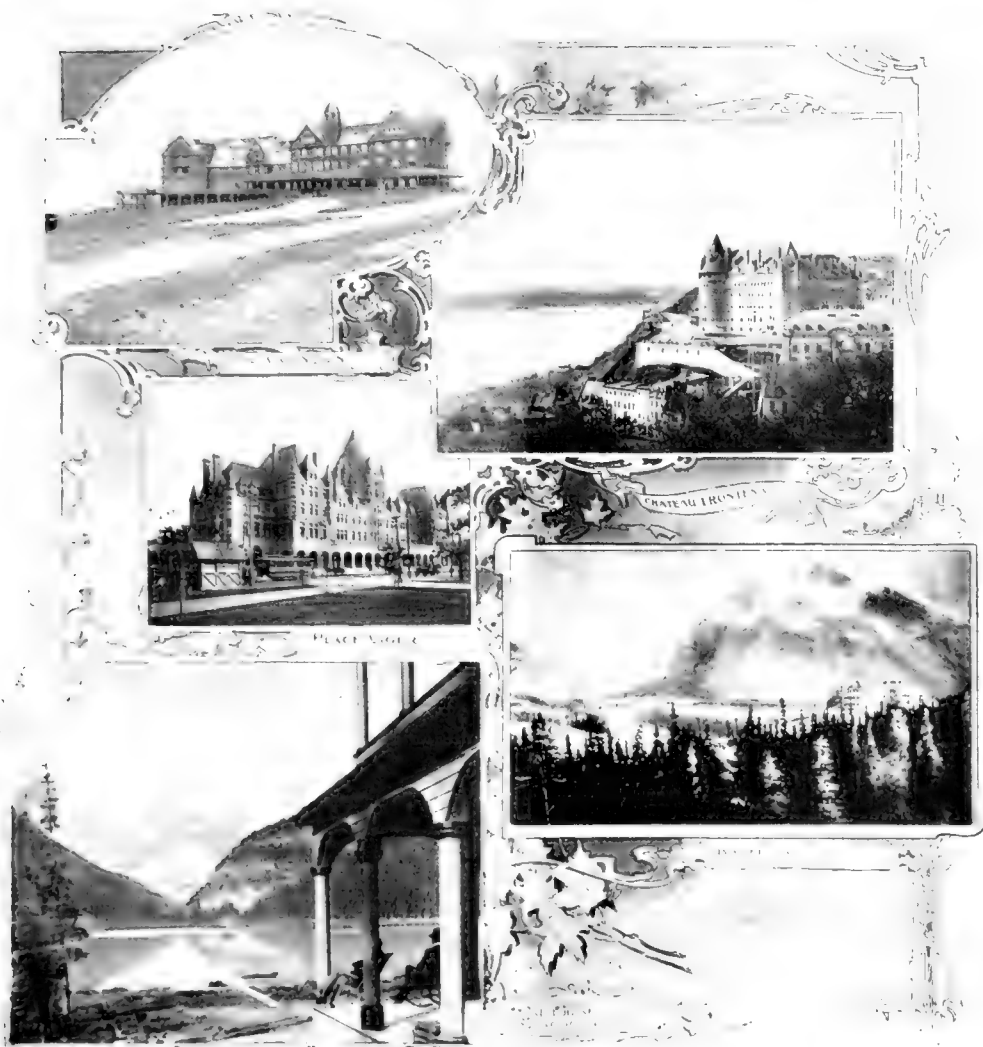


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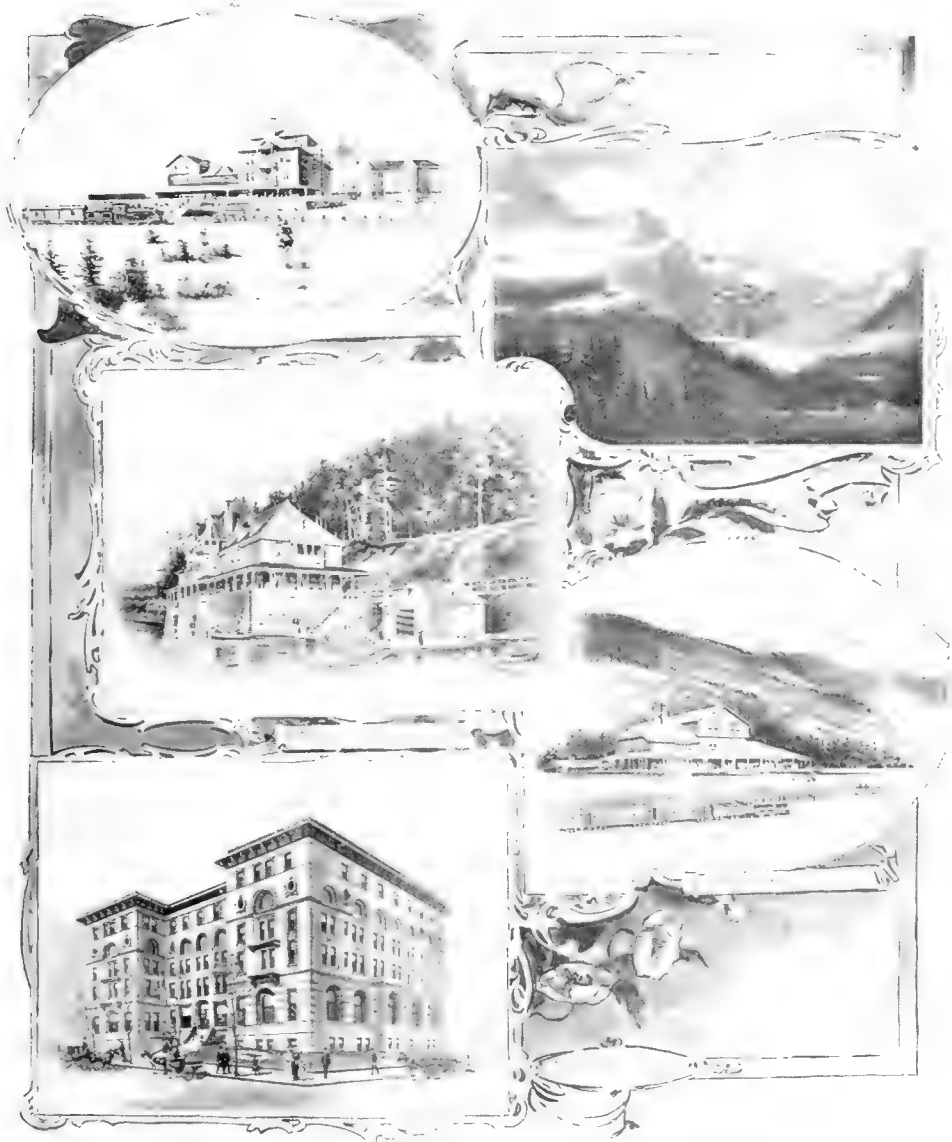


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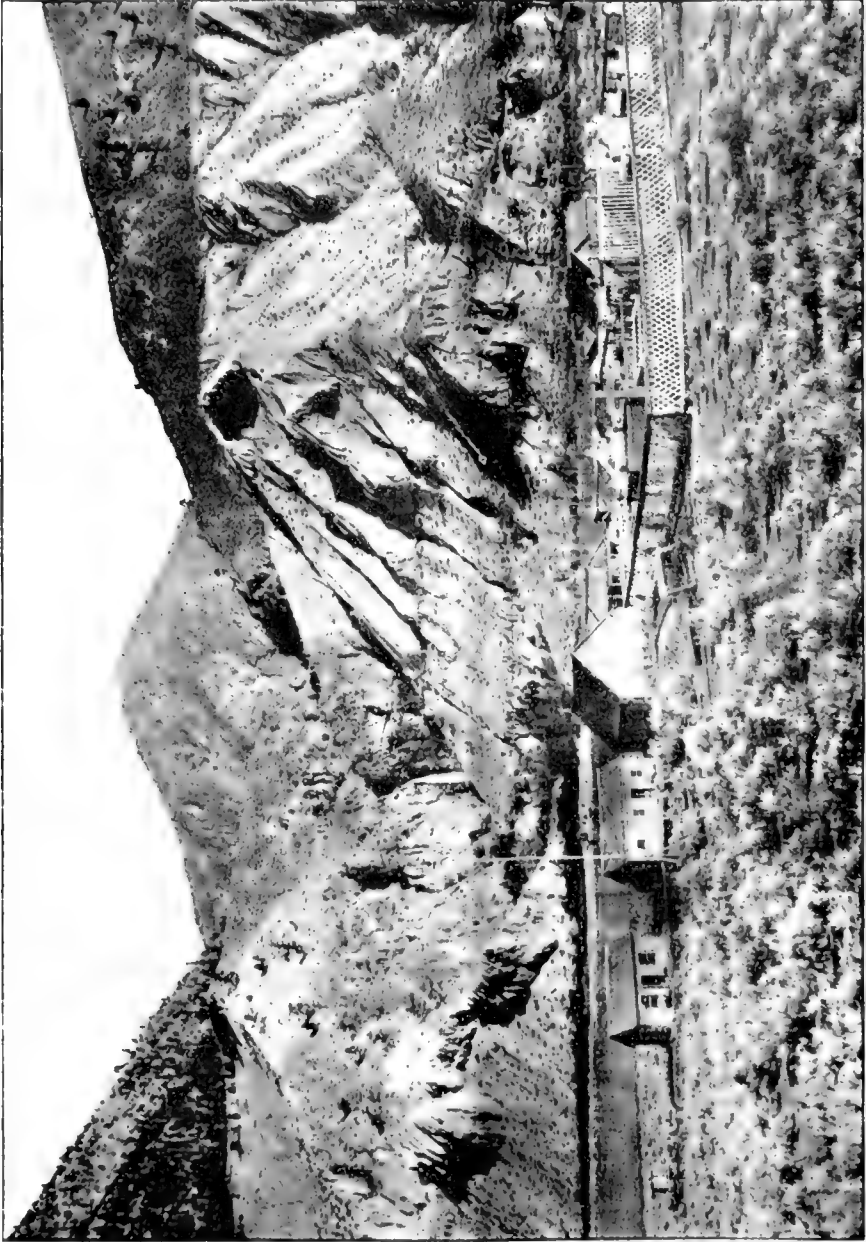
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AN INDIAN VILLAGE.
This view was taken near Spence's Bridge, B.C.

ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, JULY, 1903

No. 2

Over the Selkirks on Foot.

BY ARTHUR O. WHEELER.

I had just read Sir Sandford Fleming's charming book, "England and Canada, a Summer Tour between Old and New Westminster," and, in previous years, had made several trips over the C. P. R. from the Canadian Capital to the Coast. The outcome was an intense desire to travel over the railway route through the mountains, on foot, and attempt to picture nature's strongholds, as yet untrodden by the foot of man; likewise, the early days of railway construction, when the stillness of the virgin solitudes was first broken by the shout of the surveyor and the echoing ring of the axe, as the path for the iron horse was being gradually picked out and forced through the trackless forests filling the deep gorges lying between the snow-clad mountain summits.

Fortune favoured me. I had received instructions to commence a topographical survey of the Selkirk Mountains adjacent to the line of railway and, in order to obtain some knowledge of the ground and formulate an effective plan of campaign, decided to go over the road-bed on foot and take in the salient features of the work.

It was advisable to go on foot, for the glimpses of fairyland seen from the train, the weather gods being propitious, are far too fleeting to leave much scope to the imagination. The necessary arrangements were soon made—a leather knapsack, containing a change of clothes, a pair of field-glasses, an

aneroid barometer, Paddy, and my dog, Fritz. Paddy was a cow-puncher, young, active, clear-eyed and a nice boy. Fritz, a black setter, who had been a constant companion in camp on many a trip.

We arrived at Banff one Sunday morning early in June. By the same train arrived Mr. Edward Whymper and staff, about to do the Rockies in the interest of the Canadian Pacific Railway Company.

With some timidity, I introduced myself to the famous mountaineer, who had first conquered the Matterhorn; a typical Englishman of medium height, smooth face, clear, sharp-cut features, steady blue eye, and mouth and chin of immense resolution and tenacity. One has only to see him to understand why, after seven failures, he reached the actual summit of the Matterhorn upon the eighth attempt. Mr. Whymper was courteous and friendly, introduced me to his assistant, Mr. Franklen, and the four Swiss guides in his employ; showed me his equipment and instruments and had the guides set up one of his specially designed Alpine tents.

Banff, the Beautiful! Thy glories have been said and sung in prose and poetry; and yet how feebly have they been portrayed. To realize, one must be there to see. From the summit of Tunnel Mountain, north, south, east and west, the landscape is glorious beyond description: mountains, forests, lakes, rivers, interspersed with golden

meadows and park-like prairies, seen in ever-changing colors as the sun rises and sets and the clouds shift to and fro.

However, Banff was by the way. A day to see some old friends and on to Revelstoke, nestling in the Columbia Valley at the Western base of the Selkirks.

It was a glorious sunshiny day. Everything looked its freshest in the garb of early spring, for in these regions spring commences little before June.

The observation car, one of the features of the trains on the Mountain division, was well filled by sightseers and exclamations of delight and inquiries crowded one on the other, fast and furious.

Having been through the mountains several times and presuming upon the knowledge then acquired, I attempted to reply to some of the numerous questions, pointing out the prominent peaks and rare bits of scenery. Suddenly, I heard a voice behind me exclaim, *sotto voce*. "Ha! Another blooming Englishman, who knows it all from the guide book." Turning sharp round, I beheld a trim little chap in a leather coat, with spectacles and a felt slouch-hat turned up at one side, gazing into vacancy. Not being positive that the voice belonged to this person, I refrained from noticing the remark but, on reaching the Roger's Pass summit, he addressed me as follows; "Sir! do you know your heathen mythology?" Somewhat nettled by his previous remark, I answered shortly "Apropos of what?" "Well, sir! There are the Three Fates, Diana, Luna and Hecate" pointing to the Swiss peaks, now towering above us like creations of white sugar against the blue sky. "Pray, sir! How do you know?" I remarked. "Well, I ought to, I see them often enough, I am the resident engineer for this section." Laying the mythology of the section on the side as questionable, he turned out to be a first-rate fellow, introduced me to lots of people along the line and obtained for me much kind attention from the C. P. R. officials of the Division.

Over the summit and down the western grade at a glorious speed, the crowd enjoying themselves immensely and snapping their cameras at every

striking object or bit of landscape; though what they expected to get with the train moving from forty to fifty miles an hour, I do not know. This propensity for taking snap-shots from a fast moving train reminded me of a story told by a friend, who was somewhat of an adept with the camera:

He was standing beside a green-looking youth, who had been industriously snapping at everything under the sun as the train rattled along. "What have you got there?" said my friend, feigning ignorance. "Don't you know; that's a camera. You have only to turn a screw and press a button, and you get any picture you like. You see—taking out the roll and stretching a good yard of film in the brilliant sunshine—"they're all on that, and when I get home, I just give them to a photographer, and there you are, all the pictures you want."

Revelstoke is a pretty and well-ordered little town, although it did not always enjoy so enviable a reputation.

It is beautifully situated in a bend of the Columbia, a noble stream, from four to five hundred yards wide, dotted with green-clad islands shimmering in the distant violet haze.

To the east lie the Selkirks with their dense forests of pine and cedar, above which rise the bare, snow-capped summits of Mts. Mackenzie, Cartier and Clach-na-Coodin, and, at their base, like a black funnel against the rising sun, the shadowy depths of the gorge of the Illecillewaet. To the west are the less exalted summits of the Gold range, with its rounded snow domes and the Eagle and Jordan passes reaching into obscurity. To the south rises the majestic mass of Mt. Begbie, its glistening crest and shining glaciers glancing in the sunlight; and beyond, ice fields innumerable. The natives of Revelstoke tell, to the new arrival, a story of a certain prospector, who had wandered up to these glacial heights. He was heard of no more, until one day his body was seen imbedded at a depth of some twenty or thirty feet in the clear blue ice of the Begbie Glacier. Neither history nor the inhabitants appear able to explain how such a phenomenon came to pass.

The Hotel Revelstoke is a good house. It is owned by the C. P. R. Co., and ably

managed by a well-known caterer to the comfort of the travelling public through the mountains.

The day following our arrival, we ascended Mt. Mackenzie with two prospectors and camped for the night on a plateau, a thousand feet below the summit. It was Selkirk weather with a vengeance, and climbing through the wet brush and along slippery logs proved very trying and disagreeable. The summit is six thousand feet above the town of Revelstoke; we considered that we had done well to climb five thousand feet by one o'clock, and so set to work to make a comfortable camp.

It rained and snowed all the next day, but a huge fire in front of the tent made life endurable. The morning broke fine, though cloudy, and we decided to make the ascent in the hope of its clearing. A stiff climb over banks of snow, and up in the clouds to the top. There is an indescribable charm in climbing on snow, the more defined when the clouds are banked below and around you. It seems like fairyland, a complete isolation from everything earthly; and when, as in the present case, the stunted pines are hung with icicles, the erie feeling is much intensified. Arrived at the top, it was indeed fairyland; below, around, everywhere, white billows of cloud, tossing to and fro as on an ocean. Every now and then a break in some direction would disclose unfathomable depths—cliffs, crags, vistas of trees, farm houses, a town, (Revelstoke), a long straight streak, (the railway), snow-clad peaks and glistening glaciers; then, curiosity keenly aroused but unsatisfied, the billows would roll together and our straining eyes again gaze into vacancy.

On Sunday morning, a bright sunshiny day, we commenced the walk over the Selkirks, knapsack on back, with hearts light as feathers. Luncheon time found us beside a rushing mountain torrent, and devilled ham and pilot bread, washed down by ice-cold water, furnished a sumptuous meal. On again past snowy peaks, over rushing torrents and through giant pines; the scarred and ragged cliffs rising sheer, thousands of feet, from the mass of debris at their feet. It would have been bliss but for the endless monotonous track. Arrived at Albert

Canyon, some twenty-three miles from the start, we put up for the night. Such a put up! It took all the poetry out of the grand day.

Having passed some hours at the mercy of the wild beasts with which the "hotel,"—God save the mark!—was infested, we rose early and, shaking the dust off our feet, walked six miles to Illecillewaet for breakfast, where we obtained a very fair meal and regained our good humor. Soon after leaving Illecillewaet, the snow-sheds are entered, the pleasant gloom and damp coolness after the blinding glare and heat of the road-bed, added to the trickle of unseen running water, had a most soothing effect. On, past the extremely picturesque but deserted mining camp of Laurie; on, between dense timbered slopes, so eloquently described by Sir Sandford Fleming, crossing and re-crossing the Illecillewaet on every form of bridge, we at length reached Glacier House, having, alas for the sum of human resolutions, done the last five miles by freight train and so missed a close inspection of that triumph of engineering—the Loop. But, as a celebrated American humourist truly observes, "How can a man write poetry when he has the toothache," and we had been tramping ties all day. What a change! We found ourselves, suddenly, in the lap of luxury; white napery, attentive waiters, pretty flowers, hot baths, a smiling hostess, romantic surroundings, picturesque Swiss guides, soft beds and—oblivion. "*O tempora, O mores!*"

Next morning—a beautiful day—we rested. Lunch at 11 a.m. Then, with two of the guides, Edouard and Carlos, I ascended the great Illecillewaet Glacier and Mt. Lookout.

It was quite exciting as a first experience. We trudged easily up to the foot of the glacier through heavily-timbered woods and across the terminal moraine of piled rock, boulders and other debris; then up some snow slopes and so, on to the ice. Here the ground became treacherous and caution necessary. The guides stopped, adjusted their putties, looped a long rope around each waist, with a distance of twelve or fifteen feet between, lit their pipes, gripped firmly their ice-axes and proceeded onwards.

The danger lay in the crevasses—cracks reaching transversely across the glacier, varying in width from one to twenty feet or more, often without perceptible bottom. One moment you stood on the brink of a black gulf, lined by walls of blue ice, and away below in the darkness could hear rushing water; the next you were scaling a steep snow-slope and resting for breath at the top; an imperceptible streak on the crusted surface and Edouard would plunge his axe to the head in vacancy. Above the ice-fall the crevasses are often choked by snow, and on this account more dangerous. Arrived at the slopes of Mt. Lookout, the rope was discarded, but again adjusted on reaching the crags. An hour's climb, but little dangerous, brought us to the summit. ||

I freely confess the view surpassed anything I had yet seen. On all sides immense snow-fields and glaciers; valleys and gulches, thousands of feet below, dwarfed by the very immensity of the surroundings, seemed almost at hand; streams, like glistening silver threads, wound their way through masses of dark green timber, the roar of their cataracts hushed by the depths at which they flowed; above, snow-girt peaks and towering rock crags; while, capping them all, rose the sharp pyramid point of Sir Donald. Even as we looked at the great monolith, a rush of snow broke from near its top and thundered in a white cascade far down into the valley below. Woe betide the luckless adventurer caught in that rush. It did not look very great in the distance—probably two miles—but the roar that shortly came, reverberating among the peaks, spoke for its volume. The scene was awe inspiring and instructive. It was a memorial ground of great men, the living and the dead; Sir Donald (Lord Strathcona), Mt. Macdonald, Mt. Tupper, Hermit Mountain, the Swiss Peaks, Rogers Peak (after Major Rogers), Mt. Sultzter (in memory of the first ascent of the Swiss Peaks), Cheops, Mt. Abbott, Mt. Green, Mt. Bonney, Mt. Dawson, Mt. Deville, Mt. Swanzy, Mt. Macoun, all in grand and lasting array; Mt. Donkin and Mt. Fox (after well-known Alpine climbers, who lost their lives in the Caucasian mountains). It was a les-

son worth the learning, and one that remains indelibly impressed.

There is no time on these immortal summits. The sun rises and sets, the snow falls and melts, and the silent, gentle clouds wrap them in slumber, that's all—one moment of ecstasy and it was time to descend.

A descent is the reverse operation of that known as an ascent; and yet, the method is so different, that it deserves some slight description. For example: An inviting snow-slope reaching right down to the *névé*, or snow-field above the glacier, presents itself, tilted from the horizontal at an angle of sixty degrees. "Ha!" exclaims Edouard, "Dat make goot glissade." Instructions are given me to sit down on the snow and, at the word, let myself drop into space. I reflect that as we are roped together, it is no worse for me than for the others, so do as I am told. A little push from Edouard and I plunge into Carlos' back, or would have, had he been there, but he wasn't; instead, he was flying down the slope, apparently sitting on nothing, and I came flying after him. A warning call from Edouard, "Keep your feet up! Keep your feet up!" came too late; my feet caught in the snow, my ice axe stayed behind, a frantic effort to retain my equilibrium and I am careering down the incline, head first, at fifteen miles an hour. A whoop from Edouard as he digs his heels into the snow, plunges his ice-axe to the head, ditto Carlos, and everything is a whirl of flying snow, legs, arms, ice-axes, hats, caps and general anatomy; all of which, at length, becomes motionless, suspended by a rope around Edouard's waist, while on either side of the stoppage two moving streams of snow go sizzling by. Alpine climbers call this "*a glissade*." A full grown, properly matured glissade is devoid of several of the features that crowned my first attempt. A series of more successful efforts, some of which are accomplished standing up, take us to the bottom of the glacier. A short tramp over rocks and through deep pine and hemlock woods brings welcome recollections of awaiting supper. A refreshing bath and change of clothes adds zest, and a voracious appetite does the rest. Oh,

bliss! a pipe of fragrant tobacco and to dream it all over—and what a dream! Words fail me, but I no longer wonder that there are mountain climbers.

During my absence Paddy had not been idle. He had been teaching the remaining guides to throw the lariat, so that they might rope tourists who should be unfortunate enough to fall into a crevasse, and thus haul them out. In return he had learned to swear gently in Swiss. His cowboy hat was looped up at one side by a button made from the horn of the chamois—*a la Swiss guide*—and similar buttons were distributed over his attire. His general appearance was that of the hardy mountaineer, who had just completed a term at cow-punching.

The following morning we were up at 2.30 o'clock to do Sir Donald, the "Star Peak." Had breakfast in the "ordinary"; three guides in attendance; lunches galore; cold meats, bottled tea, oranges, not forgetting a small flask of Scotch, everything, in fact, that the most excellent of lady-managers could conceive as vital to the expedition. Mrs. Young is perfect at arrangements of this sort. We stepped outside to start; Edouard scanned the horizon; Karl shook his head; Carlos imitated "Br'er Rabbit" and said nothing, but looked wise. Finally, to my disgust, we went back to bed, having put the ascent off until the morrow. They said Sir Donald was dangerous at this season, and the weather looked ominous. The morrow never came. Three intentions were frustrated, and finally we shouldered our knapsacks and started East along the track for Beavermouth.

This day excelled all others. The forenoon's tramp lay over and through snow-sheds and snow-sheds and snow-sheds. Travelling on the train, one exclaims, "Drat the snow-sheds!" You get a peep and then are in darkness and smoke. On foot, you exchange the heated track and glare of the sun for the delightful damp coolness of the tunnel. What wonders of engineering they are! As the eye runs over the network of huge beams and girders, it comes in your mind, "Can all this combination of strength be required?" The answer is not far to seek. Immediately

upon leaving Glacier the path for half a mile lies along the top of the sheds. Here may be seen huge blocks of rock, weighing tons, upon and below the sheds. Imagine one of these striking the little cockle-shell yclept "an express train."

Glancing upwards, the long green lines of alder bushes, choked at their base by rock, earth, giant tree trunks and all manner of debris, readily explain the reason for the apparently enormous strength of the structures. Each shed is equipped with two or more hydrants, fire hose, telegraph and telephone communication, and a perfect system of water-works runs through them all. Indeed, as we passed, one was still smouldering from a recent fire, caused probably by a spark from some engine.

Down the Beaver river to Beavermouth, various items of deep interest present themselves, chiefly the Cascade near the mouth of Bear Creek, and some beautiful steel bridges spanning mountain torrents. One, that at Stony Creek, is three hundred feet above the torrent it overlooks. Standing to one side while a train is crossing, you marvel to think that a thing of such gossamer appearance could hold up the iron horse and its dependent trail.

Near Beavermouth the river is contracted by jutting crags until it passes through a gap, barely thirty feet wide. The rock strata are tilted nearly vertical, and the whole has the appearance of a gateway, which could, if necessary, be barred by dropping a stone slab in front of it; but what a slab it would take! As in the case of the avalanches, the forces of nature are not to be measured by the puny structures of man; and though they may, by the application of skill and science, be temporarily broken and saddled, or, to use a western ranching term, "be gentled," they are liable at any moment to break loose with a roar of indignant fury and sweep the flimsy structures out of existence. When this occurs, the havoc created can often never be repaired. The moment of fury exhausted, nature again assumes her smiling blandness, rubs her eyes and exclaims, "Dear me! what did I do? You brought it on yourselves, don't you know!"

Beavermouth, by supper-time, brought a delightful trip to an end.

Little has been said of the wonders of the actual summit and the route down Bear Creek ; the great steeps and precipices of Mt. Macdonald, scarred and seamed in every direction by the paths of avalanches and rock-falls ; the towering crags and pinnacles of Mt. Tupper, with the many surrounding snow-fields and glaciers ; and of the deep, dark gorge followed by the railway, between the two. Description, at its best, is feeble and commonplace in the face of these great wonders of nature. You must be there to realize. If you have a holiday at your disposal, first read the work of Sir Sandford Fleming, mentioned above, and

the Rev. William Spotswood Green's "Among the Selkirk Glaciers"; then go and see for yourself. Attempt to picture this great factory of the world as they found it. Go farther, and picture it as seen for the first time by white men. All honor to men like David Thompson, Dr. Hector, Sir George Simpson, Walter Moberly and Major Rogers, who first entered these wilds in the interests of some of the greatest projects the world has known. It will be neither time nor energy wasted on your part, and you will be the more keenly alive to the great charm of the books referred to ; for it is by the simple earnestness of men like these that the great wonder of it all is brought home to you.



The Stocking of Inland Waters with Black Bass.*

BY S. T. B.

(Concluded from the June issue.)

The most convenient way to distribute the fish, where there is a steamboat plying on the lake or waters to be stocked, we have found to be from a scow towed alongside a steamboat. Upon the scow are placed a sufficient number of tanks or barrels to conveniently hold the fish without crowding. Flat-bottomed boats, where these can be obtained, answer admirably. For carrying fish, ordinary washtubs (new, of course,) are considered much better than cans or pails, as more can be carried at a time. A few inches of water should be placed in the tub. In transferring the bass to the water, we place a dozen or so, as may be desired, in a tub and dump them quickly, but carefully at suitable spots. This plan we find preferable to depositing with dip nets, as the fish are not so likely to become separated. We know the parental instinct is very strongly

developed in the bass, and why not the social habit and other domestic qualities also?

Discretion is, of course, exercised in regard to the waters which are being stocked. The department has been criticized somewhat for placing bass in a certain lake which at one time had been inhabited by speckled trout, on the ground that it should have been restocked with trout instead of bass, or the trout remaining therein given the protection which would have resulted in their increase in due time. The waters referred to are waters which are being extensively visited by holiday-makers. They were clamoring for fish. The residents desired that we stock with fish that would re-establish themselves in the shortest possible time, and afford sport during July and August. They said : "There may be trout in the lake, but we

* From the Fourth Annual Report of the Department of Fisheries of the Province of Ontario.

cannot get them ; we want a fish that will bite during July and August, otherwise people will not come here ; let us have bass." The council of the municipality unanimously appropriated a sum to assist in the work, realizing its importance, and bass were accordingly put in.

Of course, we did not approve of putting bass into streams or small bodies of water which are inhabited by brook trout, or in waters where there would be a possibility, however remote, of restoring the trout fishing ; but in large bodies of water, several hundred acres in extent, in which the trout are practically exterminated, and which we wish to stock with the greatest possible expedition, I claim that bass are the proper fish. The opponents of bass may also be too apprehensive with regard to the effect on trout which the stocking of large bodies of water with bass will have. Henshall, in his "More About the Black Bass," says : "The black bass gets the best of other game fish, not by devouring the fishes themselves, but by devouring their food. For this reason, more than any other, they should not be introduced into the same waters with brook trout."

I should like to mention that I am acquainted with a gentleman who has a fishing preserve in Muskoka, in which he tells me he has trout and bass, and that they are thriving equally well ; that the trout are not only holding their own, but are increasing rapidly. He showed me last season three trout taken in his preserve which measured $19\frac{3}{4}$, $19\frac{1}{2}$ and $18\frac{3}{4}$ inches respectively, the largest of which weighed three pounds. He had frequently, he said, opened bass to ascertain upon what they were feeding, and had never in a single instance found a trout. The food consisted principally of crawfish, minnows and perch, which abound in these waters. The preserve comprises three hundred acres. There are no screens to prevent the trout and bass from intermingling. I have also been told that in some of the lakes along the St. John Railway in Quebec bass and brook trout have naturally and always co-existed.

There are some who look with contempt upon the black bass as a game fish. Indeed, I remember hearing a delegate

at the Montreal meeting say that a man would not be seen going up a back street in his country with a string of bass. There are many, however, who consider the bass quite the peer of the brook trout. Henshall speaks of the salmon as a king, the brook trout as a courtier, and the black bass, "in his virescent cuirass and spring crest, as a doughty warrior whose prowess none can gainsay. He is plucky, game, brave and unyielding to the last when hooked. He has the arrowy rush and vigor of the trout, the untiring strength and bold leap of the salmon, while he has a system of fighting tactics peculiarly his own. He will rise as readily to the artificial fly as the salmon or the brook trout under the same conditions. I consider him, inch for inch and pound for pound, the gamiest fish that swims. The royal salmon and the lordly trout must yield the palm to a black bass of equal weight."

Parker Gilmore, an English authority, whose writings appear over the *nom de plume* of "Ubique," and whose statements on sporting subjects are received everywhere without question, has this to say of the black bass : "I fear it will be almost heresy to place the black bass on a par with the trout, but I am bold and will go further. I consider he is the superior of the two. He is equally as good as an article of food, is much stronger, and is untiring in his efforts to escape when hooked." Many other recognized authorities might be quoted to the same effect.

It is not, however, the purpose of this paper to discuss the relative merits of the trout and bass as game fish. I have myself been a bass fisherman for many years, and I have enjoyed to the full the exciting sport it has always afforded, for in our cold waters the bass are most active and vigorous. I have also whipped the far-famed Nipigon, which many have declared, and properly so, to be the finest trout stream in the world ; and I should not like to say that the black bass is the peer of the trout as found in the Nipigon. But I think I have supplied testimony sufficient to satisfy the most exacting sportsman that if the waters of Ontario are not being stocked with the gamiest of fresh water fishes, we are

introducing the next best, and certainly one which none can honestly despise, and the only one, I may say, which, under existing conditions, we are able to utilize, as the Government has at present no brook trout hatcheries, and no resources upon which we can draw for trout.

I shall not attempt either to discuss in detail what appear to me to be the relative advantages and disadvantages of stocking in the manner which we have been adopting, and that of pond culture and the introduction of the fry. Each, no doubt, has its advantages in some respects, and each its drawbacks. Indeed, I think that better results could be attained where practicable by a combination of the two. Especially would this be so in the case of small lakes and rivers, where a full carload would not be required, and to which a can of fry could be readily dispatched; and there are a great many such places in this province. The work could probably also be carried on to a later period. But it is gratifying to us to know that the success of transplanting the parent fish has been demonstrated wherever they have been introduced. As I have already intimated, lakes which were stocked some few years before a department was established, now afford excellent fishing; and those into which bass have since been introduced are said by our officers to be literally swarming with the young of these fish. But pond culture would appear to be yet in the experimental stage, judging by the reports of States which are propagating in that way, and I have, therefore, refrained from recommending any appropriation for the construction of ponds until the results of pond culture appear more certain. Michigan, I suppose, has more nearly solved the difficulty than any other State. But even from that State I have a communication in which the writer says he has for twenty years or more given the black bass considerable attention, and that the result of his own experiment, and what he can learn from others is, that he is not enthusiastic on the subject of raising black bass for stocking other waters, for many reasons, one of them being that a given number of adult fish will not

produce one-half as many fry in artificial ponds as in the wild state. They spawn too late in the season, in artificial ponds, to be of any use. The fry must be planted before they are properly weaned, or as soon as they begin to eat, as the young bass do not take kindly to liver or other artificial food, as in the case of brook trout. There are many other reasons equally good on which to base the statement that all that has been accomplished in the experiments is to demonstrate the necessity of giving the black bass the necessary protection during the spawning season. I firmly believe that Dame Nature has done about everything that can be done for them."

In lieu of the construction of ponds, I have thought of recommending the experiment of screening off small areas at appropriate points on the shores of lakes which we are desirous of stocking, and placing therein a few breeders. The fish would then spawn naturally, and without disturbance, the parent fish could be removed when desired, and the fry when old enough could swim out into the lake. The mesh of the screen could be fine enough to prevent the encroachment of other fish, and strong enough to withstand the force of the sea. The cost would be a mere bagatelle. At the end of the season, the screens could be packed away for use again. An almost unlimited number of pens could be so erected. I have never heard of the experiment being tried, and I should like to hear an expression of opinion as to the idea.

I do not know that I need relate to a gathering such as this the manifest benefits which will accrue to the whole community from having our inland waters well stocked with game fish. It goes without saying that every dollar spent in the work will be returned to the people manifold by the thousands of persons whom good fishing will attract.

The recently inaugurated work has been confined to those waters where tourists have congregated in largest numbers, and where the drain has been heaviest; but it may be extended until all our suitable waters are in a condition to afford the greatest amount of pleasure to the angler. This, of course, cannot



W. G. C. MANSON.

A well known British Columbia hunter and guide.



"A BIG ONE."

Fraser River Indian with a tyhee or spring salmon he has just caught.

be accomplished without an active public sentiment to uphold the department in requiring a strict observance of our laws. To promote the creation of such a sentiment, we have encouraged the formation of anglers' associations, as it is believed that these may exercise a

potent influence in that direction. But our legislation prohibiting the taking of bass with nets, and their sale, will, no doubt, prove the most effective safeguard for their preservation. It has greatly removed the incentive to take the fish illegally.



Hiawatha Land.

BY I. M. SLUSSER.

If any one doubts the Indian's love of the beautiful in nature let him spend a month in these northern woods and waters. No one can go in and out among these shadowy channels with their everchanging, many tinted shores, now piled high in rocky grandeur and seamed by storm and frost; now creeping gently to the water's edge in deepest green; again offering a panorama of rocky hill and darkening glade to tempt the explorer; the whole hushed and silent as when "the morning stars sang together"; and not feel his whole being thrill with awe and adoration. Who shall say that the superior development of the Ojibways, their high sense of honor and the sacredness in which they hold all family relations is not due somewhat to the influence of the scenes of their chosen home. When nature spreads a picture of such surpassing beauty it should be easier to look up into the wide sky and say "Our Father."

Human nature has its practical side, if not its ideal, and Indian nature is no exception to the general law. There may be other places on this topsy-turvy earth where game is as plentiful, where lake and stream yield as fine bass and where the business of decoying this gamy fighting fish offers as much pure pleasure as does this region adjacent to Desbarats. If there are such the American Indian never found them, but having found this one he showed his good sense by staying there. Here is one place

where nature's supply has always been in excess of the demand. Here at Desbarats canoeists gather by clubs, and pairs and singles. For into this region a man may go alone, secure in his skill with paddle, hook and line. Never a lover of Cooper who has not mourned the disappearance of the age and condition that could produce a Hawkeye. Yet here is a land rivalling anything Cooper ever saw—and scarcely more than twenty-four hours ride from the great centres of commerce and civilization.

The Indian has put his stamp upon everything in this wonderful country. Push your canoe out into the water at Desbarats. Before you and near you, and just beyond you lie the Nipissing River and Lake, the Mississaga River and its chain of lakes, Timagami, Timiskaming, Monjamagosipi, Obabika, Metabetchewan, and so on in a limitless musical line. All within reach of your canoe, and with just enough portages to give a balanced physical exercise. Think of a canoe trip of a hundred miles. A hundred, yes, twenty-five hundred miles have actually been travelled by the Hudson Bay officials. From Lake Huron to the Pacific, and from Lake Huron to the Atlantic have been often travelled by canoe. And the record is not yet closed. Ah! it is hard even to stop talking about it.

When the Ojibways became acquainted with the poem of Hiawatha it at once

became to them a kind of national anthem, a voice from the past, now precious because so faint and far away. So when the white man came among them with the proposal that they make Hiawatha their own, that they bring back to their people and their children something of the pride and glory of the old national life, they entered upon the undertaking with enthusiasm.

Without the help of their faithful white friend, however, they could have done very little. Many of their ancient customs and modes of dress had become but a faint memory in the minds of the oldest of their people. To restore perfectly these ancient customs agents went to Washington and made a most thorough and careful study of the Indian collection at the Smithsonian Institute. So that Hiawatha given by these Ojibway Indians is not only a display of the patriotism of the present generation, but a faithful picture of the dress and customs of a very remote past.

In the beautiful but little known "North Channel" of the St. Mary's River, "Pauwating," the Ojibways still call it, a spot was chosen for the enactment of a dramatized form of Hiawatha. Hither the daughters of the poet came, in 1900, to witness the first public effort of these children of the forest. A cottage was built for them on an island near by, which now is, and always will be, known as "Longfellow Island." Longfellow is the popular poet of the entire English-speaking race. Hiawatha Camp and Longfellow Island are on British soil. It is on the Canadian shore, not far from the little hamlet of Desbarats (pronounced Deborah), a point long known as "Kensington Point" has been rechristened "Hiawatha Camp." Here a lodge has been built for the accommodation of guests, and here the play is given. The Indian village occupies the near back ground.

About fifty feet from the shore a little island has been levelled and transformed into a stage. There is no retiring room, no curtains, nothing to mar the naturalness of an Indian camping ground "in the forest primeval." The shore opposite has been fitted up with rustic seats under a canvas canopy and makes a natural amphitheater so delightful that

to sit there amid the silence and expanse of primitive forest and rippling water seems like a dream of fairyland. Over many of the rustic seats big, handsome robes of moose, deer and bear, are thrown—the trophies gathered from many an eventful day by Mr. Armstrong, the manager, and his faithful ally Mr. Linklater, the famous moose hunter and genius of the Lodge.

Last year the play was given every day from July first until the first of September. When we were there in August, the playing seemed so enthusiastic, so wholly absorbing, that we remarked upon it and were told that it was always so.

"Never once has the interest seemed to flag," said the genial host and manager, "when the season opened they once played to an audience of three strangers, but every part was sustained as perfectly as you saw it to-day."

It hardly seems a play to the forty or fifty full blooded Ojibways who carry the parts, but rather the living of the old life over again. Indeed the play of Hiawatha occupies very much the same place in the minds of this ancient race that the Passion Play holds in the minds of the peasants of Oberammergau. And Hiawatha (or Desbarats) Camp may yet become the Oberammergau of America.

To attempt to describe the play seems both futile and presumptuous, and yet it is so wholesomely delightful, so inspiring, that one cannot help wishing to extend the knowledge of such a pleasure. Fortunately for the public the company is being managed by persons who are in thorough sympathy with the Indians.

When the play opens the stage is empty save a handsome wigwam at its western end. A slow, blue spiral of smoke curling upward from a high cliff near by is the first sign of life to the waiting audience. Soon from all sides the warriors begin to gather. Canoe after canoe cuts its way through the water; some come on foot and some on horseback, and the gathering throng glare at each other with menacing looks and actions as they wait expectantly to find out the meaning of the signal to gather together. Suddenly from a distance a voice rises in a slow, pleading melody, and the Great

Spirit is calling to them in Longfellow's beautiful words—

“O my children! my poor children
Listen to the words of wisdom,
Listen to the words of warning,
From the lips of the Great Spirit,
From the Master of Life who made you.”

They listen in wondering silence, and one after another drop their weapons and draw nearer together. At the words—

“Bathe now in the stream before you,
Wash the war-paint from your faces,”

they with one accord step to the front of stage, and, stooping, wash together in the clear water that ripples along the edge of the platform. The peace-pipe is lighted by an old Indian who was born on the site of the city of Chicago when there was nothing but a trading post, tepees and “the dew and damp of meadows” to mark the spot, with flint and punk, as in the olden times, and the whole company sit in a circle and solemnly smoke the pipe of peace. The pipe used is one of great historical interest.

While the Indians smoke, old Nokomis appears at the door of the wigwam singing a lullaby to the infant Hiawatha swinging in his linden cradle. Nokomis is a fine character—strong, tender and motherly—and the melody she croons as she hangs over the sleeping babe seems like the breath of the night wind in its even cadence.

The Ojibway language is used throughout the play (Hiawatha has been translated into Ojibway) save when the Black Robe, the missionary, speaks to them. But an acquaintance with the poem enables one to easily follow the acting, and Mr. Armstrong sends an explanatory sentence occasionally from his megaphone.

Following the lullaby the child's grand-parents, Nokomis and Iagoo, teach the boy Hiawatha how to use the bow and arrow. The warriors are much interested and every lucky hit is greeted with loud cheers. Dancing is another important part of an Indian's education, and so skillful is the little fellow that the audience adds round after round of applause to the cheers of the braves. The drum which furnishes the time for all

the performance is said to have been used at Queenstown Heights in the war of 1812. A deer skin rattle—a bit of dried deer skin filled with pebbles—one of the oldest musical instruments on the American continent, and the slow chant of the singer who handles the drum completes the orchestra.

Great consternation is in the camp when Hiawatha announces his intention of seeking his father, Mudjekeewis. Not only Nokomis, but the old chiefs, seek to dissuade him. Putting them all aside, he steps into his canoe and, taking up his paddle, speeds swiftly out of sight.

In his absence the tribe pursue their various avocations quite unconsciously, polishing weapons, dressing skins, etc. To beguile the time Pau-Puk-Keewis is asked to sing his laughing song for them. Pau-Puk-Keewis is the only actor who is not an Ojibway. He is an Iroquois and a handsome specimen of perfect physical development. He has a voice that would be worth a fortune to any manager, and his acting is beyond criticism. But his laughing song is something that cannot be described. Long before he is through the audience is convulsed, and frantically calls for more.

In a small promontory to the left and some distance from the stage is the Land of the Dakotahs, the Falls of Minnehaha (a life-like canvas done in oil and partly hidden among the trees) and the tent of the old arrow maker. Hither Hiawatha comes, after being seen several times in the forest background, and lays the deer he has killed at the feet of the lovely Laughing Water. The acting here is unusually good. Hiawatha would be a handsome man anywhere. He is of the royal family of the Ojibway chiefs, and bears the marks of his high character in his face. Minnehaha is a pretty little Indian maiden, with a round, sweet face framed by heavy black braids of hair. She is richly dressed in embroidered deer-skins—the beautiful colors that the Ojibways have for ages used so effectively. With unconscious grace she brings “the bowls of basswood,” and, dipping them in the clear water, offers refreshment to her guest. Then, entering the wigwam, she sits just within the door, while her father discusses with Hiawatha affairs of interest.

We felt from the first that there was a delicate touch of the reality in the lingering of the guest over his errand; the peculiarly confiding manner of Minnehaha.

“Neither willing nor reluctant,
As she went to Hiawatha,
Softly took the seat beside him,
While she said, and blushed to say it,
I will follow you, my husband,”

we were not surprised therefore to learn that they were betrothed lovers. It was a pretty concession to the audience, that Hiawatha should lead his bride along the pebbly shore just before us, and they never failed to receive a hearty burst of applause.

The welcome which the Indians give to the returning Hiawatha and his bride is both noisy and enthusiastic. Nokomis has decked her wigwam with some very handsome pieces of Indian work, and the softest rugs are brought out in honor of the occasion. At once the festivities began. At once but without haste; nothing is done in haste. There is no stage manager, no cue is sounded, but one part follows another with the utmost ease and naturalness.

“Then the cunning Pau-Puk-Keewis,
He the handsome,
Danced the Beggar's Dance to please them.”

Indian dancing is at once the admiration and the despair of all who see it. The Ojibway foot is small, and they dance in their deer-skin moccasins. But their feet slip and glide in and out in the most difficult steps with an ease and lightness that scarce disturbs their lithe swaying bodies. Hold the feet close together and try to glide around a room keeping time to the measured *tap tap, tap tap, tap tap* of a drum, and see what kind of work it is. And yet Pau-Puk-Keewis, who weighs perhaps two hundred pounds, does this and many other equally difficult steps with apparently as much ease as did the little Hiawatha.

Following the Beggar's Dance are others shared by all the actors. Even old Nokomis, whose weight must be more than two hundred, and her husband, who is eighty-six years old, join the dances and keep step with the same even lightness.

Perhaps the Indians themselves are conscious of their skill in this pastime. Calling one day at the wigwam of Nokomis, who speaks very good English, I was invited within. Iago, who was busy putting the finishing touches to an arrow, presently took up his precious old drum and crooning the usual accompaniment began the *tap tap, tap tap*, which is the only system they ever use. Immediately his daughter took the floor and entertained me for five minutes in a most artistic manner.

The bridal dance, which Hiawatha and Minnehaha dance together, is very pretty and full of stately grace, and again we catch the same tender meaning in eye and hand.

Gambling, or games of chance, was ever a human weakness, and these ancient brethren of the forest seem to have had their fair share. “The cunning Pau-Puk-Keewis” seems at his best here, so much so that one cannot help a fear that this splendid creature might easily become a wreck—the victim of his own magnificent but misguided strength. Indeed the gambling scene in intensity and excitement may be said to be the climax of the play. The players kneel, facing each other upon the ground, and the juggling goes on by means of three moccasins, under one of which a stone is hidden. Pau-Puk-Keewis wins one after another of the handsome furs that are put up, and at last the boy, which his frenzied opponent reluctantly stakes. This is plainly an innovation which the warriors find it hard to permit, and they withdraw to discuss it in savage groups and with averted faces. Pau-Puk-Keewis meanwhile struts offensively up and down the stage, and presently fills the measure of his misdeeds to overflowing by frightening Minnehaha and old Nokomis into screams of terror. Not only Hiawatha, but all the warriors throw themselves into a mad scramble to catch the defiant fugitive,—and here the acting is very real. The Indian is thoroughly at home in a chase, particularly a canoe chase, and it may be doubted whether any other set of men could work so hard and make so little speed as these Ojibway warriors do in the next ten minutes. The water is thrown from their paddles in a white

spray that seems to drench them, and their frantic cries fairly rend the air. But the lone canoe outstrips their united efforts, and Pau-Puk-Keewis disappears among the trees. As the panting runners dash past the audience, the perspiration is seen streaming from their faces, the veins on their temples stand out full and knotted, and every nerve seems quivering in the intensity of their rage.

Pau-Puk-Keewis manages to show himself occasionally in most difficult places, always flinging back new shouts of defiance. At last he springs into full view at the very top of the cliff and throws back at his followers derisive peals of laughter. Again he disappears, and when the baffled warriors reach the spot he is seen changed into a beaver and making off from the shore below. It is a moment of intense excitement. Howls of rage roll down from the cliff, and the most daring of the pursuers leaps from the rock into the water—a sheer fall of more than thirty feet. A thrill of horror runs through the audience but in a moment he reappears and battles with the transformed monster. He kills Pau-Puk-Keewis in the form of the beaver.

Just how Pau-Puk-Keewis manages to appear next on the stage without so much as the turning of a feather is one of the mysteries. But he comes up serene and smiling, and Hiawatha forgives him and restores him to his place in the tribe.

The story telling of Iagoo, "He the marvellous story teller," is perfect proof of what can be conveyed by tone and manner. Ojibway is quite unintelligible to the average listener, yet there was no doubt of the largeness of the stories that were being told nor of the derision with which they were received. Credulity has never been a strongly marked quality of the Indian mind, but ridicule seems to be a highly developed trait.

When it is remembered that the drama of Hiawatha is not yet three years old, the wonder is not that anything should be lacking but that so much should have been done.

But it is impossible to give the full details of the play. Only one more scene can be touched upon,—the mystical departure of Hiawatha.

"In the glory of the sunset,
In the purple of the evening,
To the region of the west wind,
Of the north-west wind, Kee-way-din,
To the islands of the blest,
To the land of the hereafter."

Again his people gather around him to dissuade him. Very real is their sorrow. Dejection—almost despair—speak in every movement, every attitude. With face lifted to the glowing sky and hands outstretched in pleading prayer for his people, Hiawatha chants his farewell song. Mournfully it is taken up by the deep-voiced warriors as he steps into his canoe. From before him the water sweeps out in a wide silvery sheet that melts its way between the high shores of Campment d'Ours and Sapper Island. Breaking the long lines of light are two diminutive green isles buttressing their lengthening shadows before the western sun. St. Joseph Island lies along the horizon in the dim distance like a purple wall. This is what Hiawatha faces as he steps into his canoe; this is what the audience behind him faces; in all the glory of the waning summer afternoon. And then the singing, the solemn, tender, thrilling Indian melody, floating out over the water now from a score of deep voices, now that one lone voice speeding so mysteriously westward without touch of oar or breath of wind.

"And the evening sun descending
Set the clouds on fire with redness;
Burned the broad sky like a prairie;
Left upon the livid water
One long track and trail of splendor.
Down whose stream as down a river
Westward, Westward Hiawatha
Sailed into the fiery sunset;
Sailed into the purple vapors;
Sailed into the dusk of evening.
And they said farewell forever,
Said farewell to Hiawatha."

It is impossible to describe the sublimity of this closing scene. The place seems cut off from all common things. The deepening shadows of the forest behind, the shining expanse of waters before, the lone figure standing stately and solemn in the swiftly speeding canoe. In the pauses of the music the sighing of the pine trees can be distinctly heard, as if a vast silence waited sound. The voice of the singer dies away in the distance, and the canoe

is finally hidden from our sight by distance.

Never had play such a setting. Never had actors such splendid distances, such a glorious background. The picture stamps itself indelibly upon the mind of every beholder, a perpetual memory, odorous with the unnamable fragrance of pine and cedar and balsam, and shelving rock and shimmering water.

The melodies which the Indians sing are unlike anything known to the musical world. Mr. Frederic Burton, author and musical composer, has been studying their music for some time, and he says that, judged by the highest standards, Ojibway music must be admitted to a place among the classics. Some of their melodies he has harmonized and more of them will be. No doubt they will be sung by the finest

voices on the platform. But nothing can equal the effect of this chorus of untrained children of the forest in this farewell song. Perhaps it is the air here that gives the peculiar resonance, but their voices are carried out over the water with all the sweetness of deep toned bells.

The play of Hiawatha received a very liberal patronage during the season just past. In fact it may be considered a permanent feature of the Ojibway summer encampment, which for years,—nay for centuries—has gathered about the Lake Huron region in the neighborhood of Sault St. Marie. As there is and ever will be only one Passion Play and one Oberammergau, so there is and can only be one play of Hiawatha; that given by his friends and kindred in the land they love.



Terriers and Collies.

BY D. TAYLOR.

Strange are the whims of dog fanciers, but stranger still are the vagaries of fashion, which, as in everything else, dominates at intervals the popularity of certain breeds. One day it is the noble-looking Great Dane stepping in lordly style by the side of an aristocratic dame; the next it is the dainty little spaniel being led with a chain of gaily colored ribbon by his fond and admiring mistress. It is a true saying that "every dog has his day," yet there are certain breeds which seem to retain their popularity amid all the changes of fashion. What, for instance, so dear to the heart of an Englishman as the fox terrier? It is found with him wherever he goes,—whether on the burning veldt of South Africa or on the fertile plains of Manitoba, he is the faithful and loving companion of all his master's wanderings. The Irishman, again, dotes on the Irish terrier, which has all the best characteristics of the race—courageous, kind and true, withal a born fighter and willing to tackle anything, no matter what the odds against him. On the other hand the Scotchman's affections waver be-

tween the collie and the Scottish terrier, with the balance in favor of the former. The latter is, perhaps, a too faithful reflex of the recognized type of Scottish character—rugged and dour, but brave and dogged to the bitter end—to be altogether pleasing. But the little "die-hard" has qualities above all others which endear him to his master, and these are his sterling honesty and undying devotion. No matter whether the "commons" are long or short, he is always the same—steady, reliable, true and affectionate.

At one time the collie was reputed uncertain of temper and altogether unfitted for domestic life, but he has lived down that reputation, and for many years past has been a great favorite with all classes. The theory entertained by good authorities that the original domestic dog was a sheep-dog is quite plausible; but the shepherd's ally in early times must have been a very different dog from the sheep-dogs of the present day. Having duties of a different kind to discharge, in the way of coping with wild animals, they were

probably larger and fiercer, but in all probability less intelligent. There can be no doubt that, for breadth of intelligence, the collies, rough-coated or smooth, and the old English bobtail, are superior to any other breed. The poodle, for instance, displays greater aptitude for learning tricks, but for sound, practical common sense these dogs easily stand first. Their mental powers have no doubt developed from their intimate association with men in whose special craft the dogs are continuously employed. Under favorable influences the collie is a dog of high principle, but is, unfortunately, not more proof against evil communications than other dogs or—men. If led from the paths of rectitude to taste the joys of sheepworrying, the collie, by reason of his extraordinary sagacity, wreaks greater havoc among a flock of sheep than other dogs, and his cunning makes him much harder to detect. This extraordinary sagacity of the breed has also not infrequently been taken advantage of by men whose conception of the ownership of property was of a negative kind. In the good old days when sheep-stealing met with "short shrift and a long rope" numerous instances are recorded where the collie, unaided and unaccompanied, would enter a flock of sheep, detach a few of the best from the flock and drive them to a spot miles away from the scene of the depredation, where he would be met by his unscrupulous master and the result of the raid taken to the nearest market town to be sold. Though naturally honest he was thus made, through devotion to his master, a participator in a dishonest act, the consequences of which, sad to relate, often resulted in his own destruction.

It is only within recent years that the rough-coated collie has become a fashionable pet, and he owes his social distinction to his good looks, for his smooth-haired brother, not one whit his inferior in intelligence, has not shared his good fortune. The collie is not quite so demonstrative as many dogs, but his beauty and intelligence atone for the lack of extravagant display of affection. Since he came into the fashion very high prices are reported as having been paid

for the ownership of dogs which have won distinction on the show bench. In some cases these fancy prices must be taken with a grain of salt, but still there are several well authenticated instances of large amounts being paid. Mr. Pierpont Morgan at one time gave \$7,000 for two, namely, Rufford Ormonde and Sefton Hero. Mr. Megson, of Manchester, England, gave £350 stg. for Caractacus when a nine-months' old puppy, and an American fancier, Mr. Mitchell Harrison, is said to have given Mr. T. Stretch £700 cash and two dogs valued at £150 each for Christopher.

The old English sheep-dog (or bobtail) is a totally different breed from the collie, and he holds the same rank in the southern counties of England that the collie does in Scotland. The drover's dog, as he is often called, is a dog of high antiquity and his wonderful intelligence affords another proof of the influence of hereditary occupation. Some authorities claim that this was the dog to whom the herdsmen entrusted the care of their flocks when the "tight little island" was principally primeval forest and "infested with wolves, bears and the lesser carnivora." However that may be, the modern bobtail is both staunch and courageous; he is not by any means a decorative animal, having the appearance when in full coat of an animated doormat, but his intrinsic merits are fully equal to those of the collie. The authorities are opposed concerning the peculiarity which gives this dog its name, some holding that the young were born without the caudal appendage, others insisting that the docked tail was thrust upon them. That the tails of dogs were cropped close under the cruel forest laws which at one time prevailed there seems little doubt, as a tailless dog is at great disadvantage in turning at speed when pursuing game; but, old as is the breed, the progeny of the bobtail are not invariably born without tails. Had the peculiarity been intermittent the difference of opinion in regard to cause could hardly have existed. The breed is only beginning to be seen in America, but as its qualities as worker and companion become known it will be better appreciated.

Our Horse Show.

BY C. J. A.

Horse Show week, with all its glamor and excitement, is ended, and every event, from the trial between the hunters to the children's little pony carts—in which failure to take a ribbon resulted in a flood of tears, was keenly contested and called forth deep interest.

The weather of this unusually beautiful spring was charming during the whole six days, and the number of those attending, although not as large as might have been desired, was uniform and fashionable.

There was the expected display of the perfection of the milliner's art, the choicest samples of exquisite tailoring, and the bewildering combinations of silk, lace, chiffon and sequins which go to make that charming mystery pronounced by reporters of the society columns—"a smart gown." The front seats of the boxes were filled with beautifully attired women, the brilliant effect being accentuated by the background of well-dressed men, forming rows of the strictly correct top hat. In some of the exhibitions the *tout ensemble* was highly picturesque, more especially in those where hunt costume was *en rigueur*.

To the lover of horses there is an intense gratification in being able to witness a gathering together of the best specimens the country affords, and a positive delight in following them around the ring, as they show themselves off to the best of their power, whether in harness or the saddle. Even to those who do not profess to have any special judgment of horseflesh, except in so far as it pleases the eye, an enthusiasm is awakened by the grace and excellence of the performers. It is evident that this is the case more especially where the exhibitors are local, as, even though personally unknown to the spectator, a certain pride is felt by him in seeing the cups and prizes won by citizens of our own city or province.

There is in human nature an innate love for trials of skill and excellence which calls for gratification, and in pro-

viding lawful means to this end a laudable object is attained. There have been times when unless blood was shed and human or animal life jeopardized, or even sacrificed, the popular taste was not satisfied, but ours is a different era, and, although in some countries, such as Spain and Mexico, there is still a remnant of this morbid desire, we happily do not share in the wish for this kind of sport. It is probable that there never has been a time when the culture of physical development was more universally understood and practised than in the present, and the public taste is therefore keenly alive to its desirability both in man and animals.

The horse is capable of arousing feelings of the most intense regard and admiration by his attractive qualities,—his intelligence, docility, sagacity, beauty of form, color and a certain companionship which man finds in him. Every man is not so fortunately circumstanced as to be the possessor of the animal himself, but there are few, if any, who do not look with pleasure at his performances. It is an enjoyment which the Horse Show offers to all, rich and poor alike, and is one of the few entertainments where both extremes of society can meet on equal terms. True, there are distinctions even here; there is the elegantly attired holder of the costly box and the man in the twenty-five cent gallery; but pleasure fortunately is not measured by what it costs, so that the enjoyment to the one in no wise surpasses that of the other.

The prophets of evil who predicted that motor locomotion meant the extinction of the horse's use and desirability find that their prognostications have proved as unfounded as the star-gazer who periodically promises us a comet that is going to restore us to the original atom. There never was a time when so much care and money were lavished on his culture and development as at the present day, and so much of the labor once borne on his willing back being now

This range is heavily timbered and an explorer or cowboy has to do a lot of trail cutting to get through.

IN THE SIKKIMS.





BISHOP'S RANGE.
One of the wildest scenes in the Selkirks. Photo by Mr. A. O. Wheeler.

performed by machinery results in his being kept for better purposes than mere drudgery, and the more this is attained the more opportunity is there for his development along the most desirable lines.

While the annual Horse Shows are growing in favor, there are a few conditions evolving which perhaps it would be well for their management to consider. It can be asserted with safety and certainty that the amateur performance always awakens a keener interest than those partaking of a professional character, and, while the good performance and appearance of an exhibiting animal is worthy of appreciation under any circumstances, there is a growing desire all over the country that the strictly professional and amateur ex-

hibits should not come into immediate competition.

If there were champion classes for those who have already won their spurs, and others purely amateur, it would result in greatly increasing the number of entries and stimulating local interest, which must not be allowed to flag.

Another matter which our own Montreal committee should consider is, that were the Arena open for ten days or two weeks before the exhibition, for the use of intending exhibitors, as in former years, it would result in more confidence among them and consequently better results. The judging was unquestionably the best that has been seen at any horse show in Montreal, and gave more universal satisfaction than in any preceding year.



In Old Ontario.

BY "CHATHAM."

The Canadian Pacific Railway, between London and the Detroit River, runs through a level country, yet one rich in game, and in the fall season, when the close season for quail is off, a hunter's paradise. Of the larger game the fox is the only representative left, and many a day's sport can be had during the fall and winter chasing Reynard. The game, however, to be relied on is quail. These birds afford the best sport of any of the feathered tribes.

The clearing of the land and cultivation of the farms have tended to an increase in the numbers of quail and rabbits. The former find the food they need in the cornfields, in the stubble fields and in the weeds that grow in summer fallow, and in sections that have been cleared but not cultivated. The grouse, too, is plentiful in the slashings south-west of Chatham, along the Lake Erie Division of the Pere Marquette, and north of Chatham in the vicinity of Wallaceburg and Dresden.

Quail are plentiful in all the western counties, namely, Essex, Kent, Lamb-

ton, Middlesex and Elgin. In Essex and Kent they can always be found in sufficient numbers to afford excellent sport. In these two counties they are wonderfully prolific, and eastern sportsmen think nothing of coming to Chatham for a few days and bagging 100 quail. Fair sport can always be had at almost any point more than thirty miles west of London. The dogs frequently point woodcock and grouse while the enthusiast is beating the coverts in pursuit of a bevy of quail he has flushed; while rabbits are exceedingly plentiful, and every quail-hunter expects to shoot more in a day than he is either willing or able to carry home.

Chatham is a good central point for the quail-hunter to locate. From this city he can reach the coverts of the quail by driving eight or nine miles or by rail. Accommodation can be secured at country hotels or at farm houses.

The law forbidding the sale of quail has been in force some years, and has done much in increasing the numbers of the quail. From Chatham the Lake

Erie Division of the Pere Marquette affords transportation to Eriau, on Rond Eau Harbor, where two hotels, the Lake View House and The Bungalow, afford splendid accommodation during the fishing and duck-hunting seasons. Rondeau Harbor was once the greatest resort for ducks in the country. The Eau and surrounding marshes are still the home of thousands of ducks in the fall, but they are wild; still, on good duck days, splendid bags can yet be made. There are plenty of quail in the neighborhood, too, and good plover and curlew shooting along the bar. The fishing at the Eau during the summer months is variable, but the finest black bass in Ontario are taken. The black bass of Eriau are famed amongst sportsmen for their size and gameness. In weight they range from four to six pounds, and a string of a dozen of these black beauties is considered a fair day's catch. Both large and small mouthed bass, pike, pickerel and maskinonge are secured. Taken altogether, Eriau is one of the best points for a holiday with rod and gun.

Below Chatham are the Lake St. Clair marshes, so frequently referred to by "Frank Forrester" in his works on shooting, but more appropriately dubbed the duck-hunter's paradise. These marshes and muddy plains are famous snipe grounds, and they can still support their name. Both in spring and fall, but more particularly the spring, wild geese stop here for a few weeks when on their way north, and the members of the many club houses that dot

the marshes have a try for a wild goose, and their success varies. Woodcock are frequently found in the wet cornfields that border the marsh, and, later in the season, in the dry thickets of the uplands, where the quail winter. Rabbits are everywhere. Good bags of snipe, quail, rabbit and ducks are made by one gun in a couple of days. Plover are always numerous, especially in the bright October days. About the mouth of the Thames and its adjacent creeks and marshes, and upon the St. Clair Flats are any number of ducks. The finest portions of these marshes are strictly preserved. Several splendid club houses have been erected on the preserves, and those who so desire may very often buy shares, and thus get fine shooting with every comfort. If the sportsman has good dogs, he can have an entire day of sport tending to the duck in early morning and in the evening, and the quail during the middle of the day. Fishing, both trolling and spinning with minnow or artificial bait, in and about Jeannette's Creek and Baptist Creek, and from the piers, at the mouth of the Thames, is good, the catch including black, rock and speckled bass, pike, pickerel and perch. This point is reached by steamer from Chatham, and you can camp upon the beach or find accommodation at the light-house.

At Mitchell's Bay, on Lake St. Clair, reached from Chatham by stage, there are two licensed hotels, good fishing, duck and quail shooting, and any amount of opportunities for a splendid outing.



"Many people are unaware that a forest reserve has been made in the Counties of Addington and Hastings, in Eastern Ontario, which is best reached from Kaladar, Mountain Grove and Sharbot Lake stations on the Canadian Pacific Ry., and Lavant station on the Kingston & Pembroke Ry. It is in a virgin state, having been fished and shot over very little. In his annual report Mr. Thomas Southworth, Director of Forests for the Ontario Government,

says: 'This reserve contains eighty thousand acres. It is full of game, including ducks and partridges, while in many of the lakes contained within its boundary the fishing is also excellent.' Sharbot Lake has a fair hotel and Lavant also has a hotel. At Kaladar arrangements may be made for teams to drive inland to Dr. Price's hotel on Massanaga Lake, near where there is said to be fishing for trout—brook, speckled and lake."

Doubtful Wisdom.

BY "FANCIER."

At the recent meeting of the American Kennel Club (or was it the Executive only?) a very important change was decided upon in regard to the rating of shows for points towards championship honors. Hitherto the method has been to allow points according to the actual number of dogs entered, not including local classes, namely, 1,250 dogs or over, five points; 750 dogs and under 1,250, four points; 500 dogs and under 750, three points; 250 dogs and under 500, two points; under 250 dogs, one point. This, so far as we know, has worked very satisfactorily, and was certainly an inducement to breeders seeking championship honors for their dogs to send entries to small shows even if only one point was to be gained. It also had a tendency to encourage the formation of kennel clubs in cities and towns where circumstances were against giving large sums as prize money. We have an instance of this in the case of Montreal, where two very successful shows have been held under A. K. C. rules with little or no prize money offered, except in the open classes, and yet the fact of it being possible to make three points towards a champion record was sufficient inducement for breeders and fanciers at a distance to enter their dogs. What effect the new rule will have upon the future of Montreal shows time alone will determine, but it appears to us that, if the Canine Association desire to have American dogs entered it will have to offer greater inducements than it has hitherto done, which means that the members must go deeper down into their pockets.

The new system of rating which, according to the resolution carried at the meeting, goes into effect August 1st, 1903, provides: "That at shows giving at least \$2,000 prize money in regular classes the rating shall be one point; at

shows giving at least \$2,500 the rating shall be two points; at shows giving at least \$3,000 the rating shall be three points; at shows giving at least \$4,000 the rating shall be four points; at shows giving at least \$5,000 the rating shall be five points." It will be readily understood by those who have had any experience in the running of dog shows how difficult a matter it is to secure the necessary guarantee fund for even a ribbon show in a city like Montreal, where those who take an interest in canine matters are mostly men to whom a ten or twenty dollar bill means something, and who cannot therefore be expected to assume risks in providing for the general public an exhibition that in many respects is of great educational value. What will it be then when the promoters have to guarantee \$2,000 in prize money before they can even get a one point show? It means that the class of people who are able to put up the money to guarantee this and other necessary expenses have not yet been enrolled in the Montreal fancy, and it also means a death blow to a great many small shows scattered through the different states of the Union. It looks much as if a few members of the A. K. C. desired to "corner" the dog show business, as the new rule is obviously in favor of such wealthy concerns as the Westminster Kennel Club and the Ladies' Kennel Club.

But the worst feature of the business is the suddenness with which the question was raised and the undue haste with which the motion was carried through. The question ought to have been submitted to the affiliated clubs and a reasonable time allowed to obtain an expression of their opinion, but in spite of an appeal for delay the mover insisted upon a vote being taken at once and it was rushed through with two only dissenting.



Canadian Forests and Forestry.*

BY MR. E. STEWART.**

Let us consider for a moment the tree itself and the manner of its growth. Dr. Fernow says: "Plants are made of various tissues and these are formed of cells. The material of which the cells are composed is largely carbon. This carbon is derived from the carbon dioxide of the air, which enters into the leaves and, under the action of light, air and water, is there decomposed; the oxygen is given off and the carbon is retained and, combined with water from the roots, forms starch, sugar, gum and other plant foods." Of the water thus taken up only a small part—less than one per cent.—is retained in the tree. The remainder is exhaled into the atmosphere, which is thus rendered more humid, this purpose, as well as the upbuilding of the tree, being served by the same process.

This is one of the great methods of distribution of moisture, second only to the evaporation and precipitation which in the tireless round of nature are drawing up the waters of the great oceans and carrying them over the land to descend as rain, hail, snow, etc. The greatest evaporation and precipitation will be where the largest bodies of water are situated. A good illustration of this is afforded by the large rainfall of the east and west coasts of this continent and also in the neighborhood of the Great Lakes, and the very light annual precipitation on the great plains of the interior, where summer droughts are constantly feared and where in many cases irrigation is necessary to plant growth. The precipitation is greater on mountains than on the low-lying land in the vicinity.

What object has nature in this process culminating in the deposition of moisture in great quantities at a high elevation? The evident object was to supply the great valleys with an even and perpetual flow of moisture, and, in order to do this, and prevent disastrous torrents at one time and droughts at another, she

weaves a network by means of the forests that in a natural state always grow on the mountain sides, by which a natural reservoir is produced just as we construct artificial reservoirs for our water in towns and cities.

In the forest the shade and consequent lower temperature and the absence of strong air currents retard evaporation, and the absorbing qualities of the forest floor are much greater, while the water is carried along the roots down deep into the soil. In this way a great natural reservoir is formed, whose outlets are the thousands of perennial springs and brooklets that evenly and continuously go to feed the larger streams and then again the great rivers of the country. Now consider the effect if this timber is removed. There is perhaps not much difference in the quality of water precipitated, but, instead of being absorbed as before, the greater part of it, being obstructed in its course, rushes down the mountain side in torrents, disastrous floods follow, often carrying away bridges and inundating fertile low-lying valleys, and carrying away alluvial soil down to the mouths of the streams, where it is deposited in great bars, there impeding navigation and annually entailing large sums of money in removing it.

As an example of the result of deforestation, take a large portion of Europe bordering on the Mediterranean in Spain, Italy and Greece, as well as large tracts in Northern Africa and in Asia Minor, where in the Middle Ages were to be found fruitful valleys and the homes of a prosperous rural population, but which to-day is almost a desert, where the inhabitants are reduced to beggary by the drying up of the country consequent on the denudation of the forest on the mountain sides.

In the United States and Canada the same forces are at work. The changes in this respect within recent years in the older provinces is very marked. The

* Contributed by the Officers of the Canadian Forestry Association.

** Summary of an address delivered by Mr. E. Stewart, Superintendent of Forestry, at the city of Quebec.

breaking up of the ice in spring causes great anxiety every year to those living along such streams in Ontario as the Thames, the Grand and the Moir, etc., and the great floods occurring annually in Pennsylvania are directly attributable to the clearing away of the forest in that mountainous region.

There is nothing that demands greater public attention at the present day than a wise policy regarding the preservation of a fair percentage of forest in the country, and especially at the sources and along the upper valleys of our rivers. Not one day should be lost by the provinces, as well as the Dominion, in setting aside timber reserves where necessary for this purpose and withholding from settlement the territory within their limits. This does not mean that lumbering operations should be prohibited, but that the forest should be maintained.

In this connection I would like to make a suggestion to the governments of the several provinces and to that of the Dominion as well, that in all future patents from the Crown of timbered land a stipulation or proviso should be inserted that at least ten per cent. of the area conveyed should be left in the forest, that the timber growing thereon should be the property of the owner of the land, but to be cut only under the direction and supervision of the Government.

Immigration is increasing and settlers should be directed to the land suitable for agricultural purposes, while those fitted only for timber growth should be retained in forest. This applies with special force to the sparsely-timbered lands of Manitoba and the North-West Territories. The husbandman of the plains no longer fears the summer frost half as much as he does the summer drought. The Riding Mountains, set apart as a timber reserve, form a great watershed and reservoir for Manitoba. Denude these mountains of their timber and the result would assuredly be disastrous to one of the most fertile sections of the North-West. The Assiniboine would be a raging flood for a few weeks in the spring, and after that—not a deluge, but a water famine would ensue. The springs, brooklets and wells would fail and we would no longer, as at present, look with confidence year after year

to the great Portage plains, and other districts as well, to produce rich harvests of golden grains. The east slope of the Rocky Mountains is not less important, and on the preservation of the forest in this case no less depends the wealth and fruitfulness of the great District of Alberta.

Neither the use of other material for structural work or for fuel has decreased the demand for wood. The manufacture of pulp and cellulose alone is now consuming immense quantities of spruce and other woods. The position of Canada in relation to the world's supply of timber is thus stated by Dr. John Nisbet, a high English authority:—

"It is a fact that, in the northern hemisphere, Canada is rapidly becoming the only country which can afford to export timber. The other countries which possess it in excess of their manufacturing requirements are Russia, Norway and Sweden. . . . The forests of Russia may for the present be regarded as commercially inaccessible. Norway and Sweden, which do export timber, are hardly able to support the deficiency of Germany. All other nations requiring timber of the sorts grown in the northern hemisphere must look to Canada for their supply."

Dr. Schlich, one of the best authorities in the world on the same subject, says: "The great standby for coniferous timber will be Canada, if the Government does not lose time in introducing a rational management of her forests."

I fear that the duty of the Government in regard to the management of national resources such as those of the forest is not realized to its fullest extent in this country. The wise forester is not one who desires to prohibit the cutting of timber, but it is in the interests both of the country and the lumbermen that this should be done on rational methods, and, above all, that the young growth should be preserved for future use. Of all the enemies that our forests have to contend with, the forest fire is the most destructive, for it kills both the mature timber and the young growth as well. It would be impossible to estimate the enormous loss that Canada has sustained from this cause, which might have been to a very great extent prevented by a system of

forest patrol and guardianship, such as is now being to a certain extent put in practice.

Of the many gifts bestowed by nature on the North American continent, that of the forests stands foremost. By wise methods, following the example set by

European countries, by India and more recently by the United States, Canada may preserve and utilize this great resource, while still increasing its value and productiveness and it is time that the question should be given its due share of the consideration of the public.



Forest Fires.*

The forest fires which have been so numerous during the months of April and May, and which have caused such great losses in timber and settlers' effects, certainly should demand some consideration to see whether any further measures can be taken to prevent their occurrence. No one will attempt to argue that fires are absolutely preventible in such a season of drought as has just been experienced but that their prevalence and destructiveness is due largely to the carelessness and indifference with which they are regarded in their initial stages cannot be doubted. When the fires became threatening they were fought desperately but often with little success and, as a last resort, prayers were offered for rain. The rain certainly came and the fires have been brought under control, but this will not repair the damage done nor replace the settlers who have lost their all in the position of comfort which they occupied before the advent of the fires. The fires, so far as reported, did not occur in uninhabited districts, and the losses to settlers have been mainly in organized municipalities and have been the result of fires started by other settlers for the purpose of clearing land. The American and the Canadian settlers have a poor reputation in this respect compared with colonists from Europe, and the fact that during such dry weather as has recently been experienced fires were set out by some in utter indifference as to the safety of the life and property of others, shows that, either by moral suasion or by stronger

measures, it is desirable that the necessity for greater care should be impressed and that means should be taken to restrain the criminally careless.

If those who speak with authority and influence as preachers or teachers, or in the public press, would urge upon those to whom they so address themselves the necessity for care in the handling of fire at a time when everything is dry and inflammable, much of the after efforts to relieve distress might be dispensed with. In the midst of a dry season, such as has just terminated, the setting out of a fire was nothing less than criminal. But even in a season when the conditions are not so extreme there does not seem to be any valid reason why a fire strip of sufficient extent to ensure safety should not first be thoroughly cleared around the brush heap to be fired. It would involve more labor, but such is the price of safety.

Inasmuch as May, and even April, proved themselves dangerous months for starting fires, it would seem advisable that the restriction on fires started for clearing purposes should begin at the 1st May. This is the regulation in Fire District No. 1 in the Province of Quebec and the Superintendent of District No. 2 has recommended that a similar provision should be made for his district, in which the prohibition now dates from the 15th June. A similar recommendation is made in the report prepared by the Forestry Commissioner.

The fire ranging staff is on the whole efficient, but the districts which some of

* Contributed by the Officers of the Canadian Forestry Association.

the rangers have to inspect are so large as to preclude any possibility of their doing effective work, and provision for a service which will be fully adequate should be made as speedily as possible.

It seems strange that the municipalities in which these disastrous fires occur do not take some steps to deal with the question. It is surely the duty of the council of a municipality to take an interest in the prevention of the destruction of life and property, and to see that the careless action of a few do not endanger others. An Act of the Province of Ontario, passed in the year 1889, provides that the council of a township may, on the petition of one-third of its ratepayers at its first meeting in any year, appoint by by-law not less than two resident freeholders for each polling subdivision to carry out the provisions of the Act, the persons appointed to be known as fire guardians and to hold office until the appointment of their successors. No person is permitted to set

out or to set fire to any brush heap or other combustible material in any field, clearance or place in such township, where the same would be likely to spread, between the 1st July and the 1st October in any year, without first having obtained leave in writing from one of the fire guardians. Such leave cannot be pleaded as an extermination of carelessness, but the absence of such permission shall, in any action, be deemed *prima facie* evidence of negligence. On application being made to the fire guardians they are required to examine the place and adjoining property, and either give or refuse the privilege asked for as in their judgment the safety of such adjoining property demanded. Very few municipalities have, however, taken advantage of this Act.

There is room for municipal action, and a provision such as that arranged for by the above cited Act would probably be welcomed by those who have suffered financially and otherwise by the carelessness of others.



The Mossy or Overcup Oak.*

Of the oaks the most commonly distributed in Canada is the Mossy or Overcup Oak, being found as far east as New Brunswick and westward, extending through Manitoba and even into Assiniboia. The oaks of Canada are not of the same species as those of Great Britain, from which were formed those wooden walls which through many years of stirring history were the bulwark of the nation's safety, and whose fame is enshrined in many a song and story. *Quercus pedunculata*, the tree having its fruit on peduncles or stems is the most useful and valuable of the British oaks, and the other species is known as *Quercus sessiliflora*, the acorns being without stalks or sessile. The Canadian oak mentioned obtains its common name from the fact that the rough thick cup is

fringed with a border of mossy points on the edge of the upper row of scales, and that it covers the greater part, and sometimes even the whole of the acorn. It is sometimes also known as the Bur Oak.

The scientific name is *Quercus macrocarpa*, the former being the classical Latin name for the oak, while the latter is a compound of *makros*, large, and *carpos*, a seed, in allusion to its large fruit. This genus belongs to the class of trees which produce inconspicuous flowers, the sterile being in slender green catkins and the fertile or fruiting flowers solitary or clustered, and appearing in spring, and its fruit, the acorn, is the chief distinguishing feature which differentiates it from all others. The species *macrocarpa* is of the class known as White Oaks, from the light color of their

* Contributed by the Officers of the Canadian Forestry Association.

wood. The twigs are winged or margined. The leaves are large, often on young trees attaining a foot in length, and are broad and rounded at the outer end, narrowing toward the base, with the margin deeply lobed or broadly sinuate. The lobes are in no case sharp or bristle-pointed, this being a characteristic of what are called the Black or Red Oaks. This is not, however, *the* White Oak of Ontario, although in some localities it bears that designation and is also sometimes known as the Blue Oak. The wood is heavy, hard, tough, and is the most durable of any oak when in contact with the soil, making it useful for piles, railway ties, &c. Its height varies from where in the West it is known popularly as "scrub oak" to locations in the East

where it will average about seventy-five feet, and it has reached even to twice that height.

This oak is remarkable as the only one whose adaptability is sufficient to enable it to flourish in Manitoba, but there it grows quite freely in all parts of the plains, some of the old trees reaching a diameter of three feet, while the forest was in many places largely composed of oak of eighteen inches in diameter. These trees were quite a source of revenue to the early settlers, being disposed of at prices up to fifteen cents a running foot, and there was then no fear of the timber inspector before their eyes. This timber was used for piling and bridge timber in the construction of the Canadian Pacific Railway.



Climbing Sulphur.

BY R. J. BURDE.

The first mountain climbing party of this season started a few mornings ago from the snow-covered summit of Sulphur.

A report that an ascent was difficult, yet not impossible, tempted a few adventurous pleasure-seekers from the United States who were guests at the Banff Springs hotel.

A climb to the summit of this mountain is one of the many delightfully exciting pastimes of the summer season, and as many as have made it have enthusiastically attempted to describe the experience. Grant Balfour, a well-known author, who was here last summer, has this to say of it:

"The climb is commenced at the Upper Hot Springs. At this point I met a party of four, a lady and three gentlemen, making the ascent on hardy ponies. Following them, I wound around a switchback bridle path that seemed to have no end. Up, up among the pines, then up, up among the hardier spruce trees, till sometimes I did not feel easy in looking down the steep slopes to the receding pine-robed valley far below. Taking a short cut, I got ahead of the

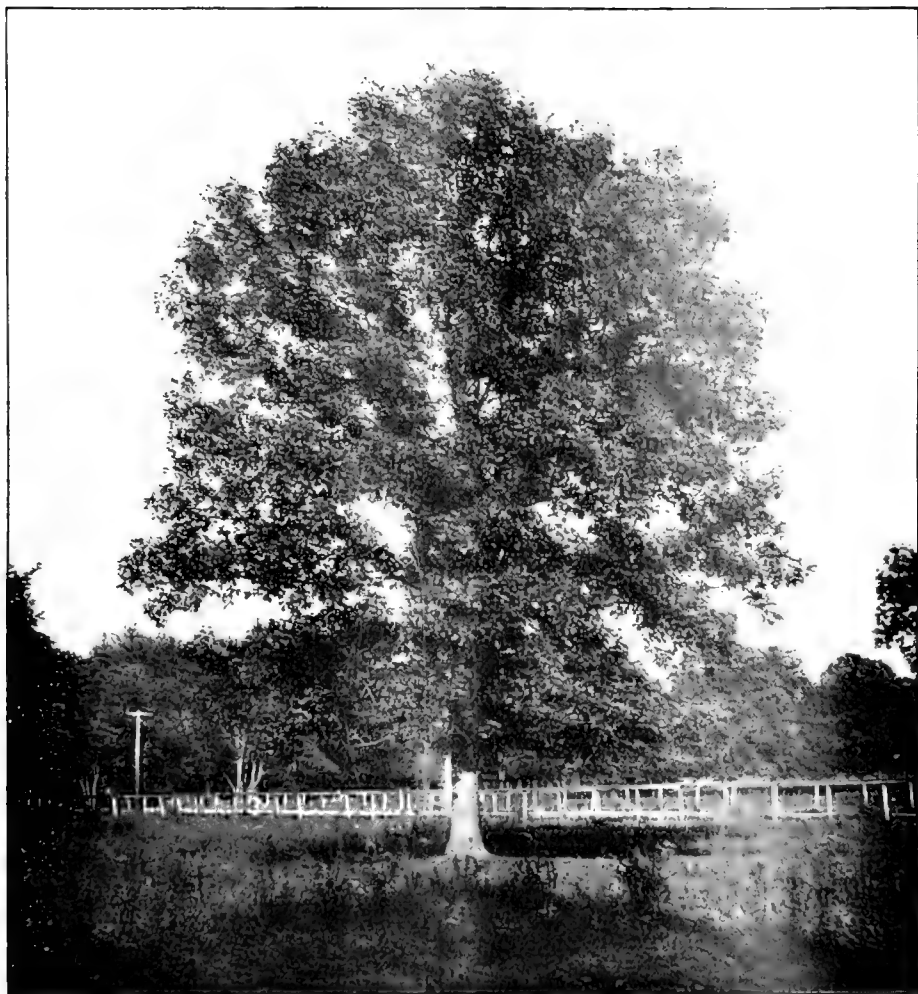
ponies at one stage, but they beat me at last. They were a little above me, when, the bridle path ending, I climbed the nearest peak. Two ponies were left behind on the bridle path till the return of the party. Walking over a bare rocky ridge to the right or north on the crest of the mountain, I scrambled up among the rocks and found myself, not among big horns or grizzly bears, but among courteous fellowmen.

"But what pen could tell of the vision all around, and of the sky above, where great glacier clouds hung in azure glory! It was one thing to see the mountains with our eyes looking up to limited outlines, grand as they are, from the valley beneath. It was another thing to stand up among the heights and to look across rugged ranges to ranges beyond, and from towering cones to cones beyond, as if we were on the broad prairie, with no limit to the herd of mountain tops but the far encircling horizon. What a billowy sea of snow-flecked peaks! It was delightful to survey them, yet not too pleasant to look down into the grand canyons on both sides of the mountain



SUMMIT OF SIR DONALD.

Taken by Mr. A. O. Wheeler, of the Dominion Topographical Survey.



MOSSY OR OVERCUP OAK.

Quercus macrocarpa is a tree whose chief virtue is its great tolerance of drought.

peak on which we stood. The rushing white falls of the Bow River on the north below seemed almost solid ice from our exalted point of view. The forests of the Spray Valley on the southeast, and of the Sundance canyon on the southwest, both forests spreading far up the mountain sides, appeared to be immense carpets of olive green plush. And this, perhaps especially, held the admiration of the lady of our party.

"But what language could convey to mind the grey granite-like metropolis of smokeless mountains, the boundless scene filled with the streets and towering mansions of the clear city of God! Oh, the unutterable silence of these waters; the stillness and the majesty, the delight, the loneliness, and the dread! Surely the Most High is not the human-like being of the kindergarten thought, but the Infinite, who fills yet transcends heaven and earth! Terraces and crescents all around, ranges near and ranges behind ranges far away. Peaks stretching out as if in skirmishing order, peaks lining up to peaks in imposing display,

and peaks compact, crowded, in solid phalanx, peaks predominating, countless. What an army of mountain peaks. What a marshalling of the hosts of God! The brilliance of the setting sun in the west, over exceedingly high mountains, grand, broken, dark! The gold-crested, snow-flecked cones, south to east! The sweep of light north to south and farther round, and the fulness of light among and all over the huddled, grey, giant cones southeast, far, far away. The great pall of shadow from the mighty Bourgeau range, down over the dark green forest of the Sundance canyon on my right, and a similar pall thrown down from Sulphur mountain on which I stood, down over the dark, verdant valley of the Spray River on my left, and up the slope of the majestic Rundle range! And now a contrast—the vast prairie and luxuriant fields of wheat gave the thought of the bounteousness of God. But here, flanked by canyon depths, and on a high crest surrounded by a sea of ranges and towering peaks, came the throbbing spirit of awe and dread."



Our Medicine Bag.

"Big Game Fishes of the United States," and "Bass, Pike, Perch and Others," are the titles of two recently issued volumes of the American Sportsman's Library, edited by Caspar Whitney, and published by the Macmillan Company of New York. The first was written by Mr. Chas. Frederick Holder, who has become identified with the big game fish—as he very aptly calls them—of the United States waters. We have all heard of the gigantic tuna of the Pacific Coast, and in this book will be found a capital account of angling for fish that weigh up to 251 pounds, which was the weight of one caught by Colonel C. P. Morehous, off Avalon. Perhaps the chapter that will appeal most to Canadian anglers is that on the "Chinook" salmon of Monterey, because later in the season those that escaped the California anglers find their way up the

Pacific Coast, and offer the same chances to Canadian anglers in the Straits of Georgia that they gave a few weeks earlier in more southern waters.

Dr. Jas. A. Hensall has made the black bass his special study; he is the author of the "Book of the Black Bass," and "More About the Black Bass," and now he gives us yet more about the black bass, and serves it up in such delightful style that we are by no means sure that we could not stand a fourth instalment. Almost all that is worth knowing about the black bass, from the ordinary angler's standpoint, is told in this book; and after an exhaustive discussion of black bass fishing, the author goes on to tell of pike, masalonge, dore and other delightful fish that we know so well in our own clear, cold Canadian waters. The other day, after reading Dr. Hensall's description of the masalonge, we

walked down to the bank of the St. Lawrence, and were fortunate enough to meet a friend who had just landed a 10 $\frac{1}{4}$ -pound mascalonge he had hooked within a mile and a half of the Montreal post-office. This was not a large fish, as mascalonge go; but then we have another friend who is prepared to swear that he was once either hauled into the water, or else *almost* hauled into the water (this detail is immaterial), by a mascalonge that he estimated at eighty pounds; and if any one doubts this story, the remnants of the canoe from which he fished may be seen any day by appointment.

These books are quite up to the high standard set by the previous volumes of American Sportsman's Library, and it will be good news for all educated sportsmen to hear that it is the intention of Messrs. Macmillan, the publishers, to thoroughly cover the field of American sport in the succeeding volumes.



Some little time ago we had our attention drawn to the fact that in the Windermere country in East Kootenay, British Columbia possessed one of the finest natural big game parks in North America, abounding in moose, elk, and big-horn. It was news to us that there were moose in Southeastern British Columbia, but our informant is something of a nimrod himself, and thoroughly acquainted with the country, says a writer in the *Victoria Colonist*. He was filled with righteous indignation at the way in which the game was being exterminated without any attempt being made to protect it, and told some almost incredible stories of wanton slaughter by Indians. He pointed out what is perfectly true that a big game preserve of this kind in which game flourishes if left alone is a very valuable provincial asset, and is growing more valuable every year, as big game is becoming scarcer in North America. Such localities should be most carefully preserved. Wanton destruction of the game should be prevented and regulations adopted which would make our game parks sources of great direct and indirect revenue to the province. It is rather absurd that when we are insisting all the time upon the

attractiveness of British Columbia to the hunter and tourist that we should allow one of its main attractions to be annihilated just as soon as it becomes generally accessible. We are not discussing the question from the sportsman's point of view, but from the commercial point of view. Not that the sportsmanlike point of view should be ignored, but because the commercial point of view appeals to a larger number of people. Few of us either desire, or are ever likely to hunt big game. But we should not forget that those who do enjoy big game hunting are generally men willing and able to pay for the gratification of their taste. The big game hunter is a source of revenue, and this country is not so rich that it can afford to neglect any source of revenue which can be profitably exploited. [We should like to hear more about these moose (?)—*Ed.*]



Dr. W. G. Hudson is a recognized authority upon rifle shooting; he has long been known as a safe guide for less experienced shooters. He it was who wrote the very valuable series of articles, that were published in "Shooting and Fishing," upon the "Krag," so that he probably needs no introduction to our readers. He has now written, at the instance of the Laflin & Rand Powder Co., a little work on "Modern Rifle Shooting from the American Standpoint." The object of the Rifleman is, of course, identical with that of the British or Canadian rifleman—to hit the mark, and in the main his methods do not differ from the methods of others who use the groovel barrel; but, with the thorough-goingness of his race, he has taken to the sport in a business-like way, and whatever he has learned has been set forth by Dr. Hudson in characteristically clear sentences. Few, if any, works upon the rifle have contained more "meat" than this little work. Copies of it may be obtained on application to the Laflin & Rand Powder Co., New York, if \$1.00 is enclosed.



Mr. Edwin Sandys is a well-known writer on outdoor sports, who has been for many years connected with "Outing." Usually he has written for the instruc-

tion and edification of the grown-up, but he now comes before the public as the author of "Trapper Jim," a book for boys. Few better books of its kind have been written than "Trapper Jim," and there is an astonishing amount of useful information of the kind to stir the blood of any male person between the ages of ten and—but we will not set any limit to the age in which boys, young or old, will be interested in "Trapper Jim." Jim is a fine, manly lad, who fortunately falls under the sway of a young man by the name of Ned; and what Ned does not know about sport is, apparently, hardly worth knowing. He naturally finds a willing and apt pupil in Jim, until, in the end, the pupil almost rivals his master; and we believe that any boy who studies these words of wisdom, which come to him from Mr. Sandys through the mouth of Cousin Ned, will know far more about shooting, fishing, taxidermy, trapping, and even sparring, than most men. The book is issued by the Macmillan Company, London and New York.

We regret to have to record the death of Mr. P. G. Laurie, of Battleford, Vice-President of the Canadian Forestry Association for the district of Saskatchewan. Mr. Laurie was not for a very long time connected with the Forestry Association, but he took a great deal of interest in its work. He was the pioneer newspaper publisher in Battleford, having gone in over the trail with his printing outfit, and has carried on the "Saskatchewan Herald" successfully since that time. This was a task of no small difficulty in a new and isolated settlement; and the fact that it was carried through successfully for so many years bears strong testimony to the energy and ability of its manager and editor. Mr. Laurie had reached a good old age, but it is regrettable that after having waited for so many years for the development of the Battleford district he was not permitted to see its full accom-

plishment, which will undoubtedly take place in the near future with the advent of a railway line.

"Camping and Canoeing" is the name of a very useful little book that has been written by Mr. Jas. Edmund Jones, B.A., of Toronto, and which bears the imprint of William Briggs, of that city. A good idea of the subjects with which it deals will be found by studying the table of contents. Among other paragraphs we find the following: What to take; how to carry a canoe; paddles, and running rapids. Mr. Jones has compiled a useful book, and any of our readers who take an interest in the things of the forest will do well to procure a copy. The price is not mentioned anywhere that we can find, which is a mistake; also, "Timagaming" is spelled "Temogamingue," which is also very bad.

"Brush, Stubble and Marsh," is the title of an illustrated pamphlet issued by the E. I. DuPont, de Nemours & Co. Not only is it printed in a manner to attract sportsmen, but there is a considerable amount of useful information between its covers; hints as to the localities in which to find the various species of game and water fowl are supplemented by particulars of the loads preferred by experienced men when seeking them. This pamphlet will be sent to any sportsman making application for it.

Labrador has an area of 516,000 square miles. It forms an immense peninsula, extending 700 miles between Belle Isle and Hudson's Straits, and stretching back 600 miles from its Atlantic seaboard to the head waters of James Bay. Its total extent is about twelve times that of New York State, and except on the seaboard it is absolutely unpeopled, save for a few wretched tribes of wandering Nascopee and Montagnais Indians, branches of the Cree race, woefully reduced.

The J. Stevens Arms & Tool Company of Chicopee Falls, Mass., have added to their line of double barrel guns, No. 260, which will be the same as the No. 250, except that it has twist barrels and lists at \$27.50. Also No. 270,

with Damascus barrels, taking at \$30.00 list. These are ready for shipment. They have also added to their line of single barrel guns twist barrels, which they will be able to furnish to special order, at a slight advance over blued barrels.

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

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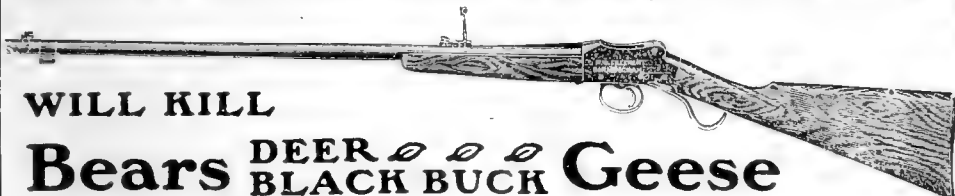
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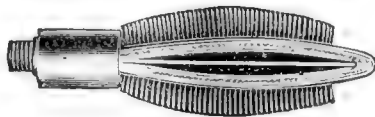
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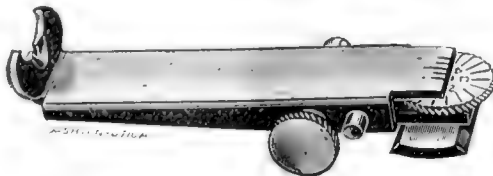
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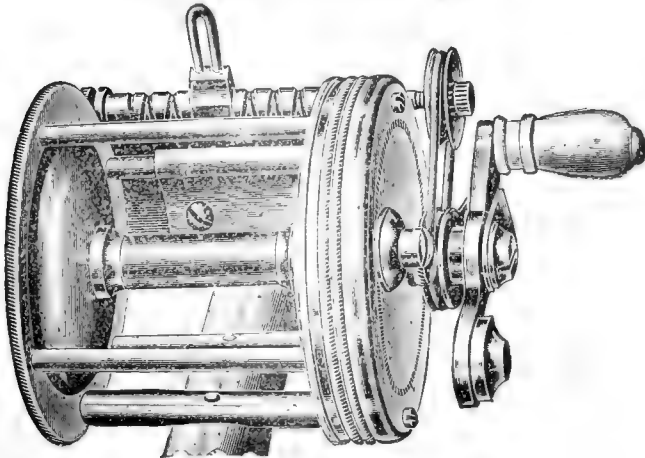
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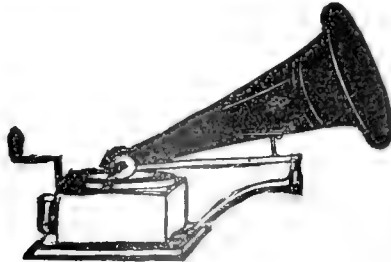
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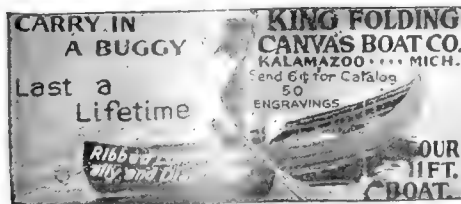
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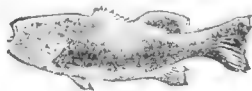
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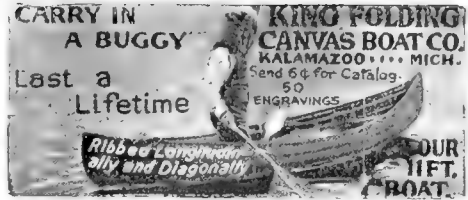
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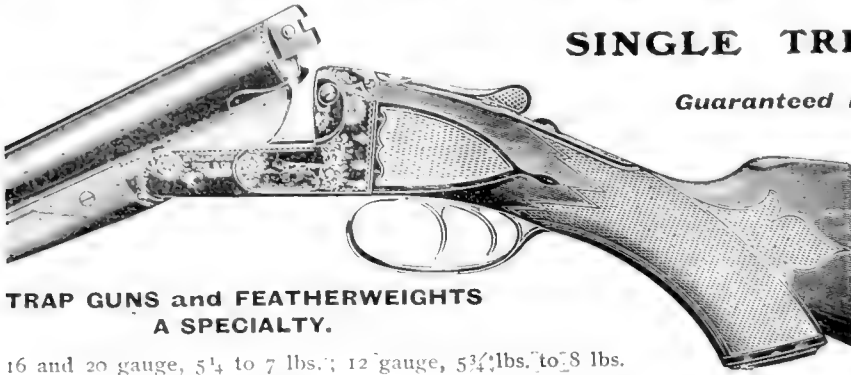
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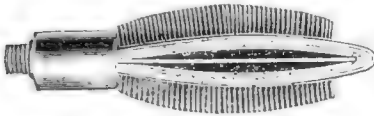


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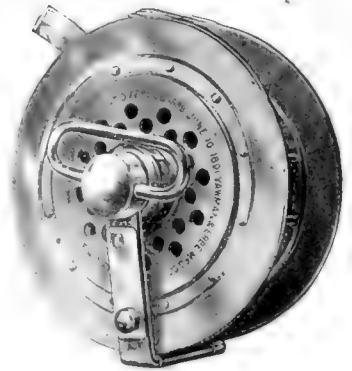
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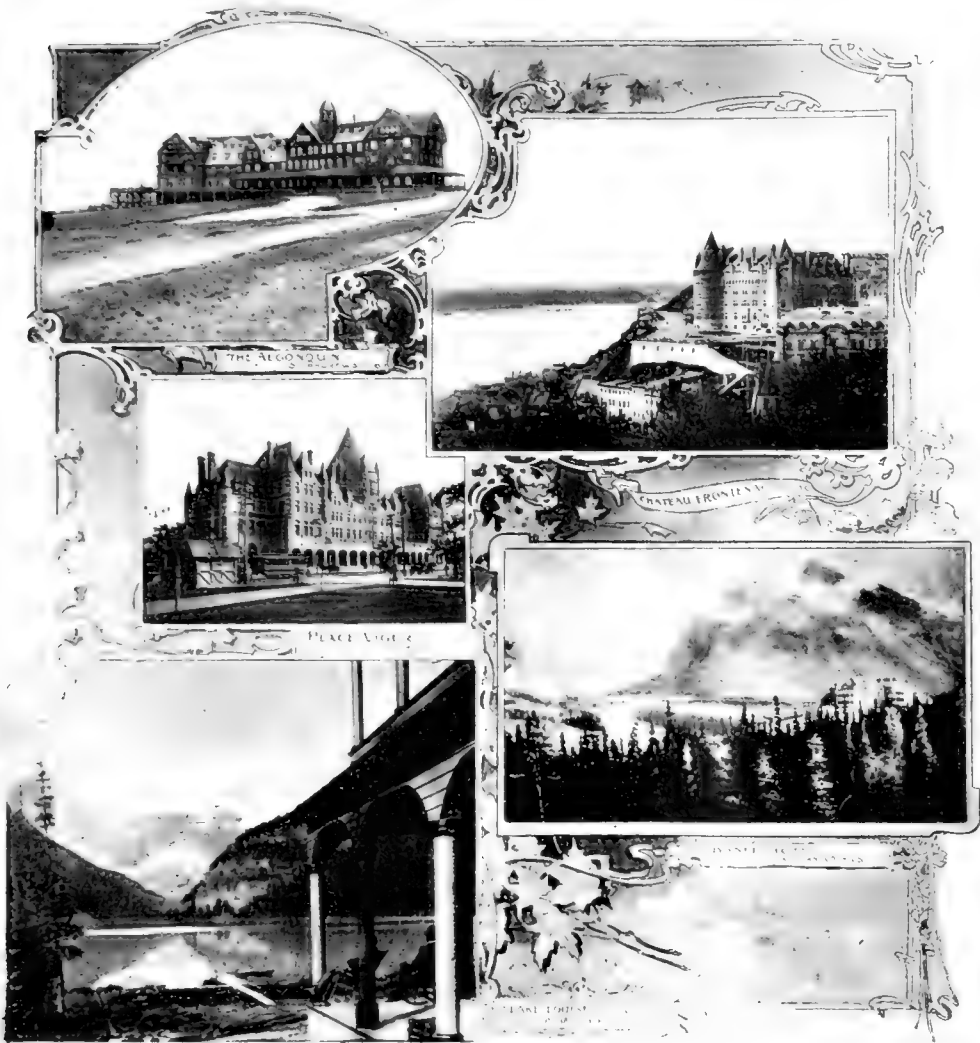


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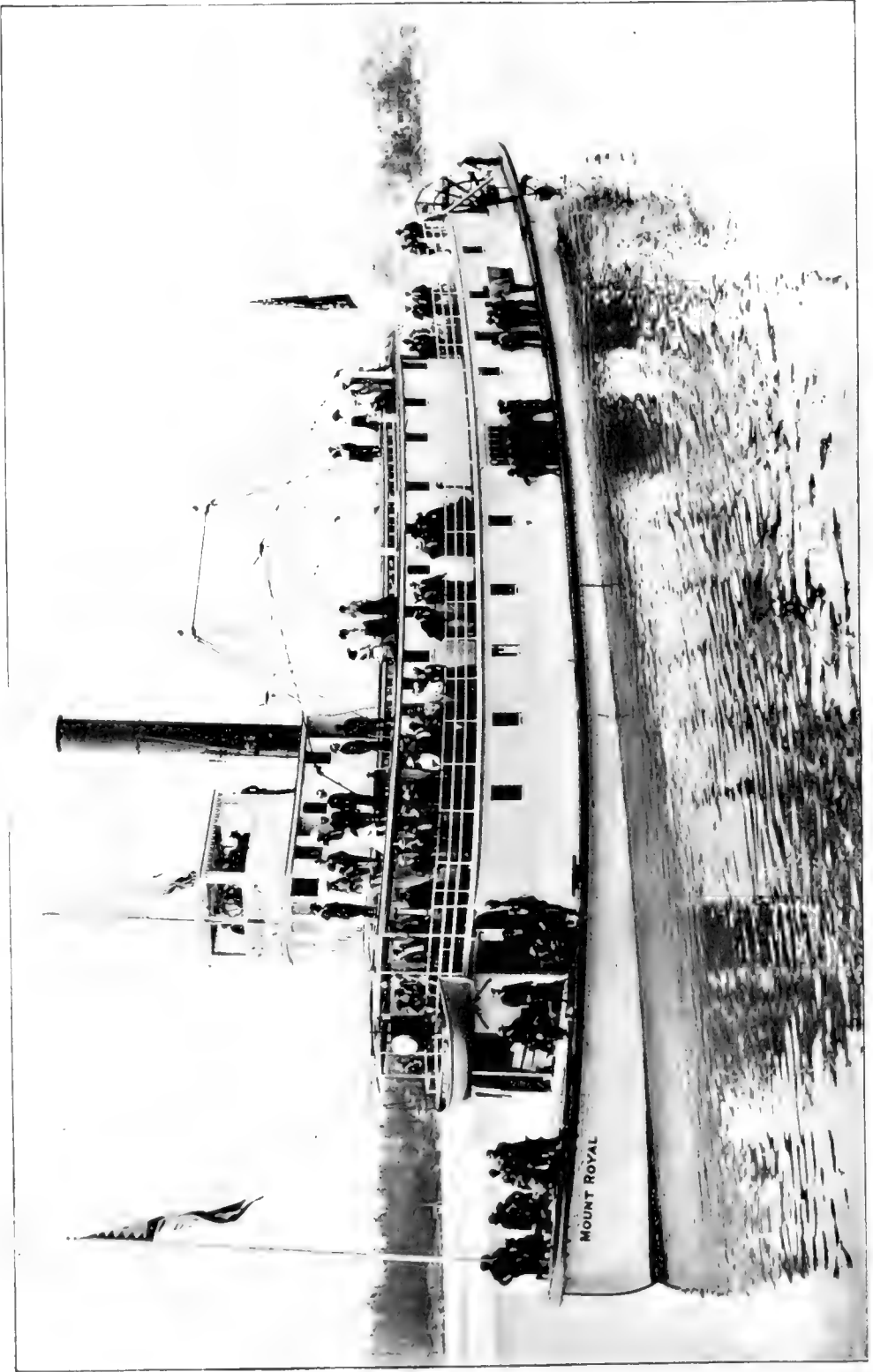
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ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, AUGUST, 1903

No. 3

The Company.

BY EGBERT OWEN.

In the latter part of the sixteenth century, the close of the mediæval ages, there came rumours, brought by adventurous men to England, that far, far away, across mighty oceans and vast continents, there were Eldorados undreamt of, great stores of gold and precious stones, with no obstacle to acquisition. It was whispered that these regions were of, surpassing beauty, and afforded luxuriant ease to the weary and hopeless traveller. The imagination of England was set on fire; the grim barriers of the mediæval restrictions on mind and thought were swept away, and from the noble inspiration of freedom and the longing for something new, the seamen of England went forth to brave the perils of the unknown seas. It was this individual effort on the part of England's seamen and merchant adventurers which was destined to prove of such momentous import and to raise the little seagirt island into one of the mightiest empires the sun has ever shone on. When Charles II, in 1670, granted a charter to Prince Rupert and many of England's prominent nobility to trade in Rupert's Land—which comprised all the land on the shores of Hudson's Bay—and to fish in all the rivers which flowed into the Bay, he could have had no idea of the great future before the Company. Then it was an adventure, an exploitation; to-day it is the greatest trading corporation in the world. For over two centuries, marked by a history

which is always interesting, sometimes romantic, the Company has carried on its trade and extended its outposts into the wilds of the great and gloomy North. And as to write of the Company is to chronicle a portion of the history of the Dominion, a few facts about this great corporation will be of interest to all those who take an active interest in the progression of Canada. It is not drifting into the use of exaggerated language to say that the Hudson's Bay Company is still the greatest of its kind in the world. When we state that its business ramifications extend from the forty-ninth parallel to the farthestmost limits of the Frozen North we can obtain some faint idea of the vastness of its scope and the extensiveness of its trading ground. And although the ever advancing tide of civilization has accustomed us to those business concerns which cannot be described otherwise than as gigantic, it has still to be discovered whether the Hudson's Bay Company has found a serious rival to the supremacy of its mercantile trade.

But while its efforts are directed mainly to the extension of its fur trade, the Company has found time to establish and maintain a large milling business at Prince Albert, Winnipeg, and Vermilion in the Peace River Valley. Winnipeg—the city of the future—is the headquarters of its mercantile business, while it has branches established at places too

numerous to mention. It has also steamers which carry its freight from York Factory to England, and many which do the Company's business on the great northern rivers of Canada. It is of interest to mention some of the names which were given to some of the most northern outposts of the Company, and if one may be allowed to indulge in inference we may gather that such names as "Providence," "Reliance," "Resolution," "Enterprise," "Good Hope," and "Confidence," are but typical of the character of the men who came out to conquer the northern giant and wrest from him his long hidden hoard. While, as the Athenians, Europeans are continually searching for some new thing, some novelty, it is good to know that many of the traditional observances of the Company have not been abolished but still prevail. For instance: every Sunday the plain white pennant of the Company, bearing the crest "Pro pelle cutem," floats at each post, as if in notification of the passing of another week.

In the old days the Company's service was most rigorous, and its discipline exemplary. The men who entered it entered it for their lifetime, and as they were constantly in danger of attack from

the natives it was absolutely necessary that its organization should be semi-military and that the strictest vigilance should be maintained. Their forts enclosed by strong barricades and watched by sentinels at night, little chance was afforded to the Indians for surprise and massacre.

Fort Chimo and Fort George, on Ungava Bay, may be cited as excellent illustrations of the Company's methods of trade and of the life which the isolated traders lived. Isolated from their fellowmen and still beyond the pale of European civilization, a dozen log buildings, without any semblance of plan in their arrangement, afford shelter to the small population, which is made up exclusively of the servants of the Company, many of whom have taken wives from the neighboring tribes of Eskimo. These stations do a great trade in furs taken from the surrounding country, in white whale, reindeer and salmon, besides exporting in large quantities porpoise and seal oil. As is generally known, the Governor of the Company is Lord Strathcona and Mount Royal, who himself was a trader in the Company's service in the days when Canada was supposed to be but an appendage to the ice-bound north.



Fishing in Ontario.

BY L. O. A.

Early in June I took a flying trip between Toronto and Montreal looking for fishing and hunting grounds. I found several promising trout ponds and brooks, and some good bass and salmon-trout lakes. Sharbot Lake, on the Canadian Pacific & Pembroke Railways seemed, however, to be the best, and I registered a vow that I would return and see that country and the lake district to the north. To fulfil this vow I left Montreal alone, because everybody I met knew of some better place for their fishing.

My destination was Sharbot Lake, but I thought I would jump off at Smiths

Falls and try the Rideau River and lakes for bass. I arrived at Smiths Falls at 1.00 p.m., and the 'bus took me to the Arlington Hotel, which gave me good value at \$1.00 per day, but, personally, I was better suited at the Rideau Hotel at a higher figure. I went to church in the morning and drove to some nearby fishing places in the afternoon.

My driver was a modest, intelligent fellow, who knew something about fishing. He told me that at Otter Lake, seven miles from the station at Smiths Falls, and one of the best bass lakes in Canada, he had discovered that the loon, or northern diver, was one of the bass'

worst enemies. "I shot one of these," he said, "and hung it at the house so low that the cat got at it and ate its neck off, when there fell out of its crop about a quart of young bass about an inch long. Since then," he continued, "I have shot all the loons I could, and I find them easy to shoot if two get at them. One goes to one side of the loon and waves a red pocket handkerchief or a looking glass. The loon is very inquisitive and watches nothing but the red handkerchief. Then the man with the gun gets in his work easily."

"I tell you another thing," said my driver, "the Ontario Government ought to give a bounty on ling, say ten dollars a ton. This would make fair wages for a man who would catch them and feed them to the pigs. The ling destroys other fish, especially pickerel. The eel destroys the ling, but will not molest bass, perch or pickerel at all, or at least not to the same extent."

I did not find Arthur Jones, who was absent, but his brother, the lockmaster, proved to be a very good substitute. In an hour's trip with him we put eight good fish into our creels and threw away about four. Among our piscatorial victims were bass, pickerel, shiners and sun fish. It was a pleasant little outing, and I can cheerfully recommend the Jones Bros. and their boats at Smiths Falls, also the fishing.

I arrived at the hotel at Sharbot Lake at 2.30 a.m., and found a room clean and comfortable enough, always remembering the price paid. This is one of the hotels which charges one dollar per day and gives you one dollar's worth every day. It will be, I think, a pardonable digression on my part, in which I urge upon people who need a rest to try a season of good but plain, very plain, food. In very many cases indeed mental fatigue exists in closest sympathy with stomach overwork. These are almost inseparable. In fact the great good that comes from sojourning at the small lake shore and "in the woods" resorts is traceable many times quite as much to plain food as to the exercise and air.

At Sharbot Lake I found as usual several bass and salmon-trout fishermen. I wanted to get brook-trout, however, and one needs to go a little north for

them. I took the Kingston & Pembroke Ry. to Clarendon Station, as it was Monday. On Tuesdays the drive is shorter by going to Lavant Station. Stages leave Clarendon on Mondays, Wednesdays and Fridays for Plevna, and on Tuesdays, Thursdays and Saturdays they leave Lavant for the same place.

We had a good clean meal at Mrs. Leishman's at Clarendon, after which a pair of good horses brought us past Crutch Lake, Gull Lake and several others, across the Mississippi system of rivers and lakes, all of which were tempting, but we were going north to the trout lakes and we resisted the temptation. There are, however, in this country many large lakes well stocked with bass, salmon-trout and red trout, and some smaller lakes and streams with brook-trout, to be reached by stage from Clarendon or Lavant on the Kingston & Pembroke Ry. These lakes are in the Park and Forest Reserve of the Ontario Government. We reached Plevna in time for a late supper, as the country people call the dinner hour of city people. Here, as at Clarendon, we had clean beds and wholesome meals. If I felt like criticising at all I should say that the bread was not quite as good as the Clarendon bread, and that the tea was made too long before serving. We are not grumbling, as we were two hours late for supper and we deserved it. We mention it for an educational purpose. So few people know how injurious it is to drink tea that has been made too long. All tea should be drunk within twenty minutes after it has been made. Next morning we had a good breakfast, with tender beef and good tea, and I hired a team to go to some lakes that I had long heard about and wished to know.

A drive that seemed ten miles going and five coming back was really about five and a half miles long. The road was not as rough as some I had met with, but it was quite a climb.

I called on a gentleman, whose name I have forgotten, whom I found to be a good hunter and a spring and fall fisherman for the salmon-trout, land-locked salmon and brook trout. He did not think he had time to fish in the summer; and the excellent farms cleaned up of forbidding territory, from the farmer's

point of view, prove his opinion to be correct.

Here is a fisherman's mecca for May and September, and just the country the hunter wants for the fall deer shooting. The summer fishing is not as good as at Sharbot Lake, and in many of the lakes thereabouts, because these upper lakes have nothing but trout in them, and trout of all kinds are unreliable biters in the mid-summer months. Nevertheless the Schooner, Mackeys, Brule, Rock and Bear Lakes, and a small stream whose name I did not get, are as good trout

lakes as the best that I have been fortunate enough to visit

This is a country which will suit old men and novices in shooting and fishing. There is no hardship in getting there and very little walking, as compared with other countries, when you get there. Sharbot Lake is 166 miles from Montreal, about the same from Toronto, and only 47 from Kingston, and 67 from Brockville. The area of the lake country is so great and the laws for protection of the fishing so good that the fishing will improve in the near future.



The Horse.

BY C. J. ALLOWAY.

It requires but a superficial study of the factors of human pleasure and happiness to find that of all mediums for their promotion, the horse, without dispute, stands pre-eminent.

In all the great events of history, its battles, triumphs, pageants, crownings and gallantry, he has ever been an integral part. His form has been deemed the most fitting to bear its kings and chivalry, and in painting and sculpture he is found to add to the dignity of pose and grace of posture to every man, be he prince or knight.

Of the deeds of valor which stand out as finger posts on the beaten road of time, there are few that have not been wrought to the ring of his gallant hoofs, of which the mad fury of the charge at Waterloo and the six hundred at the Crimea are but samples.

He is indissolubly connected with some of the most touching human experiences. What can compare with the pathos of the war-horse, with empty saddle, stepping to the weird, soul-rending strains of the funeral march, as he follows the gun-carriage on which lies his master with sword and helmet resting on the drooping colors.

Many a stern man has found his cheek wet with tears at the sight of an old four-footed warrior, perhaps fallen to

the rank of a hack drudge, pricking up his ears, with a gleam of the old war spirit in his eye, as he catches the strains of fife and drum in an old military march, or the bugle sounding "Boots and Saddles."

Few pictures in history, as the centuries have rolled by, are so dramatic as the imperial Roman, Valerian, bending his proud head that his conqueror, Sapor, the Persian, might mount his horse by placing his foot upon his royal captive's neck, and whose heart he thus brake.

Time may bring fortune and success, social and financial, to the man who seeks them; he may have fame and a name among men, but none of these can bring the throb to his heart that was his in the springtimes and summers of his boyhood, when his bare feet brushed the dew from the fragrant clover of the old snake-fence pasture where the farm horses nibbled in the sweet, blue dawns. He may ride the swiftest pace in his costly automobile, with the milestones flying past, but the memory of the scramble up on the old mare, the gallop bare back, with the morning air blowing over his innocent, boyish face, is among his purest joys, and the scent of clover, to his latest day, brings it all back with a sweet, sad pain.

It is not only in the strenuous and poetic phases of life that the noble form of the horse stands as the comrade of man. In all the industrial, peaceful and pastoral avocations he is the central figure. The plow as it furrows the glebe, if propelled by steam or electricity, would be shorn of most of its picturesque-ness. In the "Harvest Home," as the loaded wain returns with the golden grain, and he carries it to crown the russet stack or rick, his patient toil gives life and homely vigor to the scene.

To speak of shutting out the horse from our mercantile, domestic or industrial life is to deprive us of something upon which human affection has too long been centred to admit of even its consideration.

While it is true that modern methods have somewhat circumscribed his field of action, it is not to be deplored that he no longer must step the dreary treadmill to turn the thrasher, as was his lot in days gone by,—most of the burden-bearing of life is no longer laid upon his willing shoulders,—but it in no wise follows that he is eliminated entirely from economics.

There was a time when the ordinary farmer with two horses considered himself amply furnished for his husbanding operations, but with the great wheat growing development of Western Canada, the almost fabulous tales of single fields as large as an eastern township, the gang-plows, double harrows, binders, harvesters, and all the other wonders of agriculture in that region, the horse is the great and indispensable adjunct to the mammoth operations. His breeding and culture should be considered of prime importance by every farmer who is alive to the situation and the rapid

development all around him. Those who are enriching and improving their stock by investing in the best strains of draught horses and roadsters, are making hostages to fortune, and showing a forethought and foresight of which time will show the wisdom.

It is time that the colonies, and especially Canada, in which we are most directly interested, should see to it that Government measures are taken to place us on a par with older countries across the ocean,—with England, where the improvement of the horse has for centuries been a close study and field for experiment and investigation, as shown in almost all breeds, from the great Clyde to the toy Shetland.

France has long been noted for its heavy draught and coach horses, and now Russia is advancing rapidly in this direction, as evidenced by recent importations to this country.

Prussia is a horse-loving country, following the example of the royal house of Hohenzollern, whose members are so frequently represented pictorially on horseback. This is equally true of other reigning families of Europe, the hunting fields of England and Ireland having seen few finer horsewomen than the late lamented Empress of Austria, and not many acts of our late Queen excited more enthusiastic admiration among her subjects than when still a maiden, in her habit of scarlet, she reviewed the troops of her kingdom, the defenders of her throne and sovereignty.

To sum up, it is imperative that public attention be aroused to the wonderful climatic adaptability of Canada to the production of a high-class type of horse, and the increasing demand for the marketable article.



Further Exploration.*

BY PROF. J. NORMAN COLLIE, F.R.S.

The exploration of the main range of the Canadian Rocky Mountains lying between the sources of the Athabasca River and the Kicking Horse Pass has been the subject of two papers read by myself before the Royal Geographical Society. In these two papers I attempted to give a description of some of the great snowfields that exist amongst the Rocky Mountains, and also as far as possible to make clear the geography of a mountain district up till that time but little known.

Of course, during the short visits that I was able to make, many points of interest could not be answered, for panoramic views obtained from the tops of the snow-peaks were often interfered with, either by other peaks, cloudy weather, or sometimes smoke-haze. It must also be remembered that the country mapped, as the result of these visits, comprises about 3000 square miles; therefore it is not to be wondered at that there were a very considerable number of valleys whose sources were difficult to trace, glaciers and snowfields the direction of whose flow was problematical, and lastly, the altitudes of some of the highest peaks were doubtful. It was to solve many of these uncertainties that last summer I again returned to the Rocky Mountains. I wished to discover, (1) what system of valleys lay on the south-west side of the Freshfield range; (2) to traverse the great Lyell snowfield, upon whose ice probably no human foot had yet trod, in order to learn about the complicated series of snow-peaks in that district; (3) to find out how the continental divide ran, and how also the various creeks of the Bush River were connected with the Lyell snowfield; lastly, I had a suspicion that there ought to be an easy pass across the watershed between Mount Forbes and the Freshfield group of mountains. A new pass in this particular spot would be of much interest, for from the knowledge gained in former

expeditions there did not seem, except at this spot, to be a possibility of any other undiscovered low pass existing from Fortress Lake Pass on the Athabasca to the Kicking Horse Pass on the railway line. Moreover, should the pass exist, it would be useful as a means of reaching the headwaters of the south fork of the Bush Valley without the terribly hard work of forcing a way from the Columbia River on the west through the dense forests of the Bush Valley up to the main range. These forests in 1900 had effectually stopped our expedition to the Columbia group of mountains, and we were forced to return without having reached even the head of the Bush Valley. These, therefore, were some of the more important questions that I hoped to be able to answer before I returned to England last autumn.

The members of our party were four—H. E. M. Stutfield, H. Woolley, G. M. Weed (of Boston), and myself. Charles S. Thompson, of Dallas, Texas, one of the most enthusiastic climbers and explorers of these Canadian Rocky Mountains, was also to have joined us, but just before starting from Laggan he was unfortunately recalled to Dallas by a telegram informing him that a large portion of the town had been destroyed by fire, including his home; he had therefore perforce to leave the cool breezes and beautiful scenery of the wooded valleys of the Rockies and return to the blazing heat of a Texan summer. In every expedition that I had made before in the Rockies our provisions had been a source of trouble to us; usually at the end of three weeks or so they had begun to give out. This time I was determined that we should not suffer as we had done formerly. I therefore asked our head man, Fred Stephens, who supplied us with horses and food, to start in at least three weeks before us with about 1000 lbs. of necessaries—flour, bacon, condensed milk, etc.—to take

* A paper read before the Royal Geographical Society, Feb. 23, 1903.

them as far as Bear Creek on the Saskatchewan, and there make a "cache." He was then to return with the horses and meet us at Laggan. This would not only enable us to bring in extra food with us, but the trail as far as the Saskatchewan would be cut—no inconsiderable gain, for the Bear Creek "cache" was at least 60 to 70 miles from the railway.

On July 24 we started from Laggan. Besides ourselves there was a Swiss guide, Hans Kaufmann, whom we had engaged from the Canadian Pacific Railway Co., whilst Fred Stephens had brought with him three men, J. Robson to cook, Clarence Murray to help with the horses, and Dave Tewksbury, a mighty axeman from the lumber camps of Wisconsin. Our journey up the Bow Valley was without incident, if one excepts the usually harassing time spent in fighting with the mosquitoes and "bull-dogs," which latter this summer were in countless thousands. These "bull-dogs," or rather horseflies, were chiefly a nuisance to the horses, preventing them from feeding properly, but they did not annoy us much.

It was not till the 28th that we reached the Saskatchewan at Bear Creek mouth. Here, the horses needing a rest, an off day was spent in visiting Mount Murchison, chiefly with the object of seeing again some curious fossil remains that I had discovered in 1898. Finding ourselves, however, on a wrong ridge, we decided instead to climb to the summit of it in order to obtain more knowledge of the group of peaks that constitute Mount Murchison. The ridge seemed endless, but at last, after climbing up some steep snow-slopes and along a narrow arête, we emerged on to the top, which, to our surprise, was the top of Murchison itself. This unexpected result was of considerable value from a topographical point of view, for I was able to see stretched out before me several minor valleys amongst the hills whose existence I was till then quite unaware of. The height of Murchison had been estimated by Dr. Hector to be about 13,500 feet, and he mentions that the Indians said that it was the highest mountain they knew of. Later in another map its height is given as 15,789

feet. A Watkin barometer, kindly lent me by the Geographical Society, made it only 11,100 feet, and as this aneroid agreed during the whole journey with a mercurial barometer I had with me, I take its number as correct.

Geologically, Murchison is most interesting. Not only had I found the curious fossil remains on it in 1898, but it, together with Wilson, a little further north, constitute the two sides of a gigantic gateway to the hills through which the Saskatchewan turns to the east. The dip of the limestone strata on both these mountains differs in a marked manner from most of the neighboring peaks, being towards the east. As a result, there are tremendous precipices on the wrong side of the mountain, namely, the western side. In almost every other mountain it is the eastern side that is sheer, with sloping shoulders towards the west and south-west.

Leaving Bear Creek the next day, we made our way up the middle fork of the Saskatchewan along the level bottom of the valley, our goal being the Freshfield group of mountains. On the 31st, in wet weather, we finally camped on the same spot where five years before Baker and I had pitched our tents. This spot was at the head of the "washout" where the glacial waters from the Freshfield snowfields meet those that came down from Forbes. The Rev. J. Outram, who had been mountaineering further north, now joined us, with a Swiss guide, C. Kaufmann, in order to attempt with us the ascent of Forbes and Freshfield. It was not, however, till the 2nd that we were able to get the horses with our camp outfit up to the foot of the Freshfield glacier, and not till the 4th that the weather would allow of the ascent being made. Our party was a big one, but as there were two Swiss guides, we were able to split it into two, each party being led by one of the Kaufmanns. Just as with Baker and Sarbach five years previously, we started in the early hours of the morning. The glacier seemed to be exactly the same as we had left it, with the sole exception of a series of huge blocks of rock that had moved slightly down the glacier. Robson accompanied us to the head of the glacier, but it was with some

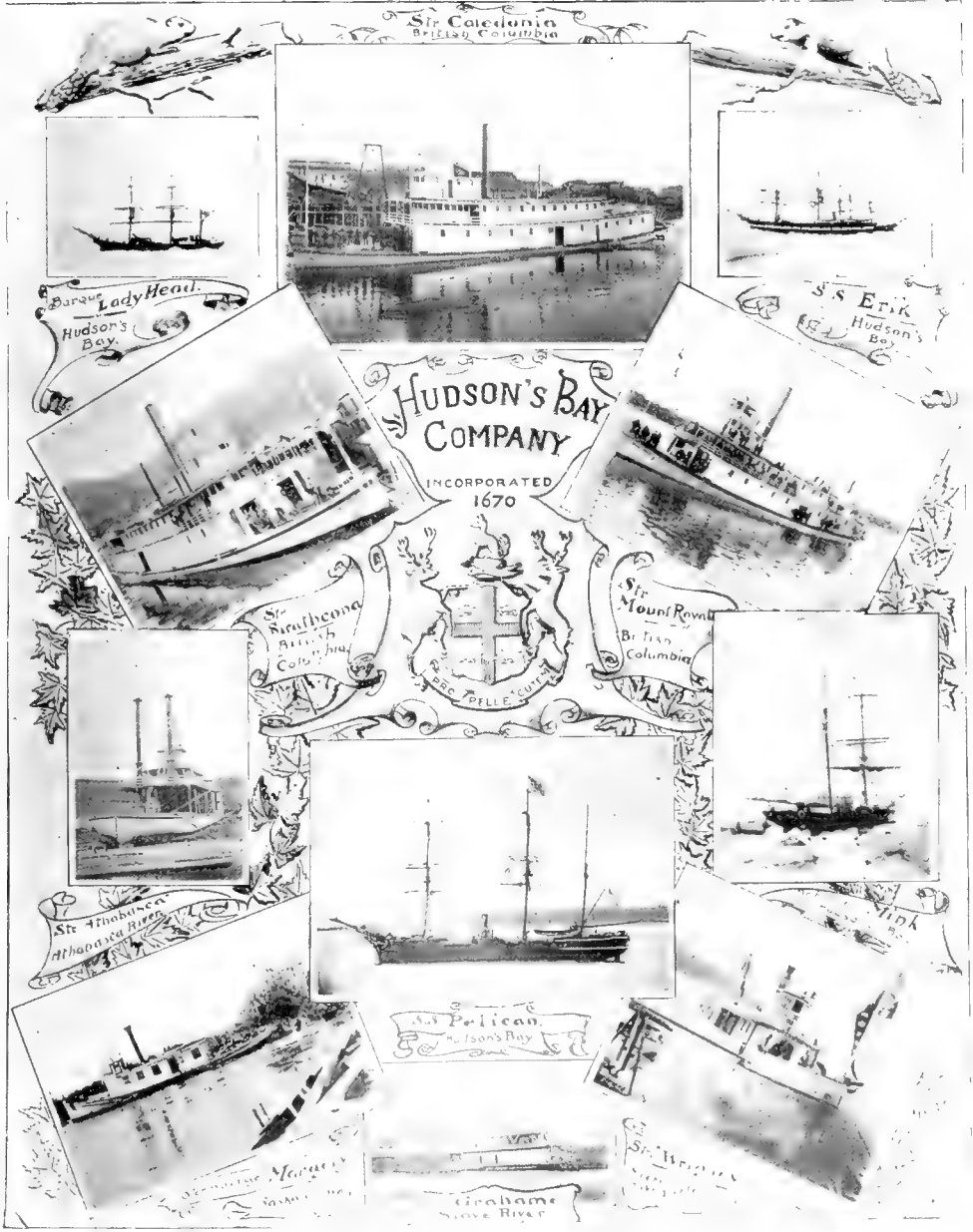
misgiving when we parted company that I saw him start back to the camp alone, for there were so many deep crevasses that still held at their mouths the unmelted snow of the winter, and which were dangerous to any one who might be unaware of the insecure nature of such snow-bridges. However, on our return in the evening, we found that he had returned safely from this his first glacier expedition. Following the same route as Sarbach had taken Baker and myself, we rapidly climbed upwards, and I was naturally anxious that the day should remain fine, for once at the top of Freshfield, I should be able to see that part of the country which lay beyond on the western side, and which on my map was blank; also the complicated geography of the south branch of the Bush Valley would be capable of being followed for the first time, and lastly, the question whether a low pass existed between the Lyell and Freshfield systems of ice-fields could be answered. Long before we arrived on the final arête of Freshfield this last question was settled, and it was with much satisfaction, as we mounted higher and higher, that I could follow how the valley that lay on the south side of Forbes took a bend to the south-west, joining a similar depression running north-east from the southern fork of the Bush Valley. The pass therefore existed, as I had always hoped it would, ever since when in 1897 I had penetrated into this lonely mountain land with Baker and Sarbach.

Towards the top of the mountain several difficult faces of rock and thin rocky edges had to be surmounted, but H. Kaufmann, who was leading, never seemed to be in any way anxious about our final success; ultimately we reached the summit, 10,900 feet, which consisted of snow, and was like most of the summits we ascended, heavily corniced with snow. The weather was perfect, and at our feet lay the unknown country, every valley plain; glaciers and streams sparkled in the sunshine, and, as I had more or less imagined from glimpses through the murky atmosphere of the Bush Valley in 1900, directly to the west was the glacier which fed the south fork of the Bush River. To the

north were all our old friends of 1898—Columbia, and Athabasca Peak, Alberta, with the Twins straight in front, appearing to be part of it, the Dome, Lyell, Saskatchewan, and many more; to the west the Bush Peak and the far-off Selkirk Range beyond the Columbia River. Nearer to us on the south lay Pilkington, Walker, and Mummery. There is a great pleasure in standing on a high mountain in a country but imperfectly known, so many uncertainties vanish in a moment, often with the remark, "I thought so," whilst masses of new possibilities and further queries take their place. One of these queries which could not be answered was the height of a splendid pyramid of snow gleaming far away in the Selkirks. This peak we had seen day after day in 1900 from the Bush Valley; now from a still greater distance it seemed even greater in height, but what that may be must still remain unanswered. On the next day we returned to the "washout," near where the streams from Forbes and Freshfield meet.

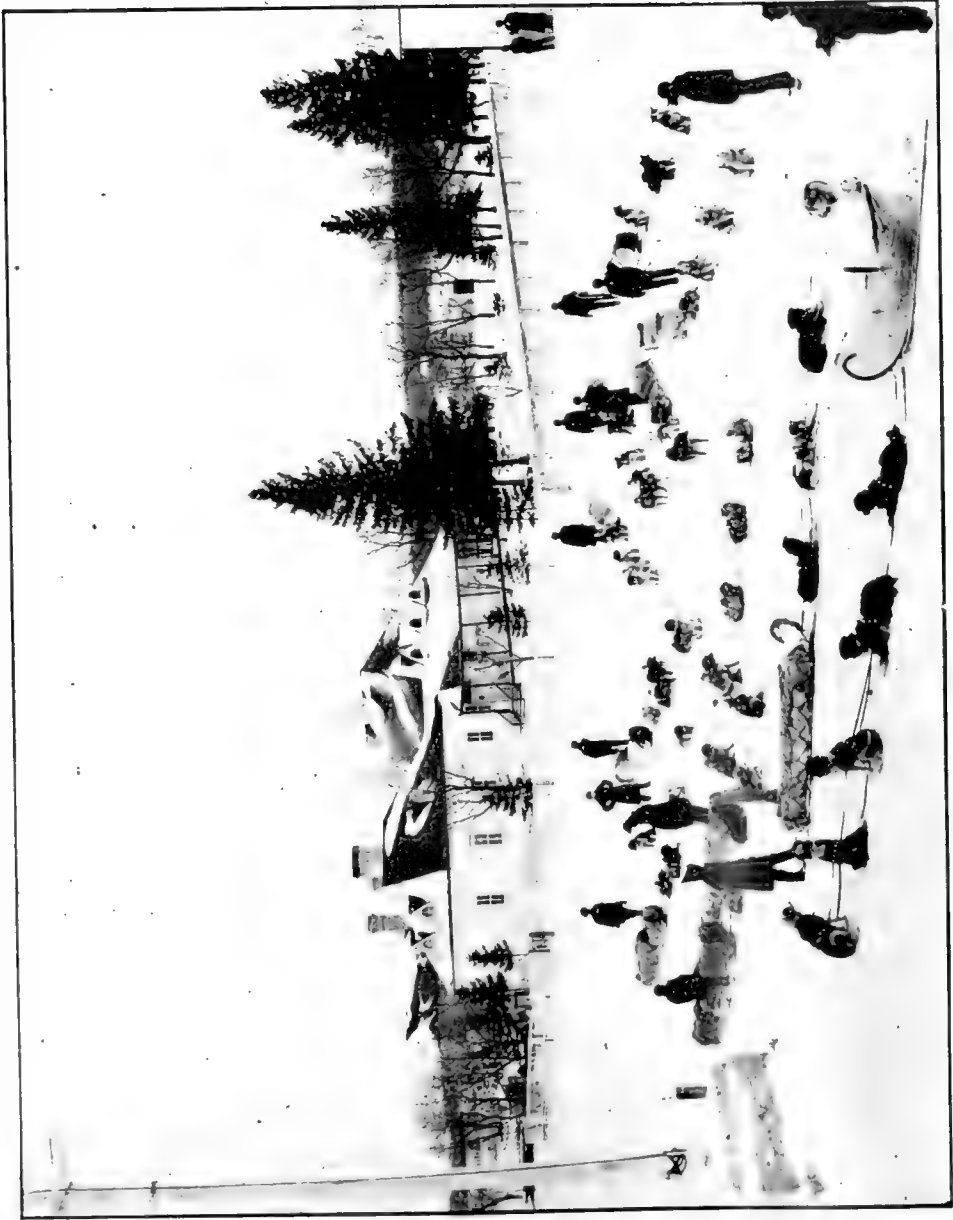
In order to get our camp moved up to the foot of Forbes, it was necessary to cut a trail through the woods, and whilst this was being done we spent a delightful summer's day climbing on to the alp that lies on the east and north-east of Forbes. This alp is the largest that I know of south of Wilcox Pass. In the early summer it must be carpeted with flowers, and even in August there were many still left in bloom, whilst the remains of numberless others could still be seen. This spot also seemed to be a favorite haunt of the mountain goat, for on emerging from the woods below on to the almost flat upper pasturage, large numbers of goats could be seen grazing in small groups, and over fifty head were counted. Soon, however, having caught sight of us, they moved off towards the precipitous faces of the hills that overlook the Saskatchewan on the east. That this country is much frequented by goat was again noticed just below Glacier Lake, where, a log-jam having occurred across the river, forming a natural bridge, a large and newly worn goat-track was found leading down to this bridge on both sides of the river.

(To be continued)



THE H. B. C. FLEET.

These boats serve a territory almost as large as the United States



READY FOR THE TRAIL.

Hudson's Bay Company's Dog Garrys at Lower Fort Garry, Manitoba, bound north.

The Airedale Terrier.

BY D. TAYLOR.

Among dogs which have taken the public fancy in recent years is the Airedale Terrier, the largest of the terrier breed yet produced. For the past fifty years it has been known in England, where it was variously called the Bingley and Waterside, but owing to its popularity in the Valley of the Aire, in Yorkshire, it was decided to acknowledge it as a distinct variety, and it was given the name which it now bears. The Airedale was first introduced into the United States in the spring of 1897 by Mr. Mallorie—a well-known English breeder who migrated to Maryland, taking some of his dogs with him—and classes were made for the breed at the Westminster Kennel Club's Show, New York, in February, 1898. In 1899, Mr. Joseph A. Laurin, of Montreal, who was then vice-president of the Canadian Kennel Club and a keen sportsman and dog fancier, associated himself with Mr. Mallorie to introduce the breed into Canada, classes being provided at all the shows in the Dominion held under C.K.C. rules. It was not, however, until December, 1900, that Mr. Laurin became actively interested in the breeding of these terriers. From these dates the Airedale has gained perceptibly in public favor and record prices for the breed—up to \$3,000—have been paid on several occasions, nearly \$7,000 being paid for four imported to this country in 1901. As an illustration of the gain in popularity the Airedale has made in a few years it may be mentioned that while in 1897 only two of the breed were registered with the American Kennel Club the number had mounted up to ninety-six in 1901, and of these Mr. Laurin's terriers were accountable for fifty-nine.

The Airedale is adaptable to almost every kind of sport. He is a natural hunter, has a keen nose and is easily broken to the gun. He will do all the work of a spaniel and can be taught to drive cattle like a collie. A capital

water dog, he is to be seen at his best when hunting along the banks of a river, as his dense, wiry jacket enables him to withstand the effect of water, and, being such a big dog, he is more than a match for any sort of vermin he may fall across. No hole is too deep for him to follow his quarry; to muskrats, water rats and other amphibious vermin he is sure death and will work indefatigably for hours until the object of his search is attained. In England, where his merits are best known and appreciated, the Airedale is taught to retrieve duck, geese and sea fowl, no sea, in fact, being too rough for him when in pursuit of the latter. On land, also, he is a first-rate workman, and being very rapid in movement will kill rats quicker than one can wink. Rabbits he will hunt with the zeal of a beagle and may be easily broken to the gun for feathered game. If a badger is to be "induced" to come out of his box, the Airedale either brings him out or is a dead dog. He may be truthfully termed an all-round sporting dog, and besides is an exceeding lively and pleasant companion.

In point of disposition the Airedale possesses all the qualities that make him peculiarly fitted for a house dog. He is docile in the extreme, fond of children, and a good watch. He is far from quarrelsome with other dogs, indeed will almost shun them when at walk; at the same time he is at all times ready and able to act his part should another dog dispute his right to advance. In many other respects the Airedale has found favor with dog lovers, and one recommendation should not go unnoticed, that is his hardy constitution, which causes little trouble to breeders during the early stages of puppyhood. In this respect he certainly compares favorably with many other varieties.

The standard adopted by the South of England Airedale Terrier Club should show a dog with a long flat skull, but not too broad between the ears, narrow-

ing slightly to the eyes; stop hardly visible and cheeks free from fulness; jaw deep and powerful; ears V-shaped with carriage, small but not out of proportion to the size of the dog; nose black; eyes small and dark in color; teeth strong and level; neck of moderate length and thickness; shoulders long and sloping well into the back; chest deep but not too broad; back short, strong and straight, ribs well sprung, hindquarters strong and muscular with no drop, tail set on high and carried gaily but not curled over the back; legs perfectly straight with plenty of bone; feet small and round. The weight of the dog should run from forty to forty-five pounds (bitches rather less), and he should have a keen, dare-devil appearance.

The kennels of Mr. Laurin are known as the "Colne Airedale Kennels," the prefix "Colne" being the sole property of that gentleman, registered with the English, American and Canadian Kennel Clubs, and are situated at Petite Cote. The locality is admirably adapted for the purpose of breeding and raising dogs, and the kennels are built on ground that is high and dry, with a wide range of pasture land for exercising or training. At present the kennels contain about fifty dogs, the greater number being brood bitches and some very promising young stock, for which, by the way, there is always a constant demand. At the head of the kennels is Champion Colne Lucky Baldwin, the phenomenal young dog which, after winning extensively in England, was brought to New York in time for the Westminster Kennel Club's show in February last, where he won everything, including the Airedale Terrier Club's challenge shield for best dog and the Westminster Kennel Club's cup for best in show. This trick he repeated at Newark and Boston, becoming a champion of record and thus winning the American Kennel Club's championship medal when only nine months old—a truly wonderful performance. Lucky Baldwin is one of the best Airedales of the present day either in the Old Country or on this continent. His breeding is unapproachable, combining as it does the blood of the two

most famous Airedale champions—Ch. Master Briar and Ch. Rock Salt. He is powerfully built, with any amount of bone and substance, yet without the slightest suspicion of coarseness, and teems with quality, real terrier character and gameness. His head is wonderfully long and lean, with abundance of foreface and exceptionally square, well filled up muzzle. He has good, perfectly carried ears, and coat of nice color and texture. In front he cannot be excelled, fine deep chest, perfectly straight legs and beautifully formed feet. In general outline it would be hard to conceive a better formed dog. After his long sea voyage and short tour of the United States bench shows, Lucky was, naturally, not in the best of shape, but since his arrival at Petite Cote, under the intelligent care of Mr. Alex. Smith ("Auchcairnie") he has got back to his old form. Indeed there is a marked improvement in all the dogs since Mr. Smith took over the kennels, and it is to be hoped that Mr. Laurin's enterprise in securing his services will meet with all the success it deserves. Among the prominent bitches are Ch. Colne Princess Briar, who has the reputation of turning out four winners from one litter; Colne Mistress Fairy, a nice clean cut dog of exceptionally fine quality; Walton Flyaway, Briar Lady, Wilhelmina, Last Request, Mistress, Zaza and others. But why enumerate the good points of these when there is not one poor dog in the kennels? They are all of ultra fashionable breeding, Mr. Laurin having spared no expense in the importation of the best strains of the breed in England. At present he is on a holiday trip to Europe, and should be run across anything in the Airedale line that strikes his fancy no doubt a strong effort will be made to annex it for the Colne Kennels. "Auchcairnie" is now busy licking the dogs into shape for Toronto, and he says that in both sexes, old or young, he can beat anything in Canada or the United States. Visitors are made cordially welcome at the kennels, and it will not be the fault of either Mr. or Mrs. Smith if they leave without experiencing a pleasant afternoon.

A Great Factory.

BY C. A. B.

Last winter I was given an opportunity to see the inside of the factory of the Winchester Repeating Arms Company at New Haven. For years it had been my wish to learn just how those accurate, hard-hitting guns were built, and how it came to pass that each one was true to gauge, and that each one shot accurately and worked smoothly.

For an hour or more I followed my guide—Mr. W. R. Clark—from one department to another, and listened to the words of wisdom that fell from his lips. In the end it left me hungry, weary, slightly bewildered, but happy in the consciousness of newly acquired knowledge.

I found much to interest me,—barrels being bored in one room, actions machined in another, bullets cast in a third, and stocks being fitted in a fourth. In yet other parts of the great works were men shooting, shooting, shooting, as if their very lives depended upon their shots, instead of the accuracy of the sighting of a rifle that would sell for less than a twenty dollar piece.

This plant, covering as it does, in all, some two hundred and thirty-five acres of land, is unquestionably the largest manufacturing establishment of small arms and ammunition in the world. The main plant covers about thirty acres, with at present over twenty acres of floor space, and as the company finds it necessary to make additions continually, it is very probable that in a short time, these figures will need revision. Besides this area mentioned, the water shops, located on Whitney avenue, beside Lake Whitney, the site of the old Whitney Arms works, together with the proving and powder storage grounds, go to make up the acreage given in the first lines of this paragraph.

The present company was organized in the year 1866, just after the close of the Civil War. The personnel of the company was made up of Hon. O. F. Winchester, E. A. Mitchell, John English, J. A. Bishop, and Morris Tyler.

At the time of the formation of this new company, which a short time after its organization was named the Winchester Repeating Arms Company, there were in New Haven three companies manufacturing fire arms: the Volcanic, the New Haven, and the Henry Repeating Arms Company. Of these companies the best known was, perhaps, the Henry. The way in which this company sprang into prominence during the Civil War, is in itself an interesting story, and while it may be somewhat of a divergence to tell it at this point, its value to the remainder of this article will sanction easily its insertion.

In 1863, while the Civil War was still going on, the public was startled and thrilled by an account which appeared in the public prints of the day, of a battle, fought in the southern part of Kentucky, between a band of guerillas, not recognized by the Confederate government, and a single man, a sympathizer with the Federal government, armed with a Henry, sixteen-shot rifle. The Union man was known to have a large amount of money in his house and consequently became an object of interest to marauding bands. This particular band, under the leadership of a noted outlaw, known as "Tinker Dave" Beattie, having learned of the treasure, decided to make away with it. Accordingly, one morning, while the family were at breakfast, announcement was made suddenly by the frightened negroes about the place of the approach of this guerilla band. The planter, immediately seizing his money box and his Henry rifle and cartridges took refuge in a strong block house, which foreseeing such an emergency, he had had constructed, and so situated that it commanded the residence and the stables.

The Henry rifle, which shot the old .44 rim-fire cartridge, was a very accurate arm, and in the hands of the Kentuckian, who was an excellent shot, proved no mean obstacle to the accom-

plishment of the marauders' object. Within a short time the planter had killed eight of the attacking party, and had wounded ten men so severely that "Tinker Dave" was glad to beat a hasty retreat, before the neighbors, who had been informed by the frightened negroes of the attack, could come to the aid of the plucky defender.

Naturally the account of this remarkable fight spread quickly all over the country, and with its spread came a tremendous demand for the Henry rifle, a firearm which made every man a host in himself. A regiment from Indiana, the Seventeenth called Wilder's Mounted Infantry, of the army of the Cumberland, equipped itself with Henry rifles at its own expense and soon became one of the most effective and one of the most feared of Union Regiments.

At the close of the war in 1866, Hon. O. F. Winchester, who was then Lieutenant-Governor of Connecticut, appreciating the merits of this rifle, bought up the patents, improved them in many ways, and organized a company, as previously stated for the manufacture of this arm. Out of compliment to the distinguished gentleman who had founded the company, the new rifle was named the "Winchester." Almost immediately the new company was overwhelmed with orders for their rifle, many of which came from those who were seeking new homes in the far west and desired just such a rifle to protect them from foes, and to kill game for their subsistence.

Such, then, was the founding of a company which should in a few years have acquired a world-wide fame and reputation. In 1869 the Winchester Repeating Arms Company acquired the American Repeating Rifle Company; this purchase included the Spencer Rifle Company, of Boston. The Adirondack Arms Company of Plattsburg, N.Y., was also purchased by the Winchester Company in 1874.

The company began operations first on Union street, but finding very soon that the quarters there were too small for the increasing business, the plant was removed to Bridgeport, and for a short time occupied a part of the premises of the Wheeler and Wilson Company. However, the location was not

as advantageous as could be desired, and the company secured a tract of land on what is now known as Winchester avenue. Here, during the summer and the fall of 1870 the first buildings of the present extensive plant were erected, and in January, 1871, the Winchester Repeating Arms Company moved into its permanent quarters. At the present time it is just completing some extensive additions to its plant.

The present officers of the company are: President, Thomas G. Bennett; vice president and treasurer, G. E. Hodson; assistant treasurer, H. S. Leonard; secretary, A. I. Ward.

Governor Winchester, who was the first president of the company, and whose death occurred in 1880, was also the first man to see the possibilities in a centre fire repeating rifle. While the Henry was the first repeating rifle made, it used rim-fire cartridges, and had also the additional disadvantage of having to displace the magazine in order to fill it. This was remedied in the Winchester by the introduction of a fixed magazine. It was not, however, until 1873 that centre fire cartridges were used. No repeating rifle ever made has had the remarkable success of the Winchester, and, in fact, it may be said without exaggeration that the same statement could be applied to the whole of the Winchester product, whether repeating rifles or single shot rifles, repeating shotguns or ammunition. There is no country on the face of the globe where these goods are not known, and it is a fact that at the present time over two millions of these guns are in use. Only the best of materials go into the guns, and each arm is thoroughly tested and tried by methods peculiar to the Winchester Company, before it is allowed to leave the works. Just as an instance of the thoroughness with which each piece is made, a brief summary of how the Winchester barrels are tested will probably furnish the best illustration.

Gun makers in general agree that the barrel is the most difficult part of a gun to make. In order to do this with success, a complete knowledge of the subject is needed, reinforced by experts, delicate and exact machinery, and a comprehensive system of tests.

When a Winchester barrel has been "rough" bored, as the first boring is called, it is proved for strength. This proof is made in the following manner: A soft steel barrel is locked to a fixing table, loaded with a charge of powder and lead, twice as large as the amount of the shell, for which the barrel is to be chambered, will contain. After proof firing, a barrel is carefully inspected, and if it shows the slightest sign of strain or imperfection it is condemned. A barrel which passes the proof is next straightened and given the second or "finish" boring. It is then straightened again, after which it is subjected to what is called the "Winchester" or "Lead" test, a process which never fails to make evident any irregularity in the interior of the barrel. This test is again made after the barrel is rifled, for the purpose of discovering any possible disturbance of the bore during the latter process. Such a test as this is so exacting that no other gun makers attempt it. Shot gun barrels are not subjected to the "Lead" test, but are tested by gauges which are so refined and delicate that they show variations of the thousandth part of an inch.

Another interesting point in the manufacture of these guns is their targeting for accuracy. At the plant of the company are ranges from one hundred feet up to two hundred yards. At these ranges every rifle is shot for the purpose of testing its accuracy, the distance, of course, varying according to the calibre. For this work alone a corps of experts is employed, the members of which devote their whole attention to this branch. That the tests are extremely rigid can be seen easily when it is known that before a rifle can be passed by them it must be capable of shooting seven consecutive bull's eyes on a standard sized target, for the distance shot.

The product of the Winchester Repeating Arms Company includes six different models of repeating rifles, two single shot rifles, three styles of repeating shot guns, a breech loading saluting cannon, metallic cartridges, loaded paper shotgun shells, paper and brass shells, gun wads, primers, percussion caps, reloading tools for rifle ammunition, and gun sundries.

Of the rifles, the model of 1873 is perhaps the most remarkable of small arms ever made. It was the first repeater to use the centre fire cartridges, and was for years the only one before the public. No gun has met with the success that this particular model has.

The Winchester Company, in addition to making the guns which have been described above, have also for many years been engaged in the manufacture of metallic ammunition, empty and loaded paper shot shells and other goods of like character. The same close care which is exercised by the company in the making of its guns is also exercised in the manufacture of ammunition, and in this, as in everything else, the work has been reduced to a scientific basis by the use of special apparatus and the making of practical experiments, embracing velocity, accuracy and penetration.

To be able to tell how fast a bullet or a charge of shot travels through the air, when discharged from a gun, seems to be an almost impossible feat, yet, with the aid of three chronographs, two of the Le Boulanger type and one of the Smith Tramway type, this can be done with extreme accuracy. In making tests for velocity the Winchester Company uses these three machines constantly. This test is made as follows:

The chronograph is connected with a wire just in front of the muzzle of the gun from which the cartridge is to be fired, and with the target by two electrical circuits. When the apparatus is connected, the signal is given and the cartridge to be tested is fired. The instant that the bullet leaves the muzzle of the gun it cuts the wire in front of the muzzle which is connected with the chronograph. The instant this wire is cut the instrument begins to register the time of the bullet's flight. When the bullet strikes the target shot at, it breaks the circuit connecting the chronograph and the target, and the instrument stops registering. The register shows the time taken by the bullet in travelling from the gun to the target. The distance is known, and it is then simply a process of reduction to feet per second.

Every lot of the Winchester cartridges is tested for accuracy by shooting them at the different ranges for which they are

adapted. Their penetration is determined by shooting them into pine boards of a given thickness. The result is compared with the number of boards a bullet of a given calibre should penetrate at the standard testing distance of fifteen feet, and the penetration of the bullet is thus found.

In closing this brief survey of this large industry and its products it only remains for me to say, that being the largest employer of labor in New Haven, the number employed being between 3,200 and 3,600, with its steady and con-

tinuous working, it is in more than one way a great benefit to the city. The fact that its work is continuous and steady means in itself a great deal to the business and industrial interests of the city. Employing, as it does, so many, it has become, although a private concern, in many respects a public one. If there are in that city any two institutions which have done more than all others to make the name of New Haven known far and wide throughout the world, those two are Yale University and the Winchester Repeating Arms Company.



The Rock Elm.*

The Rock Elm is one of the most useful trees, the wood being hard and firm and adapting itself readily to many domestic purposes. It was a favorite material for axe handles. As first known it was a magnificent tree, but, although still found of large size in Western Ontario, it is mainly represented by what is often commonly designated as "scrub elm," growing in waste places and along roadsides. The leaves are very similar to those of the White Elm (*Ulmus Americana*), that is, simply pinnate straight-veined, ovate in shape and with serrate edges, but are somewhat smoother to the touch. The distinguishing features are the racemed flowers, i.e., in loose elongated clusters, from which comes the classical name *Ulmus racemosa*, and the corky ridges on the twigs, which latter feature gives the tree one of its common names of Corky White Elm. In Macoun's Catalogue the following statement is made in regard to the Rock Elm:—

"Rather rare in the Eastern Townships, Quebec, and extending westward throughout Ontario in the limestone areas. This tree seems to be confined to dry gravelly soils, and is usually associated with sugar maple in such localities. It was formerly very common, and large numbers were cut down, squared and exported; but owing to the destruction of maple woods it is now found chiefly as second growth along roadsides and borders of fields."

The flowers appear in early spring before the leaves, and are soon followed by the fruit, which is larger and smoother than that of the White Elm, but must also be gathered and sown immediately when it comes from the tree. It is only in Southern Ontario that this tree is still a commercial wood. It is much superior to the other elms, and will take a high polish. Its chief uses are in the manufacture of agricultural implements, bicycle rims and wheel stock, but it is also employed for bridges and ship building and for heavy furniture.

Our illustration shows a tree in the usual situation in which it is now found. In the background will be seen a White Elm which shows a characteristic long clear bole of a tree which has grown up in the forest, since cleared away, leaving it in solitary and stately grandeur.

The American Elms are different species from those found in Britain. The English Elm (*Ulmus campestris*) grows best on low rich soil, and as it does not ripen seed in England is evidently an introduced variety. The Scotch Elm (*Ulmus montana*) grows in elevated situations, is common in Scotland, Ireland and the North of England, and, as it will produce fertile seed, is evidently native. It is a light, graceful, pendulous tree, and is the parent of the weeping variety. It is known as Wych Elm or Hazel, and in olden times it was used for the manufacture of bows, the use of the "wych hasell" being enjoined by statute.

* Contributed by the Officers of the Canadian Forestry Association.

Forestry and Colonization.

The sole remaining member of the Commission on Forestry and Colonization appointed by the Government of the Province of Quebec, Hon. G. W. Stephens, K.C., has issued a report which deals with this admittedly difficult question in an able and impartial manner, giving due consideration to all the interests involved and outlining a policy which is thoroughly practical and undoubtedly practicable. The Commissioner may be congratulated on having hewed out so clear a path between the vagaries of the idealist and the inertia of the provincial.

The key note of the report is contained in the following paragraphs from the first chapter:—

"A Forest Reserve should be established as soon as possible. The Laurentian chain of mountains or hills, intersected by numerous rivers and dotted over with beautiful lakes, seem to have been created for the especial growth of trees. There is an abundance of hills, which are for the most part rocky and covered with a light depth of soil. There are few farms in the hill district which are not intersected by hills, which when cleared of the timber and exposed to the rain are spotted with bare rock. The land, as a rule, as you ascend the rivers, becomes unprofitable for agriculture. The farmers in this section are, for the most part, supported by wintering in the shanties; or where a good water power exists and is improved, a centre of population is collected. Farming in the Laurentides, as a rule, is not a very remunerative occupation, only the Canadian brought up on the border of the forest and possessing an experience and training in the shanties of the lumbering camp seems to possess the pluck and vitality to attempt it, and he deserves a better field for his indomitable perseverance and energy.

"Men clear up a farm and establish a home only to discover after many years of labor, early and late, that the soil, which at first produced fairly good crops, will no longer support the family. The

farmer has become hopelessly in debt, and migrates with his family to some manufacturing town over the border.

"The Government should direct colonization to good land, so that when a settler has cleared up his farm he can enjoy the profits of his labor and hand down to his children a property susceptible of continued improvements."

After recounting the steps taken on this continent and the continent of Europe for improving forest administration, the suggestion is made that a chair of Forestry should be founded at Laval University, the teacher to be obtained from the Forestry School at Nancy, in France. Or the Government could select a capable person from among its Land Agents to take the three years' course at Nancy. In view of the immense interests involved, the step would be more than justified. The management of the Forest Department in France has been remarkably successful, and inasmuch as it is a more flexible system than that of Germany, it would be more likely to give the training which would enable a student to adapt himself readily to Canadian conditions. The services of a trained forester would be invaluable to the Department of Lands and Forests in an advisory capacity, besides the educative influence that would be exerted. The forest area of Quebec is immense, comprising a tract equal to about forty-four times the size of England, and in the year 1901-2 it yielded a sum of \$1,234,072 out of a total Provincial revenue of \$4,515,169. It furnishes employment to the population during winter when agricultural operations are suspended, and round the paper and pulp mills, dependent on it for supply, are established villages and towns that retain many people who might otherwise drift away across the international boundary and be lost to the Province entirely.

In order to ensure the preservation and reproduction of the forest, the report goes on to say, three things are necessary: the perfecting of the system of fire protection; the strict enforcement of the

diameter limit of cut; the extinction of the jobbing speculator who takes up lots to sell the mercantile timber and to defraud the Government of its timber dues.

Forest fires have been responsible for widespread destruction in the forests of Quebec, estimated at from fifty to eighty-five per cent and the causes have been various, from the signal fire of the Indian to the surest signal of the advance of civilization before which that wandering race of hunters is gradually melting away,—the railway locomotive and the settler's clearing. And the last state of the land is worse than the first, for civilization seems to be a greater friend to destruction even than savagery. Due credit is given to the fire ranging system for the improvement it has brought about where it has been established and properly administered. It is of paramount importance, however, that the service should be brought to the highest state of efficiency and extended to every part of the Province. The recommendation is made that the Government should compel every lumberman to employ fire rangers from the first day of April to the first day of October in each year.

A change in fire regulations is suggested, namely, that article 1345 which prohibits setting fire in or within a mile of the forest, provided, however, that it shall be permitted for the purpose of clearing lands at any time except between the 1st July and the 1st September in each year, should be amended by changing the close season to between the 1st May and 1st October. An early spring with much dry weather makes the months of April and May dangerous months for the spread of fire. This has received a very pertinent illustration during the past spring. A provision that a space of fifty feet from the forest should be cleared of all inflammable material and that no brush heap should be set on fire at any time without such a fire strip, would be beneficial and should not be a hardship to the settler. In fact, careful settlers have adopted this and other precautions with success. The need of education is illustrated by a conversation between two settlers in the Temiscamingue district which was overheard lately. The best method of clearing

lands was being discussed and one settler declared that the best way was to set fire to the woods around. Strict enforcement of the regulations is an absolute necessity.

A statement of grave importance is to the effect that by far the most prolific cause of forest fires is the isolated squatter, who settles down in the midst of valuable limits, and the bogus settler whose name is used by a neighboring mill owner for the purpose of plundering the limit holder and defrauding the Government of its dues, while, judging from the number of cases submitted to the Commission, frauds of this kind have increased during the past few years to an alarming extent. The moral is clear. No lots should be sold except such as are fit for agriculture, otherwise the result will be that, as has occurred south of the St. Lawrence, the forest lands will pass into private hands and cease to be a source of revenue to the Province. In one case examined by the Commissioners, 142 lots had been taken out of one limit by this method, the great majority of which were unfit for cultivation, and had evidently been taken by speculators under false pretence. It is clear that some better system of management of colonization should be adopted, so that the settlers may be directed to the good agricultural lands and settlements made more compact. This is the opinion of men who are deeply interested in colonization and to whom it is the first concern. Concentration on such lands would enable the Government to spend the colonization money to advantage in making good roads and bridges, so indispensable to the prosperity and success of the settler. The settlers, being nearer together, would have the advantage of the assistance of neighbors. The parish church and village school would be established and supported with less difficulty, and a strong and prosperous settlement would result.

For the preservation of the forest a diameter limit for cutting is necessary, and on the whole a twelve inch limit appears, from present knowledge, to be the most profitable. The report recommends that this limitation should be strictly enforced. But this is not suffi-



TRANSPORTATION IN THE FAR NORTHWEST.
Hudson's Bay Company's Indian Tripmen and Voyageurs.



RIVER AND PORTAGE.

- (1) Scow running the Rapids at Smith Portage. (2) Carts on Portage at Slave River. (3) Steamer Grahame on the Athabasca
(4) Tramway at the Grand Rapids of the Athabasca.

cient to ensure reproduction and the growth of a new crop of pine and spruce seedlings. It will ensure a supply of seed, but the other conditions of reproduction may be absent. The debris of lumbering, besides being a great source of danger from fire, is also an impediment to the new growth. The suggestion is made that the tops should be branched so as to fall flat on the earth, where they would soon decay, and help instead of hindering reproduction. It is calculated that it would not take more than one cent per top for clearing spruce tops in this way.

Replanting of waste places is at present, and rightly, considered an impossibility, on account of the cost; but where sand dunes are destroying good agricultural land, it might be advisable to adopt this plan, even at the present time. The brules or burnt spaces might be assisted to reproduce pine and spruce by scattering seed in suitable places, or by regu-

larly seeding down selected spots in elevated places, from which seed might be afterwards distributed by natural processes. The reproduction of the forest is a question difficult of clear and definite solution in the present condition of our knowledge of tree growth, and with the comparatively low values of forest products, but the suggestions made are practicable and are in the right direction.

In conclusion, it may be said that the report is one of great value, which should be read carefully by every citizen of the Province of Quebec. The principle that non-agricultural lands should be kept for forest purposes, and that permanently, is one that should be pressed upon the attention of the people of Canada until it is thoroughly accepted and understood, and then it will be possible to make further advances which are a necessary sequence to the adoption of such a policy.



Labrador.

BY WILFRED GRENFELL, M.D.

Only those who have had to fit a vessel for a long voyage know how hard it is to get away. There are a thousand and one things the most methodical minds omit, and every last hour or two is characterized by hurried messengers with paper parcels arriving from all sorts of quarters, which, at the last moment, are flung loose upon the settles, and often well shuffled up by the sea outside the harbor, before one can leave the deck, and get the first watch set. The hospitality of the Newfoundlanders, which is proverbial in the outports, is maintained also in St. John's, and almost reaches the "open house" of the Anglo-Indian in India. This, also, makes it no easier task to get away. But added to all these, this year was a month of northeast wind, fog, cold, and absence of sunshine, with ice late pegged in on the land, and all reports from the north insisting "it is no good starting yet

awhile anyhow." Even so late as June 20th we heard of a schooner crushed in ice and lost at Quirpon, and all the unfortunate fisher folk for the Straits and Labrador unable to get north, owing to the persistent northeasters. One vessel, for instance, a seventy-five-ton schooner, called the Co-operator, which left St. John's for sea on the 6th of June, we passed a few hours after leaving St. John's ourselves, when we eventually got away on the 25th. The average man of to-day cannot possibly estimate what this means in these days of rapid communication. Here are places now on the French Shore and Straits waiting three weeks for salt and provisions, and here are hundreds of families day after day lying at anchor in drizzly fog, feeling just as much locked up as if they were in the penitentiary, while they know it is no fault of theirs that the precious days are slipping away in which, out of the

whole 365, they can expect to earn food and necessities for their families, with the additional tantalizing information that the Norwegian catch is short, and that prices are likely to rule high, while cod liver oil, owing to a combine in New York, has risen to almost fabulous sums. This latter fact accounted for some weird machinery in the sheet iron and tin, which is now loading the Strathcona's decks, and which, at the last moment, literally at midnight, we hustled aboard to help the people around Engle to save their cod livers, and refine instead of rotting out their oil. A number of small factories are being started, I am delighted to know, all around the coast this year. Indeed, though one left Labrador last year, feeling almost that, after the fearful price of fish, it was a case of *après cela le deluge*, one returns to find fresh enterprise and excellent prospects everywhere. It is quite true many schooners hoisted the broom at the mast-head last fall, and not so many craft will be down this year, but that considering the decline in salmon and fish in quantity, is not altogether a bad thing, and it is chiefly the smaller and poorer craft only that are laid up this season, after all.

The lumber areas in Labrador, worked for the first time last year, have proved a great success. Fresh areas all along the coast are being taken up. One mine is certain to be worked, and very profitably too. Several whaling stations will shortly be opened, and there is a great deal brighter prospect for residents next winter, to say nothing of the visions of abundant fat meat for the trusty Labrador dog, while gold mines in White Bay, and valuable mines in other parts of Newfoundland have also been opened up, even since that time. The gift of a new dynamo and engine for the Strathcona has enabled us to install electric light this year, and this, with the promise of a searchlight, will add greatly to both her comfort and safety this year. At the last moment the searchlight did not arrive, but we hope to get one ere the summer has flown. This installation will enable us also to dispense with the exceedingly troublesome storage battery for an X-rays, as we shall now be able to run it direct from the dynamo current.

The generosity of friends in Canada and the States has enabled us to add many other desirable additions to our hospitals in Labrador, and the French Shore. A new laundry for Battle Hospital, which will, we hope, preach a few not unnecessary lessons in both economy and sanitation. Rubber matting for the wards and passages have been given, which will add greatly to the facilities for keeping clean, and assist to do away with much noise, caused by the wood flooring of the building. A new examination chair, and also a very valuable self-mobile invalids' wheel chair have also been added. This is already in use, on loan, to an old friend and a Labrador fisherman, who will henceforth appreciate the boon it will be to others. A few splints, an odd leg or two, and some other necessary apparatus also arrived in time for our sailing. As we have been given a fine new metal working lathe, we are sending it down to be erected at the little mill at Engle, where we have steam power and other machinery. I ought not to forget here a number of new Sloyds, or carpenters' benches, with sets of tools, etc. These we shall erect at the schools, and we hope to be able to give valuable manual training, as well as pleasant employment, in the long evenings next winter. I have often noticed how much skill is wasted for want of good tools. A few years ago in the French Shore we fitted out a deaf and dumb lad with a complete set of tools. He had shown considerable skill, whittling with his knife, but ever since he has been turning out most useful articles for domestic comfort, which one does not ordinarily see in the small houses. We are also taking down a number of loan libraries from both Canada and the States to distribute and keep in circulation.

The energy of Judge Prowse (of St. John's, Newfoundland), has almost succeeded in establishing a Carnegie public library in St. John's, and, as he wrote me two years ago, this system of loan libraries, as carried out in Canada and the Western States, was to be part of his scheme. Thus he hoped to afford this best of all method of helping self-education to all the scattered communities, where now even old magazines are

rare and valuable. The intellect of scholars and wise men cannot develop and grow strong on ephemeral literature of that kind, and we hope that our experiment, which is new, we believe, to this ancient colony, will be really useful, as we know it will be appreciated. Another experiment, that has already shown its value in these isolated regions, has been the regular ambulance instruction given every winter at St. Anthony. While in the woods last winter one man slipped his axe and cut his leg very severely. One of our men, who has received the certificate of the St. John's Ambulance Society of London, was fortunately at hand. He controlled the hemorrhage in the proper manner above the wound, and brought the man out to Dr. Simpson on his wood sleigh, without either filling the wound with tobacco, flour, or any other of the favorite local hemostatics and blood poisons. Result—six stitches and a wound healed at once.

Leaving the wharf in St. John's, at 2 a.m. we crept out in the dark—the friendly stars shining out for the first time since our arrival. We were to have given a friendly pluck outside, as the first southerly air was already moving overhead. But in the darkness she did not see us, and without a searchlight we could not find her, so after hailing one or two suspicious looking craft, we steamed away out through the Narrows and headed away north for an eleventh season on "Labrador."

A heavy roll to start with is always a

severe test after a long laying up in harbor, and a number of our amateurs did not look like ruling the waves after a few hours out, while to add to our troubles the good ship capsized the whole table a few moments after breakfast was laid upon it. Why it waited six and a half hours before it accomplished that feat it is difficult to say. The beautiful sights of a voyage on the Newfoundland coast at this time of the year, soon, however, brought the invalids on deck. We were passing the lofty cliffs of Baccalien before noon, and at evening lay at anchor in motionless water in Sir Charles Hamilton's inlet, waiting daylight to run up to Dog Bay, where we wanted to visit a lumber mill. We passed on the way numerous noble icebergs, magnified and intensified enormously by an exquisite mirage, schooners like square-rigged ships from the inverted images above them in the air—mountains of ice, not yet above the real horizon, flashing in and out of sight like transformation effects, islands melting into the air on the reflection of the long, heavy swell, and then reappearing, first as needles or pinnacles, and then as buttressed fortifications, only once more to melt into the air. It is phenomena, such as these, with the bracing air, long days, and excellent sporting opportunities that are attracting more and more tourists each year to these shores. Indeed, there is every presumption that in the not very distant future, Labrador and its northern fiords will prove to be the Norway of the West Atlantic.



The School of Mines, of Kingston, has issued in neat pamphlet form, well illustrated, a report of the course of lectures on Forestry delivered by Dr. B. E. Fernow, at Queen's University, 26th–30th January

last. The lectures deal in an interesting and instructive way with different phases of the subject. Copies of the report may be obtained from Mr. Geo. Y. Chown, Registrar of the School of Mines.

The Art of Forestry.*

BY A. HAROLD UNWIN.

1. FOREST MANAGEMENT.

No doubt many know what the above means, but, at the same time, perhaps it is not out of place to give the most salient features of what is understood by the term Forest Management. First of all, everyone will agree that the culling of a piece of timbered ground of the best trees cannot, under any circumstances, be termed "forest management." This must be called by its true name, a short-sighted policy of forest destruction. Of course, it is much more profitable for the time being to do this, rather than give any attention to the perpetuity of the forest and its products; but here the great disadvantage of forestry comes, in that it does not only deal with the present, but with the future, and involves long periods; hence its small return (in per cent. on capital represented in growing timber) compared to other arts and crafts. One has, in fact, to use the interest and not the principal; that is the main issue in forestry.

Real forest management begins when a forest is used with a view to obtaining a "permanent annual yield" in timber, and hence a permanent annual return in money, which, as timber gradually enhances in value, should steadily increase. The "permanent annual yield," as the out-turn in timber from a forest has been termed by Dr. Schlich, the greatest living English authority on Forestry, is the *accumulated* growth of *many* years on a certain *fractional part* of the whole area, or, in other words, is the same quantity as the growth of woody fibre in *all* the trees of the *whole* area in *one* year.

The question naturally next arises as to when it is profitable and timely so to use the growing timber of a forest that its permanency is insured, and at the same time a reasonable return to the seller of the lumber is attained. This, of course, depends on whether the wooded land is to be devoted perma-

nently to the growing of timber trees, or whether it is eventually to be used for raising agricultural crops.

On the latter class of land it is natural that no very elaborate scheme of utilizing the present crops of trees can be adopted, as it would be best if the land were to be cleared of timber, within 10 or 20 percent in area, by the time it was ready to be taken up by settlers. Hence, on such land, the use of the forest products cannot be of a conservative nature. This is "out and out" or "absolutely" agricultural land. Then there are areas which would yield good returns under trees, but on which it will scarcely pay to practice agriculture. This may be called "relatively" forest land, because though agriculture has a claim upon it, it is, on the whole, better utilized forestally. Lastly, there are lands which are stony, rocky, and either chemically or otherwise unfit for agriculture, and which do not admit of any other form of use except that of forest crops. Such land is "absolute" forest land. The above terms, which are very exact, and contain a definite classification of the land in them, have been given by the best European authorities on Forestry.

On the last two named categories of land, forestry, and hence forest management, has a place. The objects of management are naturally the first consideration, and depend entirely upon the owner, and to a certain extent on the limit holder, as the case may be. The owners naturally include the Government, Federal or Provincial, Corporations and private individuals. It has to be decided, first, what is to be permanently utilized, and, latterly, produced. For instance, as a few of the aims, the following might be cited: Keeping the forest canopy intact, so as to conserve the moisture of the air and soil to the greatest extent; second, to produce pulp wood of six inches diameter and upwards; third, to use lumber of long, clean

* Contributed by the Officers of the Canadian Forestry Association.

length, say thirty feet and upwards, and of a specific diameter; fourth, to cut a certain quantity of cord wood per year, etc.

A plan of the scheme of management is next made, and as to whether this is very elaborate or not will depend entirely on the then, or in the near future, prevailing stumpage prices; and in practice it comes to this, that the lower the value of the wood, the rougher and simpler the plan must be. It is not worth while and does not pay to spend a great deal of time in preparing a scheme of cutting if the value of the lumber is not high.

In its main features the plans are alike, whether the limit is worked on an "extensive" or "intensive" (as in Europe generally now) system. It contains, as also according to the best European practice (now also in vogue in the United States):—

(1). A map of the forest limit on a fairly large scale, showing trails, roads, watercourses and boundaries.

(2). General description of the species of trees, soil and age of trees on the limit, as also the distribution of the different species over the area, and altitude of the forest above sea level.

(3). General objects of management, such as rotation, that is, time which elapses between the sowing of the seed

(self-sown) and the cutting of the mature tree, or the age at which a tree reaches merchantable dimensions, for example: Spruce for pulpwood, 30 years old, in good soil.

A practical example of this in its simplest form would be found, supposing a limit or forest contained 100,000 acres, trees to be cut when 100 years (rotation) old; hence, area to be cut each year would be 1,000 acres of 100-year old trees, or 1-100 part of the whole area, which represents, condensed in a small space, the growth of *all* the trees on the *whole* area in one year.

(4). Special plan showing what areas are to be culled or completely cleared of lumber in successive years, due modifications being made in the interests of fire protection and damage by the wind. The above is usually made out for a number of years (about 30), subject to revision from time to time. As a matter of experience, where forests are protected from fire, it has been found that the crop is much more certain than any other land produce, hence the utility of a plan for such a length of time.

The practical working of such a scheme involves quite a number of technical details, which must be left unmentioned for the present for the sake of brevity.



Fur-Bearing Animals.

BY H. YOUNG.

At the last meeting of the Edmonton Gun Club, I read an article dealing with the matter of the better protection of feathered game, deer, and fur-bearing animals, in the district of Alberta, and I think that, owing to the support given, it has aroused considerable interest in this matter, and has, I think, done some good along the lines aimed at—better protection and preservation of fur-bearing animals and game birds.

In this article I will only deal with the question of protection of the fur-bearing animals in the unorganized districts of the North. In these districts

the protection of game and all animals is one coming under the control of the Dominion Government, and the importance of the interests involved makes it a matter deserving all attention.

It is strange that, though there are many Canadian fur dealers in Canada, some with an international reputation, none of them has ever been represented in the Edmonton market, while American firms have always been represented. Edmonton to-day is one of the largest markets for the sale of raw furs direct from the hands of the trappers.

It may surprise many not very fami-

liar with the trade to learn that of the large quantity of fur annually brought in here, not more than one-half will grade No. 1, and a quarter of it will grade No. 3 and lower. What would be thought of a farmer who killed or sold his steers when they were in poor order, or cut his crop before it was ripe? Yet that is exactly what is being done in the fur trade to-day. Bears are being killed in summer, value fifty cents; same skin, killed in season, value \$15. Silver fox, killed too early or too late in the season, is worth perhaps \$5; same skins, killed in season, worth often \$500. And the same is true of all other kinds of furs. Neither the Hudson's Bay Co. nor any other trader wants these poor skins. The only reason they trade them is because the trapper says to both: "Buy my poor furs; or, if you don't, I will not give you my good fur when I have any." Competition is keen, and one trader is afraid of another; so the trapper forces their hands. The Indian trapper has, I suppose, a vested right in the fur of the North; but he certainly does not own it. The fur of the North is a valuable asset of the Dominion, as much so as are timber and fish. An Indian has no care for to-morrow; so I think the Government should step in and prevent them from destroying recklessly their only present means of making their living, and preserve, as long as possible, the rich fur preserves of the North.

There is, in my opinion, only one way to stop this evil, and that is to prohibit the export of furs of a low or unprime grade. When traders found they could not sell these skins, they would cease buying them, and be glad to do it. The Indian would stop killing, because he would not be able to sell either, and would

have no complaint against the Government for any stoppage of rights he may consider himself possessed of.

I have spoken on this subject with such well known men in the fur trade as Messrs. McDougall & Secord, Ross Bros., Bredin & Cornwall, Jas. Hislop, of Hislop & Nagle, W. Connor, Falk & Swiggert, Colin Fraser, Stennett & Gilmer, Thos. Hourston, representing Ullman & Co., and many others.

I know they all endorse my opinion on this subject, both as to the extent of the evil and the means to be adopted for its suppression.

I would wish to make a special plea for the Beaver. This most valuable, but defenceless animal, is surely and rapidly being exterminated, and I would wish to impress on everyone the necessity of having it protected. I myself have seen it disappear from large tracts of this country. In Peace River, once thought to be the very home of the Beaver, it is about killed out; another year or two will do the business. All over the country it is the same. There is now only one place where they are really plentiful, and that is in the country north and west of Fort de Liard, on the Liard River, and the streams tributary to it. Here they are being surrounded, and it will be only a short time when what has happened elsewhere will happen here. The Beaver is a valuable animal, and, if given a decent chance to live, will be a source of livelihood, as well as revenue, to Indians for years to come. They are being protected now all over the country in places where they are practically almost extinct. Would it not be wise in the case of the north-country to afford a measure of protection while there are some still in existence?



Some kinds of shooting cost like sixty. For example: An alleged sportsman paid, lately, \$900.00 because he had

indulged in the luxury of a shot at a cow moose. They evidently manage some things excellently in the State of Maine.

Our Medicine Bag.

The Commissioner of Lands and Forests for the Province of Quebec in his annual report, referring to the appointment of the Commission on Forestry and Colonization, makes the following statement of the circumstances which induced the Government to ask for the appointment of such a commission :

"In this country the settlement and opening up of our vacant lands and the consequent increase of our population constitute our chief aim. All our energies are directed to that end, for from it is derived the political influence we now have and which we are to possess in the future.

"On the other hand, we have immense wealth to develop by the exploitation of our vast forests. They constitute our greatest source of revenue, and from those forests, with the aid of our innumerable water powers, we shall obtain what our province needs to become a great manufacturing country, and thereby retain that section of our population that is always ready to emigrate.

"True settlers and timber license holders, when they remain within their respective spheres, do not hinder, but, on the contrary, assist one another. In regions remote from the large centres, colonization progresses in proportion to the extent and prosperity of lumbering operations, for the latter create markets for the former."

A serious difficulty has, however, arisen from the fact that, owing to the increased value of timber, especially wood suitable for the manufacture of pulp, merchants, both great and small, and manufacturers of all kinds, associate with the settlers and make use of them to obtain control of timber lands, many of which are now under license. The effect of this would be injustice to the limit holders, would ruin the credit of the province, and would finally result in these lands being transferred to other lumber operators and placed beyond the control of the province.

The difficulties of administration of a large province, rich in natural resources

for which there is a great demand, are undoubtedly great, and if the Government feel that a full enquiry by a Commission will assist them in arriving at a solution of the difficulties there can be no objection to that step. It is to be hoped, however, that the Commission will be composed in such a way and placed in such a position as to do its work thoroughly and impartially and make its report without delay. It is regrettable that ground should be given for any feeling that the enquiry has not been pushed as vigorously as is desirable.

A plea for the poor settler is often put forward to deceive the public as to the character of the spurious settlement above referred to, and it is specially desirable that such a practice, in so far as it is attempted, should be set in its proper light. In addition to this, however, there is the question of *bona fide* settlement on lands that are unfit for agriculture, which in its results is no less disastrous to the true objects of colonization and the finances of the province than settlement of an altogether illegitimate type. The Commission should make a thorough and comprehensive investigation of the whole problem.

The following suggested resolution was received from Colonel F. W. Warren, of Vancouver, too late for submission to the annual meeting of the Canadian Forestry Association :

"That the Dominion Government be requested to co-operate with the governments of the provinces interested therein—especially British Columbia—with a view to locate and reserve another National Park for the purpose of Forest and Game Preservation. That the location in British Columbia be somewhere on the route of the projected Trans-continental Railways. That with such object in view the governments interested be requested to take the necessary steps to prevent the land grants to any railway company from conflicting therewith, and that the necessary clauses be inserted in

their charters making the land grants subservient to the location of the reserves."

Colonel Warren adds that the precise location of the park to be chosen in British Columbia might be at a spot where both moose and caribou frequent and the country is well wooded and well watered, and that possibly such a district could be found in the neighborhood of the Parsnip and Pine Rivers.

It is timely that attention should be called to this question, and that steps should be taken in the direction indicated by Colonel Warren. The experience of the past, in the destruction of forests following the construction of railways, makes the whole subject of forest protection along the route of the new trans-continental line one of paramount interest.

In engaging Mr. Walter S. Glynn, of Liverpool, England, to judge several breeds at the big dog show to be held in Toronto in September, the management has made a master stroke. Mr. Glynn is the eldest son of Mr. Walter Glynn, of Liverpool, the head of probably the largest existing shipping firm, and is by profession a barrister, whose practice is in the "Admiralty Court." Mr. Glynn is a member of the Kennel Club committee, and a most regular attendant at the meetings of that body, and is of great assistance in its deliberations. In addition, Mr. Glynn is a member of several specialty clubs, and though he does not look for judging engagements, he has several times judged fox terriers and other rough terriers at most of the principal shows. Indeed, he has officiated at least at one fox terrier club show, that held at Cheltenham. His first love was the fox terrier, and he has owned some good ones, though his strong kennel consists mainly of the hardy and handy Welsh terrier. Amongst the fox terriers he has owned are Champion Brynhir Rags, Displacer, Deftly, etc. We are confident that this gentleman will attract a record entry of the ever present fox terrier at Toronto, while it is probable he will also judge Airedale, Scottish and Welsh terriers, in all of which he is a known authority. From

advance proofs of the premium list we notice there are, besides the usual cash prizes, a very large number of valuable special prizes, which have been apportioned very judiciously to the different breeds.

"Ashmont" is the nom de plume of a recognized authority on canine treatment and diseases. His "Kennel Secrets" has gone through one large edition, and is to be republished in the autumn by Messrs. Little, Brown & Co., of Boston. The same firm has just issued a second edition of "Kennel Diseases" by this author, for which we predict an even greater demand than in the first. It should, and probably will, become *the* text book on the treatment of those varied ills to which the dog is so subject—especially the well-bred animal. As "Ashmont" says, there are no specifics in animal practice. Sometimes one medicine is needed, sometimes another for the same disease, and therefore this work, which is richer in recipes than any other with which we are acquainted, should win itself a place on the shelves of every dog-owning and dog-loving man. Chapters on sick quarters and nursing are followed by others on the principles and practice of medicine. The diseases of the respiratory, circulatory, nervous and digestive systems, as well as of mouth, tongue, eye, ear, bone and joints are all described and appropriate remedies indicated. The chapter on obstinate diseases of the skin will be of inestimable value to those whose charges suffer from mange or eczema—and what kennels are at all times free from these inflictions? Little, Brown & Company, Boston, are the publishers.

The executive of the Canadian Kennel Club called an open meeting, during the Montreal show, of all interested in dogs. It was held in the Arena, Mr. John G. Kent, president of the C. K. C., in the chair, and there was a very good attendance. Mr. H. B. Donovan, the secretary, was also present. The meeting, as explained by the Chairman, was called to consider the relations existing between the A. K. C. and the C. K. C.,



SIR DONALD RANGE.

Photographed by Mr. A. O. Wheeler from Mt. Aholt. Sir Donald, Tito, Eagle and Avalanche Peaks are shown.



ROCK ELM.

(*Ulmus racemosa.*)

A graceful and useful species, growing usually on interval land

also a proposition which had been made by the latter towards the mutual recognition of wins. Mr. Vredenburg, secretary of the A. K. C., who was present, clearly set forth the position of the body he represents, and held out no hope that anything short of a complete surrender would be entertained. The C. K. C. and other clubs in Canada would be received on the same terms as kennel clubs in the United States, and probably an advisory board would be allowed. The idea of absorption did not go down with a large number of the Canadians present, and a long discussion took place, the result being that the meeting broke up with the whole question remaining as it is. During the meeting Mr. Donovan read the result of a postal vote of the members of the C. K. C., which was practically unanimous in holding to the national character of the institution.

Elsewhere in this issue will be found an illustration of the Hudson's Bay Company's steamer, "Mount Royal." The Mount Royal was built for service on the Skeena and Stikine rivers in Northern British Columbia, and has given the greatest satisfaction. She was launched at Victoria, B.C., on April 19, 1902, and cost \$25,000.00. Her dimensions are as follows: Length 138 ft.; beam 28 ft.; depth 5 ft.

She is driven by engines having 14 inch cylinders, with a stroke of 60 inches working at 28 to 30 revolutions a minute. They give her a speed in still water of 15 knots. The shaft is of nickel steel and hollow. The boiler is of the locomotive type, working under a pressure of 200 lbs. to the square inch. The Mount Royal has steam steering gear and a steam capstan, as well as electric light plant and electric searchlight. In the design an endeavor was made to obtain a maximum of power with her shallow draft, to permit of her use at any stage of water. She can carry 80 tons on a draft of 27 inches, and fifty first class passengers can be given state-room berths and excellent accommodation. Travelers of the usual backwoods type—willing to spread their blankets on the softest plank obtainable—could be carried largely in excess of this.

This boat has made record trips on both the Skeena and Stikine, and has shown herself to be the very best model yet built to climb the swift Pacific Coast rivers.

The Stikine, in Northern British Columbia, is one of those swift streams known to prospectors as "ground sluice" rivers. The grade is high and wonderfully even, though it becomes somewhat steeper as the higher waters are reached. Telegraph Creek is some 150 miles from the Pacific, and at an elevation of 600 ft. Throughout this distance there are, practically, no pools or resting places; the water is "quick" all the way, excepting at the "Little" and "Kloochman's" canyons, where it is "quicker." Above Telegraph Creek the Grand Canyon is unpassable for 40 miles. There is magnificent hunting along the tributaries of this turbulent northern stream, the Iskoot, Clearwater, Little South Branch and Tahltan being locally famous. Above the Grand Canyon the country is hardly known to white men, though the Tahltan Indians—fast dying off—kill large quantities of moose, caribou, deer and Stone's sheep therein.

We took up "Moose Hunting, Salmon Fishing, and other Sketches of Sport," by Mr. T. R. Pattillo, with considerable interest, as these and a few other avocations are our pet weaknesses, and opening the book at random, "Jenny Lind's the fly" were the first words we read. We became interested at once, for nowhere in Canada will you find a trout water where the Jenny Lind will not beguile salvelinus into your creel. In this case, however, it was *salmo salar* that was captured, which certainly was just a little bit out of the ordinary duty of even a Jenny Lind. Much of the author's sport was had in Nova Scotia, in days now long past; yet, not all, for he enjoyed his fill of shooting in the North-West territory in 1890 and 1891, when, as he writes: "Canadian and wavy geese by the tens of thousands made the stubble fields their feeding ground, and the lakes their resting places. Myriads of ducks in endless variety fed in the pond holes and lakes, as well as on the

prairie, while chickens in large flocks abounded in every direction." And as it was then so is it to-day. The volume is a plain, unvarnished tale by a sportsman of the good old school, and will be found both interesting and a useful guide. It is published by William Briggs, Toronto.

The American Sportsman's Library—good as all the volumes so far issued are—contains as yet no book of greater interest to Canadian hunters than that on the deer family, to which the President of the United States contributes some of the most instructive chapters. The introduction is one that any sportsman would profit by reading. It treats of the foundations of sport, as it were the bottom facts all must know whose aspirations lie in the skilful use of the rifle. All North American deer are described and their habitats defined; clothing fit for the still-hunter's wear described; game preservation admirably insisted upon and wholesale slaughter deprecated. Then follow successive chapters on the mule and whitetail deer, antelope, wapiti, blacktail, caribou, and last, but certainly not least, a good description of our own Canadian forest giant—the moose. There should be a great demand in the Dominion for this admirable volume of a series, for which Mr. Caspar Whitney and the Macmillan Company deserve the thanks of all fond of big game hunting.

We intended to publish in this issue an illustration showing the Westmount Gun Club team, which won the Montreal Challenge Trophy, at Ottawa, on Easter Monday, but unfortunately the photograph furnished us was too poor to reproduce. Every man in the country who has ever shot at the traps, remembers the old cup put up by the original Montreal Gun Club, seventeen years ago. The competition is fifteen targets per man, teams of five men, and being such a short race, is usually close. This match was no exception, and was really decided only by Mr. Kennedy's last bird, the scores being 54 to 55. On the first round, Westmount led; in the second, Ottawa tied the score; and when Cameron and

Kennedy remained to shoot, the breaks on each side totalled equal exactly. This is the second time only in ten years that the invincible St. Huberts have been beaten on their own grounds. The Ottawa team was Capt. Higginson, Capt. Boville, Dr. White, C. Panet and W. L. Cameron.

The Annual Report of the Crown Lands Department for the Province of New Brunswick shows the total revenue from timber lands for the year 1902 as \$153,368, the amount obtained from sales and renewals of timber licenses being \$45,432, and from stumpage dues \$107,936. This is a decrease of \$21,155 from the year 1901, but the decrease is in the returns from the sale of licenses, the stumpage dues having increased by \$6,700. The principal items in the statement of lumber cut from Crown Lands are spruce and pine, 86,531,693 feet; hemlock, 2,388,567 feet; cedar, 15,357,249 feet; fir, 2,764,411 feet; hardwood, 2,936,007 feet; railway ties, 104,564 pieces. The prospects were that the cut for the past winter would be larger than for the past few years. Persons in the lumber business are anxious to secure control of spruce and pine-growing lands. The highest rate paid at the sale of timber licenses was \$125 per square mile.

Mr. Dwight W. Huntington has written a very useful book upon the feathered game of this continent, and we expect a large sale for it. In his introduction he says: "Some years ago I was shooting ducks in North Dakota, with some army officers from Fort Totten. In looking over the bag one evening I found a number of birds which were entirely new to me. Several of them were not mentioned in any of the books on field sports. It occurred to me then that a book describing every game bird would be a very valuable addition to a sportsman's library." So the volume under consideration was written—for sportsmen by a sportsman—and there is no gainsaying that "Our Feathered Game" should be on every shooter's bookshelves. His account of the woodcock and woodcock shooting is one of

the best we have come across. Grouse, turkey, quail, wildfowl and shore birds are all described accurately and intelligently. Charles Scribner's Sons are the publishers.

We are this month able to give the full judges' slate for Toronto's big dog show to be held in September. The management has endeavored to place none but men fully competent to judge the classes assigned them, and they have ably succeeded, as the following list will show :

- Walter S. Glynn, Esq., London, England, will take Fox Terriers (smooth and wire-haired), Airedales, Scottish and Welsh Terriers.
- Jas. Lindsay, Esq., Montreal—Irish Terriers.
- W. C. Codman, Esq., Providence, R.I.—Bull Dogs, Boston Terriers, Black and Tan Terriers.
- Henry Jarrett, Esq., Chestnut Hill, Pa.—Collies and English Sheep Dogs.
- W. T. Payne, Esq., Kingston, Pa.—Sporting Spaniels.
- H. W. Lacy, Esq., Boston, Mass. — St. Bernards, Mastiffs, Bloodhounds, Newfoundlands, Great Danes, Russian Wolfhounds, Deerhounds, Greyhounds, Poodles, Dalmatians, Dachshunde, Pugs, Whippets, Italian Greyhounds, Pomeranians, Toy and Japanese Spaniels, Yorkshire and Toy Black and Tan Terriers.
- Jas. Mortimer, Esq., Hempstead, L.I.—Pointers, Setters, Foxhounds, Harriers, Beagles, Chesapeake Bay Dogs, Bull Terriers, Skye Terriers, Bedlington Terriers and Miscellaneous.

The "Seventh Annual Report of the New York Zoological Society" provides excellent reading for all those who take an active interest in the promotion of zoology and the preservation of those animals which are native to the continent of America. Even those who take but a casual interest in these subjects will find the time spent upon a perusal of this volume amply repaid. We would especially commend to our readers an article by Mr. Madison Grant, dealing with the classification into different species of the barren ground and woodland caribou.

Sporting Yarns ; Spun off the Reel, is the title of a very amusing book written by Col. Andrew C. P. Haggard, D.S.O. Col. Haggard is well known to Canadian sportsmen, and hence they will take more than usual interest in this collection of stories. From salmon in Scotland and Newfoundland to lions in Abyssinia is the whole gamut of the all-round sportsman's scale—but the gallant Colonel runs up and down it with never a false note. The chapters that should interest Canadian sportsmen most are those on Ouana-niche, Moose Hunting, New Canadian Waters, An August Day on the Grand Cascapedia, and A Christmas Bighorn. Hutchinson & Co., London, are the publishers.

We illustrate herewith the Savage 25-35, 32-40 and 38-55 repeaters. These are meeting with an enthusiastic reception from riflemen throughout the country. The progressive shooter is not long in learning full particulars of any new goods from American manufacturers, and he

may be used with perfect safety to the shooter. These high power 32-40 and 38-55 are excellent big game loads. When you buy a Savage you will possess a fire-arm that will give the service you expect. In other words, the rifle will be more accurate and reliable, and you



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

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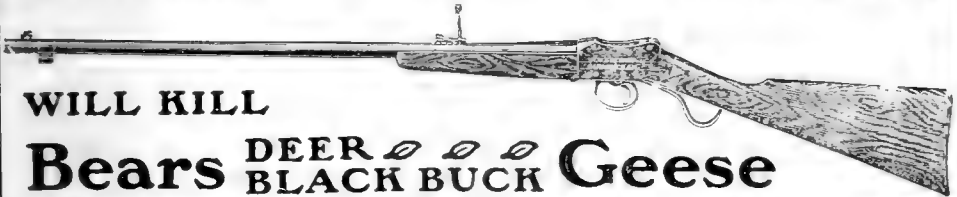
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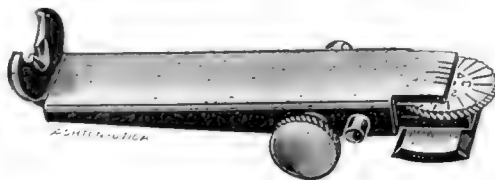
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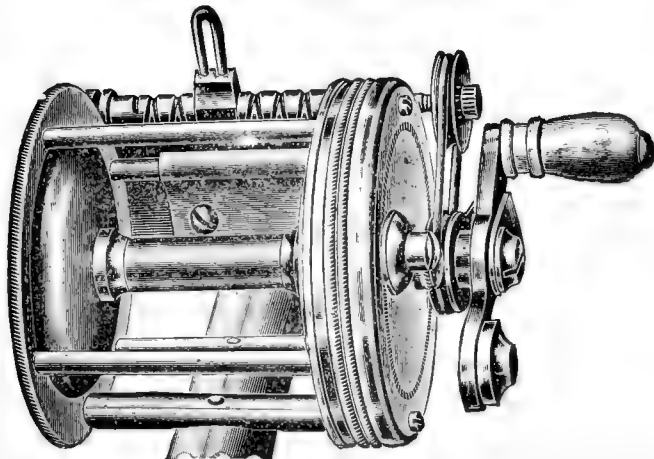
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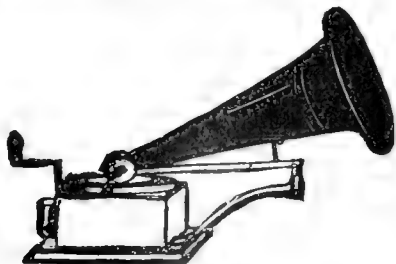
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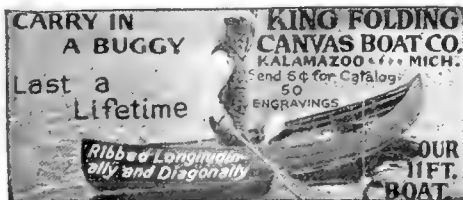
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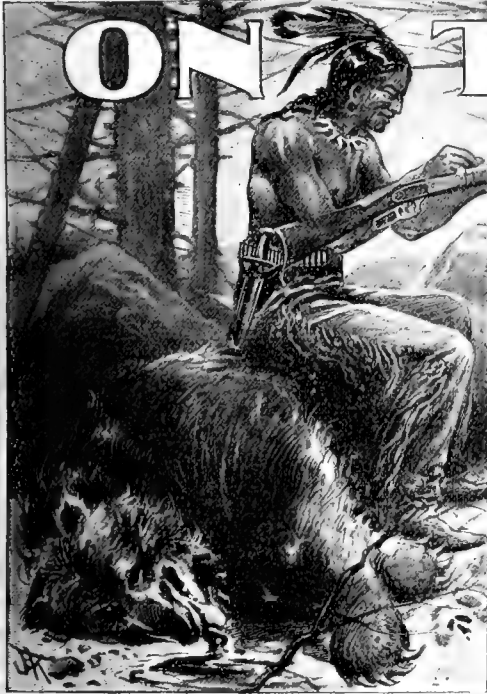
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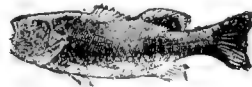
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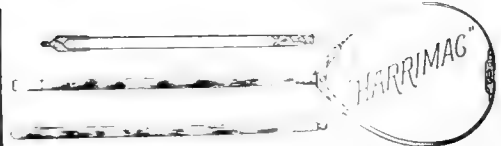
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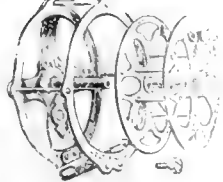
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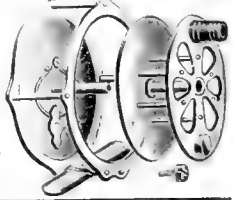


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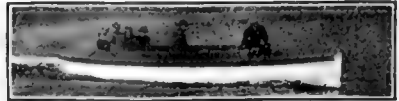
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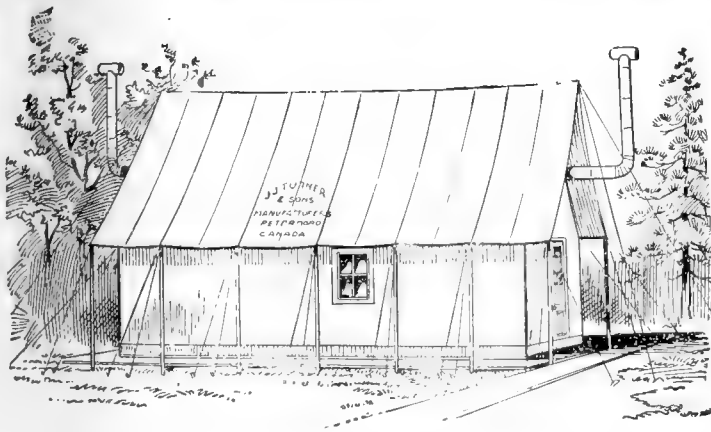
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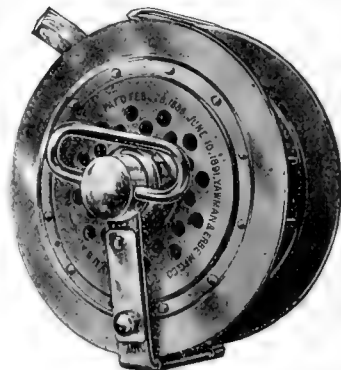
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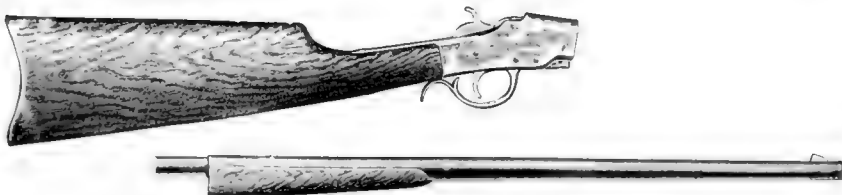
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ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, SEPTEMBER, 1903

No. 4

The Upper St. John.

BY FRANK B. ELLIS.

St. John people know all about the beauties and the attractions of the river between St. John and Fredericton. They have traversed it time and again in steam craft and sailing boats. They have seen it in sunshine and in fog; in calm and in storm; by day and by night. They have picnicked along its banks, camped on its shores, and summered at its various resorts. To them it is as a favorite book, ever new and ever pleasing, and they do not wonder that it is called the Rhine of America, the most beautiful river on the continent. They know that there is more of the river—350 miles of it—above Fredericton, down which come the logs, and over which a light draught stern wheel steamer is sometimes able to run for 63 miles to Woodstock, but of the wonders and beauties of this part of the river they know nothing. The raftsman, the stream driver, and the canoeist are alone familiar with the river above Woodstock, and of these three only the canoeist appreciates the voyage over the swift moving waters and the beauties the trip unfolds. The others love the river as a workman loves his work.

The Grand Falls divide the river almost in halves, and the journey of 125 miles down to Fredericton over its quick moving surface makes an ideal canoe trip, with just enough of excitement in the rapids to please all but the foolhardy. A great advantage that the trip offers is the ease with which the starting point can be reached. The Canadian

Pacific Railway runs right to Grand Falls, and it is only a few hours' ride—and a pleasant ride at that—from St. John, Fredericton, St. Andrews or any other provincial point. The regular day train from any of these places will land the passenger at Grand Falls early in the afternoon, giving plenty of time to view the wonders of the falls, and its still more wonderful gorge, and to get some miles down river before night settles down.

Under the direction of Mr. J. W. McCready, president, and Mr. Robert Allan, secretary, of the Fredericton Tourist Association, Mr. C. B. Foster, district passenger agent of the C. P. R.; Mr. R. F. Allbright, photographer, and a Globe representative, recently made this journey with Messrs. George Armstrong, Adam Moore, Henry Allan and Thomas Phillips as guides. Mr. Allbright, of course, had his camera along, and got many fine views that have been added to the splendid collection of New Brunswick scenery secured by him, and to be seen at the studio of Messrs. Isaac Erb & Son, in St. John.

The canoes were taken up in the train, and when the Grand Falls station was reached a team was procured to haul to the basin below the falls the big wooden canoe or boat that Mr. Phillips had brought along. The broad-shouldered, muscular guides picked up the other three canoes (canvas), swung them lightly over their heads, and walked the half

mile or more to the water's edge with as little concern as if they were carrying an ordinary valise into a hotel.

New Brunswickers themselves and all visitors to the province should see these falls, the grandest, excepting only Niagara, found east of the Mississippi. They can be seen in comfort by the tourists, for the town boasts a first-class hotel, the Curless, recently greatly enlarged, improved and thoroughly modernized. The falls themselves are most beautiful, and can be seen to splendid advantage from the quaint suspension bridge that spans the gorge in front of them, or, if a nearer view is wanted, from the rocks against which the raging waters beat in unceasing fury. The main fall is almost perpendicular, and somewhat wider at the top than at the base. The river, running for 218 miles from its source, and swollen by many tributaries, is of a very considerable size at Grand Falls, and there is an enormous volume of water thundering over the precipice, and beating upon Split Rock at the base, seventy-five feet below, sending high in the air a huge column of spray that hangs before the falls like a beautiful curtain, and from which the sun's rays, on a clear, bright day, scintillate, lighting up the rocks with many colors. On the right hand side the water comes over the brink in a thin curtain, a beautiful sight, but when the water is very low there is only the main fall. At the left it is possible to climb down so close to the falls that one is drenched with the spray, and from this point of vantage one of the best views of the great fall is obtained.

The water races away from the falls through a narrow and rocky gorge almost a mile long to the smooth waters of the lower basin. The gorge, the walls of which rise almost perpendicularly from 80 to 150 feet, is in some respects wilder and more picturesque even than that at Niagara, and through it the waters rush with terrible force. One cannot conceive of any human being attempting, as has been done at Niagara, to run these rapids in a barrel or any other contrivance, so wild is the torrent and so rough the shores. In the Niagara gorge there are small coves, in which there is slack water that venturesome

lads sometimes swim, but at Grand Falls the water tears along in its mad fury, washing the edge of the rocks and giving no opportunity for even the most daring to take liberties with it.

At several points it is possible to climb down from the high bank to the water's edge, and this climb, difficult as it is, well repays the sightseer, for it gives a better idea of the force and violence of the water than can be got from the bridge or banks, and it shows Pulpit rocks, the wells and the other wonderful features of this wonderful gorge. The wells of which there are dozens, are holes big and little, worn in the solid rock presumably by stones turned and twisted by the current in the days when the gorge was in process of erosion. The largest of these wells is 16 feet in diameter and 30 feet deep. At freshet times the rocks in which these wells are located are covered by a surging, swirling mass of water. Everywhere the banks are steep, and in some places almost perpendicular. Near the falls is the Coffee Mill, a cove into which the current sets many of the logs that come over the falls. Seen about the first of the month, the Coffee Mill was an immense pile of logs—a million feet, one of the guides said there was in the hole.

In the mile run from the foot of the falls to the smooth waters of the lower basin, the water drops 45 feet, a little more than half the perpendicular drop at the falls itself. This basin is the starting point of a canoeing trip to Fredericton or St. John. It is a trip which can be made with comfort and with the greatest of pleasure, for those who do not want to rough it can reach good hotels for every meal and for every night's lodging, while in the whole distance there are no rapids heavy enough to make portaging necessary. Those who intend to camp will have no difficulty in finding suitable and pretty spots for their tents, and they will find the people everywhere hospitable and ready to sell fresh milk and any required articles at most reasonable prices.

It is only a few minutes' paddle across the basin and almost before the canoeist realizes it his light craft is in rapid water, and moving fast down stream. In the first few miles rapid succeeds

rapid in quick succession, and the canoe is hardly out of one before it is into another. None are dangerous; in fact they only add a zest to the pleasure of canoeing. Three miles below Grand Falls is Rapid de Femme, where is located the fish hatchery that annually gets thousands of eggs from the Carleton salmon pond, and here we pitched our tents and spent our first night. The midgets began work as soon as we landed, came in swarms and remained with us until our departure the next morning, leaving every member of the party well marked.

For the second day our plan was a run to the mouth of the Tobique, a short trip up that famous river and then away to Andover, where our lawyer, McCready, had a probate case. After an early breakfast, and a good one, for Henry Allen is a jewel of a cook, the start was made, and under delightful weather conditions, and in swift water no trouble was experienced in making six miles an hour. The scenery everywhere is beautiful, and the wonderful sand or gravel banks along the railway line skirting the river are a source of great curiosity. They have been cut through like rock, the sides rising perpendicular from the track and showing in beautiful colors the different stratas of sand and gravel. Only here and there is there a break in the bank, where it has caved in and run down to the natural angle of repose. The whole country hereabouts is of interest to the geologist, and shows abundant traces of the glacial and post glacial phenomena. Swiftly down the river the canoe moves, a constant watch being necessary to avoid jutting rocks, Salmon River and Little River are soon passed, and six miles above Andover the great Aroostook River, sweeping around a high ridge, enters the St. John. The view from below, looking up the St. John and the Aroostook, past the knife-like point that separates them, is a magnificent one. A splendid steel bridge crosses the Aroostook. Four miles further on is Indian Point, the mouth of the Tobique and the home of a large number of Indians. They are a prosperous people, living like their pale face brothers in good, comfortable wooden homes. In the rapid water, only a few

miles from the starting point, a squirrel was passed swimming the river, and making a straight course from bank to bank despite the current.

At its mouth the Tobique is a very rapid stream, and it is a good, stiff pull up against the current to the slack water at the ledges, a splendid place for dinner. Less than a mile further up is the magnificent steel bridge built by the Provincial Government. This little bit of the Tobique was all our party saw, but it was enough to give an idea of the gorge, and it gave a splendid race back down the rapid water to the St. John, which is a slow stream in comparison. Those who would like to see more of the Tobique can put their canoes on the train at Andover for Plaster Rock, which will give a trip of about thirty miles down this most important branch of the St. John. It is a side trip well worth taking. The water of the Tobique is so much clearer than the St. John that it runs with it a long distance before intermingling.

Andover and Perth, the twin towns, are joined by both railway and highway bridges, and are splendid points at which to fit out for fishing or camping expeditions to any of the many resorts in the neighborhood.

Between Andover and Woodstock the river, though its general course is north and south, winds east and west in a series of gentle curves, traversing a beautiful country, the garden of New Brunswick. Indeed, the whole journey to Fredericton is through a fertile and well cultivated land. Woods are seen only in the distance. Most of the land is cleared and under cultivation. That it yields profitable returns the general appearance of the farm buildings show. There are no tumble-down houses, and no deserted homes. All dwellings and out-buildings are kept well painted, and many of them are models of architectural beauty. These fine houses and well kept farms convey to the mind a far better idea of the general prosperity than could columns of statistics on the yield of the farms. The small towns along the river bank—Kent, Bristol, Florenceville, Hartland and Upper Woodstock—all reflect in their buildings and stores the prosperity of the farmers, while

Woodstock itself is a hive of industry, a live, go-ahead town, where the canoeist will want to spend time and money, and where, if not camping, he will find in the Carlisle a hotel that will meet all the requirements.

At Florenceville and at Woodstock there are high hills that will well repay climbing for the magnificent views they give both up and down stream, views in which the river is seen like a silver thread winding for miles through the rich and fertile country with its alternate patches of dark green forest and light, waving grain.

Down the river canoes steadily make their way, the canoeists finding enjoyment in every minute of the trip. Now it is the scenery. Perhaps one can see for miles down the stream, or perhaps it is but a short distance till a head shuts out the view. Again all attention is taken with the river itself. Maybe there are rocks to clear, or rapids to pass, or perhaps it is only a shallow spot where the water runs like a mill race over the clear white stones on the bottom that seem to be moving up stream with great speed. There is a strange fascination in watching the pebbles, which can be plainly seen through the clear water. Sometimes all attention is directed to the going back and forth of one of the quaint wire ferries, of which there are many in this section, or it may be that the interest centres in the manœuvring of a log raft or a deal raft. Our party caught up with one of these on the first day out, hauled the canoes on board, and rode for several miles, the current carrying us along at about five miles an hour. Interesting it was to see the skill and dexterity with which the three men in charge handled the big, unwieldy craft, using a sweep at one end and a rudder at the other. The pilot knew the channel, every inch of it, and he knew just how to manœuvre his raft to keep her in it, and where the channel crosses the river there were those curious contrivances, wing dams, to send him scooting over to the other shore. When making this canoe trip don't fail to chum with any raftsmen encountered, for a few miles of the trip made on their raft will prove a decided novelty, and the experience will be greatly enjoyed, particularly if some quick water is traversed.

From Woodstock to Fredericton, 63 miles, there are more islands than above. The current is everywhere swift, but the only heavy rapids are the Meductic. These are the wildest met with on the whole journey, and the water below them runs very swiftly for a mile or more. They may be safely run by keeping well to the right-hand shore, for there the descent is easy, and there are no rocks. At Hawkshaw, a few miles below Meductic, the canoeist gets a sight of the Pokiok Falls, as wild a gorge and as pretty a fall and rapid as is to be seen anywhere in the province. One comes on it suddenly, and it is only for the moment that the canoeists are opposite the gorge that this truly beautiful sight is enjoyed. At the Nackawick bend the canoeist enters a stretch or reach exactly the same length as the Long Reach, 18 miles, but containing islands, along the shores of which the current sometimes runs with great rapidity. In this stretch, in fact, anywhere between Woodstock and Fredericton, quaint tow boats are seen. These are hauled up stream by teams of horses driven along the bank, a long tow rope enabling the crew to guide their boat. When the channel crosses the river, the horses have to wade or swim. About twenty miles can be made in a day. As there is no railroad in this section, it is practically the only means of transport. At the foot of the reach the river makes a right-angle turn, and there is a nine-mile trip through slack water before the final stage of this wonderful journey is reached—the stage through the numerous islands that stud the river a few miles above Fredericton. It is a section as interesting as any portion of the trip, yet one is glad to see ahead the bridges and the tall spires of Fredericton, and to hear the hail of friends as he passes the summer cottages at Pine Bluff, the Beeches, Kaskiseboo, and the other pretty camps that line the river banks above the capital.

The total distance from Grand Falls to Fredericton is stated at 125 miles, and the journey can be made comfortably in four days, but it is better to give it a week; then there will be time for sightseeing along the way, time to look at some of the tributaries, to climb some of the hills, and to thoroughly enjoy the

varying beauties of nature. In freshet time, with the river a raging flood, the distance has been paddled in 14 hours and 46 minutes, and rafts have made the run, unaided except by the current, in a single day. It is figured that the descent of the river from Grand Falls to Fredericton is 298 feet, or an average drop of 2 feet 4 inches per mile—evidence in itself that the water must run pretty rapidly.

Paddling down the river, one is impressed with the idea that the authorities should take greater care of the river. Down almost every tributary stream float sawdust, deal ends, shingle blocks and other lumber from the mills along the banks. It seems as if no care was being taken to prevent the throwing of refuse into these streams, and that refuse—so swift are the currents—all finds its way to the St. John. Then, again, great care should be taken of the fisheries. Almost every farmer has his net, and a good many hundred salmon get nabbed on their way to the spawning grounds. The fish ways on some of the streams were out of water, so no salmon could possibly get into them. There are hundreds upon hundreds of places along the St. John on the journey between Grand Falls and Fredericton that seem ideal spots for salmon. It seems they should take the fly, and that the St. John should be just as famous a salmon river as its tributaries. The popular belief is that the fish will not rise to the fly, but may be they have never been given a fair trial. Careful inquiry failed to show that in recent years any attempt had been made to catch them in this way.

The journey, besides being a pleasant and enjoyable outing, can be made about as cheaply as any summer trip that will suggest itself. For, say, a week's trip

the expense will be light. Guides, with canoes, tents, cooking utensils, etc., can be secured for \$3 per day, and the only other expense is food and the transportation to Grand Falls. Neither of these are heavy items.

Of the guides themselves it is only fair to say that four better men could not be secured. Geo. E. Armstrong, of Perth, is the President of the New Brunswick Guide Association, a young giant, tall, well built, lithe and wiry, a lover of the woods, a splendid canoeist, and a keen huntsman, whether with rod, gun or camera, and withal a genial companion. What is said of him can be said also of Adam Moore and Henry Allan. They have lived in the woods and on the rivers, know them like books, can tell at a glance a good camping ground, and, like Mr. Armstrong, are master hands in a canoe. It is a pleasure to see them at work, so thoroughly and so skilfully do they handle the business in hand, and so comfortable do they make the tourists who are in their care. Mr. Allan, as has been said, is a perfect cook. Tom Phillips is a prince of rivermen, and in his hands his self-made 300-pound wooden canoe, or row boat, whichever you like, moved along as rapidly as a canvas, and it was a sight to see the skill with which he poled it up the rapid Tobique. He is the great Fredericton shad fisherman, and is one of the handiest and best men that can be secured. All four are competent and pleasant, and in their care, or in the care of any one, a canoeist can feel that every want will be met and every comfort provided, enabling him to make the journey under the most favorable auspices. Right here it may be said that the voyage is one that ladies can make without any inconveniences and that they will thoroughly enjoy.



Further Exploration.*

BY PROF. J. NORMAN COLLIE, F.R.S.

(*Concluded from the August issue.*)

Even in Dr. Hector's time (1858) this spot seems to have been a favorite crossing-place, for he mentions that, "while halting here a big-horn sheep came down the mountain almost close to us, but, seeing us first, made off without our getting a shot." Nimrod, an Indian hunter who accompanied him, says, "this is the only place where these are to be seen so far in the mountains. A little way further through the woods brought us to a large lake, which occupied the full width of the valley." He then goes on to relate how his Indian ponies behaved in exactly the same manner as ours had often done; to again quote, "As we were chopping our way along, the same horse that played that frolic once before again plunged into the water and swam off into the lake. We had to leave him alone, lest our endeavors to get hold of him should only start him for the other shore of the lake, which was a mile wide.

To return, however, to the alp. Weed and I, after climbing to the upper and north side of the alp, ascended a small peak, from which there was a splendid view in every direction except to the north. The pass leading over to the Bush Valley, which I have named the Bush Pass, was plainly visible, and I was in hopes that it might prove feasible for horses; I visited it a few days later. A somewhat short but steep snow-slope on the eastern side proved that pack-horses could probably not be taken across.

It was not till the 8th that we moved our camp up the valley, camping in a small clear space that had been denuded of trees many years ago by a huge avalanche that had fallen from the south side of the valley, and, after crossing the stream, had swept away the forest for perhaps 100 yards up the opposite face. From this camp, on the 9th, we started

with blankets and food for a bivouac as high up Forbes as possible. Ultimately we camped directly under the peak, just at the limit of the tree-line, but not more than 1400 feet above our camp down below. During the night, although at the camp below the temperature was below freezing-point, yet amidst the great fir trees on the mountain-side where we bivouaced the air was quite warm. This may perhaps be due to the dense forest being much heated during the day-time by the sun, then, owing to the tendency of hot air to rise, a slow but continuous current of air filtered up the mountain-side amidst the trees, so keeping us warm nearly the whole night. Early next morning, almost in the dark, we started for the ascent of Forbes. The day was perfect; only a faint but cold breeze blew. Soon we got to the small glacier under the peak; then, keeping to our left, struck the southern ridge. Here some difficult rock-climbing was met with, but C. Kaufmann led us rapidly upwards towards the snow-covered shoulder. Above the shoulder was perhaps the most difficult part of the climb, for there the arête became excessively steep, and in more places than one the rock was very insecure, being torn and shattered by the frost, making great care necessary. This part surmounted, a snow climb led us to the summit, 12,000 feet, which, like the summit of Freshfield, consisted of a huge snow-cornice.

At the suggestion of C. Kaufmann, who had seen the north-west face of Forbes about ten days before, we did not return by the same route, but descended the snow-covered north-western side. Here we fortunately found the snow frozen hard, for the face was much too steep to walk down. For over 1500 feet Kaufmann had to cut every step; but at last we reached a small col, which was

* A paper read before the Royal Geographical Society, Feb. 23, 1903.

the connecting link between the massif of Forbes and the mountains on the west. Rapidly we glissaded from this col to the glacier below; then, skirting underneath the great southern precipices of Forbes, we came to the foot of the southern ridge, up which we had climbed in the morning, and just as the sun was setting we got back to our bivouac, too late, however, to think of returning to the camp below that night. But we had enough food to last us; so, lighting a fire, we talked over the climb, and then slept comfortably for the second time under the pine trees in the open air.

Next day, in company with Weed and Rev. J. Outram, I went up the valley to the Bush Pass. To take horses there would mean an immense amount of cutting for the first few miles; after that, however, the valley opens up. But, as I have already said, even were horses brought as far as the foot of the pass, it is very doubtful whether they could be got up the steep snow-slopes which have to be surmounted before the summit is reached. On the west side there seems to be no difficulty and no snow, the valley stretching in a south-westerly direction till it joins the south branch of the Bush Valley, which runs at right angles.

On the summit of the pass all the rocks are heavily glaciated, and at one time a huge glacier must have poured over it, whether in a northerly or southerly direction it is impossible to say. The height by the aneroid barometer was 7,600 feet. We then returned to our camp, where we found that Fred Stephens, as we had not returned the night before, had become very anxious, and had ideas about organizing a search-party.

The ascent of Forbes was of much value to me, for whilst in the Bush Valley I had never been able to see what lay between Forbes and the Bush Peak; of course, from Forbes that part of the country lay at my feet, also the whole of the great Lyell snowfield, also how the west branch of the north fork of the Saskatchewan bent round up to the Columbia ice-field and to Mount Bryce—all this I could see. But we were all disappointed in the height of the mountain. Although a few days previously I

had, by means of a base-line, a Steward's surveying telemeter, and a clinometer, made it to be about 12,250 feet (the mean of two observations), yet we hoped that it would prove to be considerably higher. By the aneroid, however, it was only 12,000 feet. It is true that the only times that I had seen Forbes from any high altitude and entirely free from clouds were from Freshfield with Baker in 1897, and from Athabasca Peak with Woolley in 1898, but in the latter case the smoke haze almost obliterated it, making it loom out in a mysterious and exaggerated way. Owing to the same cause we had also rather overestimated the heights of Columbia and Alberta. Whilst we were on the summit of Forbes, the only peaks that seemed higher were those to the north round the Columbia ice-field. Lyell was lower, and of course all the peaks to the south.

After our return from the Bush Pass, on August 12, the Rev. J. Outram left us, in order to return to the west branch of the north fork of the Saskatchewan. We took our camp down the valley, and, turning southwards towards the Howse Pass, camped underneath the Howse Peak, which we climbed on the 14th. This peak, by aneroid barometer, is apparently about the same height as Freshfield, being 10,800 feet, and is a remarkable instance of a peak that has an easy side towards the west, while its eastern face is formed of a series of impossible precipices facing Bear Creek and the Waterfowl Lakes. From the Howse Peak a good view of the Freshfield group was obtained, and I have named a fine peak on the eastern side of the Freshfield snowfield after Sir Martin Conway. Leaving the Howse Peak behind, we next made our way towards the Lyell ice-field. Camping near the foot of Glacier Lake, it was our intention to cut a trail up the side of the lake, but this was frustrated by our finding the woods on the northern side of the lake on fire. Fires in the dense pine woods of the Canadian Rockies are excessively dangerous to be near, and had it not been for a considerable stretch of hillside between us and the fire that had been cleared by avalanches, it would have been most foolish to go anywhere within miles of these burning woods. A gale

may suddenly spring up, and before one has time to escape through the dense forest to safety, one's camp, one's horses, and one's self may all be involved in a common ruin. That a fire should have swept through this particular piece of country is very much to be regretted, for it will be at least a century before the ravages can be repaired, and in the mean time for many years to come, the scenery of one of the most beautiful lakes in the Rocky Mountains has been sadly marred. There it lies with one shore blackened and shorn of its beautiful primeval forest; whilst the charred trunks of the great pines and the poor stunted undergrowth will remain for years to come as a mute protest against the carelessness of those who do not see that their camp fires are properly extinguished.

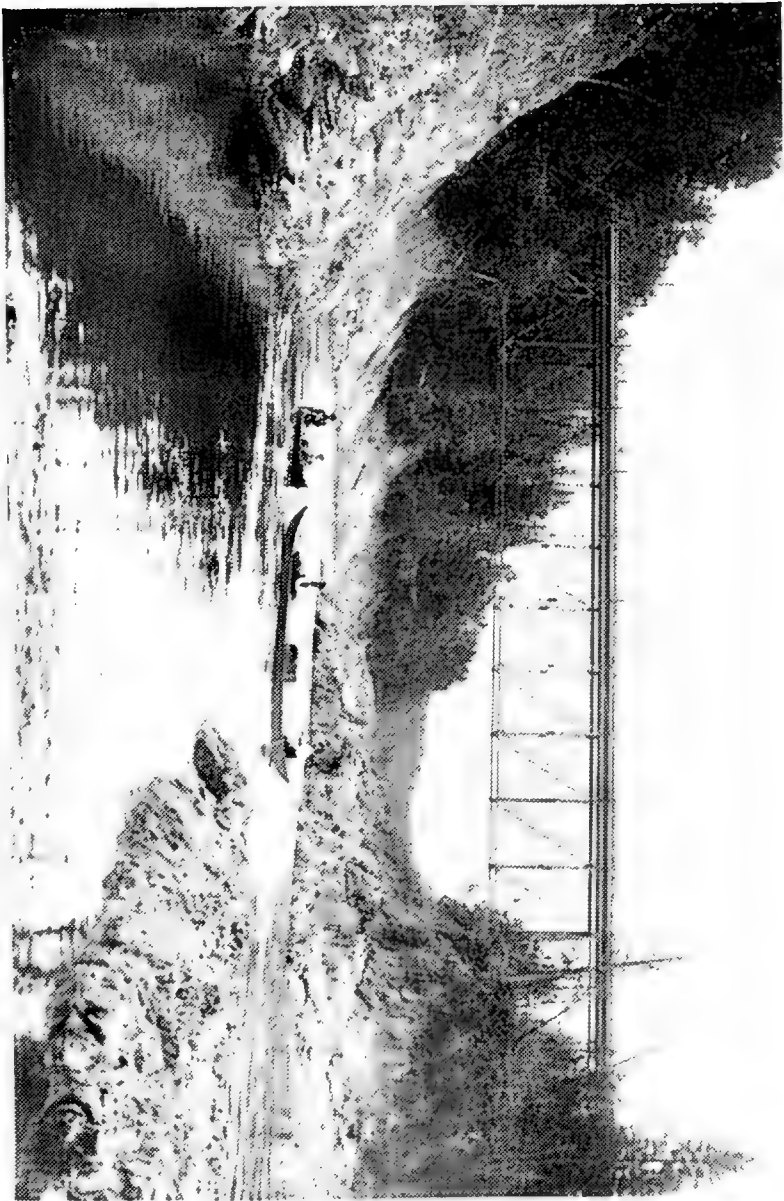
As it was out of the question to attempt to cut a trail along the side of the lake, our only alternative lay in sailing up on a raft. For a whole day Fred and Dave toiled with the axes, and we could hear the ceaseless chopping down to the water's edge. Then the weather turned wet, and the fire up the valley was nearly extinguished. Fishing in the deep pools of the river that runs out of Glacier Lake was indulged in, and with a piece of twine 6 feet long, a pole of the same length, and a hook baited with some bacon fat, I caught a bull trout about 5 lbs. in weight.

On the 19th the weather cleared. With much luggage we embarked on the raft, and slowly made our way along the shore to the upper end of the lake, where we camped, our horses in the meantime being left near the old camp, on some good feeding-ground up the mountain-side.

From this spot we started for the Lyell ice-field, bivouacking at the foot of the glacier. The next day saw us start for the upper snows. We kept to the east of the Lyell Glacier, and followed very possibly the direction taken by Dr. Hector in 1858, when he climbed Mount Sullivan. To climb straight up the Lyell Glacier on to the ice-field above would be both foolish and dangerous, for the ice from above descends in a huge cascade from the higher levels over a wall of rock, and in most places would be quite impossible to climb up from

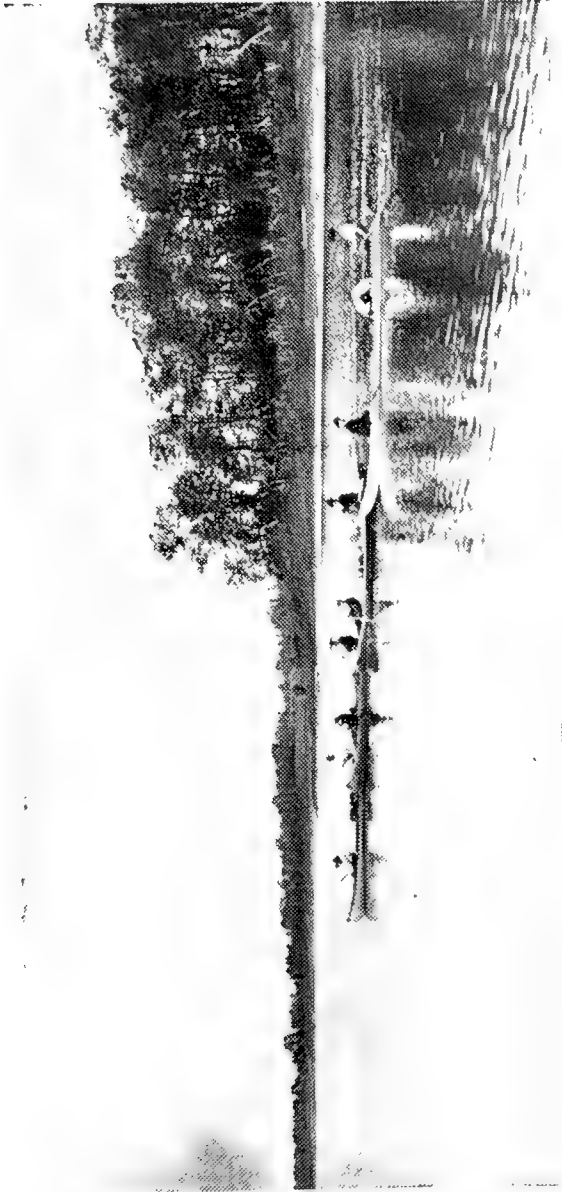
below. By ascending a lateral valley to the right this was avoided, and we ultimately reached the great plateau of snow which is one of the sources of the Saskatchewan.

Before this, however, we scrambled to the summit of a rock peak that overlooks a valley running due east towards Mount Wilson. This valley is full of small lakes, and at its head is Mount Lyell. Once on the great snowfield, we slowly trudged onwards. This day was warm enough to melt the upper crust of the snow, making progress rather tedious, and the summit of Lyell that we had thought of climbing became covered with cloud whilst we were still over a mile away. The question whether we should climb in mist to the summit of the mountain, or instead strike across to a small eminence near the centre of the glacier, was soon settled—I am afraid, much to Hans Kaufmann's disgust. All he could say was, "Not climb Lyell! You will regret it very much." I think that Woolley, too, who ought to have known better, heartily agreed with Hans, thinking that we were far too lazy a party to go out with, when serious mountaineering was the object. Be that as it may, personally, I was glad that the plans were changed, for, once on our small peak in the centre of the snowfield, I could see the Bush Peak well, and the valleys round it; also other peaks to the north of the Bush Peak, on the western side of which we had been in 1900. Moreover, I could follow how the ridge, of which Lyell is a part, bent away to the north-west and the Thompson Pass. We descended by a shorter but more precipitous way, and on one steep glissade of about 300 to 400 feet, in attempting to save my pipe, which I had knocked out of my mouth with my ice-axe, I lost my balance and completed the last half of the descent in all sorts of positions, sometimes head first, and sometimes rolling over and over. Fortunately there were neither rocks nor crevasses, and the snow was soft, so no damage was done; and, what was also fortunate, nobody on the glacier below was quick enough to photograph me during my ignominious descent. Later, we got back to our bivouac, and, in order to avoid the very



ON THE TOBIQUE.

This stream, which is one of the most beautiful tributaries of the Saint John, abounds in salmon, and flows through a fine big game country.



THE BROAD, SAINT JOHN.

Taken by R. F. Allbright, a few miles below Woodstock

bad trail on the left bank of the stream, we crossed the snout of the glacier, investigating on the way a deep canyon through which the glacier stream flowed. Towards evening we were back once more in our tents at the head of Glacier Lake.

On the next day, August 22, we broke up the camp, and, starting early on our raft, sailed gallantly before a westerly breeze, and, under the care of Dave, to the foot of the lake, where our horses were. That evening saw us again at Bear Creek.

If time had permitted, we should have liked to visit our old haunts on Wilcox Pass, where we were in 1898; but it was impossible, so we turned our faces once more to civilization, returning by the same route by which we had come. On the 24th we climbed an easy peak (Mount Noyes, 10,000 ft.), which lies to the east and a little further up the valley than the Waterfowl Lakes. From the summit an uninterrupted view of the country lying between Bear Creek and the Sifleur River was obtained, and a portion of the country lying behind and to the east of Murchison I saw for the first time.

From this summit it was most evident how isolated Murchison was, and its series of rugged peaks stood up magnificently against the white clouds. Almost due north, and to the right of the most easterly point of Murchison, could be seen the highest of the peaks in the group lying between the Cataract River and the Saskatchewan. This peak overlooks the historic Kootenay plain. I have named it "Cline" Peak.

It is curious how this small level plain, hidden away amongst the hills—the Kootenay plain—is now hardly, if ever, visited by man. Perhaps once a year a few Indians come there for the hunting. Over half a century ago, however, it was very different; for on this Kootenay plain hundreds of the Kootenay Indians from the west of the Rocky Mountains, after crossing the Howse Pass, held their annual fair at this place with the fur-traders and the Indians from the eastern slopes of the Rocky Mountains. This meeting had, even in Hector's days, been long discontinued, and he tells how Nimrod pointed out a large tributary of the Saskatchewan coming from the north-

west, called the Waputeehk, or White Goat River (the Cataract River of Coleman), up which lay a trail to Jasper House on the Athabasca. To quote Hector's journal again: "Through this valley Nimrod said a trail runs to Jasper House, known as 'Old Cline's Trail.' Cline was a trader that every summer travelled through the mountains from Jasper House to the Kootenay Plain." This is now ancient history; not only have the Indians and the fur-hunters almost entirely deserted these upper waters of the Saskatchewan, but most of the game has gone too. Although Hector came across droves of sheep and rams on one occasion whilst sitting on the mountainside just above the Kootenay plain, he says, "A flock of at least a hundred rams rushed close past me, so close, indeed, that I hit them with stones," yet even in these days the game had become scarcer than in former years. He also found traces of buffalo as well, but the Indians told him that, eleven years previously, "there were great fires all through the mountains and in the woods along their eastern base; after that a disease broke out among all the animals. Before that time (somewhere about 1847-1848) there was abundance of game in all parts of the country; but since then there has been a great scarcity of animals, and only the best hunters can make sure of killing." Probably nowadays the scarcity is partly due to the wholesale slaughter indulged in by the Indians, and there is no doubt but that some measures should be taken to stop it.

After the ascent of Noyes we returned to Laggan and civilization, but having a few days at our disposal, we took our whole camp up to Moraine Lake and Desolation Valley, a spot that can be visited in one day from the chalet at Lake Louise. Our object was purely mountaineering; two fine peaks, Deltaform and Hungabee, being accessible from the head of Desolation Valley. Owing to unsettled weather we did not try to ascend either, but, instead, climbed a most interesting rock peak, Neptuak (10,500 feet), by the ridge that leads from a snow col between Desolation and Prospector's Valley. On the moraine of the glacier in Desolation Valley some most curious and apparently fossil re-

mains were found in the Cambrian quartzites.

On September 5 we returned to Banff, our expedition ended. Our trip had been most successful; almost uninterrupted fine weather had lasted during the whole time; we had always been able to go where we wanted, owing to there being no trouble with either the commissariat or the trails. A great number of questions relating to the peaks, passes, and glaciers had been satisfactorily solved. The chief points being: (1) The heights of Forbes, Murchison, Freshfield, and Howse had been barometrically determined; (2) the discovery of a pass across the range between the Lyell and Freshfield groups of glaciers; (3) the exploration of the Lyell glaciers and how the watershed ran from the Freshfield group to the Columbia group; (4) a much more detailed topographical knowledge of various outlying portions of the mountains; for instance, the portion south of the Freshfield group, also that north-east of the Wilson group.

If time permitted, I should like to have said something about the individual members of the expedition, how Hans

was always in the best of tempers and a first-class guide, willing to do all things from hard work on the mountain side to transporting gigantic logs for the camp-fire or mending boots; how Dave told us most wonderful stories about the lumber camps, and how single logs could be used for the purposes of navigation instead of an ordinary boat; how Clarence spent many weary hours searching for the wary Indian "cayeuses" in the thick woods when they were determined not to be found; how Robson, who had been through the Boer war with Strathcona's Horse, had great things to tell of the prowess of General Buller, and the ignorance of those who knew not the peculiarities of horses and the various methods of "getting along" in the open veldt; and lastly, of the genial Fred, to whom we largely owe the success of the expedition, always willing to do two men's work, always cheerful, and as good a hunter, trapper, and organizer of an expedition as one could ever wish to meet. It was worth travelling to the Rockies only to spend a fleeting month or six weeks in his company. May he continue to prosper, and may it not be long before we meet again.



Pacific Coast Fishing.

(FROM BULLETIN NO. 16, B. C.)

The Bureau of Provincial Information of British Columbia publishes every little while a bulletin on some one or other of the great industries of the province. The latest is one dealing with the fisheries. The facts have been compiled by R. E. Gosnell, the secretary, who says:—

"The British Columbia coast of the Pacific Ocean, extending from the 49th parallel to Alaska, is extensive and deeply indented. Vancouver Island and Queen Charlotte Islands, standing out seaward, are separated from the mainland by numerous channels and thousands of islands grouped in minor archipelagoes. Stretching inland are many long inlets, the whole configuration being irregular, but

exceedingly picturesque, and the waters rich in food fishes. From the time the Strait of San Juan de Fuca is entered until the farthest north point is reached, with the exception of Queen Charlotte Sound, where the coast swell is felt, and a few tide rips, it is one continuous glassy reach of water, which offers no obstacles to navigation, and renders coasting delightfully easy and pleasant. The conditions, on the whole, are most favorable to conducting the fishing industry.

"It is for the purpose of portraying the wealth of these waters that this chapter is penned. From time prehistoric the Indians of the coast in their primi-

tive way pursued the almost sole means of livelihood—fishing,—and with a temperate clime and an abundant supply of this food at all seasons, existence was, except in so far as tribal warfare endangered it, in no sense precarious.

“Says Mr. Ashdown Green, a local authority in piscatorial science: ‘Unlike the Indians of the plains, whose livelihood depended on their exertions, and who had to roam over a vast extent of country to obtain meat enough to put up for winter use, the fish-eating Indians could count securely upon their winter supplies coming to their very doors.’ Those on the mainland had immense supplies of salmonidae in their seasons, which for winter use they dried, smoked or otherwise preserved in unlimited quantities. Those on the western coast depended upon the halibut and cod, which, too, were without limit as to numbers, and within easy reach. These were cut into strips and were edible to even more cultivated palates than those of the natives.

THE SALMON.

“Writing of the Pacific salmon, Mr. J. P. Babcock, Commissioner of Fisheries, says: ‘We have in our waters the five known species of the genus *oncorhynchus*, termed the Pacific salmon. They are distinct from the salmon of the Atlantic, which are the genus *salmo*. Indeed, the word salmon does not by right belong to any fish found in the Pacific; it having first been applied to a genus found in Europe. The settlement of the Atlantic coast of America was made by a people familiar with the European form, who at once recognized this fish as running in the rivers of their newly acquired territory. They naturally and by right gave it the name salmon, for it is identical with the European form. With the advent of people from the Atlantic States to the Pacific Coast, they found running in all the main rivers a fish similar in form and color, and of apparently similar habits, and they naturally called them salmon. Structurally these fish are but slightly different, but their life history is totally dissimilar, and they are distinctly and positively placed. The greatest difference is presented in the fact that all the

species found in Pacific waters die shortly after spawning once. This is true of both sexes. This remarkable characteristic, when first brought to the attention of some Atlantic and European authorities, was discredited, as they did not then generally know that the Pacific salmon was different from and not identical with the *salmo salar*, which does not die after spawning, and generally returns to salt water after depositing its ova. While our Pacific fish are not salmon in a scientific sense, they are now the salmon of the world, because of their abundance and their fine canning qualities, which permit them to be offered in the markets of the civilized world.

“‘We have in our waters the five species of salmon known to the Pacific. Taken in the order of their commercial importance in the province, they are known as:—(1) The Sockeye or Blueback (*Oncorhynchus nerka*); (2) the Spring or Quinuat (*O. tshawytscha*); (3) the Coho or Silver (*O. kisutch*); (4) the Dog (*O. keta*); (5) the Humpback (*O. gorbuscha*).

THE SOCKEYE.

“(1) The Sockeye weighs from 3 to 10 pounds, though specimens of 17 pounds in weight are recorded. The anal fin is long, and has about 14 developed rays. There are 14 branchiostegals. The gill-rakers are more numerous than in any other salmon, 32 to 40. The young fry of this species can always be distinguished by the great number of the gill-rakers. The scales of the adult usually average 130 to 140 in the lateral line. The tail is narrow and widely forked. The adults in salt water are free from spots; the backs are a clear blue, and below the lateral line they are immaculate. They are in form and color considered the most beautiful of their family.

“‘The bluish backs and silvery sides, which so distinguish them in salt water, give place in the head waters, at spawning time, to a deep carmine, while the heads and tails become a deep olive green, the male and female being equally highly colored in the specimens found in the extreme head waters of the province. The head of the male undergoes less distortion in our waters than any of this

genus. Specimens which enter the rivers towards the last of the season's run, and which do not ascend to the head waters of the main streams, but which spawn in the lower reaches near the sea, do not become nearly so highly colored at the spawning period, many of the females not showing much if any red. The flesh of the sock-eye is of a deep and unfailing red. They enter the Fraser River as early as April. They are not taken until July 1st, as their capture is, by regulation, confined to nets of $5\frac{7}{8}$ -inch mesh, which are not used until that time. The main run in the Fraser is looked for toward the latter part of July. The run is at its height during the first ten days of August.

"The sockeye run in all our mainland rivers, and in some of the rivers of the west coast of Vancouver Island, and in the Nimkish River, near the head of the east coast of that island. In the rivers of the northwest mainland coast they run a month earlier than in the Fraser.

"The abundance of sockeye in the Fraser varies greatly with given years; there are years known as "the big years" and as "the poor years." Their movement appears to be greatest every fourth year, and the run is the poorest in the year immediately following. The causes which may have led up to this most remarkable feature have given rise to much speculation, and many theories have been advanced to account for them, but none are sufficiently satisfactory to be generally accepted. This periodicity in the run of sockeye which is so pronounced in the Fraser has no marked counterpart in any other river in the province or on the coast.

"The spawning period of the sockeye extends from August, in the head waters, to as late as October and November in the waters nearest the sea. They usually spawn in lake-fed or in lake-feeding streams, the first of their run seeking the extreme head waters. Very little is known of the life of the young, or the length of time they live in fresh waters before seeking salt water. Nothing is known of their feeding grounds in salt water, as they are never found in the bays and inlets which distinguish our coast, and where the spring and coho are

so common. It is thought that their feeding ground must be in the open sea. There is a smaller specimen of the sockeye found in many of our interior waters that appears to be a permanently small form, which is known to writers as "The Little Red Fish," "Kennerly's Salmon," or "The Evermann form of the Sockeye," and which in some lakes of the province can be shown not to be anadromous. This form of the sockeye is often mistaken by observers as a trout. It has no commercial value, and does not "take a fly" or any other device commonly used by anglers for taking trout. The Indians of Seton and Anderson Lakes cure great numbers of these small salmon by smoking them. They give them the name of "Oneesh."

THE SPRING SALMON.

"(2) The Spring or Quinнат Salmon (*O. tshawytscha*) ranks second in importance in the waters of the province. This species is known in Alaska as the King or Tyee salmon, in British Columbia as the Chinook, the King or Quinнат, in California as the Sacramento or Quinнат salmon. It was the first and for many years the only salmon used for canning. The spring salmon attains in our waters an average weight of from 18 to 30 pounds. Specimens weighing from 60 to 100 pounds have been reported. It has 16 rays in the anal fin, from 15 to 19 branchiostegals, and 23 gill-rakers. The number of scales in the lateral line run from 135 to 155. The tail is forked, and, like the back and dorsal fin, is commonly covered with round black spots. The head is rather pointed, and of a metallic lustre. The back is of a dark green or bluish color; below the lateral line it is silvery. At spawning it becomes almost black, with little or no red. On the spawning grounds of the province they are often spoken of as "black salmon." In this respect these fish in our waters are different to those in the waters to the south, where the spawning fish are of a dull red. The spring salmon are the most powerful swimmers which seek our rivers, usually going to the extreme head of the watershed which they enter. They seem to prefer the most rapid moving streams, and apparently avoid

the lake-fed tributaries. The color of their flesh in our waters is from deep red to a very light pink, at times almost white. Owing to the uncertainty of its color, it is less generally used for canning, and all specimens are examined by the canners before accepting them from fishermen. It is stated that the 'early run' fish are the most reliable in color. It has also been stated that these pale pink or white meated salmon are not any less rich in flavor or oil than the red-meated ones; but, as the English market demands a red-meated salmon and refuses to accept anything else, they are rejected by the packers.

"The spring fish enters the Fraser early in the spring, and the run continues more or less intermittent until July. There is no pronounced run in the fall.

THE COHO.

"(3) The Coho (*O. kisutch*), or Silver or Fall salmon, is found in all of the waters of the province, and of late years has become a considerable factor in the canned product. This species on an average weighs from 3 to 8 pounds. Heavier specimens are not uncommon. It has 13 or 14 developed rays in the anal fin, 13 branchiostegals, 23 gill-rakers, and there are about 127 scales in the lateral line, the scales being larger than any other of the genera. In color these fish are very silvery, greenish above, with a few black spots on the head and fins. These fish run in August and September in the rivers on the north-west coast, and in September and October in the Fraser. Like the sockeye, they travel in compact schools. They do not seek the extreme head waters, and frequent both the streams and lakes to spawn.

THE DOG SALMON.

"(4) The Dog Salmon (*O. keta*) run in most of the river and coast streams late in the fall. They average from 10 to 12 pounds in weight; much larger specimens are not unusual in most of our waters. They have 14 anal rays, 14

branchiostegals, 24 gill-rakers, and about 150 scales in the lateral line. In provincial waters they spawn close to the sea, ascending almost every one of even the minor coast streams. In the sea they are dark silvery in color, the fins being black. At the spawning period they become dusky, with lateral lines of black, with more or less grey and red coloring along the sides. The heads of the males undergo the most marked distortion, and the teeth in front become large and dog-like, hence the popular name. Until within the last few years these fish have not been considered of any value. Now they are captured in great numbers by the Japanese, who dry salt them for export to the Orient, many thousands of tons being exported the past season. They are never canned in the province.

THE HUMPBACK.

"(5) The Humpback Salmon (*O. gorbuscha*) is the smallest of the species found in our waters, averaging from 3 to 7 pounds. It has 15 rays in the anal fin, 28 gill-rakers, and 12 branchiostegals. The scales are much smaller than in any other salmon, there being 180 to 240 in the lateral line. In color it is bluish above and silvery below. The back and tail are covered with oblong black spots. In the fall the males of this species are so greatly distorted as to give them their popular name. These fish run in abundance only every other year, coming in with the last of the sockeye run. They are but little valued, though a considerable use has sprung up during the last few years. With the development of the markets for cheap fishery products, a demand has come for all of our salmon products, with the result that the fishing season is being extended to cover the runs of all five of the salmon species found in our waters. This lengthening of the season is of marked benefit to our regular salmon fishermen, and with the development of our other fisheries, it is confidently believed that these hardy men may find ready employment during the entire year."



Forestry in Sweden.*

BY ALEXANDER MACLAURIN.†

I visited Sweden during the month of February, 1903; my idea in going over there was to see how they manufactured the lumber, how the mills were built, what kind of machinery was used and how they managed their forests.

The timber lands extend from the north of Sweden to within a few miles of Stockholm, the capital of the country.

There are only two kinds of timber there, viz., white wood, which resembles our white spruce in this province, and red wood, which is something like our red pine, but a little closer in the grain. There is an abundant supply of these two woods, but of small size; the average runs from 6 to 9 inches at the top end, 20 to 28 feet long for winter sawing. The large logs will average 8 to 11 inches diameter. These are sawed in summer; there is comparatively no 12 or 13 inches diameter timber.

Every farmer grows timber and markets a few trees every winter, just the same as a farmer here would market his oats and hay. Wood is a regular commodity of trade amongst the farmers; every farmer preserves a portion of his farm which is adapted only to the raising of timber for this purpose, and a Swedish farmer will never attempt to clear or cultivate land which is stony, reserving it for forest culture. They cultivate the land close up to the forest, and so soon as they reach the stony portion they reserve it for forest culture. The hills are all covered with timber, I only saw one hill which had been denuded of forest, and that was caused by a fire. Fires are of rare occurrence. I saw no land of any consequence which had been run over and destroyed by fire. I was informed that there had only been one fire during the past year in the whole of Sweden. It was an insignificant fire, and was put out very quickly. Inasmuch as under the system of fire protection in Sweden, fire rangers may enforce the attendance of the military, and all able bodied citizens

may be compelled by the fire ranger to assist in the extinction of forest fires, the consequence is that a fire has no chance of extending very far under this system. There is a heavy fine upon any person refusing to assist at a forest fire. There was one thing which struck me very forcibly going up the country,—that the railway ran through miles of forest and I did not see a particle of land destroyed by fire along the tracks for a distance of 400 miles which I travelled on that railway, which runs up into the north of Sweden. I asked one of the largest lumbermen how they managed to keep the forest so close to the railway track from catching fire. The railway company is obliged to keep watchmen along the track during the dry season, in fact, they were living along the track this winter when I was there. Their houses were situated about a mile apart along the railway track. These men are railway employees, and their duty is to take all precautions against fire. The railways in Sweden are owned by the Government, and in consequence these men are also Government employees.

I travelled through the woods across country in a sleigh, through wood roads nearly all the way for about 30 miles, for the purpose of seeing the condition in which the forests were. I took particular notice of the forest floor in various parts and where, on the private lots owned by the farmers, they cut their own firewood. The forest floor was cleaned up completely and no debris left. I saw a few tree tops in the bush, where they were manufacturing small square timber, chiefly four inches square, for the German market. I asked them what they were doing with such stuff as that. They told me it was for the German market. Everywhere I went the forest floor was clean, there was no underbrush such as we have in our country. It is about the closest cutting that I have ever seen; nowhere in Canada have I seen any such close

* Contributed by the Officers of the Canadian Forestry Association.

† In the "Report on Forestry and Colonization" prepared by the Hon. G. W. Stephens, K.C.

cutting. The tops of some of the trees, which were too rough, were cut off and piled in with the slabs and edgings for charcoal. Every available piece of wood which is not otherwise merchantable is worked up into charcoal, so that the whole tree is utilized into merchantable stuff.

The Government forest lands are for the most part situated at the headwaters of the rivers.

The forests are divided into sections. The sections are simply blazed out. When the Government decides to sell any of the timber or trees of a certain size, that is to say, merchantable trees, they are marked by the Government ranger. The sale of the sections is made by auction, the lumbermen purchase the trees only that are marked. The Government in offering the trees at auction gives an approximate estimate of the quantity of timber on each section, they give you the exact number of trees and an approximate average of the size, and what they will produce when cut down,—this for the information of the purchaser. The Government, however, is not bound by this estimate, only so far as the number of trees is concerned,—the approximate estimate is given as a guide to the purchasers. The purchasers, of course, examine the sections which are to be sold, the Government giving ample notice of the sales of these sections, and the purchasers examine for themselves the limits; in many cases where the purchaser has confidence in the skill of the explorer, they place implicit reliance upon the Government report. They seem to rely on the honesty of each other. I never saw a people who placed such confidence in one another as do the Swedish people. This convinces me that their dealings are distinguished by great honesty.

There is no effort to cheat the Government, and there is nothing done on the part of the Government to lessen the confidence of the purchasers in the honesty and fidelity of the system. The fact is, the Government, the farmers and the lumbermen work hand in hand, inasmuch as the timber revenue forms a very important item in the budget of the country. The Government seems to realize that it is their duty to facilitate

in every way the production of the article and its sale in such a way that the lumbermen can make a profit out of the business, and all parties are satisfied.

I visited one of the largest lumbering concerns in Sweden. They were engaged in the manufacture of lumber since the year 1643; they have conducted the lumbering business through their ancestors in the same place, on the same river, since the year 1643. I saw the original deed granting a limit of 500 miles to the firm who established the business in 1643; of course the establishment has changed hands a number of times since the original grant, but the limits are operated still, and are valuable at the present day. The reason for this state of things is easily explained by the fact that the proper system of forest preservation has existed from the first, on these limits, and that this system is still in force at the present day.

The cut of the establishment is about eighty millions a year. I saw many thousands of logs within 10 miles of the mill, put out on the ice of the river this winter. The average was from 4 to 9 inches.

I investigated the question of the expense of getting timber out of the woods, and found that the cost of this department of lumbering differed very slightly from our own. The cost of manufacturing at the mills is much lower than ours. This is due largely, first to cheaper labour, and secondly, the rate of insurance on mill properties and lumber yards. These two items reduced the cost of manufacture about one-half what it costs us.

From what I have seen in regard to Sweden, I think that the system there will result in a permanent supply of timber, and I am also of opinion that the same result can be produced in the Province of Quebec if the Government would take hold of the question seriously and intelligently. To do this the farmers and *colons* must be taken into the confidence of the Government and educated, and no better method can be devised than to enlist the good offices of the country curates in the instruction of their parishioners in the principle which governs the perpetual production of forest products.

Unfortunately, in some instances, the curate who has great influence in a parish, becomes unconsciously an instrument in the hands of speculating jobbers. The Government revenue suffers accordingly.

The large establishment of which I have spoken is situated on the River Angermann, in Sweden. This river is similar to the Gatineau, and about as long. There are twenty-five lumbering establishments on this river, whereas on the Gatineau to-day there remains only two establishments. As a matter of fact the Gatineau River and Valley is far superior as a timber producer to the Swedish river both in size and possible quantities and variety of timber. Where the Swedish country only produces two varieties the Gatineau country furnishes white and red pine, spruce, cedar, birch, not to speak of the hardwoods, which are of considerable value. If the Gatineau Valley had been treated in the same way as the country tributary to the Angermann it would supply fully as great a number of milling establishments as the Swedish river.

At the headwaters of the Angermann the timber becomes very small, which is not the case with the Gatineau River. I am familiar with the country tributary to the Gatineau River and have seen thousands of pines in the burnt district destroyed. In fact, in the Ottawa country there is more *brulé* than standing forest. In Sweden they do not re-plant, they trust to natural reproduction, that is to say, the seeding from the standing trees. There are always trees left sufficient to produce fresh seed and to re-seed the forest naturally.

The system of cutting in sections serves the purpose of reproduction by lapse of time. It is a well known fact that for every tree of 12 inches diameter cut in the forest there has got to be a sapling growing to fill its place; it becomes a question then of preserving the sections sufficiently long so that that sapling will become a 12-inch tree before the forest section is again lumbered over.

There is a record kept by the Government of every section cut, and the date

of cut. Time is given for the reproduction of the forest. It is under this system alone that the perpetual supply of forest products can be obtained and perpetuated. There is no middle course. No system of preservation will be perfect unless some such regulation is adopted and effectively enforced.

Timber does not grow as fast in Sweden as it does with us. It is estimated in Sweden that between 15 to 20 years are required to get a re-cut of 11 or 12 inches on the stump. From observation and experience I am of the opinion that from the sapling to the 12-inch spruce tree it will be about 30 years. The average growth pine from the sapling in propitious ground would be about two feet high for each year. A 12-inch pine would be at least 40 feet high.

I noticed in the northern part of Sweden farm after farm consisting of only four acres, or thereabout, of good land under cultivation. The balance of the farm was entirely in forest trees. These farmers supplement their agricultural products by the profits which they make out of forest culture, in fact, one might say that the greater part of a Swedish farm in this section of the country is a wood or timber farm, and the natives pay as much attention to the culture of the forest as our people do to their farms. If this practice had been followed by the *colons* in the Province of Quebec, where similar circumstances exist, they would have a large forest on the farm, instead of a desolate, burnt-up and valueless piece of ground with hills completely denuded of soil.

This forest farm would be a constant source of revenue to the farmer, and we would retain our population. The abandoned farm, as we know it now, would be a thing of the past and a source of wealth to the Province. Now it is an eyesore and a reflection on the system which produces it.

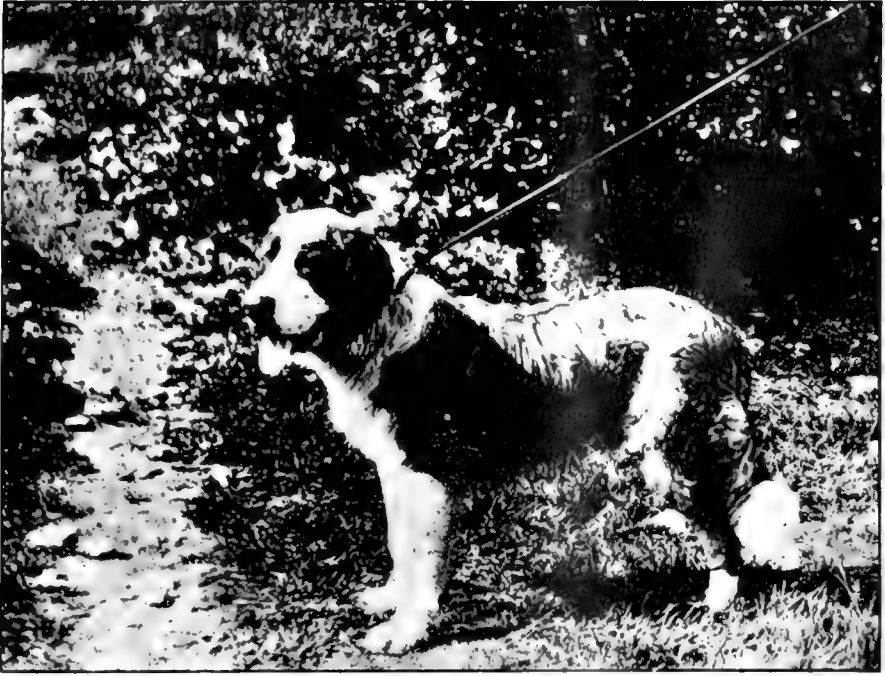
As a consequence of this forest culture, in all my travels in Sweden I never saw a house which was uninhabited, however isolated it may have been in the forest. I found the houses inhabited by seemingly comfortable families.





WINDY POINT.

A well-known camping ground on Lake Timiskaming, half way between Haileybury and the mouth of the White River.



ST. BERNARD, IVANHOE

By Sir Hereward II.—Snowdrop II. Bred and owned by F. & A. Stuart



A GIANT MASCALONGE.

Taken by a New York angler in the French River, Ontario.

A New Winchester.

BY C. A. B.

Each year the Winchester Repeating Arms Company gets out a new model rifle. Heretofore, the changes, while always for the better, have not been radical; this season the new weapon marks a new era in rifle construction on this continent. It is called by the company an Automatic Rifle, because the recoil is utilized to extract the empty case and place a fresh cartridge in the chamber, so that all the rifleman has to do is to press the trigger.

Model 93 is a .22 calibre, but powerful enough with its greaseless bullet and nitro powder charge to kill a horse or other large animal by a single shot in a vital spot.

The rifle is an extremely handsome, well balanced weapon, and I will venture the prediction that within five years there will be very few sporting rifles manufactured for use in this country, upon anything but an automatic or semi-automatic principle.

The Winchester Repeating Arms Company thus describes the newest product of its factory:

"The Winchester Model 1903 is a ten-shot, automatic, hammerless, take-down rifle, adapted to a new .22 calibre rimfire cartridge loaded with smokeless powder and the Winchester Greaseless Bullet. It is simple in construction and operation, and is the first automatic rifle on the market and the only automatic arm using the inexpensive rimfire ammunition. The rifle has grace of outline, light weight, certainty of operation, ease of manipulation and novelty of action, making it a most desirable and up-to-date gun. There are innumerable uses for which the Winchester Automatic Rifle will be found particularly well adapted, among them being wing shooting or fancy shooting. We predict with the advent of this gun a new era in rifle shooting. It will be used by true lovers of sport in open places upon moving game—ducks, geese and small animals—in many places where shotguns are now used. Its loading without movement of

the firer enables continued accurate aim and rapid discharge heretofore unknown, and only to be appreciated after trial. One brain shot with this gun instantly killed a horse, and a hog weighing 370 pounds was also killed at one shot. In the automatic action of the Model 1903, there are no moving parts outside the gun to injure the hands, catch in the clothing, brush, etc., and, being simple in construction, it is not apt to get out of order with any ordinary use. After filling the magazine and throwing a cartridge into the chamber, all that is necessary to do to shoot the ten cartridges that the magazine holds is to pull and release the trigger for each shot. The rifle can be shot as fast as the trigger can be pulled; and with its rapidity of fire is combined the accuracy for which all Winchester rifles are famous. When a shot is fired, the recoil from the exploded cartridge ejects the empty shell, cocks the hammer and throws a fresh cartridge into the chamber.

"The Winchester Model 1903 Automatic Rifle is made with blued trimmings, a plain walnut stock and forearm, not checked, and a 20-inch round barrel, fitted with open front and rear sights. Weight about 5¾ pounds. The stock is 13¼ inches long; drop at comb, 1¼ inches; drop at heel, ¾ inches; length of gun over all, 36 inches. Fancy walnut stocks and forearms and plain or fancy walnut pistol grip stocks, checked or unchecked, are the only variations from the standard gun that will be furnished.

"To fill the magazine, hold the gun with the muzzle pointing down and turn the magazine plug, seated in the depression in buttplate, to the left, and draw out the magazine tube until it stops. Drop the cartridges, bullet foremost, through opening in stock into the magazine until it is filled, which is shown by the appearance of head of last cartridge in forward end of magazine opening. Push in magazine tube and lock it by turning magazine plug to the right.

"To use the gravity charger, first fill the charger, which holds ten cartridges, by pushing five cartridges, bullet end upwards, into each tube.

"To fill the magazine with the charger, insert the spring end of the charger into the magazine opening in stock at an angle which conforms to the opening in the stock. The front end of charger spring will rest on charger spring shoulder of magazine. Press downward on charger, and charger spring will release the cartridges from the lower tube and allow them to pass into the magazine. Turn the charger over and insert the other tube into magazine opening and again press downward, and the cartridges from this tube will pass into the magazine. Be sure to hold the gun muzzle pointing down when using the charger.

"The magazine can be emptied of cartridges without shooting, either by working the operating sleeve backward and

chamber, and leaves the gun ready to shoot upon pulling the trigger. No further manual operation, except pulling the trigger for each shot, is necessary to shoot the ten cartridges the magazine holds. Do not hold back on the trigger. Let it move forward after each shot.

"To take down the gun, cock the gun by pushing in the operating sleeve. Hold the gun by the grip with the muzzle up, and with the thumb press down the take-down screw lock, found just under the take-down screw, which is located at the rear of the receiver, and turn the take-down screw to the left until it is free from the receiver. Then draw the barrel and forearm directly forward, which will remove the barrel and receiver from the stock and tang. This simple and convenient take-down device leaves the interior of the gun in view, making it exceedingly easy to clean. To assemble the gun, proceed in reverse order.

o "To clean the gun, take it down and



Winchester Automatic Rifle (.22 Calibre, Model 1903)

forward with a quick and positive motion, or by withdrawing the magazine tube entirely from the gun. To do this, pull out the magazine tube until it stops; then give it a half turn and draw it clear from the gun. When the magazine tube is out, elevate the muzzle and push back the operating sleeve, and all the cartridges will drop out of the magazine. When emptying the magazine in this manner, be sure to push back the operating sleeve, for if this is not done, one cartridge, which is held under the bolt, will remain in the gun.

"To load the gun, hold it with the open side of the receiver up, and with a quick and positive motion push back as far as possible the operating sleeve, which projects from the forearm, and let it spring forward of its own accord. Be sure to push the operating sleeve back quickly, as far as it will go, and let it spring forward without holding it. This cocks the hammer, throws a cartridge into the

retract the bolt by pushing rearward the operating sleeve. While the operating sleeve is still in its rearward position, turn the operating sleeve tip slightly either way. This locks the operating sleeve in its retracted position, and holds the bolt back, leaving the breach of the barrel open so that a cleaning rag may be passed through the barrel into the receiver. While the bolt is in its rear-



.22 Winchester Automatic Cartridge

ward position, clean the forward portion of the receiver from dirt and powder residue. To clean between the top of the bolt and the receiver, wipe back of bolt and then push bolt back and wipe ahead of it. To remove powder residue, which may accumulate between top of bolt and receiver, pour a few drops of oil on the receiver, in front of the bolt, hold

the gun, muzzle upward, so the oil will run between the bolt and receiver, and then work the bolt backward and forward a few times by means of the operating sleeve. Wipe all inside parts as free from powder and dirt as possible, taking special care that the inside and outside magazine tubes and throat piece are kept free from powder residue and rust. To do this, it is advisable to remove the inside magazine tube, and wipe it out carefully, then cock the hammer and pass an oiled rag through the outside

magazine. In cleaning the outside magazine, always draw the cleaning rod and rag through from the rear toward the mouth of the magazine. All the parts and the inside of the barrel should be kept clean and covered with a light coat of oil to protect them from rust.

"In the use of this rifle it should be borne in mind continually that, after the first cartridge is thrown into the chamber, the gun is always loaded until the last cartridge is fired or the magazine emptied by hand."



European Forestry.*

BY MARCEL HOEHN, BERLIN, ONT.

The question is often asked why it is that in Germany and France forestry has been successfully practised by the Government for a century and a half, and we are now only thinking of teaching coming generations how best to conserve our forests? By long years of education, and practical experiment, forestry has become an art in those two European countries. There, as a rule, they look ahead. They reforest their woodland and do not deforest it. It is managed as carefully as a gold dollar. Everything is worked out and boiled down systematically before they enter the woods. The forests are cropped when they are ripe as regularly and methodically as a farm crop. They have no open season methods, for one crop is followed by another crop in regular rotation. They have no denuded woodland, for one crop is immediately followed by another, and the last is always better than the one preceding.

When the original forests are cropped in order to start a new plantation, every tree is removed. Nothing is spared except a few nurse trees, and each one has to pass inspection, for it would be a poor policy to leave one which is partly diseased or crooked. The ground is never in better condition to grow young seedlings than just after the removal of the original forests. Nature has provided the forest floor with millions of seeds of all kinds, and they are only waiting for sunlight and air. Under a thick,

shaded canopy they will not germinate readily. Young forest seedlings under this systematic treatment must come up together properly and crowded thickly. They must touch each other, and the more struggling and fighting that goes on amongst the plants the better. Otherwise there would be a failure. The forest plants must pass through a regular system of transformations altogether, in order that they should develop in a uniform manner and produce regular stems, and it is in this camp or school that such transformation must take place before the plants are thinned. There are only two stages of growth in a young forest: the nurses and the young seedling.

Under this system it is surprising how rapid the growth is. In five or six years seedlings are transformed or conquer, and are ready to be thinned, and in fifteen or twenty years you will have a forest of which you may be proud, for it will be a delight to look at. We cannot view the art of forestry as practised in Germany or France to-day without feeling the deepest respect and admiration for it. It is a credit to skill and long and patient experiment, resulting in improved methods. As all the trees are of one age, they are all of the same height and thickness, all straight, smooth, sound and without limbs on the trunks. In a systematic forest there will never be any over-ripe trees, for as they are all of one age, they will all ripen together and be cropped together.

* Contributed by the Officers of the Canadian Forestry Association.

In Siwash Land.

BY A. L. HENRY.

There is no more beautiful scenery in the world than that of the northern coast of British Columbia. Appreciation of the beauty of nature is instinctive, and, in those mortals not gifted with the power of ready speech, inarticulate. Most of us become dumbfounded, and have to express by silence our admiration. In a somewhat similar way the beauty of this portion of British Columbia appeals to us. We cannot say that it reminds us of something that we saw elsewhere, for this scenery is incomparable and totally different to the natural beauties of other portions of the globe. This is its charm; we feel that at last we have found some spot in the world where all is new. For instance, what other scenery have we observed in our travels to equal that which can be seen on a trip from Victoria to the Naas River, or, indeed, at all similar to it. To Europeans who are accustomed to a set form of landscape the effect will be at once pleasing and bewildering. Bold and threatening coast, appearing as if offering an eternal challenge, succeeded by the tropical scenery of the Pacific, calm waters and quick and complete change from one set type of landscape to another,—all these present a striking contrast to the traveller, and fields of exploration and delight altogether undreamt of. It can easily be inferred that anyone making this trip will at least not suffer from languor nor satiety born of excess. His attention will be fixed on the continually changing landscape, and the adjective monotonous will never once be on his lips. And to the man intent on business the information that can be acquired on the trip will amply repay him for his apparent waste of time. The resources of the country are simply incalculable, and only await the investment of capital to make British Columbia one of the richest countries in the world.

After all, the majority of mankind are merely people of one idea. Even the most liberal minded of us are painfully

conservative and follow the beaten track with all the assiduity of our natures. We hardly ever stay to inquire whether it is absolutely necessary that we should always follow the one path. But deviation must be shunned. We have implicitly believed "common report," and it has never deceived us, or rather we have imagined that it has not. Besides, we have too long been devotees at the shrines of "wont" and "usage" to change now. So we still stick to the beaten track of travel—the Hudson, Switzerland or Norway. We endure the heat and burden of the day, and the eternal round of fashion. We discover no relaxation; as a matter of fact we never expected to. We are martyrs to public opinion. But those who take notice of the general trend of human events will observe that the fashionable resorts of Europe and America are slowly giving ground to the greater attractions of Canada. At last it is dawning on the peoples of Europe and America that they are and have been only trifling their days away. And, as the burden of existence grows heavier and the need for complete mental and physical rest greater, they will find that the natural peace and the natural beauty of British Columbia are quite sufficient to meet their greatest needs. Owing to the wear and tear of life, the nerve-destroying noises of the cities, and the keen and unwearying attention it is necessary to give to our various businesses, a holiday at a certain period of the year is absolutely imperative.

We must recuperate. And recuperation is only made possible by changing from one condition of life to another, and not by changing from one city to another. We smile when the holiday maker passes from London to Paris. The transition appears absurd. But he who finds his rest in the external peace of nature and in the calm contemplation of its beauties will find his compensation. And as a matter of fact the traveller will find that there is a better holiday ground

in British Columbia than elsewhere. Its wildness alone makes it attractive. Here we can get back to nature and pass our time free from many of the intolerable conventionalities of life.

But not only is it a field for the tourist in search of pleasure. Rich mineral deposits that have never yet been worked, thousands and thousands of acres of grain and ranching country that still lie unoccupied, invite capital and labour to an easily acquired fortune. Here, too,

the sportsman will find that the fates have been kind to him, for he will find almost every species of game within easy reach. Bears, mountain lion, moose, sheep, goat and deer, represent the larger game, while grouse, and every description of wild fowl abound in countless numbers. Its fishing is—but it seems hardly necessary to expatiate on that subject, as British Columbia has long been famous for sport with the rod.



The Fir.*

The word Fir comes to us from Scandinavia and brings down with it the memories of the old vikings who issued from the dark forests of the north, and, sailing boldly seaward on their wooden ships, brought down destruction and terror upon the civilized and peaceful shores of more southern lands. The name was first applied to the Scotch Pine or Fir, but it is now sometimes used to designate the whole class of coniferous trees, although its usual and more restricted sense confines it to the spruces and silver firs, and especially in Canada to the Balsam Fir (*Abies balsamea*). From the economic point of view this has not been considered a tree of much value, but it is one about which the greatest interest and most pleasant memories cling, for it is the Christmas tree of America, although the spruce is also used for this purpose. The demand for Christmas trees annually makes a large drain on the young growth of the forest, and the results are, at least in some parts of the United States, that forests are being almost destroyed. This is no necessary result of the furnishing of such trees, but only an exemplification of the unscientific and happy-go-lucky style of provision which this advanced age adopts as a return for nature's bounty. This tree is also levied upon for the "pine" pillows which the ladies carefully manufacture in order that its odoriferous needles may bring quiet sleep

or pleasant dreams, in which all the mystery and magic of its dark, waving branches and the romance of its forest home may weave themselves into the fabric of the visions of the night and spread their enchanting influence even into the waking hours.

But its virtues do not stop with this. The bark furnishes the Canada Balsam, also called by the French Balm of Gilead, a clear, viscid resin which is used as a medicine and also for the purpose of mounting specimens for microscopic observation. This resin is obtained from blisters or vesicles in the bark. Some French-Canadian families have made quite a business of gathering "le baume de Gilead," camping out in the woods and having a good time generally while the harvest is being gathered.

The Balsam Fir is easily distinguished from the spruce by its leaves, which spread flatly from both sides of the twig, instead of like those of the latter, being somewhat square-shaped and arranged all around the stem; and from the hemlock by the size of the leaves, which are from three-fourths of an inch to one inch in length where those of the hemlock hardly exceed half an inch, and by their glossy appearance. The bark is grey, blotched with lighter color, and quite smooth even in large trees, so that without looking any higher it is quite easy to distinguish it from any other conifer.

* Contributed by the Officers of the Canadian Forestry Association.

The leaves are dark green and glossy above, and silvery white beneath, with a prominent green midrib corresponding to a centre line of indentation in the upper surface, and the ends are blunt. The branchlets are in a cruciform shape, tipped by the smooth buds. The cones are large—two or three inches in length—and stand erect on the upper branches. In the early stages of growth they are of a decided purple color.

This tree is found throughout Eastern Canada, generally in low ground with the spruce, and ranges north to James Bay, and it has been found west as far as the Athabasca River. The wood is not of great value, being neither strong nor very durable, and the quantity of resin it contains and its brittle fibre interfere with its usefulness as a pulpwood. It is,

however, cut into lumber to some extent and, although ten to twenty-five per cent. was considered the limit for its use in paper pulp manufacture, it is now being taken freely and used generally by some manufacturers in the United States. As a fuel it burns quickly and easily, but the smoke is very pungent and irritating.

It may be of interest to mention that the original fir tree—Scotch Pine (*Pinus sylvestris*)—furnishes most of the red deals of the Baltic trade and that the white wood is from the Norwood Spruce (*Picea excelsa*). Both of these trees have been introduced into Canada, and may be found in arboretums and private grounds. At the Central Experimental Farm the former has been found a rapid grower and well able to adapt itself to varying conditions of soil.



On the Rideau.

BY M. D.

There is an Arab proverb "that he who drinks once of the Nile will come back to drink of it again." The same may be said of those who once experience the joys of a holiday in the woods, far, far away from the dwellings of men and the distractions of the cities. They will come back—and no wonder. What can be compared to lazily passing one's days in the seclusion of the whispering trees, idly dangling for fish, or floating down the river in a birch bark canoe? Every summer an increasing number of visitors are finding that the north is an ideal holiday ground for busy men and women, and, indeed, for all those who have had to toil hard in the cities. Sequestered, hidden, unfettered, they can find that peace and quiet, impossible elsewhere. There are many who cannot afford to take long journeys in search of health and recuperation. To these Eastern Ontario is easily accessible.

And such fish as are killed in the Rideau, Beverly and Charleston Lakes!—

lake trout as high as twenty pounds in weight; small mouthed black bass up to five pounds, and full of fight into the bargain; big mouthed bass of from five to seven pounds; long pike of ten and twelve, and pickerel from four to ten pounds. With all this fishing there is the most beautiful scenery imaginable. Lovely lakes full of bays and islands which open up new vistas to the eye at every stroke of the paddle; sheets of water calm and quiet, in which the surroundings are so perfectly mirrored that it is hard to tell where the water meets the shore; sylvan banks over which the trees droop; and lake opening out into lake in endless procession. Is it any wonder that poets write of it, and sportsmen grow enthusiastic over it? No more peaceful or restful region can be desired than the district through which the Rideau flows. One great advantage of the fishing grounds in this territory is their accessibility.



The St. Bernard.

BY D. TAYLOR AND F. STUART.

The readers of *ROD AND GUN* are no doubt familiar with the touching picture of an exhausted traveller, lying half-buried in the snow of the Swiss Alps, being nursed back into life by a St. Bernard dog, which had been sent by the monks of the hospice on that mountain to search for wayfarers who may have lost their way or been overcome by the blinding storms so frequent in the mountain passes. For the time being at least, the person who looks upon this picture must experience a feeling of sympathy with and admiration for the noble animal engaged in such meritorious work as the saving of human life. Nor is the subject of the painting a mythical one. The records of the hospice of St. Bernard, show that annually, numbers of persons are rescued from certain death through the succour brought them by these intelligent "first aids" to the distressed, and only a short time ago, the death was announced of one of these dogs, which, during his career, had been instrumental in rendering timely assistance to over ninety persons, many of whom were in the last stages of exhaustion. These associations, and others which cluster around the St. Bernard, probably account for its popularity, and its size alone is against its being more generally kept. The St. Bernard is certainly not a dog for the modern flat, he requires plenty of yard room, and with this prime requisite he is a good dog for a family, being generally of a kindly disposition, and very tender and confiding with children, who may take the greatest liberties with his person without risk of retaliation. He also makes an excellent watch and is very companionable at walk. Like other heavily-coated dogs, the St. Bernard is somewhat susceptible to skin affections and to vermin, but with frequent grooming these little drawbacks will not be present, and attentions of this kind paid to the dog will result in increased affection on his part, and add greatly to the beauty of his appearance. The color of coat most favored by fanciers is a deep orange-red with white markings.

The general appearance of a St. Bernard dog should show great muscular development, suggestive of power and endurance, and combine dignity of carriage with expression denoting intelligence and benevolence. When full grown, a dog should measure not less than thirty inches at the shoulder, and a bitch twenty-seven inches. The main characteristics of a good St. Bernard are a large and massive head, the circumference of the skull being double the length of the head from nose to occiput or back of the skull, broad and round at top but not domed; lips, deep and not too pendulous; nose, large and black with well developed nostrils. The ears are of medium size, set close to the head and not heavily feathered. Eyes, rather small and deep set, dark and not too close together. Chest, wide and deep; shoulders, broad and sloping; back, level to haunches and slightly arched over loins. Forelegs, perfectly straight, of good length and strong bone; hind legs, heavy in bone and well bent at the hocks; thighs, muscular; feet, large, compact and the toes well arched, spreading toes or splay feet are a serious fault, and too much importance cannot be given to the soundness of the legs which have a heavy body to sustain. Unfortunately, in this breed, there are a great many which show a decided weakness here, and the result is a shambling gait when at walk which is utterly foreign to the animal, if it has been properly cared for during the puppy stage and afforded ample room and freedom for exercise.

A very good specimen of a St. Bernard is the one whose photograph appears in this issue of *ROD AND GUN*. He was bred by Messrs. F. & A. Stuart and is by their late Sir Hereward II. (imp.) ex Snowdrop II. (imp.) When seven months old, he won 2nd novice, 3rd limit and open at Burlington, Vt.; 1st puppy 2nd novice, 3rd limit, reserve open and special for the best puppy at the last Montreal show. His litter brother, Lochnivar, second at the same show, was sold to a Nova Scotia

gentleman at a good figure. Snowdrop II. recently had another litter to the famous Duke of Watford (1st New York and Toronto), one of which has been sold to Mr. Geo. J. Rogers, of Charlotte-town, P. E. I., but the best in the bunch is considered to be a bitch, named Primrose Princess, of which great hopes are entertained.

HINTS ON ST. BERNARD PUPPIES

Perseverance and patience, and plenty of pluck, are among the attributes that are necessary to make the thorough dog fancier. It makes no difference what particular breed of dog a man may make a hobby of, he learns sooner or later that before he may even hope to breed a winner he has to overcome a great many difficulties, and it is only with the aid of the above qualities, added to plenty of hard experience, that his expectations may in some measure be realized.

The St. Bernard I have found to be no exception in this respect, and I have often wondered, when I have paused before the stalls of some of the great blue ribbon winners at our dog shows, how many people realize just how much time, care and forethought it has taken to bring about this result. Next to quality, size being about the greatest consideration in the St. Bernard, it perhaps takes greater care in feeding and exercising than in the lighter built breeds. Take a terrier or a spaniel, for instance, and if he is a good quality dog and should happen to go off his feed for a few days it is not of such vital importance as in the heavy breeds. In the St. Bernard we must have bone and size coupled with quality, and this can only be gained through plenty of proper nourishment, and, as a natural consequence, plenty of feeding means plenty of exercise.

There are scores of St. Bernards to-day which might have carried off very high honors at some of the leading shows had their owners understood rightly the

benefits derived from proper feeding and exercising. Now, as to feeding; generally speaking a pup will start to lap at three weeks, and if milk can be had fresh from the cow they will thrive well on this until about six weeks old, after which I start giving raw meat cut up fine, three or four times a week, until their stomachs become accustomed to the new order of affairs, then I recommend milk be given only occasionally. Let meat both cooked and raw be the staple food from this on, with now and then a mash of porridge, cooked with meat, soup and vegetables; onions are greatly relished when well cooked. Large beef knuckles should always be on hand as the bone keeps them busy and develops the head. Always bear in mind that plenty of natural exercise is equally as necessary as good feeding. Playing with other pups is the most natural, and therefore the best form of exercise; a collie or terrier pup is a great benefit in this way, as they are always on the go. Swimming is another grand form of exercise as it gives the muscles full play while at the same time it takes the weight of the body off the legs, and the dog never gets overheated, which of course is as uncomfortable for him as it is for us.

After a St. Bernard puppy is six or seven months old the bone is formed and the legs set, and there is therefore not much chance, if they are good and straight then, of them going wrong afterwards. From this on until they are twelve months old it is next to impossible to make them look fleshy enough, as they generally run right up to their full height about this time, and they do not properly develop and finish until they are about two years old. After this they can be kept in very fair every day condition on a comparatively small quantity of food, one meal a day being amply sufficient for most dogs at this age. Bones can be given right along at all times.

Abercrombie & Fitch, outfitters, of New York, have published another edition of their comprehensive catalogue. This is rather more than a mere enumeration of articles kept for the benefit of campers, as it includes a chapter on

preparations for a canoe trip, by Mr. Abercrombie, who has had considerable experience in the Canadian woods. It may be had upon application either to ourselves or to Messrs. Abercrombie & Fitch.



THE BALSAM FIR.

The balsam (*Abies balsamea*) is one of the trees most characteristic of the northern Canadian forest



THE WHITE SPRUCE.

Picea alba is a hardy, valuable tree, growing farther north than the black spruce

Our Medicine Bag.

"Upland Game Birds," by Sandys and Van Dyke, is the second volume of the American Sportsman's Library, edited by Caspar Whitney, and published by The MacMillan Company, 66 Fifth Ave., New York. Like all the companion volumes of the series it is a carefully written, and, on the whole, successful attempt at covering a big—and scarcely a new subject. The nomenclature adopted is by no means scientific, nor indeed is it quite accurate, but no doubt will be acceptable to most shooters, who, as a rule, do not bother their heads as to the family to which a game bird belongs. The authors divide their subject into: The Partridge Family, The Grouse Family, The Ptarmigan Family, The Quail and Grouse of the Pacific Coast, and so on. The "Ptarmigan Family" must, one would think, be very near kinsmen to the "Grouse Family," seeing that each is a member of the noble family *Tetraonidæ*.

These defects, if defects they be, are, however, much more than balanced by the admirable descriptions of the various game and "gun" birds that yield sport to the shooter in this western continent. One of the chapters appealing to us as forcible as any is that on the red ruffed grouse of the Pacific slope, for only last autumn we happened to enjoy some shooting in a part of British Columbia, where these birds outnumber all other species. Mr. Van Dyke writes: "The red ruffed grouse, as he is called, is the same in general size and shape as the brown ruffed grouse of the eastern woods, but is distinctly darker, with a reddish cast in the brown. Its habits of breeding and living are about the same, yet with an abundance of food, milder winters than the eastern bird has to endure, and apparently far fewer enemies, it is not as plenty on the very best grounds as the eastern grouse is in many places. And this is the case where it is not shot, trapped, or hunted in any way, and where hawks, owls, coyotes, foxes, wild cats and other marauders are very rare." This statement may be accurate

as far as the country south of the International boundary is concerned, but requires to be modified as regards British Columbia. Last year grouse, both *Bonassa umbellus togata* (grey) and *Bonassa umbellus sabinii* (red), were quite remarkably abundant in the forests adjacent to Shuswap Lake, B.C., and this being a region of heavy precipitation as compared with the Okanagon and Ashcroft districts nearby, there were as many of the "red" birds as of the grey. Fannin very justly notes that: "Although the 'red' phase of the ruffed grouse is more constant west of the Cascades, both red and grey are found throughout the Province, with the tails indifferently reddish or greyish; so that the sub-division as it now stands is somewhat perplexing."



Very many readers of ROD AND GUN do almost as much hunting with the camera as with the rifle; to such "Nature and the Camera," by A. R. Dugmore, may be recommended as an eminently practical text-book. Mr. Dugmore discusses his subject with thoroughness, and his practical experience shows itself in every page. The hunter of big game will turn with a lively interest to the chapter on photographing animals, and in it he will find very minute directions for the "bagging" of his game. "The outfit required," writes the author, "is a camera allowing focussing while the plate is ready to be exposed, and which has a draw of bellows sufficient for the use of a low-power telephoto lens. In addition he must have a long-focus lens of great rapidity, and a tripod. Further on we are told: "A short focus-lens is of practically no use in animal photography; when large animals are the subjects they are rendered too small unless you are fortunate enough to be able to approach to within very short range. Even then the results are far from satisfactory. The shorter the focal length of the lens the greater will be the distortion due to the exaggerated foreshortening, so that for all animals,

large or small, use a long-focus lens—the longer the better, so that its speed is great enough. For a 4 by 5 plate I use nothing less than a 9½ inch lens, usually one of still greater length." The book is full of just such excellent directions as those quoted. Moreover, the illustrations are as instructive as they are technically excellent, so that the hunter who is also a photographer should certainly possess this book. The publishers are Doubleday, Page & Co.

The Forest Commissioner for the State of Maine reports that the fires in that State for the months of May and June burned over an area of 277,395 acres, causing a total loss of \$1,041,210. In connection with this the following statement from the Boston Globe is of interest:—"In the south ninety per cent of the shippers of yellow pine have more orders than they can possibly fill, while prices are constantly advancing. The price of white pine, poplar oak and cypress has advanced during the year from \$6 to \$14 a thousand feet. The fact is that the increase of population in this country averages 1,000,000 a year. Side by side with this fact there is an ever-increasing demand for lumber. We must relatively increase the supply or the building trade will begin to feel it severely. We are thus brought face to face with a grave situation. We must begin planting trees and raising forests. Planting trees in New England and other

sections of the country will before long become as familiar an occupation as planting corn. We have already neglected it too long."

Since the annual meeting of the Canadian Forestry Association a marked step forward has been taken in the forestic interests of Prince Edward Island. At that meeting we named as vice-president of the province the Rev. Father Burke, of Alberton, whose enthusiasm for all such work as ours was well known to the Association, and he has not been idle. From the most complete indifference to the speedy denudation of the province, he has singly and in a short time aroused the whole community to an intelligent concern in the preservation of the remnant of forest and the repairing of the mistakes of the past. At the last Session of Parliament, held in Charlottetown, he prepared himself and caused to be passed into law an Act for the appointment of a Forestry Commission with wide powers, and now that under its provisions the Commission is named and with his assistance its report will be made to the next Session of Parliament, it will doubtless prove of the utmost value to the whole country. It will be seen that our Prince Edward Island vice-president has already earned his spurs, and is vigorously planning for the future of forestry in his province. He is also

Grade "A" Marlin has a Special Rolled Steel Barrel, with a tensile strength of about 66,000 pounds to the square inch. The frames are blued, and the buttplates of best quality rubber.



Buttstocks are 13½ inches long, with 1½ inches drop at comb and 2½ inches drop at heel. Special hand-made stocks, any dimensions, made to order at small extra charge.

The full choked barrels are guaranteed to target better than 240 pellets in a 30-inch circle at 35 yards, using one ounce No. 7½ chilled shot. These barrels are specially bored for smokeless or black powders, and are proved with excessive

loads. Modified and cylinder bored barrels furnished at same price.

Magazine holds five cartridges, and with one in the chamber gives six shots. All made to Take Down.

endeavoring to secure a maritime meeting of the General Association so that the important interests involved may be thoroughly organized. This is a proper example to set before the other officers.



In a former issue of ROD AND GUN attention was drawn to the change made by the executive of the American Kennel Club in the making of a champion, and it was then said that the new system, which awarded points according to the money value offered in prizes, would prove unsatisfactory to a large majority of fanciers. The prediction proved correct. The change from the previous system of rating was received with so many expressions of disapproval that a special meeting was called to reconsider the question. There was a record attendance of delegates, and the result was that the resolution providing for the change was rescinded. The old system will be adhered to, at least until the annual meeting, when it is probable that some modification of the terms, acceptable to all parties concerned, will be arrived at. These modifications will naturally be in the direction of raising the number of points to constitute a champion, and also make it compulsory that one or two of the wins should be at a three-point show.

Baily's for August, among other articles of more or less interest to sportsmen on this side of the Atlantic, contains a paper on physical training in its application to sport. The writer urges each aspiring athlete to choose early from the many pastimes one or two for which physique and temperament naturally adapt him, in place of striving, as do too many, for that all-round dexterity which is so rarely possible. Sports that have a certain resemblance and which may with advantage be practiced by the same person are : fencing and boxing ; rowing and swimming ; football (Rugby) and running ; golf and cycling. Stress is laid upon the value of "muscle-memory," which can only come through familiarity with the movements required.



A Report on Tree Planting on Streets and Highways, prepared by Col. Wm. F. Fox, has been issued by the Forest, Fish and Game Commission of New York. It is published in the beautiful style for which the reports of the Commission are noted, and contains a great deal of information on the subject with which it deals, of which we hope to give our readers some of the benefit at a later date. The colored plates of leaves of forest trees are a specially handsome feature of this report.

The Winchester Repeating Arms Company announce that they are prepared to furnish, through the regular trade channel, the .32 Automatic Smokeless Powder Cartridge, adapted to the new .32 Colt automatic pistol now on the market. They also announce that they are ready to supply the new .38-55 Winchester High Velocity Cartridge, loaded with low-pressure smokeless powder and soft-point, metal-patched bullet, giving high velocity and great muzzle energy. This cartridge can be used in all Winchester Model 1894 and Single Shot rifles of this calibre in good repair, and greatly increases the utility and power of these guns. For fine shooting, a slight alteration of sights may be necessary, when this cartridge is used. For purposes of comparison, we give below a table showing the velocity, penetration

and trajectory of the regular and Winchester High Velocity .38-55 cartridges :

	Weight of Bullet.	Muzzle Velocity.	Penetration in 3/4 in. dry pine boards at 15 ft. from muzzle. Soft-p'nt bullet
.38-55	255 grains	1,321 ft. per second	13
.38-55 W. H. V.	255 "	1,593 ft. "	10
-----Trajectory-----			
100 yards. Height at 50 yards.	200 yards. Height at 100 yards.	300 yards. Height at 150 yards.	
2.91 inches 2.00 "	13.14 inches 9.52 "	34.43 inches 25.46 "	

On account of the high velocity of this new cartridge, the trajectory is much flatter than that of the regular .35-55 ; and the striking energy being much greater, the soft-point bullet has excellent mushrooming, or upsetting, qualities. Hence, while the penetration is not so great as with the regular cartridge, the shocking effect is much greater.

Notwithstanding that the fashion runs towards hammerless guns and single triggers, three of the best shots in England still stick to the hammer gun. The Prince of Wales, Lord de Grey and Mr. Stonor have their guns built by Purdy, and fitted with automatic ejectors, and never use a hammerless weapon. With three such authorities using the old-fashioned sort there must be something to be said in its favor. Mr. Stonor, who is looked upon as one of the most brilliant performers in the British Islands, uses one ounce of No. 5 British, equal to about No. 6 American, and his favorite powder is "E. C. No. 3."

Most men think they know all about training a dog—and about one in every 10,000 actually does know something of the rudiments of the art. The other 9,999 will derive incalculable benefit from a careful study of "Practical Dog Education," by Thomas C. Abbott

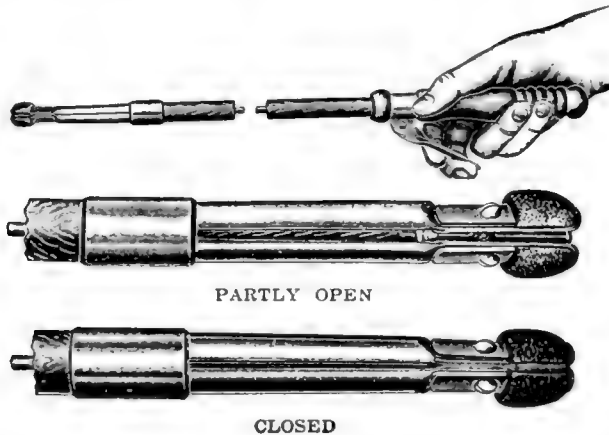
(Re-capper). Unfortunately Mr. Abbott has failed to include an index, which omission we hope to see remedied in the next edition—for no doubt a second edition will be called for by the dog-loving public. The publishers are the M. T. Richardson Company, New York. The price is not given.

Fishing is reported on all the trout streams, but amateur anglers are recommended not to visit the streams in the interior as the mosquitos are thick. The coast streams, however, are free from this pest.—*Vancouver Ledger*.

If the Ledger means this part of the interior we beg to say its statement is an unqualified libel. We have big streams, big trout, big catches, in fact everything big but mosquitos, and there are not enough of them to make it interesting. Save us from the coast streams though.—*Ashcroft Journal*.

The Velvet Clutch Garrison Shot Gun Cleaner may be recommended with confidence, as it has been thoroughly tested and never fails to act. The cuts accompanying this notice render a verbal description almost superfluous. The cleaning rod is in three joints, carrying

thickness of cloth about three inches square makes a perfect swab. The gauze pads are held in place by a turned-over hook at end of cleaner's fingers, and by a screw at rear, and are easily removed when necessary, but this should not occur more than once in several years.



within a moveable steel rod, acted upon by a lever at the handle end. The end of the rod has a cone which expands when the lever is compressed. The adjustment being under control, chamber, barrel or choke are cleaned alike. One

While the cloth pad removes all but the most obstinate rust and lead, a moment's use of the uncovered gauze will do it effectively. The makers recommend vaseline or gun grease as a lubricant.

The annual show of the Ottawa Kennel Club will be held from September 15th to 17th inclusive, during the Central Canada Exhibition. Good money prizes and a large number of valuable specials are offered, and intending exhibitors would do well to note that entries close on September 7th. The judges are Dr. C. Y. Ford, Kingston, Ont., and Mr. F. F. Dole, New Haven, Conn., and the position these gentlemen occupy in canine matters is alone sufficient to attract a large entry. Dogs sent direct from Toronto show will be well cared for free of charge until the close.

large flocks of young birds accompany their mothers amongst the reeds. On Plum Lake many flocks of young wild geese are to be noticed, besides the ducks on the waters and the grouse on the shores.

Mr. James Lindsay and Mr. Arthur F. Gault, of Montreal, will judge terriers and collies respectively at the Sherbrooke show, which opens on the 2nd of September. Mr. Joseph Kennedy will take all other breeds. The prizes are \$3.00 and \$2.00, with a full classification, and there are lots of valuable specials.

In a letter received from Hartney, Manitoba, the writer says: Not for many years have the prairie chickens been so plentiful as is the case this summer. The coveys are large and the birds nearly full grown. In every district the same conditions exist and sportsmen are anticipating a rare time when the shooting season opens. Ducks are also numerous and on every pond

Mr. E. T. D. Chambers has issued a new edition of his useful Angler's Guide to Eastern Canada.

This is one of those little hand-books that are indispensable to the salmon and trout fisherman, who does his angling in Eastern Canada. It is published by the author through the Chronicle Printing Company, Quebec City.



The Royal Chinook.

(From the Portland Oregonian.)

Of the fish in fresh water there's never a doubt
That the best of them all is the game little trout;
He's speckled and brilliant and loved of the cook,
But he's only a mite to the Royal Chinook.

With the strength of a Sandow, the grace of a girl,
From the sea the Chinook comes through
current and swirl,
And tough would the line be and well-forged
the hook
That would stay on his journey the Royal
Chinook.

In the deeps he is taught by some wonderful
rune
That the river's in spate and the season's at
June,
And swiftly he flashes for river and brook,
Till Columbia chokes with the Royal Chinook.

His strength and his swiftness there's nothing
can let,
Till he meets 'thwart his passage a wavering
net,
And then it's alas! nor by hook nor by crook
Is there hope of escape for the Royal
Chinook.

We regret that King Salmon thus ends his
career,
But expectant the palate arrests the salt tear;
And when to the table we eagerly look
We drink to both fisher and Royal Chinook!

AFTER

A LONG DAY'S SHOOTING



there is nothing so strengthening
and invigorating as a cup of

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It contains all the nourishing properties of the best lean beef in the smallest possible bulk, and

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

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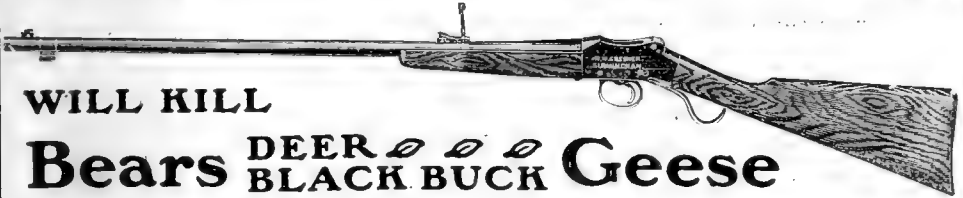
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The American Team which recently won the International Championship for revolver shooting made a splendid showing. They beat the French Team by 249 points, though the Frenchmen had the advantage of shooting at different times and the Americans all shot at one time.

Every member of the American team with but one exception used the

SMITH & WESSON REVOLVER

WINNING TEAM AND SCORES

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Total Score 7,640

All Smith & Wesson Revolvers have this monogram trade-mark stamped on the frame. No others are genuine.



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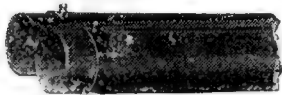
SAVAGE



The Savage 25-35, 32-40 and 38-55 calibres are some sizes recently added to the famous 303 and 30-30 Model 1899 Hammerless Repeater. These loads are considered the standard for accuracy, and will probably never be excelled for hunting and target purposes. Savage Rifles are fitted with "Special Smokeless Steel" barrels and with a breeching mechanism *originally* constructed to withstand the enormous pressures developed by modern smokeless powder. This gives confidence to "the man behind the gun."

Catalogue H, with full particulars, mailed on request.

SAVAGE ARMS COMPANY, UTICA, N. Y., U.S.A.



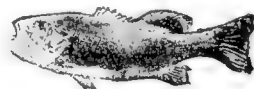
THE Bradley Shot Gun Sight

The Bradley system of sighting shot guns is a radical departure from old methods, and makes wing shooting easy and certain. There are two beads, one for each barrel, and instantly attachable to the gun in such a manner that there is no interference with the sight originally on the rib. Shooting at stationary objects or straight away birds, the side beads plainly define the killing circle of the arm, since a bird seen between them if not out of range will certainly get a good portion of the charge. But it is in crossing shots that the Bradley sights are the most valuable. All double barrel shot guns cross the central line of sight at about 30 yards, beyond which the right barrel throws to the left and the left to the right. Sighting directly down the barrel fired compensates for this, but there is still the difficulty of judging how much to lead crossing birds. And some shooters are never able to get the knack of doing this correctly. With the Bradley sight it is only necessary to aim at a left flyer down the left barrel and fire the right (or the reverse in case of a bird crossing to the right), which gives the proper lead and will almost invariably insure a kill. With this sight any one can very soon become a good wing shot. Sent postpaid for 50 cents. In ordering give gauge of gun.

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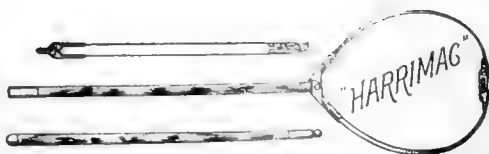


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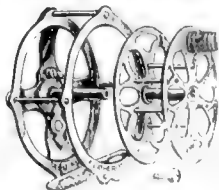
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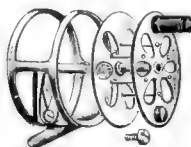
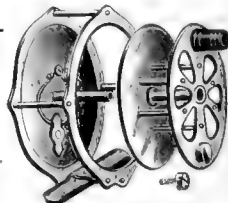


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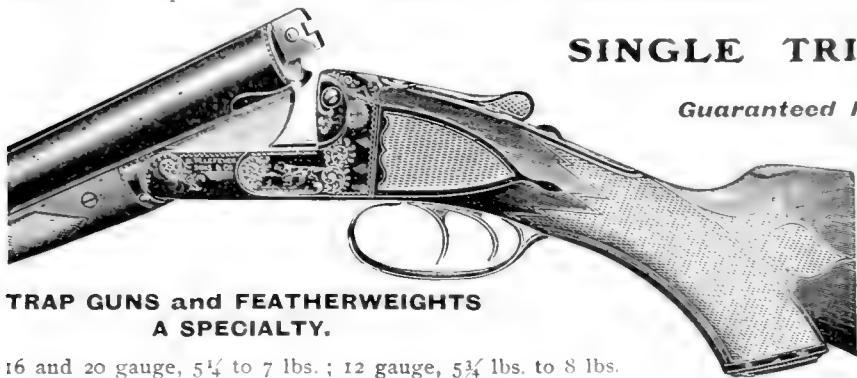
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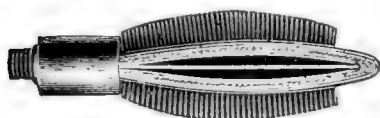


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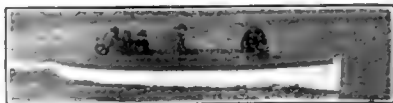
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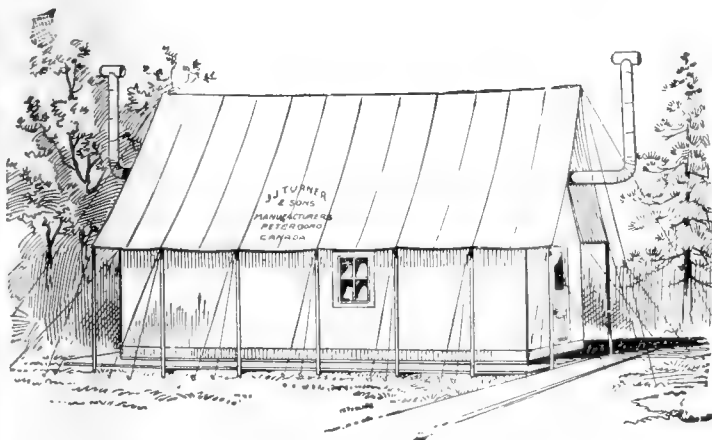
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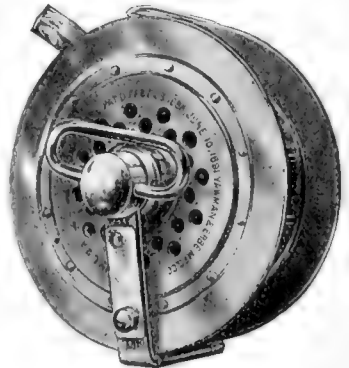
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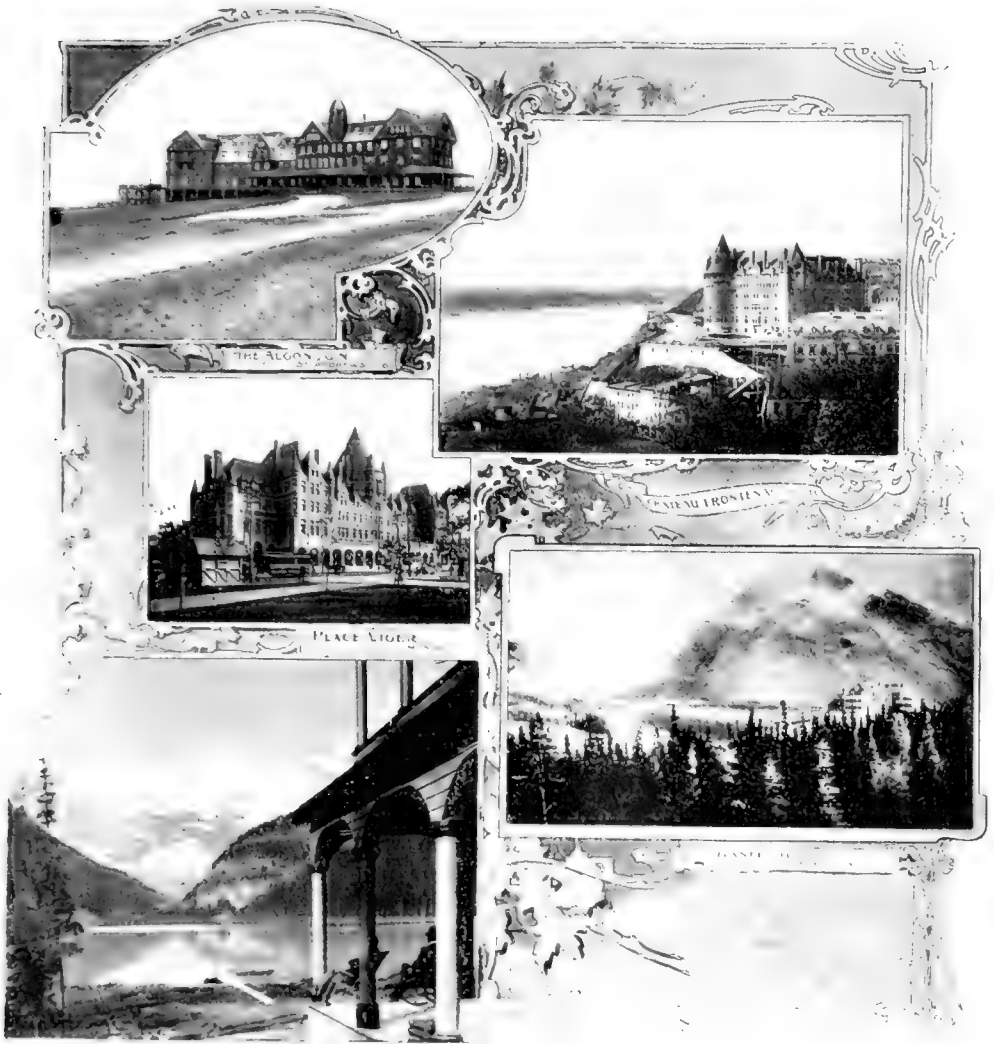


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ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, OCTOBER, 1903

No. 5

A Mighty Waterway.

BY ARTHUR O. WHEELER, F.R.G.S.

At Medicine Hat, a small thriving town on the Canadian Pacific Railway, the great trans-continental highway crosses the south branch of the Saskatchewan River. The traveller notes with interest the deep, sharp-cut trough in which it flows, worn through the course of ages in the rolling prairies, midst which it winds its way. Further to the north and east, the terraced valley, growing ever deeper and wider and the wooded bottom lands more frequent, it joins, after a course of nearly one thousand miles, the north branch of the same stream. United, these waterways present a mighty river from half to a mile wide, flowing several hundred feet below the prairie level, terrace rising upon terrace to form a valley two to three miles from side to side and bear witness to the irresistible flood that in by-gone ages gradually gouged out the existing bed. In the depths below are many channels, separated by tree-clad islands and sun-lit gravel and sand bars. Maples, cottonwoods, aspens, high-bush cranberries and red willow (the Ki-ni-ki-nick of the Indian) clothe the islands and the valley bottoms with a tangle of forest growth, and in the late fall render it a highly coloured picture of yellow and green,

Along the margin of the stream, in the soft mud or sand, may be seen an encyclopedia of the natural history of the country, and one versed in hunting lore can readily read the many footprints

as in a book:—bear, deer, wolf, coyote, fox, beaver, muskrat, otter, mink, marten and many others are there seen, and form a study of deepest interest. And so, this mighty river, augmented by many a tributary, rolls onward to pour its waters into the great inland sheet of Lake Winnipeg.

Some seventy miles above the town of Medicine Hat, the South Saskatchewan is formed by the united waters of the Bow, Belly, Highwood, Oldman's, Waterton and St. Mary Rivers, and at a somewhat greater distance below is joined by the Red Deer River. All receive their supply more or less directly from the eastern watershed of the Continental Divide and the vast areas of snow and ice stored at the summit of the main range of the Rockies of Canada.

Gazing at the sullen, mud-coloured torrent, the traveller cannot but wonder where such a body of water first comes from, and through what process of evolution it arrives at the stage which here meets the eye. The journey westward by the Canadian Pacific Railway largely helps out a solution of the problem. At Calgary, a busy distributing centre for the ranching, farming, timber and mining lands of Western Alberta, situated on the railway, 180 miles west of Medicine Hat, the Bow River, one of the two principal streams forming the South Saskatchewan—the Belly River being the other—is now encountered and followed by the railway into the moun-

tains by way of the Bow Pass. As most accessible, it furnishes a fair sample of the process of evolution above referred to. The river has here a width of some three hundred feet and a greatest depth of from eight to ten. In mid-summer the water is clear as crystal, and the boulders and gravel at the bottom easily discernible. In June and July it is a rushing, mud-coloured flood, and occasionally, owing to cloud-bursts along the eastern face of the mountains—some fifty miles distant—or to exceptionally hot weather early in the year, overflows the banks and causes much confusion among the inhabitants of the lower levels of the town as well as considerable disarrangement to railway traffic, owing to washouts of the white clay banks which confine this portion of its course.

On the climb through the foothills, from the windows of the train the trough of the Bow may be seen, winding like a black snake through the green or yellow grass of the beach-lands above, so narrow as only to be followed by the eye from a height or when close to the bed, and chiefly to be traced by a line of stunted spruce tops and gnarled and twisted Douglas fir, distorted by the strong, warm chinook winds sweeping down the valley. In this section the Bow is joined by several tributaries of considerable volume, noticeably the Elbow, Jumpingpound, Ghost and Kananaskis Rivers. Some idea of the volume attained by these streams during flood time may be gathered from the following measured discharges:—The average highwater flow of Jumpingpound River is 130 cubic feet per second; in 1897, owing to continued heavy rains in the mountains, the flow reached the enormous proportion of 7,400 cubic feet per second. This, of course, was abnormal, but still a flood flow may be anywhere between. Owing, however, to their deeply cut channels, the streams are well confined and little damage is done beyond partially flooding the immediate bottoms.

Not far beyond the junction of the Kananaskis the gap in the eastern escarpment of the mountains is reached. The Bow River now assumes the nature of a mountain stream; the grade becomes steeper, the course wider, and boulders and stranded debris more frequent. At

Anthracite, the railway leaves it temporarily to take a short cut, and does not again join it until some distance beyond Banff. In the interim, however, other attractions are presented, and the river for the time being is forgotten. At the first-named village are the coal mines; close by are the "Hoodoos," fantastically shaped pillars of hard, sandy-clay, eroded from the face of the cut-banks on which they stand. And then, the Canadian Buffalo Park, and the hope of a passing glimpse at the buffalo and other species of mountain animals collected there by the enterprise of Mr. Howard Douglas, the present superintendent. In 1901, the writer was standing in the observation car of a westbound train. On board was a largely attended Raymond excursion from the United States. As the confines of the park were reached, the conductor came in and called in a loud voice: "Now, ladies and gentlemen, look out for the buffalo!" Almost as he spoke, two of the animals broke from a poplar grove immediately beside the railway and lumbered along in clear view for fully a minute. It seemed as though he had touched a button and let them loose. It is needless to say, the incident was greeted by cheers and many exclamations of delight at the forethought of the Company in providing so interesting and timely a spectacle.

Beyond Banff, the river flows quietly through the valley of the Vermilion lakes, but soon again becomes more broken as Laggan and the summit are approached. It grows ever smaller as numerous tributaries are cut out, the Spring River, Cascade Creek, Forty-mile Creek and Pipestone River, until at Laggan it has but a width of a hundred and fifty feet, and a depth of only five or six.

Here, it is crossed by a rustic bridge, from which a well made road leads through picturesque pine and spruce woods, along the border of a foaming cascade to the C. P. R. chalet, at Lake Louise. Lake Louise is a gem of transparent blue, nestling at the base of Mts. Victoria, Lefroy and Fairview. It collects the melting ice and snows, reaching from base to summit of the mountains named in a natural reservoir, which pours

its outflow by the torrent along which the road winds, in a well regulated supply to maintain the waters of the Bow.

As the East and West "Flyers" unload their visitors to the chalet, it is amusing, on a wet day, to see them rapidly clad in "slickers" (long, yellow oil-coats, worn by cowboys and riders on the Western prairies), and driven off into the woods, for the chalet is two and a-half miles distant from the station. The process of being so clad is, especially among the ladies, a source of much merriment, and interesting as typical of the country. Were cowboy hats also provided the necessity for umbrellas in an open vehicle might be dispensed with.

A mile and a-half beyond the station the Bow Valley turns northward, while the railway continues west through the Kicking Horse (Hector) Pass. The real business of following the stream to its source now begins. Tents, food supplies, and general camp equipment must be carried on pack-ponies. To convey the writer's party eight pack-ponies were used. The neatly arranged bundles, covered by white duck mantos, and firmly secured by that crowning stroke of genius, the diamond hitch,—so complicated to the uninitiated, and yet, in skilful hands, so ready to dissolve into a state of untiedness—looked most picturesque and business-like, and imbued us with the impression that we were embryo explorers.

Nine miles to the first camp ground, a dryish spot by the river in the middle of surrounding muskegs; a trail, which cannot be commended except in the most summer-like weather leads up along the east side of the river. It was originally cut out when a selection of routes through the main range was being made for the railway. At the time it was thought that the valley and pass at the head of the Bow might be utilized to connect with the Howse Pass, leading by the Blaeberry River to the valley of the Columbia. The scenery is not as yet of the most picturesque order. The country has been much burned over, and is a tangle of fallen tree trunks and second growth pine, uncomfortable to travel in, even on the trail. In spring and early summer the sides of the path are brightened by many mountain flow-

ers. Among them were noticed the yellow columbine, which only grows at a considerable altitude, the painted cup, varying from yellow and pink, through all shades of red to the deepest crimson; purple asters, mountain marigolds and yellow daisies. The first six miles from Laggan is comparatively dry, but from thence to the summit at the source of the Bow the country on both sides of the stream is a series of muskegs, alternating with timber land and draining by an endless succession of water courses to the river. The latter, now only a hundred feet wide, is a swiftly flowing torrent, broken by swirling rapids, and split in places into minor channels by gravel bars, grown with willows. The muskegs are a veritable breeding ground for insect pests, and in a wet season, such as the present, make life hideous. Chief among them are the bulldogs or horsefly, which practically devour the ponies and are not above cannibalism; then there are the ordinary mosquito and a species of red black-fly, if such a term may be used. They are somewhat larger, but very similar in their methods of attack and unceasing worrisome buzzing into the eyes and ears of the traveller. Lastly, there is the almost invisible sandfly, so significant of the phrase "*multum in parvo*."

On the west, across the river, rise the dark walls of the Waputehk escarpment, showing on its sheer precipitous face the formation of three distinct geological periods. Behind the escarpment lies the picturesque, glacier-hung valley of Bath Creek, draining the Bath Glacier and an arm of the Waputehk snowfield. Bath Creek is the most westerly tributary of magnitude to the Bow River. On its further side rise Mounts Bosworth, Niles and Daly, forming a portion of the backbone of the great Continental Divide. Down their eastern precipices silver cascades leap to swell the torrent below.

Eastward of the Bow River, the timbered slopes rise upward, first to open timber, once the old bush is passed, and then to grassy alps, interspersed by clumps of larch (tamarac) and dotted here and there by tiny ponds and shining streams draining from the snows above, where pink and white heather forms a pattern on the carpet of green, and the

resounding note of the whistler echoes from crag to crag high up on the overhanging cliffs.

The crest of the ascent is a long, frequently cleft ridge, commencing from nearly opposite Laggan and culminating in the castellated and battlemented fortress of Mount Hector, rising to an altitude of 11,200 feet above the sea. The peak, which is pre-eminent, is well named in honor of Dr. James Hector, now Sir James Hector, the renowned explorer and topographer attached to Capt. Palliser's expedition of 1857-60. The ascent to it is easy, and only difficult on account of its length and the rough slopes of shale and scree. Arrived at the crest of the northern shoulder, a snowfield leads directly to the summit, the only danger being encountered near the top, where the snow-slopes are very steep and lie in a thin layer on the slippery rock beneath. The first ascent was made in 1895 by Messrs. Abbot, Fay and Thompson, of the Appalachian Club of Boston. Their names were now found in a bottle in the cairn they had erected. Space does not permit of a description of the glorious view on all sides from this superbly isolated and exalted peak; suffice it to say that it well repays the exertion of the climb, and far more than compensates the trials and tribulations of the Bow Valley. Moreover, its easy accessibility renders it a specially desirable point of attack. What caused the writer most surprise was that on setting up a transit-theodolite and looking southward at the best known section of the mountains, only four peaks could be seen to rise above the horizontal plane of the summit of Hector, viz. :—Mounts Temple, Hungabee Goodsir and Owen. Below, to the south and west, lay the valley of the Bow, spread out like a map, every wind and turn of the river clearly visible; while, beautiful beyond all, immediately to the west, lay Hector Lake (formerly known as Lower Bow Lake). The waters, an exquisite green in colour, reflected the surrounding mountain peaks and passing fleecy clouds, and showed like a rich gem in the darker setting of spruce and pine forest surrounding its shores to the very edge. Every bay and shallow was sharply defined, and the very peculiar topo-

graphical features of this glacial lake, one of the many feeders of the great Saskatchewan River, became clearly apparent. Two were particularly striking: (1) The inlet and outlet were both at the same end, and only a short half mile apart, the former divided into many channels and slowly pushing out a delta into the lake. Here was a large natural reservoir, of greatest length near four miles and greatest width probably one and a-half, ensuring at all times a steady flow to the Bow River, so necessary an adjunct to the fertile plains of Alberta. (2) The further end seemed to be cut square off, and from our great height what looked like a sand beach glittered in the sunlight. Many streams were flowing through it, discharging their turbid waters into the lake like so many puffs of smoke.

Beyond, at the further end of the beach, a huge tongue of crystal ice dropped from the heights above, broken into numberless wonderful *séras* where the glacier fell over the cliffs that lay beneath. Above the icéfall, rising heavenward in slopes of whitish snow, towered Mount Balfour, on this side, a beautiful snow peak of the first order. Two black rock spots near the summit looked like eyes, and rendered the peak most distinctive and recognizable from all points in our direction. To the north, blocking the straight line of the valley, rose the Goat Mountain of Dr. Hector, now more appropriately named Bow Peak. To the south-west, at the north end of the Wapputehk escarpment, isolated on either hand by an amphitheatre, Pulpit Peak stood out strikingly. From certain points of view, it is distinctly worthy of the name, and conveys the impression of a mighty pulpit, finely carved on the grandest lines of medieval architecture. One thing is certain: that together with its surroundings, it preaches a sermon, which for solemnity, grandeur and wisdom cannot be approached by mortal man.

In the amphitheatre on the western side of the peak rest two beautiful little lakes of distinctly opposite types: one is fringed with a dense forest growth of dark green spruce; the other, some thousand feet above it, is surrounded by sheer cliffs, rock slides and overhanging

walls of ice and snow cornices. The waters of the upper—misnamed “Turquoise” Lake—are of a beautiful cerulean blue, while those of the lower are a deep ultra-marine, deepening as the day advances to indigo, and as the shades of night fall to inky black. It is known as “Lake Margaret.” Each contains from 25 to 30 acres, superficial area. The waters of the Turquoise Lake drop to those of Lake Margaret in a slightly broken fall of fully one thousand feet; while from thence they flow in a foaming cascade to empty into Hector Lake. A visit to Lake Margaret disclosed the fact that it was alive with trout. At the mouth of the outlet, where were collected a number of drift logs, shoals could be seen, varying from ten to twenty inches in length. Human nature is human nature, and some of our party had lines in their pockets and flies in their hats. Consequently, there was a fine dish of trout for supper that night. Moreover, the fact was established that as these must have come from Hector Lake, that lake must be plentifully stocked with fish.

It is probable our party were the first to navigate Hector Lake. For that purpose, an Acme folding canvas boat was used. It was twelve feet long, and easily carried three. Packed in a roll it readily fits on the back of a pack-pony, and is strongly recommended to all exploring parties as doing away with much extra travel and for taking supplies across swift deep streams. If stiffened by lashing a couple of thwarts fore and aft at the joints of the upper frame, they are very safe and satisfactory.

Arrived at the supposed sand-beach, it was found to consist of packed boulders and gravel, evidently the result of glacial action, and subsequent packing and levelling by water flowing from the glacier further on. The gravel bed stretched in a straight line across the end of the lake, and beyond a few feet at the edge the water seemed of great depth. The glacier lay half a mile inland. At the centre of the base of the ice fall, a fine cave, some twelve by twenty feet was excavated, from which the main outflow poured in a wild torrent. To the right, a fall of several hundred feet carried the drainage from

higher levels. In front of the tongue or snout of the glacier, at more or less regular distances, lines of boulders, mud and gravel, stretched like earth works, cut here and there by dried up and still flowing water channels. These lines showed clearly, year by year, the retreat of the Balfour Glacier. Huge isolated blocks of rock, weighing hundreds of tons, lay scattered around where they had been dropped from the surface of the ice. Black dripping crags on either hand, rising several thousand feet, completed the striking desolation of this morainal basin. Looking towards Mount Balfour, now wrapped in clouds, a huge black bee-hive rock rose from the centre of the ice-fall and dominated the scene. Here, indeed, was one of the homes of the Bow River, and incidentally of the Saskatchewan.

Bow Peak stands directly in the centre of the valley, and forces the river to swing to the eastward around it. From the summit, a scene, unique in the Canadian Rockies and probably in any other mountain system, meets the eye. To the south, below it, lies Hector Lake, of a beautiful turquoise green; on the opposite side, directly northward, stretches Bow Lake (formerly known as Upper Bow Lake), the waters of a more decided green in colour, but of the same translucent rather than transparent appearance as Hector Lake. The southern end is broken by islands, separated by narrows, where the water flows in rippling rapids. The shores are partially clad in the same dark green setting as the southern lake, but at the north end, like a wide spreading avenue, a three mile stretch of bright green verdure, fringed on either side by open spruce timber, reaches directly from the water's edge to the summit of the pass. The west end of the lake is shut out from Bow Peak, but by following it up, a morainal bed, similar to that of Hector Lake is discovered with the same turbid streams discharging their smoke-puffs (for that is what they look like from a great height) into the lake.

The Gordon Glacier, fed by the snow-field lying east of Mount Gordon, one of the peaks of the main water shed, discharges its outflow by three separate ice-falls. The largest and most interesting

is that nearest Bow Lake, and all the streams from the others join at its foot. Between it and the lake are three distinct terminal moraines, the two outer clad by a thick growth of timber, showing that ages have gone by since the ice rested at their foot. The third or inner one is only just beginning to show signs of vegetation, and is chiefly composed of bare boulders and clay. The ice is now several hundred feet distant from this one. Through the bed rock of the second moraine, the never ceasing torrent has cut a gorge with sides a hundred feet or more in height, and so narrow that at one point the chasm is bridged by a single huge boulder; at another, the jutting rocks are so close together that one stride passes you from side to side; beneath the torrent boils and roars. Twenty feet down is a narrow ledge; standing on it the canyon is completely shut in with the exception of a small hole through which may be seen waving green trees on a background of bright blue sky. At your left the stream thunders in a mighty fall to depths below, filling the hollow with fine spray on which the sun, shining through a slit in the gorge behind, displays a rainbow of most vivid prismatic colouring. This glacial stream is in reality the farthest source of the Bow, for though another stream comes down from the summit of the pass, it is small in volume when compared with that from the Gordon Glacier.

The ascent of Mount Gordon was made by the middle ice fall. On cresting the ridge, imagine our surprise to see before us, sitting on a ledge at the side of a fine rock peak, no less a personage than Santa Claus. The resemblance was perfect, and he evidently seemed at home. As children, much wonder has been expressed as to where he lived when not busy distributing gifts, and many northern countries have been named as the land of his adoption. It is pleasing to know that his home is really at the summit of the Continental Divide, in the heart of the Canadian Rockies. We named the rock "St. Nicholas Peak" in his honour. At the southern end of the snow-field leading to Mount Gordon is another very striking rock, which stands up prominently on the sky line.

At a distance and until quite close, it is an almost exact representation of a vulture sitting on top of a rocky knob, which here juts out of the snow. The pass beside it has been named, most appropriately, "Vulture Col" by previous explorers.

Sitting on the summit of Mount Gordon, the very backbone of the continent; before you the two most reliable maps of the mountain region, viz. :—that issued by the Department of the Interior and the more far reaching one compiled from his explorations by Dr. Norman Collie, F.R.S., it soon becomes apparent that there are hundreds of fine peaks still unnamed, many interesting valleys yet to be explored, and many snow-fields and glaciers still to be discovered.

At the summit of the Bow Pass are a number of tiny ponds fed by springs and surrounded by groves of spruce trees. From these the waters flow north and south. The stream to the north is tributary to a beautiful turquoise blue (if it be permitted to use such a distinction) lake, completely surrounded by dense forest growth. It is named "Peyto Lake." At its head the Baker Glacier falls from Mount Baker—also one of the peaks of the Divide—to another morainial bed, through which many sparkling streams discharge the outflow of the Glacier to feed the North Saskatchewan River. The stream flowing from Peyto Lake is named Mistaya Creek, and by some is known as the south branch of the North Saskatchewan. It flows northward, a beautiful blue between gentle slopes of dark green spruce and pine, frequently joining other lakes fed from glacial sources, and on again through vistas of towering peaks and snow-clad summits, black precipices and walls of ice, ever increasing in volume and power until, after a course of thirty-five miles, it joins the middle and north branches of the North Saskatchewan, when the united course becomes east and the river starts on its lengthy run before joining the South Saskatchewan at Fort à la Corne, some fifty miles below the town of Prince Albert.

On the other hand, the Bow River starts from the same source and flows south almost the same distance; then, turning eastward, it is joined by other

streams to help form the South Saskatchewan. Thus, the waters flowing in opposite directions from practically the same source meet again far away beyond the prairies, after a run of nearly fifteen hundred miles.

In the foregoing sketch, the Bow River has been followed to its source, and it has been seen that its steady, unceasing flow, is mainly dependent upon the vast bodies of snow stored along the crest of the Continental Divide and the numerous reservoirs or lakes supplied by nature to catch the run off from them and distribute it evenly to the main waterways. From the summit of the Bow Pass to the International Boundary or 49th parallel of latitude, every drop of water flowing from the annual melting of the entire body of snow lying on the eastern side

of the watershed between the points named, as well as that from the annual rainfall at lower altitudes, goes to swell the South Saskatchewan. In the case of the North Saskatchewan, while the actual area drained is much smaller, extending only over less than a degree of latitude as compared with nearly three degrees in the former instance, yet the balance is more than turned by the fact that the area of ice and snow is very much greater and the run-off correspondingly large.

Considering that the same process of river-making is in operation throughout the entire area indicated, the wonder is: not where all the water comes from to make so large a stream as the Saskatchewan, but how so small a stream can carry it all away.



Rocky Mountain Sport.

BY C. G. C.

In June Mr. de L. and I left Edmonton, Alberta, with an outfit consisting of six half-breeds, thirteen pack horses, and our six saddle animals. The pack horses each carried about 200 lbs. Our trail from Edmonton to the mountains we found in better condition than usual, the muskegs, which at times are very bad, were dry, the fallen timber that lay so thick on our trail the year previous had been partly burned away, consequently did not impede our progress.

Arriving at the mountains, after eleven days' travel, we pitch our camp to rest our horses, build a "cache" for our provisions, and await our guide's arrival, who was to follow us in a few days. From this camp we sent back two of our men, allowing them provisions enough for their return journey to civilization. This left us with the humble staff of three men—one to look after our horses, one to cook, and the guide. While encamped here Mr. de L. and I made several short trips into the mountains after sheep and goat, but without much success. Later on, however, we had a

good deal of sport, as will be seen, amongst these animals.

Five weeks' provisions had already been made into packs, and everything necessary to take with us for this length of time put aside by itself. The balance of our goods had been stowed away in a good strong "cache" built for the occasion.

August 1st.—We leave our camp on the Athabaska River with our saddle animals, and six pack horses carrying about 150 lbs. each, and cross a steep mountain some 1,000 feet high. Descending on the other side we meet with several small swollen rivers, crossed by bridges. At one of these bridges our pack animals took fright, crowding each other as they filed across, and one unfortunate pony, pack and all, was sent rolling over into the rushing water. We got to work with ropes, and succeeded in landing horse and pack, but not before everything got thoroughly saturated.

Two days' travel brought us to a place on the Athabasca suitable for swimming the horses across, a feat which we accomplished successfully.

August 5th.—We find ourselves on the summit of the Rockies, and in a country where one can always expect to find caribou. Our camp was pitched considerably above timber limit; conifer roots had to be burned as firewood. Whilst here we were greatly annoyed by the appearance of two Indian "lodges," one of which contained a well-known hunter of meat, a killer of cows and calves. It is evident these people expected us to fee them on condition of leaving us to hunt freely in these preserves. Speaking to John about the matter, he assured us caribou were plentiful, and there would be enough for us all. At "Miserable Camp" (as Mr. de L. appropriately named this place) we killed two goats, one falling to Mr. de L.'s rifle and one to my own. Travelling on further in a north-westerly direction we arrive at a very pretty lake, on one side of which the country is open, and covered with grass unusually green for these parts; clumps of diverged conifers grow abundantly round the water's edge. A delightful spot is chosen for our encampment, and with hopes high and ardent we commence caribou hunting in real earnest. As my diary gives full details of a few good days' sport, I think I had better copy some passages from it.

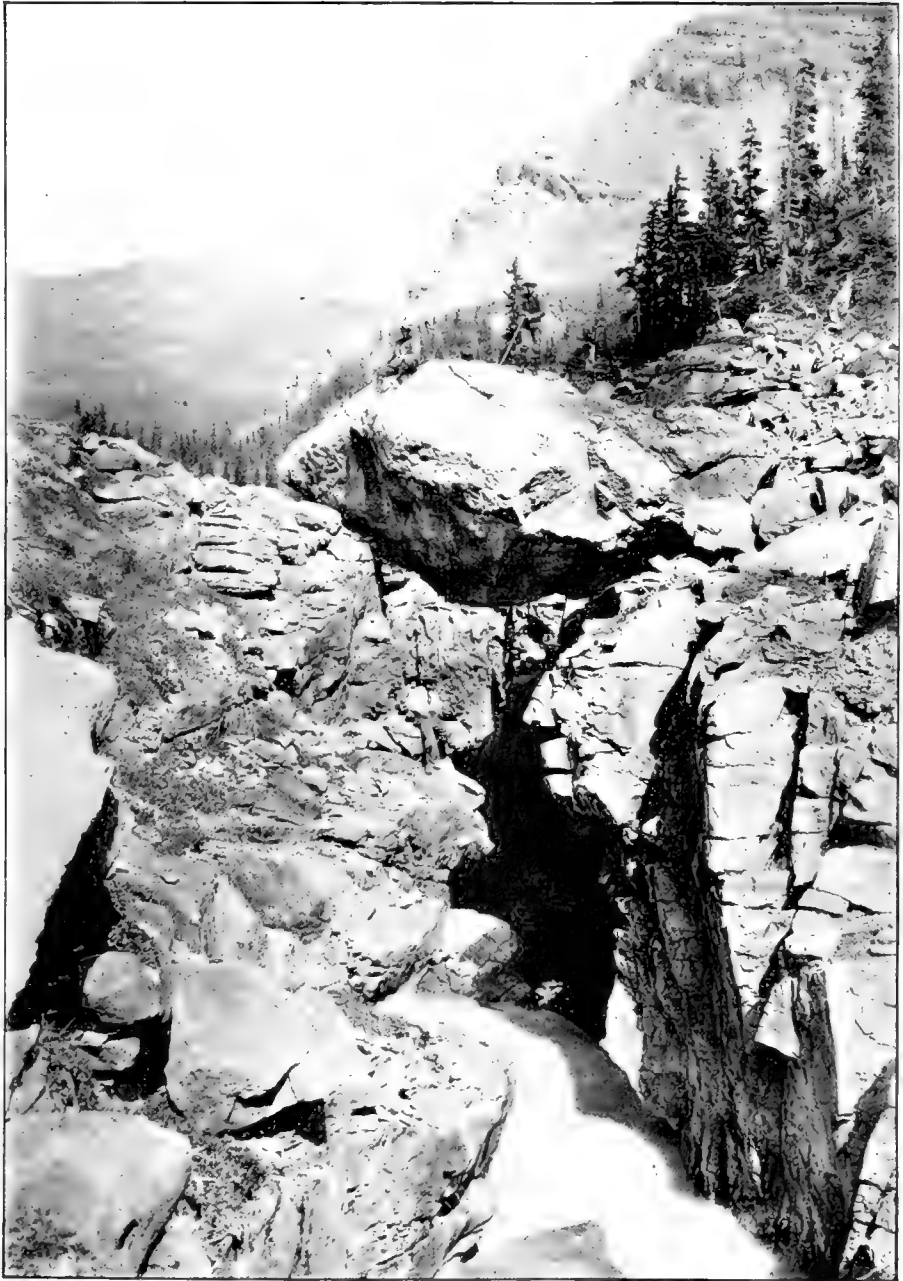
August 12th.—No fresh meat in camp. Mr. de L. takes John and goes after caribou. I in the meantime see after the horses; those with sore backs and bruises are washed, and Elliman's Embrocation applied. In the evening Mr. de L. and John return, the former bringing a very fine specimen of a caribou mask, whilst the latter carries some fresh meat. Mr. de L. gives me over the camp fire a graphic account of his day's work, somewhat as follows: After they had gone above the timber limit, and had sat down to rest themselves, John took the glasses and swept the circuit, and almost as soon as he had done so he exclaimed, "Me see him caribou," pointing at the same time to where it was. It was lying on a patch of snow, but soon got up and commenced to graze, lying down again on the snow almost immediately. They started down the mountain, crossed the valley, and soon arrived within shooting distance of

this magnificent beast. Mr. de L. aimed at the chest in line with the shoulder, the animal facing him, and pulled the trigger. Noticing no visible effect, he fired his second barrel as the caribou trotted off, and saw him distinctly kick out his hind leg. John called out, "Good, sir!" Following in haste for some one hundred yards through the timber they found the caribou quite dead. Part of the bullet of the first shot had grazed the heart and raked the flesh from where it entered high up and well forward on the shoulder to near the left hip; the second shot had struck the buttock.

August 13th.—Antlers and meat were brought to camp by two of our men and four horses.

August 16th.—Indians, encamped close to us, are shooting from three to six caribou a day. Mr. de L. and I decide to push on ahead of them. Taking our saddle horses and John, we go some distance beyond where any hunting has been done this year. Leave our horses hobbled where grass is plentiful, and climb to a height sufficient to command a good view of the mountains round us. As soon as John looks he sees, as if by instinct, two fine bull caribou with fair sized antlers. Watching them until they disappeared behind a knoll we quickly descended and commenced our stalk, John leading the way whilst we followed. Fortunately for us the caribou remained behind the hill until we arrived within shooting range; they then either heard or winded us, as they cautiously moved out from their hiding and began trotting quicker than we liked, Mr. de L. and I firing alternately at them until they fell within a few yards of each other. Both heads were fine trophies; we left John attending to them whilst we walked back to where we left the horses. Our guide, coming to join us, came across another very fine caribou close to the timber and shot it, as there was no time to bring us on the scene. On our way back to camp we had to follow the bed of a creek for some distance, and saw several fresh grizzly bear tracks in the sand.

August 17th.—Indians kill seven caribou to-day, most of them cows and calves unfortunately; this makes a total



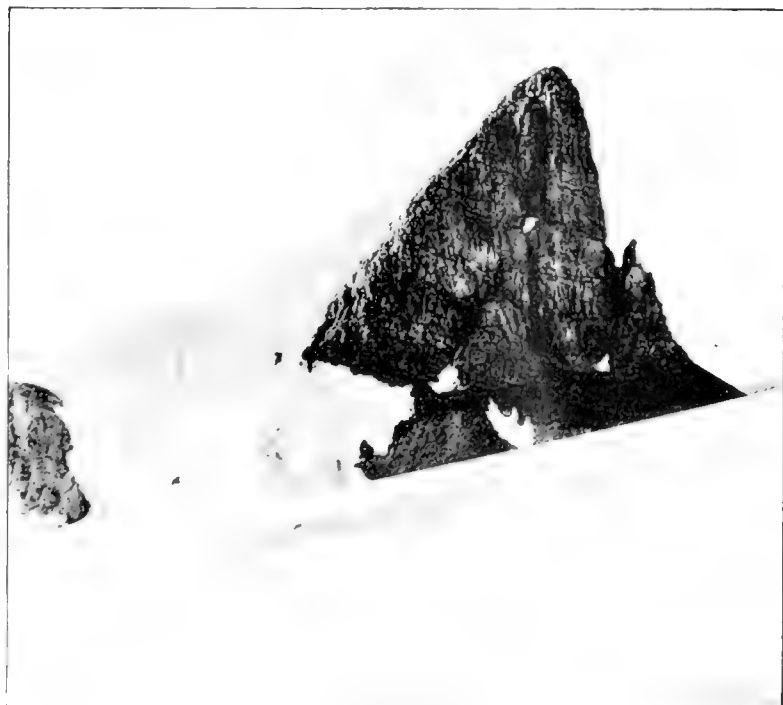
A NATURAL BRIDGE.

The Canyon below the Gordon Glacier. Taken by A. O. Wheeler, D.T.S.



BOW LAKE, ALBERTA.

Taken by A. O. Wheeler, D.T.S., from the summit of Bow Peak



ST. NICHOLAS PEAK.

This startlingly *bizarre* crag would, were it in Europe, certainly be considered the home of the supernatural.

of twenty caribou killed by five of us since this day week, showing what sport the country can afford to those who care to follow it.

August 19th.—To-day we again start about 9 a.m. to look for caribou. One canon not far from camp, which remains as yet undisturbed, we make up our minds to visit. Looking over it with the glasses, it seems empty of game. Sitting down to smoke for half an hour or so, we start back towards camp, and go about a quarter of a mile, when John sees a caribou crouching behind some dwarfed pines. We watch its movements with some interest. As it arrives at our tracks of the morning it appears very much alarmed, and at a loss to know which way to go. Finally it comes trotting towards us, but at about two hundred yards' distance wheels, as if intending to go back. Mr. de L., however, stopped it with a well directed shot, which broke the jugular vein and turned it completely over.

Caribou are long, low, heavily built animals, some of them weighing at least 500 lb. The antlers of the male are much larger than those of the female. The nose of the animal seems more useful to it than even the eyes. They commence rubbing the velvet about the end of August; at this time they confine themselves entirely to the timber. To look for caribou one has to choose those mountains where vegetation such as the caribou feeds on grows in abundance. They are very fond of a peculiar white moss, and are generally to be found on mountains that have many patches of snow still unthawed on the south side during the heat of the day. It is common to see as many as six lying on a small patch of snow, trying to get somewhere out of the way of the "caribou fly," which is plentiful and troublesome in these regions. I have shot several of these fine animals, and been at the death of others, but have never seen a larger one than was killed this year by my friend, Mr. de L. It measured from the nose to root of tail six feet eight inches; the length of horns forty-one and a half inches; had thirteen tines on each horn; was seven and a quarter inches in circumference above the large tine, and twenty-nine and a half inches in span.

From caribou shooting we go to the goat. I have no doubt others as well as myself have read, and read frequently, that the goat of the Rockies gives little or no sport to the hunter. To my mind this is a mistaken idea. I have killed all kinds of big game in the Rockies, grizzly bear included, and no animal worth going after gives the hunter more dangerous climbing than an old billy goat. Mr. de L. and I killed eleven this season, and I don't believe one out of the lot were below an altitude of 4,000 feet. The vitality of this animal is marvellous. An old nanny, with a pair of exceptionally good horns, was coveted by my friend this year. Leaving the level ground where he was hunting caribou, he commenced rather a stiff climb up a steep mountain, vowing he would get these horns if possible. Arriving within about 160 yards, and as near as he could get, John handed him his .500 express. Fives times he fired and hit the old nanny, and still the brute slowly jumped from rock to rock, the blood oozing from almost every part of the body. Twice again he hit her with a .44 Winchester before she came toppling down. The horns of four of our goats measured ten and a half inches in length.

A few days of severe and tedious travelling brings us to a country teeming with sheep. September 20th I shall not soon forget. It was our first day after big horn this season. Going out about 9 a.m. Mr. de L. and I with John walked up the gravelly bed of a small creek, stopping occasionally to look with the glasses at the grassy slopes directly under the rocks and above the timber limit, as this is where sheep generally feed. We had not been long walking, when John gave us to understand he saw four sheep. Deciding amongst ourselves the best way to stalk them, away we went up the mountain side as if climbing was a pleasure, and easy work. However, before long we were obliged to check our pace and proceed with more caution as the rocks were becoming dangerous, finally we got above our game, but failed at first to obtain a good position to shoot from. The ledge of rock we were on was narrow, and below us, it was at least

sixty feet to the bottom. A bighorn coming into view, made Mr. de L. bring his rifle to the shoulder, whilst I held him from behind, the bullet hit the animal, but it disappeared behind some small fir trees, and was lost to view. I got three shots at a smaller sheep, as it was going off, and saw that my last shot rolled him over. Mr. de L. getting in a better position, got two long shots at a very fine old ram, sending both bullets home, the ram only got a few yards further when it lay down and died. Sending John after the big horn Mr. de L. first hit, he soon caught sight of it, and firing, brought it down. The horns were badly smashed in the rolling down the rock, which spoilt a very fine trophy. Going down to examine the old ram, which proved to be a very splendid animal, we found it to measure, as it lay, five feet one inch from root of tail to the nose, and the horn at the base sixteen and a half inches in circumference. A severe snowstorm and the illness of our guide prevented us from doing any more sheep shooting for some days, when we killed two very fine ewes.

September 28th.—Mr. de L. took John with him, leaving camp about one o'clock, and returned about four with a very fine three-year-old head. One shot did the work at sixty yards.

September 29th.—Horses were packed, and we were ready to move further south when our man informed us he had seen a number of sheep grazing close to our camp. We had the saddles removed from our horses, turning the latter loose to feed. Mr. de L., myself, John, and his two brothers, formed the party to go after these sheep, John and his brothers taking horses to fetch in the heads and meat. We found on nearing the locality of the sheep, wind was unfavorable and very careful stalking had to be done to get within range. Seeing some rocks between us we endeavored to reach them in order to get a favorable shot; by crawling slowly we gained this advantage. Mr. de L. firing his first barrel at a sheep

some forty yards off, killed it instantly; his second shot wounded another so badly, he considered it useless to fire again, devoting his attention to others that were fast making for the mountain adjoining. There were at least fifty sheep of all sizes in this herd. We called on our men to use their rifles, and for some time any one in the distance would have been justified had they mistaken our fusilade of shots for a small war. As the sheep got to a higher elevation the sport became more interesting, occasionally an enormous ram would come pitching over the precipitous rocks above us and roll dead at our feet. Not until after the sheep had disappeared from view did the firing cease. Mr. de L. and I then filled our pipes and looked over the "bag," counting eleven as they lay, picking out the largest horns of our own shooting for removal to camp, the Indians seeing that none of the meat was wasted. An hour or two after we had left John told us three more sheep came rolling dead off the mountain; this made a total of fourteen sheep killed in one afternoon, and a grand total of nineteen killed in five days. From this the reader may conclude Rocky Mountain sheep are easy to get. But in any such conclusion he would be far from the truth. The ewes especially are most wary, and have always a watch over the valleys below them. Let the hunter be most careful in making his camps in a sheep country, nor allow big blazing fires, nor excessive chopping of wood. The bells should come off the horses before turning them loose, and the dogs tied up for the night. Should this precaution not be taken, a porcupine is almost certain to be treed, and your dogs barking all night at the unfortunate animal will, of course, give the alarm to the sheep in the neighbourhood.

It was in October we returned to civilization, having had very good sport, unbroken by any serious accidents to ourselves or our horses, with the exception of one very old horse that died.



The Sumach.

BY R. H. CAMPBELL.

The Sumac, Sumach, or, as it is often popularly called, "shumac," for which pronunciation there is authority, is a well known straggler along the high-ways and byways, and as its name has come down to us from the Arabic through the French it has apparently accompanied the journeys of mankind through many different ages and scenes. The Romans knew it under the name of *Rhus*, and this has been adopted as its cognomen in scientific classification. The species most commonly distributed in Canada is *Rhus typhina*, the Staghorn Sumach, and anyone who has examined the horns of a stag in the velvet will easily guess how the name was suggested by the branches densely covered with reddish velvety hair. The tree never attains a large size, ten to thirty feet, and the wood is of no value, although small ornamental articles are made of it. The wood is described as orange-colored, but it has rather more of a green tinge. In fact it might be considered as a blending of the orange and the green, a somewhat unusual, though in this case, harmonious combination. The leaves are very large, consisting of eleven to thirty-one leaflets, long, pointed and serrate on the edges, dark green above and paler beneath. The flowers are yellow and arranged in lengthened panicles or clusters, and are polygamous, i.e., the male or staminate flowers and the female or pistillate flowers are in separate bunches on the same plant. The fruit is a globular nut inside a coating covered with crimson hairs which has a strong acid taste. The fruit is neither useful nor palatable, but it supplies that sharp, sour taste for which there is sometimes a craving and may be chewed without ill effect. Its deep rich red is very effective against the dark green of the leaves in the later summer. But it is in the fall of the year that the Sumach puts its glory on. Blushing into flaming scarlet it forms the most brilliant bit of coloring of the autumn landscape, outshining the most

highly-tinted of the maples, but blending harmoniously into the gorgeous picture which the fingers of the passing summer have fashioned and which forms the greatest glory of the Canadian woods.

There are three other harmless species which are found in Canada: *Rhus glabra*, similar to the above, except that it is glabrous or smooth; *Rhus copallina*, a dwarf species; and *Rhus Canadensis* or *aromatica*, with leaves of three leaflets, rhombic-ovate in form and fragrant when crushed. The Dwarf Sumach has been found in only a few localities, but the other two species are more widely distributed.

The black sheep of the *Rhus* family are the poison sumach, also known as poison dogwood, poison ash and poison elder, *Rhus venetata*, which has been found only in one or two places in Western Ontario, and which may be distinguished from the harmless species by its smooth and entire leaves; and poison ivy or poison oak, *Rhus toxicodendron*, the specific name meaning "poison tree," which is found practically everywhere, especially in rocky places, sometimes only a small shrub but often climbing up to a considerable height. The leaflets are three in number, broad, usually pointed and irregular in outline, and the clustered fruit is berry-like and green, striped with lighter color. It is frequently, though unnecessarily, confounded with the Virginia creeper, the distinction between them being clearly marked by the five leaflets of the latter placed in circular form. Our illustration shows the poison ivy growing in a characteristic situation and a close look at the lower part of the centre of the picture will show a leaf of the Virginia creeper.

The poison of the ivy is peculiar in its action, as some persons are not affected by it at all while in others a most irritating eruption is caused, breaking into blisters and very annoying and disfiguring when transferred, as it frequently is,

from the hands to the face. It is most active when the surface with which it comes in contact is wet, a fact which is well substantiated by the trying experience of a camp of boys, of which I was a member in the years that are gone, who ignorantly tramped through this pernicious plant after swimming and had to add doctor's bills to the expenses of their trip, besides suffering great discomfort. The belief is popularly held that the poison will show its effects year after year at about the same time, but on my mentioning this to the family physician, the idea was firmly rejected, and the facts adduced from experience and hearsay were designated as merely instances of incorrect diagnosis. It is quite certain, however, that any person badly poisoned is much more easily affected by it for some years after. Another popular belief is that the poison may be transmitted without actual contact, and I have myself been affected by it when I was absolutely positive that the plant had not come in contact with me in any way. The oil which contains the poisonous principle has not, however, been found to be volatile. On the other hand, there are reports of cases of persons sleeping in the same room with goods newly covered by Japanese lacquer

made from *Rhus vernicifera* who exhibited all the symptoms of poisoning next morning.

A remedy, simple and easily obtained, is a solution of acetate of lead (sugar of lead) in vinegar applied to the parts affected, but it is itself poisonous when taken internally and should be handled carefully. Other remedies are an alkaline solution of lime water, ammonia and hyposulphite of sodium, decoctions of white and black oak bark, Virginia snake root, chestnut leaves, etc. Among the domestic remedies vinegar and solutions of saleratus and carbonate of sodium are considered highly, while buttermilk is esteemed as of great virtue. Our enterprising Japanese friends strike out a special line of remedies of their own and go in for pounded crabs.

It is hardly conceivable how some ideas originate, but it may be well to mention the notion that a decoction of the leaves of this plant taken internally will counteract the effects of the exterior action of the poison. The only case reported in which anyone was foolish enough to try this remedy was with great difficulty saved from fatal results. Even our homœopathic friends would admit that this is pushing too far the doctrine that "*Similia similibus curantur.*"



The Arboretum.

BY W. T. MACOUN, CURATOR.

Although several of the other important British colonies had been setting us a good example for many years, no successful attempt had been made to establish a National Arboretum and Botanic Garden in Canada previous to 1886. A good opportunity occurred, however, when the Dominion Experimental Farms were organized; and, when the Central Experimental Farm was purchased in 1886, sixty-five acres were selected for an Arboretum and Botanic Garden on the east side of the Farm. The site chosen was a good one, as most of the land is high and a fine view is obtained

of the city of Ottawa on the north and east, while to the south there is a pleasing view across country with glimpses of the Rideau River in the distance. The Arboretum is bounded on the south side by the Rideau Canal, which at this point has marshy banks, that take away much of the sameness which the canal would otherwise have and also affords a splendid opportunity for testing aquatics, though little has yet been done in this direction.

The Arboretum and Botanic Garden has developed so rapidly that, although the first planting was done as recently as

the autumn of 1889, a collection of trees, shrubs, and herbaceous plants has been brought together since that time, which, as far as the number of species and varieties is concerned, will compare very favourably with some of the oldest established Arboreta and Botanic Gardens in the North Temperate Zone. The original plan was to arrange the trees, shrubs and herbaceous plants in their proper botanical order. This has in a measure been adopted; but the number of species and varieties which it was found could be obtained, has made it impossible to keep all plants of one genus in a single group, and in some cases even three separate groups have had to be made. Furthermore, in many cases the soil was not suitable where a certain genus would come if kept in the regular sequence, and it was thought better to plant the trees which would succeed in wet soil in that kind and reserve the drier parts for those which would not; in like manner, to use the heavy clay and sandy loam soils for those trees and shrubs which would be most likely to succeed in them. This arrangement, however, has not always been possible. Up to the present time little has been done with a view to landscape effects in the Arboretum. The place is beautifully situated, and great improvements could be made by the judicious planting of masses of shrubbery and clumps of trees for this purpose. There is, however, no special grant for the maintenance of the Arboretum and Botanic Garden, what money is spent being taken from the Experimental Farm vote. It has, therefore, been thought that the best use that could be made of the money available, was to make the collection as large as possible, keep the place in order, and leave the ornamental planting until later.

The trees and shrubs are, in most cases, planted far enough apart to permit of their developing into full-sized specimens without being crowded by each other.

One of the prominent features of the Botanic Garden is the herbaceous perennial border, which is situated on the east to south-east side of an Arborvitæ hedge, which serves as a great

protection from the wind, helps to hold the snow in winter and is a fine dark background to the flowers. This border is 12 feet wide, and the plants are set in rows three by three feet apart. This distance has made it possible to keep the different kinds separated, and renders cultivation easy. The Arboretum and Botanic Garden was in charge of Dr. James Fletcher, Botanist and Entomologist to the Dominion Experimental Farms, from the time it was laid out until the spring of 1895, when the work was undertaken by the writer, who, in the spring of 1898, was appointed Curator. From the first, Dr. Saunders, Director of the Dominion Experimental Farms, has taken a keen interest in the work; the planning of the grounds and the procuring of plants and arrangement of the material has been done in conjunction with him.

Twelve years ago, when the first planting was made, comparatively little was known of the hardiness of a large number of trees, shrubs and herbaceous plants, as the number of species and varieties found in gardens was limited. In 1889, 200 species and varieties of trees and shrubs were set out, and by the autumn of 1894 about 600 were being tested; up to the present time 3,728 species and varieties of trees and shrubs have been tested, and about 4,500 specimens were living in the autumn of 1901, representing 2,871 species and 185 genera. Of herbaceous perennials 1,586 species and varieties were living in the autumn of 1901, making in all a total of 4,457. This large collection has been obtained from many sources. From donations of seeds from Botanic Gardens throughout the world, a large number of species and varieties have been grown, the Royal Gardens at Kew supplying many of them. The catalogues of nurserymen in America, Europe and Asia have been searched to increase the collection, until now it is difficult to obtain additional species of many genera. As far as possible, two specimens of each species of tree and shrub have been planted; but there are so many cultivated varieties that in many cases only one specimen of each of them has been utilized. At first, three

specimens of each kind of herbaceous perennial were planted, but for the same reason the cultivated varieties of these are usually limited to one, unless it is unusually attractive.

Nearly all the Arboretum is now seeded down to lawn grass and this is kept cut with a pony lawn mower. These large lawns add very much to the attractiveness of the place. In order that the trees and shrubs will not suffer by growing in sod, circles are kept cut around them and the surface soil is loosened with the hoe. Most of the specimens are neatly labelled with a zinc label fastened to a stiff wire which is pushed into the ground near the specimen, and as fast as possible duplicate labels are being written and attached to them as the others get cut off or broken off from time to time, rendering identification somewhat difficult. Each label bears a number which corresponds to a number and name in the record book.

Every year the trees and shrubs are examined and notes are taken on each individual specimen. The principal notes recorded relate to the hardiness and growth of the plants. The dates of blooming are also recorded, as far as possible. The work entailed in recording notes on 4457 species and varieties of plants in the Botanic Garden is very considerable. The data accumulated every year are becoming more and more valuable and reliable.

In 1899 a catalogue of the trees and shrubs which had been tested in the Arboretum was published conjointly by Dr. Saunders and the writer, which has been received very favorably by those engaged in botanical work. In this catalogue the scientific names of the trees and shrubs are arranged alphabetically, and, when a species or variety has a common name, this is also given. The countries are named, of which the trees and shrubs are native, also the year in which they were planted. In compiling this work, the nomenclature and classification of the "Index Kewensis" and the "Kew Guide" were adopted. The name of the species or variety is printed in bold faced type, followed by the author's name in small capitals. The term "Hort." indicates a garden or gardener's variety. Synonyms of genera

and species are printed in italics. The common names given are those found in the leading botanical works of modern authors.

While a large number of synonyms have been recorded, it is probable that there are still included in this catalogue some which are listed as species or varieties which are really synonyms. In recording the synonyms, the names given are only those under which the species or varieties have been received at the Experimental Farm, and do not include all the known synonyms in each case. When the catalogue was published in 1899, the total number of species and varieties which had been under test was 3071. Of these 1465 had been found hardy, 330 half hardy, 229 tender, 307 were winter-killed, and 740 had not been tested long enough to admit of an opinion being given as to their hardiness. The different degrees of hardiness were fixed as follows: Hardy, when the tree or shrub had passed through one or more winters uninjured or with very slight injury to the tips of the branches. Half hardy, when the new wood was killed back one-fourth or one-half. Tender, when the wood was killed to the snow line or to the ground.

In addition to this catalogue the writer published in his report for 1897, a descriptive list of what was considered the best one hundred hardy ornamental trees and shrubs and the best one hundred herbaceous perennials, which has proven very useful to those who desire to improve their grounds. In the writer's report for 1898 a short additional list of herbaceous perennials is given. In the report for 1899 are another short descriptive list of perennials and a descriptive list of twenty-five of the best low growing flowering shrubs. The report for 1900 contains descriptive lists of the best woody and annual climbers, and that for 1901, a descriptive list of the different species and best varieties of lilacs.

Some further notes regarding the trees and shrubs may be of interest.

As examples of how largely some genera are represented, I may state that there were growing in the autumn of 1901 in the Arboretum:—

220 species and varieties of *Pyrus*.

134 of *Prunus*, 93 *Lonicera*, 89 *Ulmus*,
110 *Acer*, 155 *Syringa*, 121 *Salix*,
75 *Berberis*, 100 *Quercus*, 66 *Picea*,
80 *Crataegus*, 92 *Fraxinus*, 64 *Thuja*.

Canadian trees and shrubs have been thoroughly tested, and are well represented. All of the trees mentioned in Prof. John Macoun's paper on "The Forests of Canada and their Distribution" having been tried, with the exception of a few western species which have not been given a thorough trial as yet. Among these are *Salix scouleriana*, Baratt; *Pinus flexilis*, James; *Pinus albicaulis*, Eng.; *Pinus monticola*, Dougl; *Tsuga pattoniana*, Eng.; *Tsuga mertensiana*, Carr.; *Abies grandis*, Lindl.; *Abies amabilis*, Forbes.

Of Canadian trees which have been thoroughly tested, the following have not proven hardy:

Asimina triloba, Duval (Papaw). This has killed out root and branch.

Liriodendron tulipifera, Linn. (Tulip-tree). The tulip-tree kills to near the ground every winter. A variety of this species, however, *integrifolia*, imported from Berlin, Germany, in 1897, has proven hardy for the past three years.

Cercis canadensis, Linn. (Judas-tree or American Red-bud). The tree now living in the Aboretum was planted in the autumn of 1896. That winter it killed to the ground and only made weak growth in 1897; the next winter it killed back $\frac{2}{3}$, the third $\frac{1}{2}$; the fourth winter it was almost hardy to the tips, and it was also the same last winter. This is a good example of the acclimatization of trees.

Cornus florida, Linn. (Flowering Dogwood). One specimen of this tree was practically hardy from 1897 until last winter, when it killed to near the ground. Other specimens were not as hardy.

Nyssa sylvatica, Marsh (Sour Gum). The tree now living was planted in the spring of 1897; the first winter it killed back $\frac{1}{2}$, the next $\frac{1}{2}$, the third it was hardy nearly to the tips, and again the same last winter.

Sassafras officinale, Nees, (Sassafras). This has killed out root and branch thus far, though it has not been as thoroughly tested as some of the others.

The following other trees peculiar to south-western Ontario, appear to be

hardier than the above, and some individual trees are perfectly hardy.

Piantanus occidentalis, Linn. (Buttonwood).

Castanea sativa, Mill, var. *Americana* (Chestnut).

Fraxinus quadrangulata, Michx. (Blue Ash).

Gleditschia triacanthos, Linn. (Honey Locust).

Some of the rest, such as *Gymnocladus canadensis*, *Crataegus Crus galli*, *Pyrus coronaria*, and *Juglans nigra*, are quite hardy.

A few of the coast trees of British Columbia kill out root and branch, among such being *Acer macrophyllum*, *Arbutus Menziesii*, *Cornus Nuttallii* and *Quercus garrayana*.

It is interesting to note that, out of the list of 121 species of native trees published by Prof. J. Macoun, about 100 have proven hardy or half hardy here, and the writer has no doubt that, when all the species are tested, there will not be more than ten which can not be grown at Ottawa.

The question of the acclimatization of trees, shrubs and plants is a very important one, and one in which there is a good field for work at the Central Experimental Farm. I have mentioned a few instances where native trees have gradually become hardier after being planted several years. It might have been further stated that other specimens of these had been killed out root and branch. These furnish excellent examples of the individuality of trees. We have noticed over and over again in nursery rows, that some trees of the same species are hardier and more vigorous than others. It has also been noticed that a tree which has a wide range from north to south, will not be as hardy when imported from the south as from the north. An excellent example is the Red Maple, *Acer rubrum*. This tree, imported from some parts of the United States, has killed back and made scrubby trees, while from further north it has done well.

There is no doubt, in the writer's opinion, that many trees which we have great difficulty in getting to fruit here, will eventually be much hardier when raised from seed ripened at Ottawa.

Much could also be said and written of the herbaceous perennials which make such an attractive and useful feature of the Botanic Garden from early spring until late autumn. The collection is growing rapidly, and the information regarding the different species and varieties when grown in this climate is getting more valuable every year.

The Arboretum and Botanic Garden is a public institution and should be made use of by the public. Every assistance will be fully given to those

who desire to study the plants growing there, and it is hoped that this paper will induce some of the members of the Ottawa Field Naturalists' Club to make a closer study of trees, shrubs and herbaceous plants in cultivation than they have done in the past.

Contributions of plants and seeds, especially of rare Canadian species, will be gratefully received, as the desire is to increase the collection as rapidly as possible, and to have the native flora well represented.



Preparation vs. Faking.

BY "FANCY."

When the time comes for preparing a dog for exhibition at a bench show, the owner, if he knows the man who is to "look over him," and aware of his weakness or partiality for certain points in the dog's conformation, is anxious, of course, to meet the judge's views as far as he can within certain limits. This has led, in only too many instances, to the process of "faking" certain parts of the animal's anatomy in order to gain a favorable verdict, and there is no practice, I may at once admit, more reprehensible. The practice is condemned by every honest exhibitor, and has been legislated against by every Kennel Club in the world. The penalties provided by the latter are severe, and in the event of discovery disqualification of both owner and dog follows, the former for a time or for all time, according to the enormity of the offence. Still faking is carried on, and it frequently happens that it is unobserved by the judge, who may have large classes to go through, and who is thus made to render a wrong decision. A rival exhibitor, of course, has the right to protest, if he happens to become aware that unnatural tampering with the dog has been done, but as a general thing the majority do not care to run the trouble and expense of following up a protest, and so a miscarriage of justice follows the wrong verdict.

But there is a wide difference between faking and expert preparation, and I hold that every exhibitor, if he knows how, has a perfect right to put his dog in the show ring at his best natural appearance. This can only be done by judicious combing and trimming for the removal of all dead or superfluous hair. The *modus operandi* does not hurt the dog, no more than the removal of tangled locks or a week's growth of beard from a man, and we all know the improved appearance of the subject fresh from the barber's chair. It is essential that the combing and trimming should be done in a workmanlike manner and within reasonable bounds, a little at a time and at intervals. The expert handler, who knows how to improve his dog properly in this way, is almost certain to come out ahead of the man who neglects such treatment, as a neglected coat may often hide a better formed dog. But it takes an expert to know the fine points of the game, because a slim boned dog may suffer from the manifestations of a too zealous amateur. It is quite legitimate also to assist the proper carriage of a dog's ears, for instance a collie's, if done in a proper way, without pain to the animal, but the breaking of a "prick ear," that it may assume a semi-erect position, ought to meet with severe punishment.



PEYTO LAKE.

Taken from the summit of the Bow Pass, by A. O. Wheeler D.T.S.



THE STAGHORN SUMACH.

The brilliant leaves of *Rhus typhina* add much to the brilliancy of the Canadian woodlands in autumn.

Moose Hunting.

BY J. C. CONROY.

When the leaf on the northern birch begins to turn yellow, and the wild duck reappear after passing the nesting season in the arctic lands, where instinct tells them they may alone rear their broods in safety, the big game hunter begins to feel the old feverish longing, or as Kipling has so truly put it, he hears the call of the Red Gods. Fortunately for Canadian sportsmen, they have not far to go to reach the land where moose, without any stretching of the truth, may be said to be abundant. In Northern Ontario the big, black bulls—Diana's cattle—are, probably, more abundant to-day than when the white man first forced his way into these solitudes. Then innumerable bands of roaming redskins lived off the land; they tilled not, neither did they reap, yet the ridge poles of their lodges bent under the weight of provender the flint-tipped arrows had secured. The Indian has practically passed away, for the few yet remaining have little effect upon the game supply, and it was only the other day that the Ontario Government threw open its great preserves upon terms that make moose hunting therein possible. Previous to last autumn the law barred the way. Only once in every third year could a sportsman shoot his moose lawfully; even then, in order to do so, he had to brave the rigors of the north at a time when none but the foolhardy would care to be abroad, for a single night's frost could so seal the waters as to cut off the retreat of an isolated hunting party.

Now, on October 16th, when the forest is blazing with the gorgeous hues of autumn, the hunter may step forth, rifle in hand, confident of finding the grandest prize that can fall to his aim on this continent, the bull moose in his pride, with antlers wider than a tall man's span, and a bell as patriarchal as the beard of a Moses.

The moose inhabits a country 3,500 miles in length, and having an average width of 500 miles, yet in all this vast

region it is not probable that they are anywhere more abundant than in the territory on each side of Canada's great transcontinental railroad between Sudbury and Rat Portage.

There is no great object in going very far from the railroad; twenty miles may well be as good as fifty, and fifty sometimes better than 100. The things that determine the abundance of moose are seclusion, and an absence of their natural enemies, and there are many places within ten miles of the railroad that are as secluded as the centre of the Sahara itself, and as to their enemies they have but three; man who preys indiscriminately on bulls, cows and calves, and the grey wolf and the black bear, who, as a rule, give a wide berth to the adult animals, though they take a heavy toll of the young.

Missanabie is a good outfitting point; here there is a Hudson's Bay store, where all things essential to a life in the bush are procurable, and where Indian hunters may be met by an appointment made through the officers of the Great White Company. This is not to say that there are not other points as good. There is room for a hardy explorer, and the man who desires to combine exploration with sport could not find a better region. Even the latest government maps are singularly inaccurate and vague; many a lake yet remains to be named; many a stretch of noble pine forest has not yet been looked over by a white eye, and as to the mineral wealth of the country, the promise of vast deposits is good, many believe better than in almost any other part of the continent. Nickel, iron and gold have already been found, and if we may credit the predictions of geologists, the day is coming when the most precious gems will undoubtedly be won from the gravels that overlie the old Laurentian and Huronian rocks of Western Ontario.

The moose hunter's outfit need not be an expensive one, and it must not be a

ponderous one. Everything that he takes with him will have to be carried on his own shoulders or on those of his men, over rocky portages, and through mossy barrens, so that the part of true wisdom is to cut necessaries down to their lowest limit, and to leave all luxuries behind. One thing he must have, and that is a good Winchester. He may please himself as to whether he will use the old-fashioned black powder models, shooting a heavy death-dealing bullet, or one of the new nitro-powder weapons, that make up by the velocity of their projectiles what they lose in crashing power. Another requisite is a good field glass; if the white man had the eye of the Indian, he would not need this latter aid, but would have a pair of telescopes ready for use that he would have inherited from a long line of hunting forbears, but unfortunately the disastrous effect of civilization is more apparent on the eye than any other organ.

Of blankets, two heavy pair of four-point Hudson's Bay coverings are sufficient at this season of the year, though in the dead of winter it is hardly possible to have too many in camp.

All provisions should be packed in canvas bags. Paper is a poor material to use in the bush. Tents may be either open, such as the Indians themselves use when hunting in the fall of the year, or closed, as the white man usually prefers; only in the latter case a small, portable, sheet-iron stove is to be recommended, as otherwise the blood-curdling chill of a dew-damp canvas covering will be felt most unpleasantly on cold mornings.

Any moose head spanning more than 48 inches is considered a good one. One fortunate sportsman killed a moose in the Kipawa region, whose head spanned nearly 63 inches—this head, by the way, has been on exhibition in Toronto at the Dominion fair grounds—and each season a few moose are brought in with heads that measure from 55 to 60 inches.



Bay of Quinte Bass.

BY WALTER GREAVES.

I returned recently from a three weeks' visit to Belleville, during which time I enjoyed several pleasant days on this Bay, boating and fishing, or I should say, trying to catch fish. I visited many of the places where black bass used to be plentiful a few years ago, and where one could catch, with a fly, as many bass of about two or three lbs. as he could possibly wish for. From my recent experience one would starve if he had to depend on his catch with a fly in the Bay of Quinté waters. Netting, I understand, is the cause of this. It is a shame that this sort of thing should have been allowed, as one would not find a finer water for black bass than the Bay of Quinté. There is a good hotel at Massassaga Point, close to the best fishing ground,—this is four

miles from Belleville, reached by a nice little steamer, the "Annie Lake," at 25c. the round trip, and there is an excellent hotel, "The Quinté," in Belleville, which would no doubt be well filled with Canadian and American anglers if the fishing were what it used to be. Good row boats are plentiful in Belleville and at Massassaga Point. A petition is now being circulated in Belleville with a view of endeavouring to stop the netting, and if it meets with success I am sure the Bay of Quinté will afford excellent sport again within a few years, and that there will be quite a rush of anglers from all parts of the country.

The largest bass I took during my recent visit was one of three pounds, which I took on one of my "Massassaga" bass flies.

Collies as Workers.

BY D. TAYLOR.

In most country districts of England and Scotland the collie is trained to a high state of perfection, in the working of sheep, and his value to the shepherd, on the heather hills of Scotland, especially, is the highest possible. Indeed, the shepherd's task on the Grampian range, or on the sheep farms of the northern and western Highlands, would be an impossible one, were it not for the assistance of his intelligent canine friend. It is the dog that keeps the sheep from straying, rounds them up, and drives them to the shelter of the fold in the evening. In many localities there are annual trials of skill, the shepherd and his dog coming from far and near to participate, and the trials are of the most interesting description to the spectator. The dog has to collect and drive a small flock of sheep through various obstacles into a pen, with no other assistance from his master than a word or sign, and much berating or bidding detracts from the estimate of the dog's performance.

In Canada and the United States such trials are almost unknown, but a start will be made next year, under the auspices of the American Collie Club, at St. Louis. The rules governing contests of this kind in the Old Country will be pretty closely followed, the number of sheep allotted to each dog being five, and of course a different flock will be given each dog. Each shepherd may take his dog over the ground previous to the sheep being brought in, and show or direct him what he wants done. Tractability, ready obedience, steadiness in driving, gentleness in working the sheep, and general aptitude in the dog for the business before him, are the factors in judging. After the regular trials are completed, a shepherd will have the privilege of showing the good points of his dog by choosing his own kind of work, and he may also show the training of his dog for other practical purposes as a farm or house dog.

There is a widespread belief that the breeding of the collie for show purposes has affected his intelligence, and rendered him unfit for the work which his high natural attainments, docility and activity so admirably adapt him. This may be true in instances where close inbreeding has been resorted to, but in the majority of cases the dog is improved, both mentally and physically, by proper mating, and, if subjected to a course of training while young, there should be no difficulty in making the show dog a perfect worker. The trouble is that nearly all the dogs fit to win are in the hands of those who have not the facilities nor the time to devote to a regular system of training, and the consequence is, that the dog's natural intelligence is dormant from lack of opportunity to bring it out.

The Canadian farmer, as a general thing, is content with any animal in the shape of a dog; his antecedents are not closely enquired into, and he is only allowed to hang around the premises on sufferance, his utility as a herder of cattle or sheep seldom being thought of. Yet, a little patience at the right time, and with the right kind of a dog, would give the farmer a valuable help, a help that could not be duplicated by the employment of a "haflin" at a considerable outlay for wages. In this economic age, every cent saved is so much earned, and if the small cost of keeping a dog is put against his usefulness in many kinds of work, the balance will lean heavily to the dog's side.

I have no doubt, however, these projected sheep trials will interest a large number of collie breeders, and prove an incentive to them to educate their dogs for various useful purposes. Can't we have similar trials in Canada? What about the Canadian Kennel Club, which has recently developed a strenuous progressiveness, taking the initiative in this matter?



Seals and Sealing.

BY C. J. CARLETON.

The hair seal's chief home is in the North Atlantic, and although he has not attained to the political prominence of his brother the fur seal, he is as equally important to the naturalist. His domain is extensive. He is found on the coasts of the British Isles and those of Europe, and abounds in almost inexhaustible numbers off Newfoundland, Labrador, and in the Gulf of the St. Lawrence. All nations send their ships in search for him. The Russian hunts for the pinnacoids in the Caspian and on the White Sea; and Danes, Norwegians and Scotch whalers, wander over the Arctic regions for the *Phoca greenlandica*.

It was John Cabot who, shortly after the accession of Henry VII., discovered that in these western waters there were uncountable quantities of fish of every species, and who brought back to England marvellous tales of their variety and quantity, and also of their comparatively easy capture. At a time when the Old World was waking to the possibilities of the New, these accounts did not appear incredulous, and, in fact, they founded an industry which is still a source of great wealth to many to-day. The great herds of seal and walrus, and the numerous white bears which existed on the shores of Newfoundland in the fifteenth and sixteenth centuries are now only to be found in the far off Arctic regions. The first result of the discovery of North America, and, in fact, the only result for over a hundred years after, was an immense fishing industry carried on by almost all the nations of Europe. In days when there was not so much money in circulation as there is now, fish proved a valuable bartering commodity, and was often given in free exchange for wines and fruits, linen, silks, velvets, cloth, cutlery and cordage. So important did this industry become that Sir Walter Raleigh himself declared that misfortune to the fleets of Newfoundland would be the greatest calamity that could happen to England.

But it was the Spanish Basques who first developed the great seal and whale fishery of the North Atlantic. Up to 1587 there were about fifty of their ships hunting the whale, seal and walrus round the coasts of Newfoundland and the Gulf of the St. Lawrence. The dangers which these intrepid mariners had to encounter were many, and it often happened that they lingered too long in the northern seas and perished miserably. In one year we read that five hundred and forty men were caught in the ice and were frozen to death. But none of these hideous perils seemed to daunt the daring fishermen of Europe. Year after year they set sail for the home of the seal, and returned back at the end of the season heavily laden with their rich and remunerative spoil. It was the Basques who first taught the seamen of England how to use the harpoon, which enabled them years afterwards to obtain the supremacy in this particular industry. It was with the assistance of Indians that the American whale and seal fishery on the North Atlantic was first carried on. In a few years it developed into an enormous trade, which was the source of great wealth, and also gave employment to thousands of men from the shores of New England. In the early days of the industry the settlers of Newfoundland carried on a net seal fishery; men from the shore went off on the ice and killed the seals, and frequently used large fishing boats to assist them in their work. But about the end of the eighteenth century it was found necessary to fit out regular fleets each spring to prosecute the search for the seal.

The seal, perhaps once a stay-at-home, has now learnt the habits of migration. Late in the autumn he comes south and fishes on the Grand Banks of Newfoundland. In the spring he leaves the open water for the ice fields of the north of Newfoundland and the Straits of Belle Isle. On the immense fields of ice which are formed with the calm weather of

January, the young seals are born. They are peculiar little creatures, with white coats and child-like cries. It is wonderful how the instinct of maternity has developed the power of identification. The mothers wander away great distances in the search for food, but invariably come back to the exact spot where they left their young, though the iceflow extends hundreds of miles and there are thousands and thousands of young crying for their parents.

There are five varieties of seals in the North Atlantic. The commonest, and the most valuable commercially, is the harp seal, which is succeeded in importance by the hood or bladder-nosed. The most beautiful of the whole family is that which is found all round the English and Scotch coasts, and abounds on the west coast of Ireland. He is of no

commercial value, except for his skin. Young seals develop with great rapidity; when born the average weight is about five pounds, and in three to four weeks they increase to forty or fifty pounds. Beneath their skin is a beautiful coat of white fat from three to four inches thick. The youngsters are nurtured by their mothers for about five or six weeks; when the fat is at its very best commercial value. It is at this time that the hunters arrive on the scene, and the young are quickly despatched by a blow on the nose from the gaff. The skin and fat are then separated from the carcass. Sometimes the whole catch is made in one week, and ships have returned within that time with forty-two thousand seals. A good year at the present time generally totals about three hundred and twenty thousand.



The Foothills Timber Reserve.*

In the early part of the year 1899, a Timber Reserve covering the eastern slope of the Rocky Mountains from the International Boundary north to the Bow River, was set apart with the object of protecting the watershed, which is the source of supply of the rivers tributary to the South Saskatchewan, that furnish the waters required for the extensive irrigation works in Southern Alberta. A glance at the map will show the streams heading in the Rockies which traverse this semi-arid district, and the absolute necessity for a regular and continuous flow throughout the growing season is clear to anyone with a knowledge of the country and of the insufficiency of the rainfall for the production of general crops, particularly in the dry years, a succession of which may be looked for at any time. Recognizing this fact, irrigation surveys on a large scale have been undertaken by the Dominion Government, and large and expensive works have been projected by private enterprise, and the question of water supply is one of the greatest

moment, and which must here be given a larger share in the consideration of the subject of the protection of the watershed than almost anywhere else in Canada.

The decision, therefore, which has recently been announced that this reserve is to be thrown open to be granted under timber license is one of grave importance, and the possible results of this action on the future of the country affected should be thoroughly weighed. It may be explained that the timber on the lands reserved could be taken under a settler's permit any time, the reserve only prohibiting the granting of licenses and permits for the cutting of timber for sale. The grounds upon which the withdrawal of the reserve was asked are that the timber requirements of the people along the plains bordering the foothills could not be met by each settler taking out his own timber, the distance rendering this a great inconvenience or an impossibility, so that there was a necessity for regular operators to go in and prepare the lumber supply. In opposition to this it is pointed out that

* Contributed by the Officers of the Canadian Forestry Association.

the larger portion of the supply for this district and the best lumber comes from British Columbia.

The removal of the mature timber, carefully done, will probably not constitute a danger to the watershed in every case, but there are steep slopes from which it would be absolutely disastrous to cut out such timber with the methods which the present financial position of the lumbering industry admit of, and with the carelessness which a century of training has imbued in the lumber operators of the American continent. There is also a great increase of the danger from fire as a result of the debris of lumbering operations, and if these dangers are not guarded against there is a possibility of the repetition of the experience of France, which is now spending millions of dollars trying to replace on the water worn slopes of the Pyrenees the forests which were carelessly cleared away, and the passing of which resulted in disastrous floods and landslides causing large loss of life and property. This is no fancy picture but painful fact, and a history that can always repeat itself.

The provisions of the regulations under which licenses will be granted which affect the points referred to, are that the licensee shall not have the right thereunder to cut timber of a less diameter than ten inches at the stump, except such as may be actually necessary for the construction of roads, etc., to facilitate the taking out of merchantable timber, that he shall prevent all unnecessary destruction of growing timber on the part of his men and exercise strict and constant supervision to prevent the origin or spread of fires. In regard to permits the provision is also made that, to prevent the spread of prairie or bush fires, the refuse (*i.e.*, the tops and branches unfit either for rails or firewood) shall be piled together in a heap and not left scattered through the bush. The rigid enforcement of these regulations would do much to prevent the dangers, although the purpose sought by gathering the refuse into a heap might be better accomplished by lopping the

branches in such a way as to permit the wood to fall to the ground and rot away. But it is exceedingly difficult to enforce regulations which involve expense and are not directly in the interest of the operator, unless an impossible army of officials is employed.

The tenure granted by the timber license is not a simple annual tenure, but licenses contain the provision that so long as the licensee complies with the conditions of his license and of the regulations, he shall be entitled to a renewal of his license from year to year while merchantable timber remains upon the area licensed. If the purposes of the timber reserve are carried out to any extent, this, though an indefinite, would be practically a perpetual tenure.

If the policy of throwing this reserve open to timber license is carried out, there should in the first place be an examination made of all tracts applied for before they are disposed of, so that no tract should be denuded on steep slopes and other places where even such cutting as is allowed in ordinary cases would be injurious to the water supply or destructive of the vegetable covering of the soil. Preliminary examinations are made in other parts of the Dominion, and there is no reason why it could not be done here where the necessity for it is imperative.

An increased and more effective fire ranging staff will be required, and the regulations looking to fire prevention and the protection of young growth will need to be enforced strictly.

The tenure under the license should be modified in such a way as to make clear that it cannot be interpreted as a perpetual one, and that the freedom of administration of the reserve will be kept inviolate. For the first great object of this watershed is not the supply of timber, but the supply of water, and while the one does not necessarily preclude the other, first things should be first, and the flow of water should be guarded at all hazards.

The whole subject is one of great importance, and is deserving of the most careful study and consideration.



Forest Fires and Railways.*

The dry weather of the spring and early summer of the present year brought into prominent notice the question of forest fires and the causes thereof, and important amongst these are fires starting from railway lines. These may be occasioned by sparks from locomotives or other means. The face of the country still exhibits the scars which record the conflagrations that accompanied and followed the building of the railways. And the danger is still present. The reports on forest fires in Canada compiled from year to year contain instances which establish this. During the present season many fires have been clearly traced to sparks from locomotives, and the carelessness of some railway employees is exemplified by the action reported from a branch line in a forested district where fire was set to a pile of old ties on two different occasions during the dry spell, with the result that the fire spread to the adjoining timber, causing considerable loss. This railway not only carries in lumbermen's supplies but transports timber out, and it is therefore decidedly in its interest that the forest should not be destroyed, especially on the poor, rocky land run over by the fire. Evidently the railway companies require, as a rule, to take further steps to impress on their employees the importance of care and watchfulness. With such an efficient patrol as is provided by the service of the section men, proper vigilance would be the only thing necessary to almost absolutely prevent the spreading of fire from the railway line. Even with the best preventive appliances, sparks will escape from locomotives at times. Grades are always great danger points. A thoroughly live staff of section men held up to their duty in this respect would be the most effective preventive measure.

Various devices, more or less effective, have been resorted to to prevent the escape of sparks from locomotives.

In England the railway companies hold that the use of any netting necessi-

tates the sharpening of the blast, and therefore increases the risk of ashes being drawn from the firebox. They have therefore, as a rule, done away with spark arresters, and rely on a special arrangement of the firebox. The chief methods employed are an enlargement of the grate area, thus decreasing the necessary strength of the draft, and a brick arch which slopes backward and upward from the front of the box, and round which the flames must pass, thus increasing the distance to be traversed by the sparks and the opportunity for complete combustion.

Any person who has observed the new types of American locomotive will have noticed the fact that the smokebox extends in front of the straight smokestack. The object of this extension is to provide a receptacle for the sparks which may pass from the firebox, and at the same time to give space for an area of wire netting sufficient to prevent sparks being forced through. Any sparks that may issue from the firebox pass along the tubes running through the boiler into the smoke-box, where they are thrown downward by a steel deflecting plate, and are prevented from rising through the smokestack by the netting which covers the upper part of the smokebox. In wood burning engines the same purpose is accomplished by an inverted cone in the smokestack. The locomotive manufacturers contend that if these devices are kept in proper order practically no dangerous sparks will escape, and if regular inspections are made by the railway companies and repairs kept up the danger will be reduced to infinitesimal proportions. But old locomotives, which usually are much more in need of repairs, and have not the best appliances, are naturally relegated to the back districts, amongst which are the forested lands, so that the adoption of new types is not as much of a protection to the forest as might at first be thought.

The question of the liability of railway companies for damages by fires caused by

* Contributed by the Officers of the Canadian Forestry Association.

sparks from locomotives was discussed at some length during the present Session of the House of Commons, in connection with certain suggested amendments to the Railway Act. It had been held and so decided in certain cases, that actions for damages against railway companies were to be decided on the principle of the common law that no person should be permitted to use his property in such a way as to result in injury to his neighbor, but on an appeal on this point being carried to the Imperial Privy Council it was decided that inasmuch as Parliament had given the railway companies authority to run locomotives they would not be liable for damages for doing so provided that no negligence or carelessness was proved. Thus the running of locomotives without statutory authority, or the running of a traction engine along a roadway, would come under the principle of the common law. This is in accordance with the almost unanimous decision of the English courts in similar cases, and is based on the argument that Parliament having authorized certain things to be done under certain restrictive conditions, it would be absurd to suppose that it was intended that the performance of such acts in compliance with the conditions imposed would render the company doing them liable for damage that might result.

With the object of placing railway companies in the same position as the individual in regard to liability for damage, the following amendment to the Railway Act has been passed by the House of Commons, and will probably become law, viz. :—

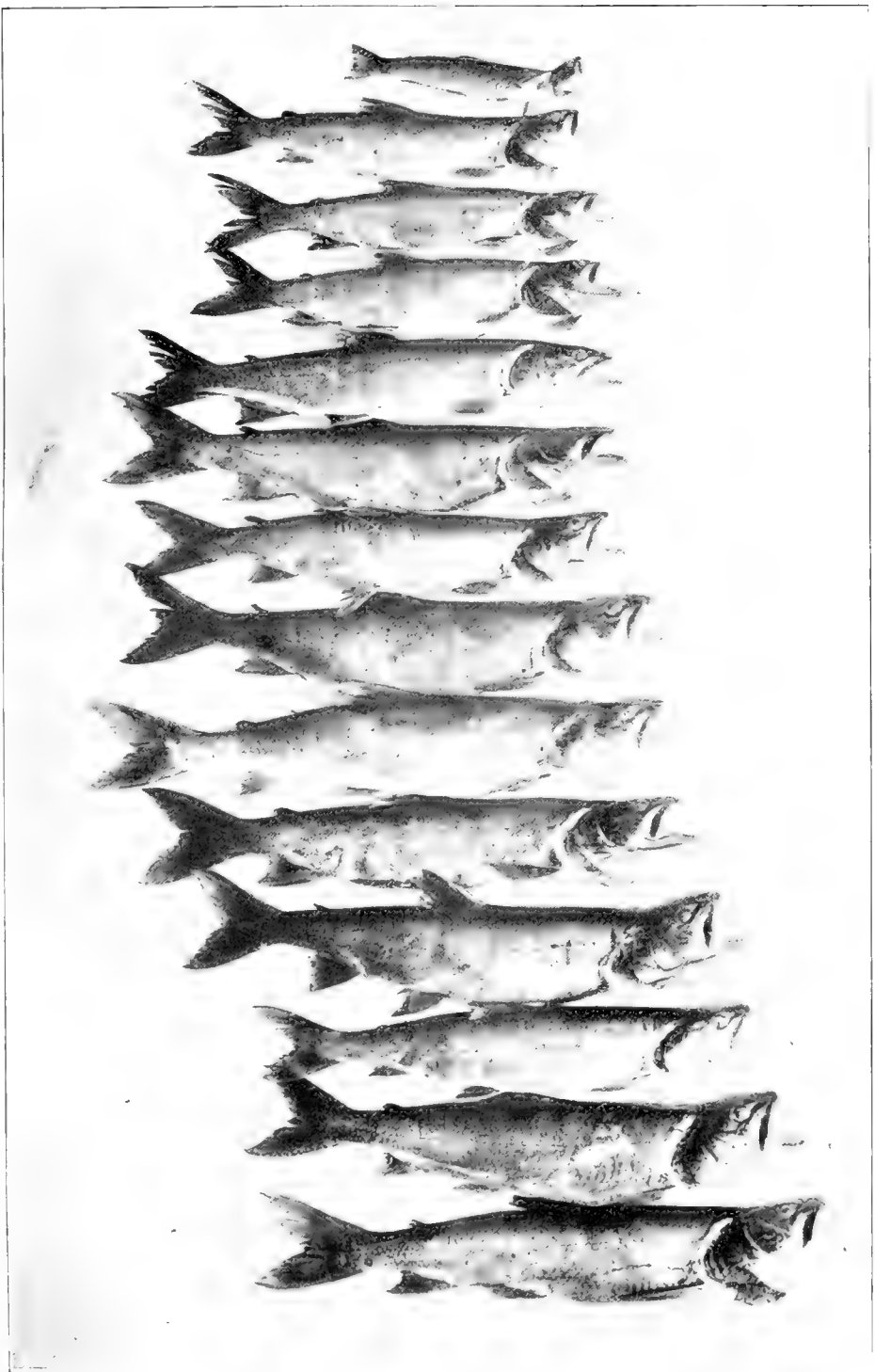
“Whenever damage is caused to any lands and fences, plantations or buildings and their contents, by fire started by a railway locomotive, the company making use of such locomotive shall be responsi-

ble for such damage and may be sued for the recovery of such damage in any court of competent jurisdiction.”

Another amendment, which especially affects prairie lands, is to the effect that in the North West Territories railway companies must provide a fire guard of a ploughed strip eight feet in width, distant at least three hundred feet on each side from the centre line of the railway, and burn off the grass between the strips.

In connection with this provision the results shown by some recent experiments made with the object of obtaining definite information as to the distribution of sparks from locomotives are of interest. The experiments were made near Lafayette Station, on the Lake Erie and Western Railway, on a heavy grade. The wind varied from seven to twelve miles an hour, and the speed of the trains from $14\frac{1}{2}$ miles, the lowest for freight trains, to 38 miles for passenger trains. The sparks were caught in pans spread out at right angles to the track, the bottoms being covered with cotton to hold the sparks and also to show to what extent they were still capable of causing combustion. The summary of the results showed that the greatest number of sparks fell at from 35 to 150 feet from the centre of the track, while the pans nearest the track, *i.e.*, from fifteen to twenty feet, caught but few sparks. Beyond 125 feet from the centre of the track the sparks were of such a character that there was no possibility of fires being started from them. No scorching of the cotton in the pans was observed in any case, but this may have been due to the fact that at the time the tests were made, April and May, the temperature was comparatively low, namely, 60 to 70 degrees Fahrenheit. Some of the larger sparks were, however, quite warm when picked up immediately after falling.





A STRING OF GRAY TROUT.

Many Canadian lakes will yield such tribute to the experienced angler.



A FISHERMAN'S CAMP.

This illustration shows an angler's headquarters on the incomparable Nepigon

Our Medicine Bag.

The annual general meeting of the Canadian Kennel Club was held on Wednesday afternoon, September 9th, in the exhibition room of the dog show building on the Toronto fair grounds. Mr. John G. Kent, the president, was in the chair, and there was a large attendance of members, who took a marked interest in the proceedings. Mr. H. B. Donovan, the secretary-treasurer, submitted his annual report, from which it appeared that the financial standing of the club was in good condition. The matter of affiliation with the American Kennel Club elicited a good deal of discussion, in which loyalty to the C. K. C. was the prevailing note, and it was ultimately decided that as far as the latter body was concerned the matter should drop except on the initiative of the A. K. C. The secretary's report also showed that during the year there had been 534 registrations, a considerable increase on the previous year. The total number now recorded in the stud book is 7,085. The membership for the year was 273, being an increase of 12 per cent. Some discussion arose over a suggestion to affiliate with the English Kennel Club. It was finally agreed to, and a committee consisting of Messrs. Kent, Donovan and Lindsay were entrusted with the matter with full power to act. The election of officers resulted as follows: Patron, Mr. Wm. Hendrie, Hamilton; President, Mr. John G. Kent, Toronto; Hon. President, Mr. R. Gibson, Delaware, Ont.; First Vice-President, Rev. Thos. Geoghegan, Hamilton; Vice-Presidents, Mr. H. Parker Thomas, Belleville; Mr. C. W. Minor, Victoria, B.C.; Mr. Geo. Caverhill, Montreal; Mr. O. J. Albee, Lawrence, Cal.; Mr. H. S. Rolston, Winnipeg; Mr. G. B. Borrodaile, Medicine Hat, Assa. (Above elected by acclamation), Secretary-Treasurer, Mr. H. B. Donovan, Toronto; Auditors, Mr. G. B. Sweetnam, Toronto; Mr. A. A. Macdonald, Toronto. Executive Committee: Mr. Jas. Lindsay, Montreal; Dr. Wesley Mills, Montreal; Dr. W. H.

Drummond, Montreal; Mr. Geo. H. Gooderham, Toronto; Mr. W. P. Fraser, Toronto; Mr. A. A. Macdonald, Toronto; Mr. F. W. Jacobi, Toronto; Dr. C. Y. Ford, Kingston; Dr. A. A. Babcock, Brantford; Mr. J. Cromwell Cox, Ottawa; Rev. J. D. O'Gorman, Gananoque; Mr. T. A. Armstrong, Ottawa.



Baily's Magazine for September contains a paper upon the twelve best game shots of the British Isles. The Editor called upon well known sportsmen in each of the shires for their opinions. As a result of the ballot Earl de Grey stands an easy first. In succession follow Mr. R. Rimington Wilson, Lord Walsingham, Mr. H. Noble, Hon. H. Stoner, Lord Falconer, Prince Victor Duleep Singh, H.R.H. Prince of Wales, Mr. F. E. R. Fryer, E. de Oakley, Lord Ashburton and A. W. Blyth. In connection with this subject it is interesting to note that Baily's says: "It is not everyone who has described his own method of shooting, so far as he knows it himself; and it is quite proverbial that the best performers never seem quite to know how they do it; but nevertheless between what they have said, and what they have done, and the appearance of their performance to other people, the secret (if it be a secret) is disclosed. Briefly put, it is this: they can shoot in any form save one. They none of them shoot without aiming; they none of them appear to aim; they none of them put up the gun yards ahead of their game and fire with a still gun; they all of them swing the gun with the game to the point ahead they want to reach; and they none of them stop the gun when they pull the trigger." Lord Walsingham's best work has been done with a 12 bore cylinder—chokes are decidedly out of fashion in Great Britain—and $\frac{1}{4}$ drams of powder and $1\frac{1}{8}$ oz. of No. 5 Derby shot. With this load and gun he killed 121 wood-pigeons on the wing, as they flew to their roosts in the beech woods at night, and any one who has

shot the wild pigeon of Europe under these conditions knows that this feat takes a lot of doing. Lord de Grey shoots with 1 1-16 oz. No. 5 English shot and 42 grains of Schultze all the year round. None of these gentlemen use a gun heavier than $7\frac{1}{4}$ lbs., while Mr. Fryer, who is an acknowledged crack shot, shoots a 12 bore, weighing $6\frac{1}{4}$ lbs.

One of the greatest boons ever granted hunters of big game, was the choice of a high velocity, low pressure cartridge to use in their black powder rifles. English cartridge manufacturers claim 10 per cent. less pressure and 10 per cent. higher velocity for their cordite loaded cartridges over the old black powder express charges, but the American factories seem to have done even better, for they have certainly gained more than 10 per cent. in velocity while but slightly increasing pressures.

The high velocity, *low pressure* cartridges put out by the Winchester people are .25-20, .32-20, .38-40, .44-40, .45-70, .45-90 and .50-110 Express.

The advantages of the .25-20, .32, .38 and .44 model 1892 high velocity cartridges are increased velocity, flatter trajectory, greater striking power and better mushrooming of the bullets. The .45 and .50 caliber high velocity cartridges are desirable for the same reason, and also because their energies at 200 yards are practically the same as those of the small caliber high power cartridges. An additional advantage is that the results they give are obtained with bullets of large cross section, which make these cartridges unsurpassed in striking and killing power at the distances at which most big game is killed. A feature of all the high velocity cartridges is that they can be used by persons who dislike the high power small caliber cartridges on account of their great range.

These cartridges are loaded with smokeless powder, and soft point, metal patched bullets. Users of Winchesters of models 1886 and 1892, may increase greatly the power of their guns. Old rifles should have a slightly higher front sight affixed, or they will be found to

shoot too high above the line of sight, but if new rifles are ordered, and these cartridges are to be used, the correct sights will, of course, be put on by the makers.

The fifteenth annual dog show in connection with the Toronto Industrial Exhibition, was held from the 7th to 10th September inclusive, and was beyond question the best, from any point of view, ever seen in Toronto. Not only was the entry the largest, but the exhibits were much ahead of the usual standard, the uniform excellence of most of the classes being the subject of general comment. In all classes of sporting dogs there was an unusually keen competition, and was a very gratifying feature of the exhibition. Foxhounds, greyhounds, pointers, English and Irish setters, and spaniels, were unusually strong in number, while the quality was exceptionally fine. Indeed, seldom, if ever, has such a uniform lot been seen at any show, and this department must have delighted followers of the gun. As usual in Toronto, the display of fox-terriers, both smooth and wire-haired, was one of the features of the show, and while judging was going on the ring was surrounded with interested spectators. Another event which created great interest was the judging of the collies. Two recent importations, Balmoral Baron and Balmoral Beatrice (formerly Old Hall Beatrice), two handsome tri-colors, and both extensive winners in England, were greatly admired. They are owned by the Balmoral Kennels, Ottawa, and are certainly an acquisition to their already fine lot of stud dogs and brood bitches. There were quite a large number of American dogs shown, a fact which must be peculiarly satisfying to the Committee, seeing the attitude which the American Kennel Club has taken towards the C.K.C., and the efforts that were made to induce them to hold the show under the former's rules.

A new and very powerful box-magazine repeating rifle cartridge has just been placed on the market by the Winchester Repeating Arms Company. The des-

cription given by the manufacturers is as follows: "Model 1895, caliber .405." Rifles for this cartridge are made with 24-inch round, nickel steel barrels, and weigh about 8¼ pounds. The Winchester .405 caliber cartridge is the most powerful shooting cartridge, at both long and short ranges, ever adapted to a magazine rifle. Its high velocity and heavy bullet give flat trajectory and great striking power, making it desirable for hunting the largest game. Its striking energy at 150 yards is greater than the muzzle energy of the .30 U. S. Army cartridge. The .405 caliber cartridge is loaded with a 300-grain soft point metal patched bullet and special smokeless powder, which gives the bullet a muzzle velocity of 2,204 foot seconds, generating a muzzle energy of 3,235 foot pounds. Its penetration with soft point

been published, a tolerably dependable index of the permanent value of the work. The author does not confine his remarks to taxidermy and the preservation of trophies, but has a good deal to say upon weapons and charges. He quotes a letter from Selous, the great African hunter, from which we take the following passage: "It is difficult to say which is the best form of small bore rifle, as the Mannlicher, the Mauser, and the Lee-Netford each have their advocates, and good work has been accomplished with all of them. Success depends very much on the form of bullet used, and young sportsmen should be very careful on this point. Personally, I have used a .303 bore rifle with most satisfactory results against such animals as sable and roan antelopes, and Koodoo bulls in South Africa, and wapiti bulls and mule



Winchester, Model 1895, .405

.405 Winchester Cartridge.

bullet at 15 feet from the muzzle is thirteen 7/8-inch pine boards. Send for illustrated circular of this new gun and cartridge.

There is just one animal on this continent that needs such strong medicine—*bruin*. But as Winchesters are as much used in India and Africa as in Canada, we will venture to predict a great demand for the .405 in those lands of savage carnivora and huge pachyderms. No leopard, lion or tiger could do much damage after receiving a shot in the vitals from this rifle.

deer in North America, and I have every faith that such a rifle would be as effective against a lion as the best form of .450 bore express rifle, with which latter weapon I have killed several lions. Indeed, I look upon the .303 bore rifle, with the best form of expanding bullet, as somewhat superior in killing power to a .450 express rifle, over which, moreover, its much lower trajectory gives it a very great advantage." The book may be had of the author, at 166 Piccadilly, London

Although written for British sportsmen, Mr. Rowland Ward's handbook on practical collecting will be found of considerable value to Canadian and American sportsmen. The eighth edition has now

The Editor ROD AND GUN IN CANADA.

Sir:—In your August number you made reference to a suggested resolution forwarded by Col. Falk Warren, but received too late for the annual meeting of the Forestry Association.

Taking great interest in game preservation, the idea embodied in the resolution suggested itself to me some time since, with the result that in February last I wrote Sir Henri Joly de Lotbiniere, the Vice-President of the Association, and also consulted with Col. Falk Warren, who very kindly took the matter up and forwarded the proposed resolution. It was a matter of great regret that same was too late for the annual meeting, but I think you will agree that it is of sufficient importance to receive the serious consideration of all interested in the preservation of Forestry and Game. Granted, as you say, the matter is one of "paramount interest," you will therefore agree that it cannot be taken up too soon.

Cannot a special meeting of the Association be called to consider the matter, and authorize the Executive to take some immediate steps to see that provision is made in all transcontinental railway bills for land grants so that same are subservient to the location of Forestry Reserves in any province or territory.

Yours truly,

F. M. CHALDECOTT.

Vancouver Club,
Vancouver, B.C.

The Chinese or "Mongolian" pheasant (*Phasianus torquatus*) has been introduced most successfully into British Columbia, and from what Mr. W. B. Tegetmeier, the great English authority, writes in the latest—the third—edition of "Pheasants," it should do very well in the great woodlands of southwestern Ontario, between Toronto and Detroit, especially in that favored strip where the rigors of winter are mitigated by the proximity of Lake Erie. Of this bird the author states: "The specific name *torquatus* is derived from *torquis*, a chain or collar worn around the neck. This species was introduced into England a great many years since, long before the time of Latham, who described it as having been turned out in preserves on many estates. No bird could be better adapted for our coverts; being natives of a cold part of China they are very hardy—a character which they display by laying early in

the season, and by producing an abundant supply of eggs." A very great deal of interest is being taken in the pheasant family just now, especially by American sportsmen, and to all such Mr. Tegetmeier's work may be commended; it is by long odds the most trustworthy of the numerous treatises on the natural history and practical management of the pheasant. Horace Cox, Bream's Buildings, London, is the name and address of the publisher.

Mrs. Alice M. Hayes is well known to all English speaking readers as a delightful writer upon the art of horsemanship, and it is not surprising that a second edition of her work "The Horsewoman," has been called for. Captain Hayes has written a series of most useful books dealing with the horse in a very thorough way—the only branch left untouched by him being capittally handled by Mrs. Hayes. To write such a book successfully a woman must herself be a superb rider, and have had a wide and varied experience. This the authoress has had, undeniably, and hence what she writes may be accepted as authoritative. For seven years she acted as rough rider at her husband's horse-breaking classes in India, Ceylon, Egypt, China and South Africa, and latterly she taught many pupils to go straight and to fly the formidable fences of the English shires.

The treatment of the subject is thorough. The horse to pick, the saddle, bridle and dress, are discussed; then mounting, the rein-holds and the seat come in for careful consideration, and, finally, riding in all its phases, from the school to the burst across a stiff country, is gone into at length. The book, which is published by Hurot & Blckett, 13 Great Marlborough St., is well illustrated by half-tone cuts, made from photographs.

The Ottawa Kennel Club held its annual show under C. K. C. rules, commencing September 15th, and continuing for three days. There was a very good entry from various points in Canada and a few from the United States, and, on the whole, the Committee may be con-

gratulated on the success achieved. Being held in conjunction with the Central Canada Exhibition, the show attracted a very large number of visitors, who were well pleased with what they saw in canine aristocracy. Messrs. F. F. Dole, of New Haven, Conn., and Dr. C. Y. Ford, of Kingston, Ont., were the judges, the former taking the major portion of the classes. Both are experienced men, and gave general satisfaction. Sporting dogs were quite an interesting feature, and it is very encouraging to note the evident favor in which this class of canine is now held. Collies were a very good class, the most conspicuous in merit being the Balmoral Kennels display. This enterprising firm captured premier honors in both sexes with Balmoral Baron and Balmoral Beatrice, recent additions to their kennels from the Old Country. Fox Terriers were also a fine exhibit, and two Montreal exhibitors carried off first honors in wires. These were Mr. R. C. Binning's Stovepipe and Mr. Alec Smith's Sawdust. The former is a compact dog of about nine months old, with a fine head and ears, about the right size, good jacket, and teeming with terrier quality. If Stovepipe maintains his present rate of progress until maturity he is likely to be heard of in better company. His winnings were, 1st puppy, novice, limit, open, winners, and special for best wire-haired terrier in show. He was got by Financier *ex* Anna Held, and was bred by Alec Smith. Several other breeds were worthy of extended notice, but space will not permit.

A region that is attracting a good deal of attention at present is that drained by the Mississauga, discharging into Georgian Bay. That part of Ontario is very little known, and undoubtedly contains a good head of big game, and no doubt timber and minerals. We know but little of it

as yet, but, so far as our information goes, there are many deer and black bear in the valley of the Mississauga, some moose and caribou, and unusually good pike and grey trout fishing. Ruffed grouse and duck are reported to be present in quantities sufficient to satisfy the needs of many hunting parties. The region is best reached by way of Biscotasing.

The Manitoba Field Trials took place last month, and were well contested. In the Derby the winners were as follows: Uncle Sam, 1st; Shawnee, 2nd; Chipewewa, 3rd. In the All Age stake the winners were: Portia, 1st; Prince Rodney, 2nd; Tony Man, 3rd. The Champion stake was won by Mohawk. The judges were Messrs. W. W. Titus and W. F. Ellis in the Derby. Mr. Bevan assisted Mr. Titus in the All Age and Champion.

Two volumes that the enquiring man having a taste for natural history and for forest wandering should certainly own are Parts I. and II. of the Catalogue of Canadian Birds, by John Macoun, M.A., F.R.S.C., the talented and indefatigable naturalist to the Geological Survey of Canada. The first volume appeared in 1900, but the second has only made its appearance recently. A third and completing volume is promised shortly.

The Government of the Province of New Brunswick has given notice at a meeting of lumbermen held recently that they intend to increase the stumpage rate to \$1.50 a thousand. Owing to the prosperous state of the lumber industry, it is considered by the Government that they are in a position to pay the increased rate of 50c, while the demands on the expenditure of the Province will require an increased revenue.



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

The Official Organ of the Canadian Forestry Association.

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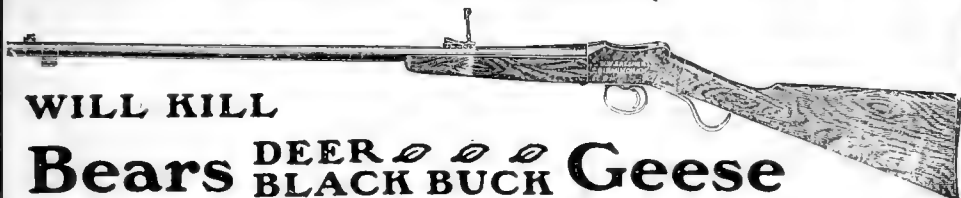
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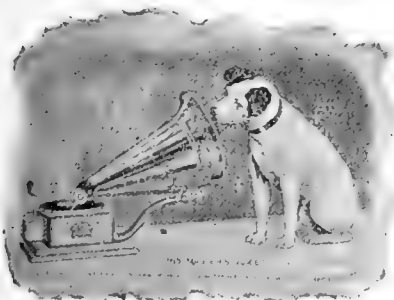
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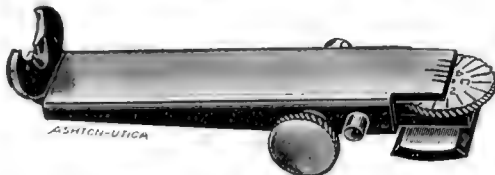
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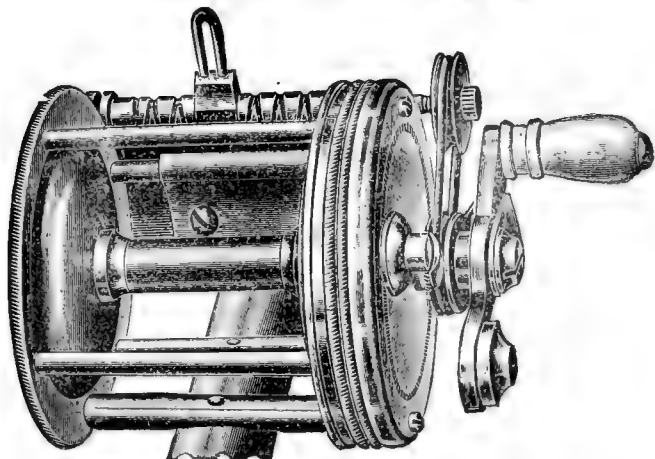
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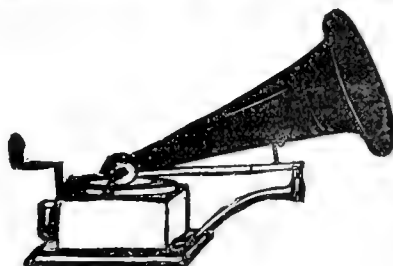
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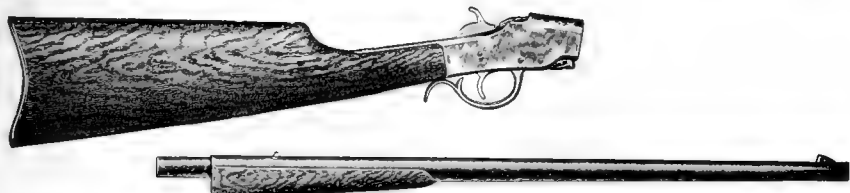
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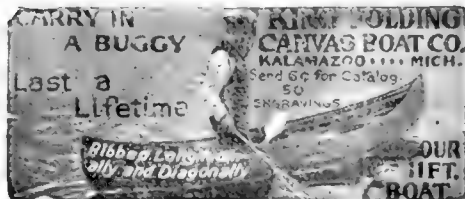
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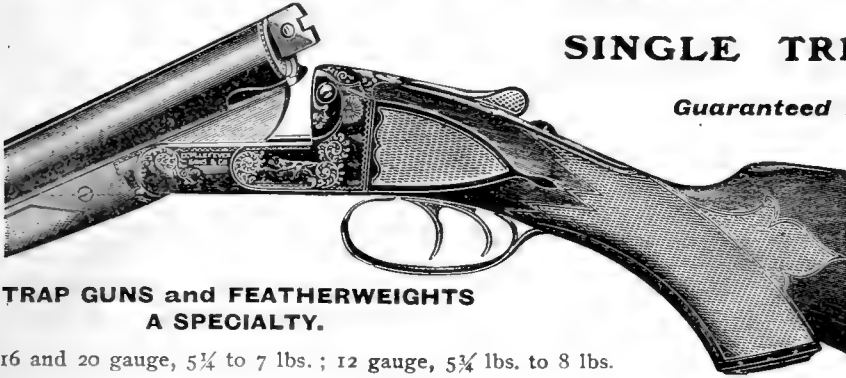
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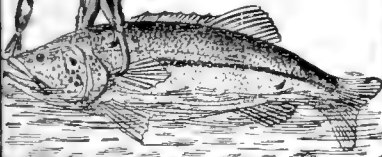
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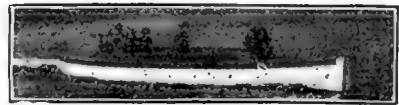
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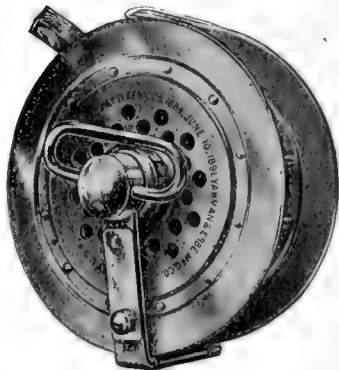
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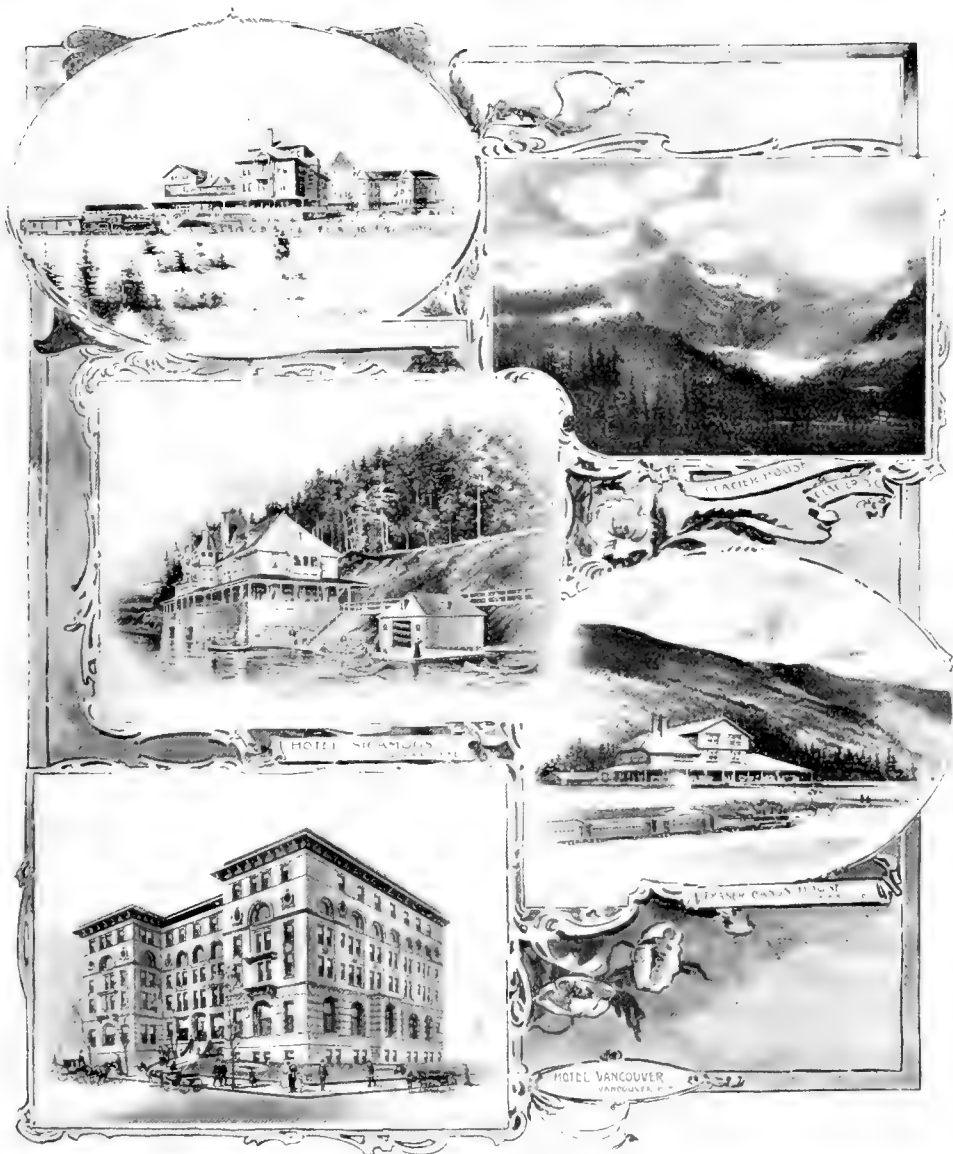


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British Columbia bighorn ram, now in the Provincial Museum, Victoria

ROD AND GUN IN CANADA



VOL. V.

MONTREAL AND TORONTO, NOVEMBER, 1903

No. 6

Great Slave Lake.*

BY W. J. McLEAN.

In order the better to convey to your minds an idea of the localities visited by me on my late journeys to the far north, though presented to you in a very inadequate manner, I will give you an account of the route followed by me on my way to the remote region referred to.

From Winnipeg to Edmonton, a distance of 1,032 miles, I travelled in comfort and ease, by railway. Edmonton is a flourishing town with several good hotels, especially the Alberta, and several stores, some of which are not far short of any in Winnipeg. There are also two or three banking houses. I think I may venture to say that Edmonton has a great future before it as a commercial centre. From Edmonton to Athabasca Landing, 99 miles, over a rolling country interspersed by small rivers and lakes, I travelled in a waggon. From this point I embarked on the Athabasca in a small open boat, and travelled 165 miles without any impediment, down the swift river to the Grand Rapids, justly so-called, as they are in the season of high water stupendously grand. Here on a small island, on either side of which runs the raging rapids, there is a tramway of about half a mile long, built and operated by the Hudson's Bay Company for the purpose of their own trade in the northern districts. On this tramway I had my boat and cargo taken over, and again

embarked at the foot of the rapids, and proceeded through a series of rapids to Fort McMurray, a distance of 87 miles. From this point to Chipewyan on the Athabasca Lake, a distance of 185 miles, the river runs smoothly to its outlet in the above lake. From Fort Chipewyan, three or four miles is travelled on the lake before entering the river, the first 50 miles of which above its confluence with the Peace River is called by the old voyageurs, Riviere de Roche, from its rocky character. After its junction with the Peace River it becomes the Slave River proper, a very large and swift river, on to Smith Portage, distant from Fort Chipewyan 102 miles. On Smith Portage, a distance of 16 miles, there is a waggon road constructed by the Hudson's Bay Company, over which they now do their transport work with oxen and carts. Formerly this 16 miles of the route was got over by following the river, and making five comparatively short portages, one of which, however, the Mountain Portage was a particularly arduous one, owing to the very high and steep sandy ridge over which it has to be done. It was over this portage route that I travelled. It was not altogether new to me, as I had gone over it several times many years ago. From Fort Smith the river becomes wider, and runs without any obstruction to its outlet in

* Mr. W. J. McLean, Ex-Chief Factor of the Hudson's Bay Company, read this interesting paper before the Historical and Scientific Society of Manitoba, and as it is one of the best descriptions as yet available of a region that will soon be better known, and which will change its character very rapidly, we have much pleasure in publishing it as requested by one of our western correspondents.

Great Slave Lake, a distance of 190 miles, making a grand total of 745 miles by water from Athabasca Landing. Along the river there are some very fine stretches of timber. The south and south-western portion of Great Slave Lake is, comparatively speaking, void of any particularly attractive scenery. That, however, is not the case with the north and north-eastern part of it. After leaving Fort Resolution, going north for a distance of 60 or 70 miles, one enters an innumerable cluster of rocky islands, and following the canoe or the Indian route, one requires to be particularly conversant with the locality in order to be able to follow the proper channel, as in many places the islands are so densely situated, and forming so many narrow gaps of almost identical appearance, that only an experienced and close observer can follow his proper course, the loss of which might lead to much annoyance and even to serious consequences. As one travels north along the west shore of the lake and among the islands, the red granite ridges which stretch along the lake shore, with here and there crumbling frontages, gradually rise to an imposing height. Some of the headlands and cliffs along this route stand perpendicular out of the water to a height of 100 to 200 feet, and I must admit that when sailing close in beneath some of those stupendous cliffs, I felt awestruck by their great and towering height above me.

In the face of one of those cliffs, about 120 feet above the water, I observed a golden eagle's (*Aquila crysaetos*) nest. The young bird, not yet fully fledged, was sitting composedly on the brink of it, regardless of any danger to its safety beyond an apparent suspicion conveyed by the alarming whistle-like calls of the parent birds, which were soaring far above it. My guide, who was over 40 years of age, told me that since his earliest recollection, and probably long before, the eagle hatched there every year. All through this portion of the lake, it is very deep, and at the Eagle's Cliff, as it is called, and of which I have just spoken, the natives claim that they failed to find bottom with a sixty fathom line.

About forty miles north from this point are the narrows, where the Hudson's

Bay Company many years ago used to have an outpost, and is known as Fond du Lac. Quite a strong current runs sometimes south and sometimes north, here. The water is crystal-like clear, and ice-cold, even in summer. I had a net set here one night, which was only 100 feet long, and in the morning we got about 240 pounds of fish out of it, consisting of seven different kinds of exceedingly fine fishes. There were three species of speckled salmon trout, varying in weight from seven to thirty pounds. This portion of the lake abounds with a variety of fish, some of which, owing to the temperature and the purity of the water in which they subsist, I believe cannot be excelled in any part of the world. I have stood on the rocks at the outlet of some of the many comparatively small rivers falling into the lake from the steep sides of the mountains bordering upon it, and watched the speckled trout in large numbers passing to and fro in their crystalline abode, and often thought how many of the sport-loving tourists in the old country would feel delighted to have such an opportunity for satisfying their desire for the pleasure and sport which the fishing rod and tackle can afford them.

These mountain torrents, in their impetuous race down through the rugged rocky channels in which they travel to rest in the quiet level of the great lake into which they disappear, look in their mantle of sparkling foam like a narrow drift of snow, or a white streak running serpent-like up the steep sides of the hills over which they bound from the level plateaus beyond, and can be readily seen here and there through the sparsely wooded sides of the mountains at several miles distance.

At the mouth of one of the rivers to which I have just referred, there is a small estuary, which the Indians of that region regarded with much veneration, as they claim they need not ever pass it hungry during the summer season. I have seen Indians (and did so myself) quietly approach this estuary with their canoes and set a net across it at the end next the lake, and then go to the outlet of the river, and forming their canoes into line, drive a large number of beauti-

ful salmon trout into their net. This particular river is about seventy miles north of Fond du Lac, or the narrows, where Mr. Waburton Pike wintered in 1889. The little wooden hut, in which he passed the winter was still a souvenir of his sojourn there.

I was still travelling slowly along the shore of the lake, which from this point lies in a north-easterly direction. It was now drawing near the last days of July and I was looking forward with eagerness for the arrival of the reindeer and caribou (*Rangifer caribou*) from the coast and barren lands, to where they had gone in the spring to fawn, and to be more free from the pest of flies that would worry them to a much greater extent during the summer season farther south. My guide told me, upon my making inquiry, that the usual time for the arrival of the deer was about the 12th of August. The weather was beautiful, with some days excessively warm; the nights were clear and balmy, and the stars, which owing to the very short time the sun dipped below the horizon for a month and a half previous, could not be seen, were becoming visible again at night. The remoteness and quiet solitude of the surroundings inspired one with a feeling that nature had ceased to exist, and the occasional shrill though melancholy call of the great northern diver (*Urinator imber*) (Gunn), was a relief to the wakeful ear at night.

In this part of the lake, and on a good sized island, stands an imposing huge column of red granite, rotunda shaped, and presenting a perpendicular facade about one hundred and thirty feet high, and probably three hundred yards in circumference. On the top of this column of apparently solid rock, is a small lake, but which can only be seen from the heights back from the lake shore. No one has ever been known to get to the top of this wonderful structure by nature. The natives regard it as supernatural, and are inspired with a superstitious awe of it, as they believe it to be the abode of some genius which it is not safe for them to approach.

Now the much wished for notable 12th of August (a notable day in the Highlands of Scotland) arrived, and with it, in compliance with their instinct, the

deer arrived also at the lake; and the Indians were at their different established points of vantage to meet them, and to give them—not a friendly—but a deadly reception. I must, however, admit that they were all, men, women and children, overjoyed at (to them) the very important event, as they now saw in sight for them, both food and raiment, which cost them very little to secure.

Now the deer shooting, or more correctly speaking, slaughter, began in earnest, and the crack of the rifle could be heard on every side. Not only to the hunter and his rifle were these beautiful and harmless animals easy victims, but also to the old men and women, who in their canoes watch for and pursue them when crossing the lakes and estuaries of rivers, and kill them with spears in large numbers. There is really no by-law for the preservation of these helpless animals, even to a reasonable extent. On their arrival the deer are in poor condition, and their meat is scarcely worth being preserved (smoked and sun dried) for food, but they are wantonly killed in great numbers notwithstanding; often only for their skins, which the natives use largely for winter garments and coverings, and at this time they are growing their coat of new hair, which as yet is short and fine, and more elastic and durable and resembling fur, than it is later in the season, when it becomes coarse and brittle. The fawns are as frequently killed as their dams, as their skins are much finer and lighter in quality, and therefore more desirable for young people and children. The women dress these peltries with much skill, and make them as pliable as a piece of fine cloth. The male deer have splendid horns or antlers, especially when they are three or four years old, a new set of which they grow every year, in less than six months. They all, young and old, cast their horns in December, and the horns for the following year do not begin to grow until the month of April. During their period of growth the horns are quite soft, and are covered with a velvet-like skin. This skin falls off, or more strictly speaking, they tear it off their horns by rubbing them against trees and rocks, and this they do about the middle of September, when the horns are full

grown. They then become quite hard. It was very interesting to watch those animals, of which there are thousands then marching in their annual tour. They scarcely appeared to take any rest, or halt, excepting for three or four hours in the middle of the night. They kept travelling in continuous bands along the lake towards its north-east extremity, and appeared to be impelled by some mighty power over which they had no control. They have regular and well trodden paths, which they keep without deviation, even when fleeing from their enemy. These paths in many places lead into rivers, lakes and wide bays, and it is surprising how unhesitatingly and fearlessly they take to the water and swim across. I have seen them swim across some arms of the lake fully a mile and a half to two miles wide, and as if guided by compass, strike the exact landing place and trail on the opposite side to where they started from. They are wonderfully powerful swimmers, and it takes a good canoe man to keep up with them. The fawns take to the water as readily as the old ones, and the icy cold state of the water had no influence on them, for they appeared just as lively and active upon landing as they did when they went into the water.

At Lockhart River, at the extreme north-east end of Great Slave Lake, I camped for a few days, enjoying its many fine attractions. This is a beautiful place, with charming surroundings, diversified by high, sloping hills, level, sandy plateaus and valleys, dotted with tall spruce trees and no underbrush. This is *par excellence* the place for a month's outing for the sport-loving tourist, for here he can get fishing and shooting to his heart's content, and a variety of very fine wild fruit in great abundance. In fact the country all along the side of the lake which I travelled was teeming with a large variety of wild berries, such as the strawberry, gooseberry, raspberry, blueberry, cranberry, eyeberry and yellowberry, and so forth—pleasing luxuries in that distant country. Roast venison and cranberry sauce was an easily obtained dinner. The Lockhart River so far as I saw of it is full of rapids and some fine waterfalls. They also cause the destruction of a

great many deer, as when crossing the river they are frequently carried over the falls and are drowned or killed by being dashed against the rocks. I saw a score or more of them along the river that were killed in that way.

Situated on a fine sandy flat on the border of the lake, on the east side of the estuary of the Lockhart River, stands the ponderous stone chimneys of the buildings which once constituted the now almost forgotten Fort Reliance, which was first built by Sir George Back's party as a wintering station in 1825, when the pioneer expedition was made to the Arctic by the Great Fish River, since named Back's River, after the explorer. This expedition was in search of Sir John Ross, who was lost for four years in an attempt to discover a north-west passage, from whose journal during that long and weary time some notion of the sterling qualities of our sturdy race can be learned. It was on this expedition of Sir John Ross' that his nephew, Sir James Clarke Ross, more famous in Arctic and Antarctic discovery, discovered the magnetic pole. Twenty odd years afterwards, the same route was traversed by Chief Factor Anderson's expedition, which was sent under the auspices of the Hudson's Bay Company in 1855, doubtless with a fond hope of rescuing at least some survivors of the lamented Sir John Franklin's party, alas! not to be realized, and Fort Reliance was restored by Mr. Anderson's party, chiefly to serve as a base of supply of provisions in case his expedition should have to winter there. You will I trust be pleased to permit me this digression on a subject to the generation of Nor'westers, now well nigh passed away; it was one of engrossing interest, and which I may be permitted to say is worthy to rank with the bravest stories treasured in the history of our people.

If the attractions and possibilities of this great region were better known to the wealthy pleasure-seeking sportsmen and tourists of the old country and the United States, I feel sure that very many of them would come and spend a month or more of the summer season in it, which for its picturesque scenery, invigorating climate and sport-producing

capabilities, is not excelled in any part of the American continent; and I believe the time is not far distant when many of the wealthy pleasure-seekers of the old country and America, who spend millions on European travel, will make it an annual resort. There is no doubt a great future in store for that part of the country, with its enormous mineral deposits and great supply of the finest fishes the world can produce and so forth. I cannot offer to give you an accurate idea of its grandeur—it would require a student of nature to adequately describe it.

Sir George Back, in his evidence taken before the select committee of the Hudson's Bay Company in 1857, stated that he experienced 70 degrees below zero, (102 degrees of frost) in January, 1825, at Fort Reliance, Great Slave Lake. Fort Reliance is in 62-46, north latitude.

I observed but very few birds in the region of the north-east portion of the Great Slave Lake, such as the Golden Eagle (*Aquila chrysaetos*), the Great

Northern Diver (*Urinator imber*), Cowheen or Old Squaw (*Clangula hyemalis*), Green Winged Teal (*Anas carolinensis*), Ring-Necked Duck (*Aythya collaris*), Canada Grouse or Spruce Partridge (*Dendragapus canadensis*), Rock Ptarmigan (*Lagopus rupestris*), and three or four species of gulls. I had five (5) samples of copper ore taken from points on the north-west shore of Great Slave Lake, assayed by Professor Kenrick, of St. John's College, which gave the following results, viz:

Sample No. 1 gave 11.3 per cent. copper, silver a trace.

Sample No. 2 gave 15.2 per cent. copper, silver a trace.

Sample No. 3 gave 21.0 per cent. copper, silver a trace.

Sample No. 4 gave 16.5 per cent. copper, silver a trace.

Sample No. 5 gave 27.6 per cent. copper, silver a trace.

Assay of Galena taken from a point near Fort Resolution, G.S.L., gave 60 oz. of silver to the ton.



Veris Initium

1901.

BY HELEN M. MERRILL.

Winter is approaching. While many delight in it, some think not kindly of it, and yet if we were deprived of it, we should be deprived also of the beauty and joy of the Canadian spring, the most delightful thing in the world.

The Canadian winter is not tedious. We experience little or no severe weather before Christmas, and after New Year's the days pass rapidly as we look forward to the first flash of a blue wing, or song of a sparrow.

According to Cæsar's calendar, which divided the year into eight periods, the second point, the ninth of February, was Veris Initium: the beginning of spring. Subsequently a revision of this calendar reduced the periods to four, the second falling upon the twenty-first of March.

While it cannot be that any possible arrangement of periods would suit all latitudes, that man can any more establish a date for the coming of spring than he can say to love "Come here," or "Go there." for spring loves the hills and comes when she lists, it would seem that the old Roman calendar at times more accurately indexes our seasons than does the revised, or Gregorian calendar, However this may be, independent of all written laws, spring set her sign in the heavens over her hills this year on the morning of the 18th of February. And what a sign! A splendid sundog in the south, its edge toward the east overlapped by a shaft of rainbow, the lower end lost in the forest, the upper indistinct toward the crest of the mist-bank

in whose heart gleamed and grew dim, and gleamed ever more brilliantly the silent dog.

One who at sunrise chanced to see this charming phenomenon said: "The sun-dog is a sign of storm" and quoted:

"A rainbow in the morning
Is the shepherd's warning."

And yet not a breath of wind stirred during the forenoon. The sky was a radiant, crystalline blue such as is seen, I doubt not, only in Canada and lands of similar climate; for it would seem that as frost precipitates dust and impurities in our lakes and streams, it in some wise must be accountable for the splendid, far-shining blue of our winter skies.

At mid-day a gentle wind blew out of the west, and respecting this it is written in Ovid's calendar:

"And lo! if anyone used to shiver at the northern blast, let him now be glad; a milder breeze is coming from the zephyrs. . . the hours of early spring are at hand."

The day to its close was balmy and beautiful, and there followed several pleasant days, quiet and spring-like; and though a little snow fell, there was an atmosphere about them which made one expectant of hearing any morning a song sparrow sing merrily.

On the twenty-eight of February a few hairy woodpeckers came to town, and on the outskirts several snow-buntings were seen. The morning of the first of March was grey and calm. At noon a great white gull flew over the harbor, and almost immediately in its wake came wind and snow, but in the heart of it one felt the caress of spring.

It is said that gulls fly to shore, and inland, not on account of any direct influence an approaching storm may have over them, but in search of food, the fish on which they are accustomed to feeding, swimming to a depth beyond their reach in rough weather.

On Friday, March eighth, a small flock of crows visited town. On February seventeenth, several of these birds had been seen in a wooded district in the country. As many crows spend the winter in Canada, it is only in their movements that one may look for prophecy. On that day they flew high, portentous of the approach of spring.

Following close on the crows' visit, several horned, or shore larks were seen on the outskirts of the town. It seems as if the nearer this bird comes to town, the rougher will be the weather which follows. A year ago I discovered several a mile from town, feeding ravenously, as is their custom, in the road, and a few days later came unexpectedly upon three of them in town, one feeding in front of the post office in the midst of a flock of house-sparrows. By the following morning the severest snow-storm of the season had set in. This year they hardly came within town limits. Snow and wind followed, but the storm was of brief duration, and mild. Monday and Tuesday were delightful days, and on Wednesday not far from town I came upon four snow-buntings rollicking in the wind. Of all birds these seem the most joyous. They play alike with the breeze and the sunlight, the storm and the snow. Wherever they appear there seem to be spirits in the air with which they frolic. On the morning of which I write, I caught a snatch of exquisite song, a tantalizing measure of summer-like music, as the birds rollicked by.

At the edge of a wood where pines grow dense, four blue jays flashed their beautiful metallic colors in the sun, in little rapid flights from tree to tree. Near by, a modest flock of four crows settled in a blue beach, and later I came upon four shore larks feeding in the road. Nature, indeed, on that day slighted her favorite number, five.

On March eighteenth, five trees in the wood were full of crows, numbering in all several hundred. They were holding a council of some sort—it was hardly time for afternoon tea—and the din of their voices was good. There is something tangible in the cry of a crow.

The day following was decidedly wintry. A day or two later, at sunset, I saw in a field not far from the wood a grand and solitary elm hung black with crows against a gorgeous sky of purple, and rose, and gold. In the morning I was awakened before dawn by a great, strange cry. It was scarcely light enough to see more distinctly than as shadows hundreds of crows sweeping like a vast, black army over house top and harbor to the southern hills. From this

district they went abroad daily in small foraging parties, at times flying across country in a business-like manner suggestive of site-hunting for summer habitations.

Another day or two and the morning one looks forward to from the beginning of the year, had arrived. I was directed very early to a southern window. I opened it cautiously, and at the same time expectantly, and no sooner had I done so than I heard the most delicious song of all the year. No other song, no matter how alluring or pretentious, has quite the same undefinable charm as has that of the first song sparrow; not even the mellow warble of the blue bird, nor yet the cat bird's ravishing cadenza in June, nor the bell-like vesper call of the veery.

It was Sunday, the twenty-fourth of March, this auspicious spring day. For several hours after rising the sun appeared but as a luminous spot in a fog bank, then withdrew altogether from sight behind heavier vapor for the remainder of the day. Rain fell during the forenoon, yet the bird sang on and on, undaunted, and at sunset a robin's sweet, inspiring song was heard. Some there are who contend that the robin has no song. The following is a test proffered by its defendants. Does it utter its notes for pleasure's sake, or like the crow which cannot sing, does it call to attract attention from its mate or comrades, or by way of reproof, or complaint? Who could imagine the robin repeating again and again its cheerful ditty for aught else than pure joy, as if it were the best thing in life to do. Then by way of comparison, who ever heard a crow caw as if solely for happiness? There is not much variety in the robin's song, it is true; neither is there in that of the veery, its cousin; yet who would be bold enough even to hint that the latter does not sing?

On Tuesday the twenty-sixth, as I listened in the rain to a song sparrow singing to a colony of house sparrows in a garden, a new note struck through the air, and on looking up I caught a glimpse of a soldier bird flying over the rooftops toward the bay. On Wednesday there were but a few patches of snow to

be seen on the uplands across the harbor. Thither the weather spirit called us. The walking was not good on the ice; there were already indications of honey-combing on top. Arrived on the far shore, it was as if we had come suddenly into an aviary. A flock of nearly thirty song sparrows lighted in red cedars about us, singing ecstatically. Usually one sees but a solitary song sparrow, at the most two or three. We regarded this flock as an omen of an uncommon season.

As we approached the uplands, we came to a lone pine tree from which a blue jay called loudly. In a moment there came an echo, and we saw two others hastening to him across the fields. As they passed the pine, he joined them, and together they flew down to a meadow at the edge of the bay. It was a cheery spot. A stream from the hills rippled over the land, giving the knolls the appearance of a delta in miniature, and went singing merrily through devious channels to the shore.

Proceeding from the solitary pine across field to a gorge, we found the stream at this point tumbling and swirling through its rocky cut some little distance above the meadow. What is more delightful in early spring than an upland stream? What sound so restful, what sight so fascinating? I should like to pitch my tent for a season somewhere beside this one, in the latter days of March, defying the gods of earth and air to make me repentant, no matter how unbefriending some days might be.

The uplands were full of beauty this grey March morning. The fields for the most part were bare, while here and there in a lane, or along a fence, or in a sheltered hollow, were still to be found light drifts of snow.

At the stream's edge it was good to go trampling over great soft mats of juniper flattened by the winter's drifted snows, which had also preserved quite fresh their bright green hue. Walking here it seemed as if one trod on incense pots of gods, since presently the air grew sweet as that of a midsummer forest.

In May the meadows on the uplands will be scattered over with pink, and white, and purple flowers; larks will carol from grassy knolls, plovers call and

the stream sing blithely, no matter whether the sun shines or the day be dull and showery.

On our return home, in the field of the lone pine we saw half-a-dozen blue birds, and it was good to watch their bright wings flash like blue fire against linger-

ing drifts of snow, as they flew from rail to rail along the fence. We had heard a dulcet warble in this same field on our way to the uplands, but did not recognize it. Spring had come to her own again, and this was her heart song to the happy hills.



Okanagan Fishing.

BY R. LECKIE-EWING.

Probably few lakes in the Province hold a finer stock of fish than those caught in the Okanagan; and fewer still wherein Mr. Angler can indulge his hobby, practically speaking, all the year round. The winter fishing in this splendid sheet of water would be very hard to equal anywhere.

During the spring, summer and fall months, when fly fishing can be had, the trout caught never run to any great size, from half up to five pounds, the last figure being almost the limit at which the silver trout will rise to a fly.

The lake is some seventy odd miles in length and from two to three and a-half in breadth, so that the fisherman has lots of ground to choose from. With the rod, the best catches are always taken whilst fishing off some rocky point, where the water is deep, and a long line can be thrown. It is around these points that the trout appear to feed, and one can often see them passing and repassing, and if one is careful and can throw his fly lightly ahead of them, he can see his fish coming up and is able to strike him successfully.

If the fish are on the feed, all flies are equally good, as they will rise to any, and the size appears to have little to do with their fancy.

A very successful lure is the grasshopper, and by attaching one of these insects on to a small hook an almost sure catch can be had.

One need not expect to get very heavy baskets with the rod, Okanagan, for some reason or another, never yields the huge catches which one reads so much of, and which can be caught in many smaller and less known waters.

But what may be lacking in fly fishing in summer is amply made amends for by

the weight and size of the fish caught during winter.

About the beginning of November up till the end of March, these huge fellows are on the feed. They are of two varieties, locally known as the silver and the spotted. In build and size they are pretty much on a par, but the silver variety, on account of his dark green back and beautiful silvery sides, is by far the handsomer of the two. During winter they, of course, do not rise to fly, so that trolling has to be resorted to; this makes the sport much poorer, but if a light trolling rod and tackle are used, the splendid fight the big fellows show makes the troll no mean substitute.

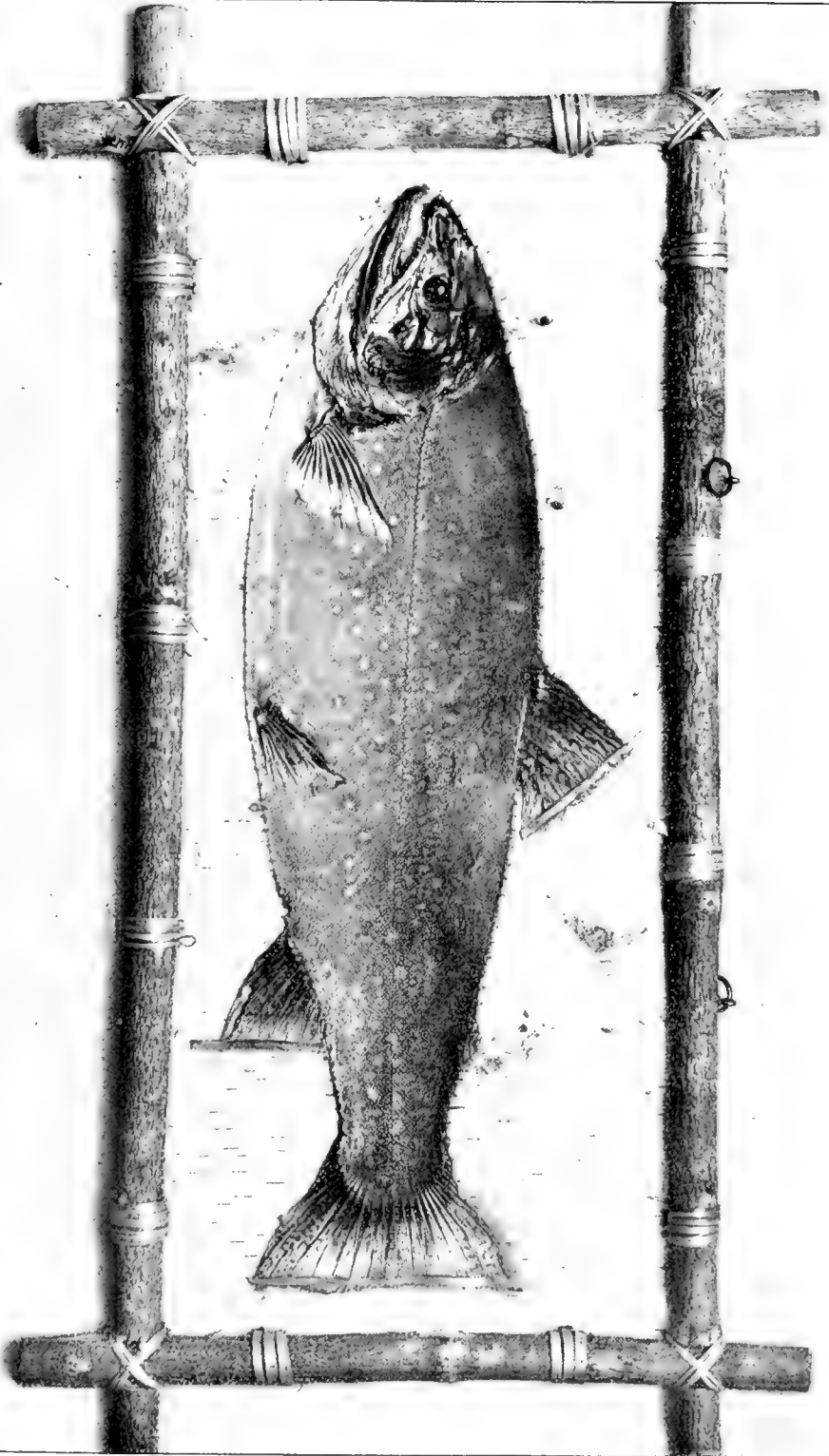
They run in size from 3 lbs. up to 30 lbs., the last named of course being exceptional, but fish of from 7 to 15 lbs. are commonly caught.

The Indians (who are fast dying out), fish nearly all winter, marketing their catches, often making good money at it.

The baits used are many and varied: spoons, otters, beetle baits, and ones cut out of bright colored tins, are all equally good; great care must be taken in seeing that hooks, cast and line are very strong, especially the first named. I have lost many a fine fish by the hook either straightening out or snapping off in the mouth of a strong, heavy fish.

But apart from the fishing, the climate in the Okanagan Valley, and particularly that around the shores of the Lakes, is about as perfect as any sportsman could desire. Even in winter, it is never very cold, and it is only occasionally that a biting wind, and a hard frost keeps the angler indoors.

Big and small game shooting can also be had in the near vicinity, so that when the rod is laid aside, the rifle or gun can always take its place.



A NEPIGON TROUT.

Length, 29 inches weight not taken, but believed to have been about 5 lbs



JACK HILLEN.
One of the lakes on the Nepigon, the river of the giant trout

“A Vicious Dog.”

BY D. TAYLOR.

From the time the dog made his appearance in our street, up to his untimely and cruel ending, he was a source of annoyance and anxiety to people blocks away who only incidentally heard of him, not to ourselves or to our immediate neighbors. I don't know why it was so, for he was only a little bit of a fox terrier, didn't take up much room, and was never out of the yard in which he lived unless accompanied by his owner. But all the same these people styled him “a vicious dog.” From my point of view this opprobrious appellation was totally undeserved, for in an experience of over two years, he proved a most agreeable companion, and with children who occasionally came around the yard a most engaging playmate. He was full of fun at all times, and nothing delighted him more than a romp with a young Canuck of five years. For this small atom of humanity the dog had a great affection, and it was amusing at times to watch the actions of the two and the airs the young sprig of manhood would assume when directing the dog to do something or other.

How, then, did the possessor of all these good qualities acquire his evil name? The explanation is simple, but it may be said that it was only after committing the offence for which the majesty of the law demanded the death penalty, that people who would not have known him had they met him on the street suddenly discovered that he had all along been a vicious dog. Boys, overflowing with animal spirits and with a reckless disregard for the feelings and rights of others, took every opportunity to annoy and tease him when confined, along with a collie, within the yard, which was cut off from the street by a spar gate. There were regular hours of persecution—going to and coming from school being favorite times. The boys pelted the dogs with stones, shouted and rattled with sticks on the gate; they took pleasure in hearing the dogs bark and in seeing them leap with impotent

rage against the gate, in vain attempts to reach their tormentors. But the sad part of the story has yet to be told. One day, just at the usual hour when the tormentors usually appeared, a boy was running past the gate which, unfortunately, had been left slightly ajar by a tradesman a short time previously. The dog got out and, conceiving the lad to be one of his daily visitors, fastened upon him. An excitable individual who happened to be passing, with more valor than discretion or good judgment, belabored the dog with an umbrella, a proceeding which acted on the dog as a stimulus to hold what we have. The result was that the boy required medical treatment, and the fiat went forth that the dog had to be destroyed to appease the clamor of people who knew absolutely nothing of the dog's character or even of the dog itself.

While every sympathy is deserving the lad who was bitten, it is not out of place to suggest that some consideration might in all fairness have been shown the dog, which held a clean record and looking at the provocation to which it had previously been subjected. But in regard to dumb animals, and dogs especially, the average man or woman is very unreasoning. The moment that a dog resents brutal treatment, or shows impatience at being teased and tormented, he is set down as “vicious,” or even “mad,” and the truthfulness of the old adage “Give a dog a bad name,” etc., is soon made apparent. It is a far cry from the day when we burned witches, and it is not now considered necessary, unless amongst the most ignorant of the masses, to skin alive a black cat in order to have a sure cure for rheumatism; but the popular delusion still holds good to some extent, even among what are considered the educated classes, that it is absolutely necessary to destroy a dog that has, under provocation, bitten someone. The idea that the person so bitten will, if the dog at some future date should develop rabies, become afflicted likewise, still

retains a strong hold on the public mind, and nothing will satisfy these nervous-minded people but the dog's destruction. Indeed they are backed by the strong arm of the law, which demands that the so-called "vicious" dog shall be incontinently slain, in order that the suffering person and his friends may sleep easier o' nights. Upon few other topics have men shown themselves so irrational as on the subject of the mad dog. At no distant date it was a cardinal article of our faith that in what are known as the "dog days," any and every dog was liable to go mad spontaneously. It was esteemed among the eternal verities that if a dog showed signs of distress for want of water in a hot and arid land he was mad; on the other hand, if he refused to drink water when not in need, it was a sure sign of madness. The belief that the dog afflicted with rabies ran in a mathematically straight line and could not be swerved from it, was equally strong with the notion that the person bitten assumed the actions and voice of a dog. These and other beliefs are they not written in the book of man's superstitions?

Without further recalling all the variegated details of this barbarous delusion, it may be asserted advisedly that not one "mad" dog in a hundred is really mad, and that the popular conception of the causes, nature and symptoms of rabies is, as a distinguished medical writer on the subject has stated, "as wildly erroneous as that the moon is made of green cheese, and that the rage for killing every dog suspected or accused of being vicious or mad is unspeakably brutal, stupid and calculated to defeat the very object which those who cherish it vaguely think they have in view." Further on the same writer says: "That such a mania should prevail in a civilized community, after the enlightenment given to the world by the illustrious Pasteur, is a sad expression

to the perverse persistence of human frailty and folly, and of the savagery which centuries of civilization have not been able to eradicate."

Mr. A. J. Sewell, M.R.C.V.S., the honorary veterinary inspector to the Home for Lost and Starving Dogs, London, gives the following as the preliminary symptoms of rabies:

Loss of Appetite.—If unaccountable, watch the animal closely.

Change of Disposition.—Cheerful dogs become morose and sullen, quiet ones become restless, and the good tempered ones become quarrelsome. A disposition to hide in dark corners.

Bark.—Very characteristic, short, dismal, hollow, half a bark and half a howl. This change should be readily noticeable, as the usual bark of the house or yard dog must be well known to the owner.

Attack.—Timid dogs become fearless and snap and bite both large and small dogs without provocation. As a rule there is no "fight," but merely a "snap," and this is often preceded by a lick, from the rabid dog. Even his companion, the cat, is liable to be attacked.

Eating Unnaturally.—Although as a rule refusing food, rabid dogs will devour filth, stones, straw, etc. Great disposition to gnaw kennel woodwork, hearth-rugs, table cloths, legs of tables and chairs, etc.

Disposition to Wander.—A rabid dog has a great inclination to escape and wander. When any suspicious symptoms have been detected, he should be confined or securely chained.

Water.—Rabid dogs have no fear of water. They will plunge their muzzles into the water, but during the later stages of the disease, they are unable to swallow.

The Jaw—in dumb rabies—so called—the lower jaw, through paralysis, is dropped slightly, and the mouth is constantly open with a fixed appearance.



A Hunting Trip.

BY A BOY.*

It was in the early part of August that a citizen of Syracuse received a letter from Mr. A. —, of the Canadian Pacific Railway, inviting him with his son and a gentleman friend to go on a hunting and fishing trip into the wilds of Canada, in the Province of Quebec. After a good deal of letter writing, all arrangements were made, and on the 18th of August the three Yankees started for Morristown on the Rome, Watertown and Ogdensburg Railway at five-fifteen a.m. Arriving in Morristown at twenty, we crossed the St. Lawrence on the ferry and landed at Brockville, Ontario. Shortly after we were met by the custom house officers and by a representative of the Canadian Pacific Railway. After we had our dinner, which, by the way, cost Yankees seventy-five cents and Canadians fifty cents (I believe they charge Yankees more because they eat so much, at least they looked with surprise at our appetites). After dinner we strolled about town, did our final shopping and departed at five-five p.m. for Mattawa, arriving there at ten a.m. We were met at the station by a bus, which was driven by a small boy, and a footman to take care of our luggage, who drove off the crowd by saying, "This bus is for the gentlemen who own the railroad." Of course we were surprised at this remark, but we did not take the trouble to correct him for the more important they thought us the more attention we should get. Shortly after we arrived at the Rosemont House and were comfortably put up by the proprietor.

The next morning the rest of our party arrived from Montreal. With but little delay we proceeded on a branch of the Canadian Pacific. Arriving in Timiskaming at about noon, we ate our dinner there, then embarked on the steamer Meteor and began our long eighty mile ride, arriving in Haileybury the next day, which was Sunday.

Monday morning bright and early we started on our trip, enjoying ourselves immensely with plenty of good, wholesome food. I will describe one of our meals, it was a little more elaborate than usual, but it was Sunday and that accounts for it. The meal consisted of bouillon, black bass, boiled and fried, grilled partridge, bacon, Lyonnaise and boiled potatoes, pickles, marmalade, Dent's crackers, hazel-nuts, coffee and tea.

As we journeyed along we spent considerable time in fishing and hunting. We passed through many beautiful lakes. One lake in particular attracted our attention. It contained thirteen hundred and forty-six islands, and from one point more islands can be seen than from any one point on the St. Lawrence River. The beauty of this lake, Timagaming, they say, compares favorably with the Saguenay. It is shaped like a huge octopus, with arms extending fifteen or twenty miles in all four points of the compass.

We camped about noon, one Monday, on an island in a pretty little lake which the Indians call "Mick-wa-ki-ji-ko sakai-gon," and means the "Lake around which grows red cedars." not very far from big Lake, Kipawa. Our party now consists of only four, the other four having very important business which they must attend to. After dinner we are all on the alert and wish to try our hands at fishing and hunting, whichever suited us best. The guides say that there are plenty of moose around the lake, and Wabiskigens and Wabiskiginens start out with two of the best guides in that part of the country, namely Michel Kat and Frank Lemire, both Indians, on a savage hunt for moose. They paddled down to the foot of the lake, a distance of some six miles. As they pass along down marshes are seen and tracks, but no moose. Having reached the foot of the lake, they turn about and paddle

* Aged fourteen.

back towards camp, as it is growing dusk. Coming back they begin to feel tired, and stop at a little island to stretch their legs, as it is very tiresome sitting in a canoe all one afternoon without moving.

After strolling about for a few minutes, they start to walk back to the boat, or rather canoe, when Frank Lemire suddenly stopped and the rest of the party involuntarily did the same. "Hist! he said, I hear moose coming through the forest." Try as we might we could not hear the moose, for the forest was over half a mile away. While they were all listening intently and standing as mute as statues, Frank again spoke as follows: "Vibudge! (which means quick); jump in canoe; see two moose entering the water, one an old moose and the other a young one." Again the Yankees were at fault, their eyes not being trained as were the Indians (through long practice in the woods) could not see them, but trusting him implicitly they quickly entered the canoe; then the Indians paddled towards the two moose without making the least bit of noise. As they approached nearer and nearer the old cow-moose was becoming more and more nervous; the setting-sun being in her eyes she could not see us, but she threw up her nose once in a while and

sniffed the air as if she smelt us. When we approached to within one hundred yards of her, her suspicions having been aroused, she turned about and started for the shore. Then the Indian in the stern suddenly turned the canoe with its broadside to the moose and shouted: "Shoot now! and shoot hard!" Bang! went Wabiskigen's rifle, and down fell the old moose, and bang! went Wabiskigen's rifle, and down fell the little fellow. After dragging the moose to a rock the guides took the saddles and the best part of their bodies; we started for camp as it was long past dark, and there were two of the happiest hunters in Canada in that camp. When they reached camp they were told that one of the fishermen named Pak-wej-wa-ki Wi-ni-ni had caught eleven bass weighing twenty-four pounds and a quarter, being away from the camp just one hour and fifteen minutes,—a truly remarkable feat when it is considered that they were caught on a light fly rod.

Thus ended the principal events of a very enjoyable fishing and hunting trip that will be remembered with pleasure by the participants as long as they live.

The Province of Ontario, we are told, is full of moose, caribou, and deer, north of the Canadian Pacific Railway; next year I hope to shoot there.



Canine Vaccination.

BY "FANCY."

There is no end to the remedies for distemper in dogs, many of which are utterly worthless, while from some good results are obtained; but the fact remains that no certain specific has ever yet been discovered for the absolute cure of this dreaded disease. Persons of experience in the management of kennels and breeding of dogs agree in saying that the best of all cures is prevention, and that what conduces to immunity are dry, comfortable quarters, strict sanitary conditions and regular feeding and exercise. It is claimed, however, by the

discoverer of the method, a Dr. Phisalix; that the vaccination of puppies renders them almost immune, reducing the liability to about five per cent, and the mortality to two or three. A prominent London veterinary surgeon, Mr. Henry Grey, M.R.C.V.S., writes as follows concerning the new treatment:

"The vaccine used in this operation is obtained by cultivating the virulent microbe or cocco-bacillus of Lignieres and Phisalix, termed the *Pasteurella canis*, which is a very small micro-organism found in the blood and viscera

of dogs, cats, guinea-pigs, etc., during the early stage of distemper, so as to weaken it, that when injected under the skin it does not cause distemper, but acts as a preventive. It is of two grades of strength, one a weaker or more attenuated culture, to be used as a first vaccine, the other a stronger and less attenuated culture, to be used as a second vaccine. It reduces the liability to the disease from 90 or 100 per cent. to 5 per cent., and the mortality from 90 or 50 per cent. to 2 or 3 per cent.

"It should be adopted as early as possible, preferably at the age of weaning or soon after, before the puppies are exposed to the risk of coming in contact with distempered dogs or are put in infected quarters or surroundings. However, dogs of all ages can be vaccinated to advantage. It seems very harmless to dogs of all weights, of all ages, and of all breeds, provided they are strong and free from disease or infection. Healthy puppies or adult dogs only should be vaccinated. It does not prevent distemper if the dog be exposed to contagion before the vaccination "takes" or is already the subject of the disease at the time of inoculation. Two inoculations are necessary, one with the very weak or first vaccine, the other, twelve or fifteen days, or even three weeks, after the first, with stronger or second vaccine. The dose for a puppy of six to eight weeks is two cubic centimetres; for a puppy of two or three months, two and a-half cubic centimetres; for a puppy or adult over three months, three cubic

centimetres. It is injected under the skin of the groin, after this has been previously washed with warm water and soap, by means of a Roux antitoxin syringe, which should have a capacity of three to five cubic centimetres, and which should be thoroughly sterilized before being used. The second inoculation is made with the same quantity of second or stronger vaccine under the skin of the opposite groin after a period of twelve to twenty-one days following the first, the same precautions being taken. The reaction to be obtained is a swelling in the glands above the seat of injection, or even the seat itself, two or three days after the inoculation, temporary loss of appetite, slight dullness, and even stiffness of the limb. Sometimes an abscess forms at the seat of inoculation, and when it does occur it should be opened. If the injections fail to produce a reaction, another inoculation should be made, using this time freshly prepared second vaccine. Unless the vaccination "takes," no immunity is likely to be conferred. The vaccine should be fresh, and the contents of the bottle used up at once, as soon as the bottle is opened. It should be kept in the cool in a dark place. The bottle should be shaken up before the contents are used, when it produces a slight turbidity. It has been used with great success by veterinary surgeons in large kennels, including foxhounds, as well as other breeds, such as toy Pomeranians or toy griffons, etc., both in England and on the Continent."



In a municipality adjoining Montreal one of the constables was reported by his chief for insubordination in refusing to hang an unlicensed dog. In persisting in his refusal at the risk of dismissal the constable acted the part of a man, and should be commended for his humane feeling instead of censured. Constables have too many disagreeable duties to perform without being called upon to play the part of public hangman, even in the case of a dog, and if there is to be

any censure let it be borne by the police committee who do not provide a more humane method of getting rid of unlicensed dogs than by strangulation. We agree in this that it is desirable to destroy many of the dogs now running unclaimed around our streets, but the means employed in this particular municipality are both antiquated and brutal—it should be desisted from at once in favor of a more humane and scientific method, namely, anaesthesia, or death by sleep.

Adirondack Forestry.*

The Adirondack Park, in the State of New York, is under the control of the Forest, Fish and Game Commission, under the chairmanship of Col. Wm. F. Fox, and through the kindness of the Commission an officer of the Canadian Forestry Association was given the opportunity recently to visit the Adirondack Mountains for the purpose of seeing the character of the forest and the reforestation work which is being carried on under the supervision of Mr. A. Knechtel, forester to the Commission, who is by birth a Canadian, being a native of the Province of Ontario. The itinerary arranged by Mr. Knechtel could not have been more happy, either from the point of view of pleasure or information. The scenery of lake and island, so familiar a feature of the Laurentian districts of Canada, is reproduced here in all its beauty, and from the dawn of the day when the first gleams of sunlight cause the mists to rise and waver, concealing, and then again for a moment revealing, the higher hilltops, till the broken fragments drift away from lake and hillside white and pure against the dark background of the forest clad heights, and the full glory of the risen sun spreads a golden radiance across the rippling waters, throwing out into clear view in the fresh air of morning the island-dotted lakes with their bold shores, the scene is one of surpassing charm. And not least of the beauties is that of the autumnal forest. The red maple is striving to justify its name, the hard maple is putting its glory on, the poplar ceaselessly agitates its yellowing leaves. Amidst these lighter colors stands out the dark green of the spruce, the blue tint of the balsam, piercing the air with its spire-like top, the dark hemlock, and the lighter cedar fringing the shore. All these are spread out on the sloping shores in a mass of delicately contrasting colors, while occasionally a cloud-piercing pine tree raises its troubled head in majesty above the surrounding forest, as if striving yet to uphold its departing glory.

It is easy to enter into the feelings of the old lumbermen in their admiration for the white pine, when it is seen standing thus in lonely supremacy, and to a Canadian it is like the face of a familiar friend.

The forest is of much the same character as that of the Laurentian districts of Canada. Spruce and balsam, hard and soft maple, aspen and large-toothed poplar are the most frequently-occurring trees. Next come hemlock, white pine, Norway or red pine, tamarack, elm, white and yellow birch, ash, moose maple, mountain maple and lesser shrubs. The spruce is not, however, the species most generally distributed in Canada, being the red spruce (*Picea rubra*), which has been found as a distinctly differentiated species only in the eastern provinces. On lower lands the black spruce (*Picea nigra* or *Mariana*) is also found. The red spruce is described as follows by Britton and Brown: "A slender tree sometimes reaching a height of 100 feet and a trunk diameter of four feet, the branches spreading, the bark reddish, nearly smooth. Twigs slender, sparingly pubescent, sterigmata glabrate, leaves light green, slender, straight or sometimes incurved, very acute at the apex, five to eight lines long, cones ovoid or oval, seldom more than one inch long, deciduous at the end of the first season or during the winter, the scales undulate, lacerate or two-lobed.

Much of the forest has not been lumbered, although all that has passed into the hands of lumbermen has been cut over to some extent. There is therefore still to be found almost primeval forest, some of the trees being of great size, notable among which was an immense white cedar (*Thuja occidentalis*) close to five feet in diameter, so far as it could be measured with the appliances at hand. White pine logs up to twenty-four inches in diameter are still being cut at some of the mills. An examination of the forest floor did not reveal a very large or general reproduction of spruce,

* Contributed by the Officers of the Canadian Forestry Association.

and there are many indications which go to show that the views expressed by Mr. Knechtel, and previously referred to in *ROD AND GUN*, as to the advantages possessed by the hardwoods, are justified.

An interesting product of the forest in the Adirondack Mountains is the Adirondack boat, which takes the place of the canoe in Canada, and is used by the guides conducting tourists. These boats are made of thin narrow strips of white pine, nailed together over spruce ribs formed from the curve of the root. The whole boat, including light seats of cane, has been made as light as sixty-five pounds, and seldom goes much above that figure, so that it can easily be carried by the guide over a portage or "carry" with the assistance of the yoke, which is always a part of the boat's equipment. Owing to the growing scarcity of white pine, cedar is sometimes substituted for it in the manufacture of these crafts, but is not considered with favor by the older manufacturers.

At Axton was found the headquarters of the New York State College of Forestry, which has for the present suspended operations. The combined library and lecture room, with the cottages which were occupied by the professors and students, form a modest group of buildings, now looking lonesome in their desertion, and it is impossible not to feel strong sympathy with the brilliant principal in the frustration of his plans.

The nursery is mainly stocked with white pine, Scotch pine, Norway spruce, Douglas fir and European larch, it having been more feasible to obtain the foreign than the native species at the beginning. The trees one and two years old are making good progress, but the seed planted during the present year, particularly of the white pine, does not appear to have germinated very fully. It is evident that the seed should be sown thickly so as to allow for failures. Quite a large area has been planted out in the vicinity of Axton from this nursery, and is making on the whole a good showing. Some failures were noticed, however, and it is understood that others have been replaced since the first planting.

Some few miles further on is the Wawbeck nursery, near the tract on

which lumbering operations were carried on by the college. White pine and spruce seedlings in this nursery are growing vigorously, and many of them are ready to set out, but the beds are showing the effects of the withdrawal of care. Lumbering operations are to be suspended with the exception of the disposal of timber already cut and the felling of the trees on the area burnt over, except in so far as it may be necessary to fulfil the requirements of the contract with the Brooklyn Cooperage Company for a supply of hardwood for its wood alcohol plant. This contract was the main difficulty in the way of a change of policy when it was found that close cutting was not meeting with public approval. The scientific problem which had been undertaken by the College was to replace a mixed forest with a pure forest of pine and spruce, as it had been decided that these were the most valuable trees to reproduce, and the method employed was to cut clean and replant with the desired species. This was the simplest solution and based on scientific principles, but popular opinion did not see the necessity for a coniferous forest or the desirability of entirely removing the one in existence on the faith of the future, and leaders of public movements cannot get too far ahead of popular opinion if they are to continue to lead. The fact that the venture was not made a success from an economic point of view also added to the difficulties of the situation.

An interesting plantation on this tract was that on grass land, the trees being placed in furrows run with a plough. This breaks the sod and gives the tree a chance to grow before the grass can form again while the trench assists to hold moisture.

The wood alcohol plant at Tupper Lake is a somewhat unusual industrial undertaking. The wood, consisting of maple, beech and birch, cut into cord-wood lengths, is placed in metal cart of two and a-half cords capacity, two of which are run into each retort. Closed from the air the wood is charred without being burnt, producing charcoal. The other commercial products obtained from the liquid distilled from the retort are wood alcohol and acetic acid, the latter

of which is combined with lime to form acetate of lime. Other products are tar and chemical oil, but these are as yet practically waste products.

At Saranac Inn Station is the nursery of the Forest, Fish and Game Commission. This is a new venture, the stock for the plantings already made having been obtained from the nursery of the College of Forestry. Seeds of native trees have now been collected, and little rows of white pine, red pine and red spruce are making their appearance in the beds and are apparently assured of success. The soil is a light, sandy loam, well suited for pine. After they have attained a year's growth the trees will be transplanted to six inches apart, and after another year will be ready for planting out. The nursery is a noticeable feature to travellers on the New York Central & Hudson Railway, and the Commission have shown good judgment in placing it and the first plantations in situations that will attract the attention of the public. The establishment of the nursery is an evidence that the Forest Commission are satisfied with the success of their first efforts at replanting.

And a visit to the plantations at Lake Clear Junction and on the Saranac Lake branch line will demonstrate the grounds for this confidence. At these places about one thousand acres have been replanted with white pine, Scotch pine, Norway spruce, European larch and Douglas fir. Of these the larch has not been a marked success, but as the nursery stock when received was not in the best of condition the partial failure may be due to this cause. The Douglas fir is healthy, though not very vigorous, and the remainder are making a vigorous, healthy growth. The land covered by the plantation is in part light, sandy soil, and in part rocky hillside, in fact just such burnt-over areas as can be duplicated over and over again in either Northern Ontario or Quebec. The trees were first set six feet apart each way, but it has been decided that a closer stand is desirable, and in future they will be placed four feet each way. The cost of material and labor was found to average about half a cent a tree, which at a total of 1,200 trees would be \$6.00 per acre, but planting closer will take about 2,000

trees, making the cost \$10.00 per acre. It is expected, however, that with their own nursery stock and the experience gained it will be possible for the Commission to reduce the cost still further. These plantations are close to the railway and in a few years will be a great object lesson to all passers-by.

Protection from fire is provided for by a system of fire wardens, there being a chief fire warden appointed by the Commission and under him are five wardens for the towns (a division which corresponds somewhat to the municipal term township in Canada) who may divide their towns into districts and appoint district fire wardens in addition. In case no town fire warden is appointed the town supervisor (or reeve) acts in this capacity. All residents are required to assist in extinguishing fires, and such services are remunerated at the charge of the town. The Commission are empowered by law to direct the work, and the town is responsible for the charges. It will be seen, therefore, that here the municipal organization and the fire warden system have been made to work harmoniously together, a development that would be most desirable in Canada.

That the system is a success is shown by the fact that in spite of the unusually long dry spell of the early summer the damage done by fires on the State lands was comparatively small.

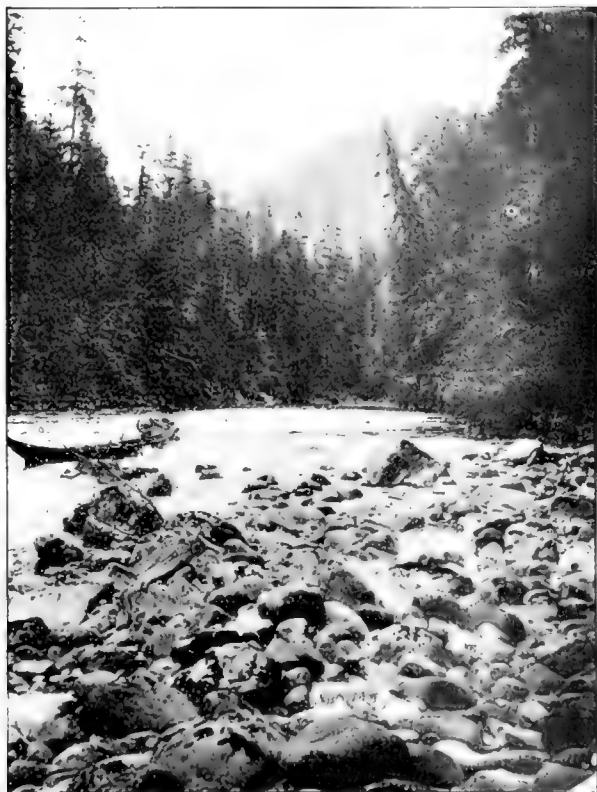
It is unfortunate that the Commission has no power to remove timber from State lands, a clause in the constitution of the State preventing this. Thus the burnt timber, which is not only unsightly, but a menace to the remainder of the forest, cannot be removed, and no steps can be taken to improve the forests by the removal of mature or fallen timber. As no change in the constitution can be made except by popular vote the repeal of this clause is not easily to be obtained.

In addition to the public lands in the park are several large private holdings. On some of these estates fires were numerous during the present year, and there is a strong impression that they were not all accidental. Private holders have not always been tactful or judicious in their dealings with the people previously located in the district, and



FLAT ROCK PORTAGE.

A snapshot taken on the way down the Neppigon



A VANCOUVER STREAM.
A characteristic bit of island scenery

the antagonism aroused has gone to extreme lengths. A startling example of this is the recent shooting of one of the large landowners by someone whom it has been so far impossible to discover.

The difficulties of the situation may result in an enlargement of the area under State ownership, which probably would be the best solution for the management of forest lands.



Our Western Forests.*

Mr. E. Stewart, the Dominion Superintendent of Forestry, has returned to Ottawa after an absence of three months in the Northwest and British Columbia. He made his annual inspection of the work of the Forestry branch and also some explorations in the timbered districts with a view of protecting them from fire and, in certain cases, of setting aside additional areas for timber reserves.

The good work done by the fire rangers is again shown by the absence of such disastrous forest fires as occurred almost every year before the forest ranging system was established. The only fire of any extent this season was one that occurred in the Turtle Mountain Timber Reserve. It has always been very hard to guard this reserve, owing to the fact that the timbered area extends over the American boundary adjacent to the reserve, and as the American Government has thrown the land open for sale, settlers all along the line embraced the opportunity afforded by a very dry time in May to burn the timber on their clearing. A fierce wind from the south drove a number of these fires over into our timber and overran certain portions of the reserve. It is believed, however, that it will be found that the damage will not be as was first anticipated.

In British Columbia, during the dry weather in the early summer, several fires were started, but by the prompt action of the rangers none of them assumed large proportions. On the Columbia River, below Revelstoke, what no doubt would have proven a very destructive fire to the large timber limits was kept in check by the rangers, and those employed to assist

them, till rain came to their relief and extinguished the fire.

After visiting British Columbia Mr. Stewart inspected the forest nurseries of his branch at the Experimental Farms at Brandon and Indian Head. At these nurseries are grown the seedling trees which are annually distributed all over the prairie sections of the country to farmers who, in co-operation with the Government, are carrying out a system of afforestation on their homesteads. Upwards of 1,000,000 seedling trees have been distributed this season, and a much larger quantity will be distributed next season. These trees are furnished only to farmers who have prepared their land for that purpose and agree to follow the directions of the forestry office in planting and attending to them. The success that is attending this work will be appreciated when it is stated that as near as can be estimated fully 75% of all the trees sent out during the past three years are now growing. These plantations are now beginning to be seen as one drives through the country, but in a few years they will be a conspicuous feature of the landscape. Of course, only a farmer here and there has yet gone into the scheme, but they are scattered all through the bare prairie regions and will be an excellent object lesson which will certainly induce every farmer desiring a shelter belt on his farm to follow the example thus afforded him.

Mr. Stewart attended the meeting of the American Forestry Association at Minneapolis in August, and says he could not fail to observe how forestry matters are engaging the attention of the

* Contributed by the Officers of the Canadian Forestry Association.

American public. No doubt the many patriotic utterances of President Roosevelt on the subject have served to awaken the public to the fact that it has been too long neglected. The meeting, like that of our own Canadian Association, was attended by men in all walks of life, the specialist from the college sitting side by side with the practical lumberman from the Upper Mississippi or the Pacific Coast and exchanging ideas on this most interesting problem. Not only this, but the meeting was

honored by the presence of a number of the leading ladies of the twin cities, and from other parts of the country, who have done a most excellent work in this connection through an organization known as the Minnesota Federation of Women's Clubs in arousing public attention in favour of a forest park on the upper waters of the Mississippi.

It seems generally admitted that the setting aside of this natural park is due to the efforts of this Society. Would that we had such an organization in Canada!



The Ironwood.*

The ironwood is found scattered here and there throughout the forest, although nowhere in large numbers, but is well known from the characteristic which gives it its name—namely, its hardness, making it as solid and heavy almost as iron. When the axe strikes it the dull, heavy, resistant nature of the wood makes itself felt immediately, and with a shock of surprise that wood could be so solid. The leaves of the tree are much like those of the birch, but not so smooth, and the bark is very rough. If the fruit is on the tree there is no difficulty in distinguishing it, as it is covered by inflated receptacles placed

together somewhat in the form of the fruit of the hop, from which comes one of the common names, hop-hornbeam. The scientific name is *Ostrya Virginiana*. The wood is not a commercial one, but is used on the farm for any purpose where strength and solidity are required, hence the name leverwood sometimes applied to it. A distinguishing feature of its appearance is the dark heartwood. The ironwood is found growing singly in pastures, as shown in our illustration. A use to which it was formerly put was as a pestle for the grist mill, which in primitive days was the hollowed out top of a tree stump.

* Contributed by the Officers of the Canadian Forestry Association.



Do you wish to make a long, tolerably expensive, and assuredly successful expedition after moose next autumn? Well, then, proceed to Prince Albert, and go by waggon thence to Montreal Lake and on to Lac La Ronge. Here there is a Hudson's Bay Company post, and you can get Indians, and sugar, and tea and other delightful things. If you cannot kill moose upon the Churchill River, it is because nature evidently intended you to refrain from moose hunting. At the present moment Major Buss, of the

British service, is there and having good sport. Last season one of the professional moose hunters, that is to say, one of the Indians who supplied Lac La Ronge with meat, shot two hundred moose to his own gun, and they were coming just as thickly when he left off as when he started in, but it must be admitted that moose in that district are very small as compared with our Ottawa bull moose and carry poor horns, 46 inches being about the best found.

Ontario's Forest Policy.*

A very important statement in regard to the future policy of forest management is that made by Hon. E. J. Davis, Commissioner of Crown Lands, in the following interview as reported in the newspapers:—

“The position is this: The area in the Province that has timber upon it is divided into two classes. One class is land that is good for agricultural purposes. On that class the present system of selling the timber is practically about the only system that can be pursued, because the timber must be cleared off and the land opened up for settlement. The other class of land is not suitable for agriculture, being rocky and otherwise unsuitable. On these areas the new policy will apply. The Temagami Reserve was set apart in 1901 as a permanent forest reserve. Since that time we have not sold any timber there. It contains about 1,400,000 acres, or 2,200 square miles of land, not good for agriculture. The proposition is that we should sell certain portions of the timber as it develops and can be placed on the market to advantage. We have decided to sell the timber by public competition, at so much a thousand feet, and the trees that are to be taken will be marked by our men. No trees below the size marked can be cut.

“We are hoping to set apart reserves whenever we can in other areas, in a similar way. Many old licenses will in time lapse, and the limits will revert to the Crown. These will be reforested and kept as permanent forest reserve. The system practically is a first step towards the plan of reforestry in use in Germany, and will involve much more stringent regulations in regard to fire ranging than have been hitherto in force.”

The policy thus laid down is a sound one. Agricultural lands may be cleared of timber as they are required for settlement and the land put to the use to which it is best adapted. The management of such lands is a simple problem. The only difficulty of serious moment is

the prevention of fire until the land can be denuded.

The wisdom and foresight necessary to arrange that the lands adapted only to the raising of timber should be devoted to that purpose must rest with the Government. There are lands so rocky or sandy that the returns from agriculture or grazing are inadequate to the support of a prosperous community. A leading religious journal of the United States recently, in an article on mission work among the people of the mountain districts of Carolina, stated that these people were so poor and ill-nourished that there was reproduced the type of pale-faced, stunted childhood found usually only in the slums of cities, and this was emphasized by the relation of special cases of children attending the schools who had but a scant meal of potatoes as their usual fare, while at times even this inadequate nourishment failed, and they had to go to school without. If this be a true statement of the conditions in a settlement of long years' standing, is there not ground for considering that a serious mistake was made by those who established it? In Scotland, as appears by the evidence submitted before the British Forestry Committee, which has recently reported, sheep grazing is becoming an unprofitable industry, and many landowners are considering the advisability of placing their grazing lands under forest. Calculations made by several witnesses went to establish the fact that under forest 100 to 200 acres would require the employment of one man, while for sheep grazing not more than one man per thousand acres would be employed, calculating two sheep to one acre and 500 sheep as the flock that could be cared for by one shepherd. So that the forests would support five to ten men and their families in place of one where the land was devoted to sheep grazing. It will thus be seen that those who urge permanent forests are not speaking without consideration, or giving due weight to other industries.

* Contributed by the Officers of the Canadian Forestry Association.

It having been settled then that certain designated lands are to be kept perpetually in forest, there are certain conditions to be provided for. Protection from fire should, as stated by the Commissioner, be provided at all hazards, and a much larger expenditure than now made upon it would be a paying investment. Every tree, even the smallest, is valuable either actually or potentially, and to permit of the destruction of the growth of even the smallest number of years would be less the part of wisdom than for the farmer to allow the crop of one year to be destroyed because he could have another one the next year. The providing of an adequate preventive service is the necessary corollary to the setting apart of timber reserves.

The removal of the mature wood crop has also to be provided for, as a reserve from which no lumber is taken would not be serving its full purpose, and the plan suggested appears to be the most feasible one. The Government will keep control of the cutting but will not do the actual work itself. Provision can thus be made for the care of the young growth, while those in the lumber business and knowing it best will have control of the practical part of the operations. A diameter limit for cutting may well be fixed, but there are other conditions to be considered. A seed supply must be assured, and trees which would blow down when deprived of the support of those surrounding them had better be removed. This is specially likely to be the case with spruce, which is shallow rooted. Some means of getting rid of defective or worthless trees will have to be devised, and also some method of utilization of the hardwoods.

The method of reproduction of the

forest is a problem that is not by any means a settled one and requires a careful, accurate study. If clean cutting and replanting were adopted the question is simple, but, except possibly on small areas, this is an impossibility at the present time. Natural reproduction must therefore be relied on, and the conditions under which it takes place are not by any means as clear as some are inclined to think. The frequency and quantity of the seed crop of the principal coniferous trees is not at all well known. The results of the struggle between different species is not definitely worked out so as to give sure data for all cases. The method of reseeded of burnt-over areas is still in doubt. These and other problems only careful, continuous observation for a series of years can work out. It would be well if the Government had special areas of cut-over or burnt-over lands marked out to be observed carefully from year to year with reference to the supply of seed, the average of reproduction of valuable trees and the results of the struggles between the different species. If the members of the Canadian Forestry Association who visit the forest districts regularly, or otherwise, would mark some such tract and keep careful note of observations upon them, much valuable data might be thus obtained.

These problems can only be worked out with time, but the Government has set its face in the right direction, and a steady adherence to the policy outlined will result in placing the forest administration of Ontario on a sound and permanent basis which will insure not only to the benefit of this generation but to the future prosperity of the country.



Manitoba moose hardly carry as good heads as those from Eastern Ontario and Quebec; the largest head ever measured in Winnipeg, is believed to have spanned but 58 inches, and anything above 54 inches is very good.

Of all the regions likely to yield bear to the persevering hunter, the tributaries of the Stikine may be recommended with the greatest confidence. In spring, as one old Hudson Bay man told the writer a few weeks ago, "any fool can kill a bear."

Long Range Shooting.

BY AN AMATEUR.

Riflemen in the habit of shooting at ranges not exceeding 200 yards or 250 yards, have, as a rule, very erroneous ideas as to the demands made upon those who go in for shooting at ranges of 900 or 1000 yards. In short range shooting, holding, and the preparation of ammunition are almost all the factors that have to be thought of, whereas, in long range shooting many others are brought into the problem. Atmospheric pressure, light, wind and differences of refraction, owing to varying densities in the layers of air, render the task of the long range rifleman by no means an easy one. Notwithstanding the victory of the American team in the shoot for the Palma trophy, it is pretty generally conceded that the British long range shots are somewhat in advance of those of other countries. That is to say, for every good long range shot outside the British Isles, there are probably three within its borders, and an immense amount of thought has been given to long range shooting. In this connection a very useful paper recently appeared in the Kynoch Journal, from which I have ventured to take the following paragraphs:—

“One of the most remarkable features of the Bisley Meeting this year was the very marked improvement in the shooting of the .303 Service rifle at long ranges, when using the special ammunition manufactured by the Kings Norton Metal Company. It was admitted on all hands that with this ammunition the shooting was at least as good as with the Mannlicher, which has hitherto been considered its superior at long ranges. There appears to be no doubt that the special ammunition kept the elevation much better than that issued by the Government for the meeting, which was generally stated not to have been quite up to the standard of the last two years.

“As an instance of the very fine shooting qualities of the Kings Norton ammunition, we may mention the 900 yards shoot made by Mr. L. R. Tippins, whose

full score occupied a space in the bull about one foot high by two feet wide. The variation in elevation with a Service cartridge for the same number of shots is seldom less than three feet.

“The very fine shooting by Major Fremantle is another example of the great advantage which this ammunition has over the usual Service cartridge.

“The question to be solved is, what is the cause of this great improvement? The most obvious difference is the increase of velocity, amounting to about 120 feet per second. But this, although in itself advantageous, is not sufficient to account for the observed results. A series of experiments were therefore undertaken to determine the causes responsible for the great improvement in shooting. A number of the cartridges marked “High Velocity” were examined, and were found to contain 34 grains $\pm \frac{1}{3}$ grain of cordite, the diameter of the strands being .035” as against about .032” in the Government specification; the bullets which averaged 213½ grains being rather small in diameter, possibly owing to the choking of the neck of the case after loading. The turn-over at the base of the bullet was rather deeper than is usual.

“The velocities in a series of seven shots were found to vary about 30 feet between the maximum and minimum. This, although a very good result, can hardly be said to be exceptional, as Standard cartridges tested against them gave practically the same variation.

“The pressures when taken in a Woolwich back pressure gun gave 17.45 tons, as against 15.17 tons for the Standard cartridge. When taken in a side pressure gun, the pressures were 18.07 tons, as against 16.68 tons for the Service cartridge, at a temperature, in both cases, of 58° Fahr.

“It will be seen that the larger diameter of the cordite strand has a marked effect in keeping down the pressure, which would otherwise have reached 20 tons.

" It is now necessary to consider what are the conditions which will allow of the elevation being kept within a foot or so at a thousand yards. If we neglect errors due to mechanical defects in the barrel of the rifle, or in the construction of the bullet, and inaccuracies of holding, we have two main causes which may produce variations in elevation.

- " 1.—Variations in the trajectory due to irregular muzzle velocities.
- " 2.—Variations in the angle of departure due to the effect on the "jump" and "flip" of the rifle, caused by slight irregularities in recoil.

" Fortunately for rifle shooting, the errors due to these two causes have not necessarily to be added together. It is evident that as far as the trajectory is concerned a high velocity tends to give a high shot, and it may be supposed that the resulting increase of recoil would have a similar effect by increasing the jump. This, however, is not always the case. The jump is of course increased, but the flip, or springing of the barrel, may entirely counteract the increase in jump, and also the difference of trajectory.

" As it is difficult to give an explanation of flip, which would not be tedious to the non-scientific reader, we will make a direct appeal to experiment, which will illustrate our point.

" A series of shots were fired from the prone position, first with Standard '303 ammunition, and then with the Kings Norton high velocity cartridges, taking care that the temperature of the barrel and other conditions were the same in each case. The mean point of impact with the high velocity cartridges was about an inch and a half lower than with the Standard cartridges. With the Standard cartridges the height of the group was about one foot, with the others it was about six inches.

" The same cartridges were then fired from a fixed rest. In this case the high velocity bullets struck the target one foot eight inches higher than the Standards, and the height of the group in each case was about one foot.

" This experiment shows that when a rifle barrel is firmly clamped so that a flip cannot take place, it does not behave

in the same way as when fired in the ordinary way from the prone position.

" It was found by experiment that the Kings Norton cartridges were giving about 120 feet more velocity than the Standard. The calculated difference of elevation due to this is about $20\frac{1}{2}$ inches, which is almost the difference observed when using the fixed rest; and it is interesting to note that from the prone position the Kings Norton cartridges, instead of shooting $20\frac{1}{2}$ inches high, shot $1\frac{1}{2}$ inches low—a difference of 22 inches, which can only be accounted for by supposing that the increased charge so affected the spring of the barrel as to not only produce the observed difference in elevation of 22 inches, but also to counteract the increased jump due to the heavier recoil.

" It is often noticed when firing experimental charges at 100 yards that with some rifles the heavier charges throw the bullet lower on the target than the lighter ones, whilst in other rifles the contrary is the case. This is another example of the effects of flip. It is therefore apparent that some rifles possess what may be termed "Negative" flip—that is to say, at short ranges an increase of velocity causes a bullet to strike lower on the target. It does not matter whether the flip is actually sending the bullet up or down, it only implies that it throws it more down or less up with the higher velocity.

" In long range shooting this property of negative flip is most valuable, as it may at a certain range exactly correct the difference of trajectory due to the inevitable slight variations in the explosion of cordite. It must, however, be clearly understood that this exact equilibrium can only be produced by a given charge at one particular range, or rather, that for each range there is a charge which will produce equilibrium. There is no doubt, however, that for every rifle a charge may be found which will produce a very fair amount of correction over a wide series of ranges.

" It will be interesting here to consider what amount of elevation will be produced by a given variation in velocity at different ranges. At 500 yards for velocities of about 2,000 feet per second a variation of 10 feet in the muzzle velocity will cause a difference of elevation of 1'8

inches. For velocities of about 2,100 feet per second the difference will be about 1.6 inches for each 10 feet variation. At 1,000 yards for muzzle velocities of about 2,000 feet per second the variation is about 8½ inches per 10 feet per second. For muzzle velocities of 2,100 feet per second the variation of elevation is about 8 inches per 10 feet variation of muzzle velocity.

"If we take 40 feet per second as a fair average variation of muzzle velocity, we see that this is equivalent to a difference of elevation of 32 to 34 inches, according as the muzzle velocity is 2,000 or 2,100. To this has to be added the error of holding, which is at least one inch per 100 yards, or say 10 inches at a 1,000 yards, and also any errors due to mechanical defects of barrel or bullet.

"It is thus evident that apart from errors due to changes of light, or direction of wind, the accuracy of elevation is barely sufficient to keep within the inner ring at a thousand yards, unless there is some compensating action such as we have been describing.

"With the Service charge the compensating action is not very marked, as a slight increase of charge throws the shot high, and a decrease throws it low. The neutral point for short ranges is given by a charge greater than the Service, but less than the "High Velocity" charge.

"We append a table showing the velocities and pressures of .303 cartridges

in various rifle and pressure guns. It will be seen that whereas the Woolwich pressure gun considerably increases the velocity taken simultaneously owing to the oiliness of the barrel, the side pressure gun shows no such increase, as the cartridges, of course, are dry.

"The ratio of the velocities given by various cartridges is not the same in the different guns. It may be mentioned that the rifle showing the lowest velocity had just been used with great success at Bisley.

"We think that the foregoing sufficiently shows the care with which the rifle and cartridge have to be adapted to each other in order to obtain the best results at long ranges. We fear that in the new English Service weapon these things are being left entirely to chance.

Kings Norton High Velocity	Kings Norton Long Range	Standard 2040 ft.	Bisley Government Cartridges
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Muzzle Velocity in Rifle :-

(1) 2130 ft. sec.	2118 ft. sec.	1995 ft. sec.	
(2) 2039 "	—	—	1925 ft. sec.
(3) 2125 "	—	2003 "	—

WOOLWICH PRESSURE GUN :

Pressure			
17.45 tons	17.77 tons	15.17 tons	—
Muzzle Velocity			
2213 ft. sec.	2196 ft. sec.	2107 ft. sec.	

SIDE PRESSURE GUN :

Pressure			
18.07 tons	19.08 tons	16.68 tons	—
Muzzle Velocity			
2071 ft. sec.	2094 ft. sec.	2000 ft. sec.	—



A preservative process for timber was described by W. Powell before the Engineering Section of the British Association recently. The method is quite simple. Timber was boiled in a saccharine solution until most of the oil in the timber was exhausted, and then, by leaving the wood in the syrup to cool a certain quantity of the sugar was absorbed by the timber, in some cases so much as to cause it to sink. After the wood had become sufficiently saturated it was put into a drying stove and the moisture driven off at a fairly high

temperature, until the wood was thoroughly dry-seasoned, and it was then ready for immediate use. Poplar absorbed over two and a half times its own weight of the solution, and when thoroughly dried was 75 per cent. heavier than its natural state. Experiments showed that the woods so treated were very much increased in strength and solidity, were much less inflammable or subject to rot, and much more sanitary as paving material. The cost and amount of labor required in the process was comparatively small and the plant was simple.

Our Medicine Bag.

In his introduction to Bulletin 60, "A Catalogue of the Fishes of New York," Director Frederick J. H. Merrill, of the New York State Museum, says: "In the present bulletin Dr. Tarleton H. Bean gives to the citizens of the State the benefit of his natural talent and long training as an ichthyologist. It is hoped and believed that the results of this work will be of much practical use to the public at large, and to teachers and students in the schools of the State." These expectations will no doubt be realized, as the bulletin, a work of close to 800 pages, contains a vast amount of such information as Dr. Tarleton Bean can impart so lucidly. One of the principal drainage basins of New York State is the St. Lawrence River, hence this bulletin is almost as useful to Canadians as to those for whom it was more especially written. Excellent as is this bulletin, Dr. Bean promises ere long to prepare a new account of the fishes of New York, containing illustrations of all the species, together with keys for identification, but can not complete such an undertaking till after the inland waters of the State have been more thoroughly and systematically investigated. It is not to be expected that even the best authorities will agree upon all points, and so we must forgive the author for saying "The flesh of the rainbow is generally much esteemed, and in most localities the game qualities of the fish are scarcely inferior to those of the brook trout." After a fairly wide experience with the rod in three continents, we should put the rainbow—at least as he exists in the Kootenays—very, very far ahead of *Salvelinus fontinalis* as a game fish, and not behind it as a table delicacy.

We are thoroughly in accord with Mr. Frank M. Chapman, of the American Museum of Natural History, as to the enormous value of the bird to the agriculturist, but although agreeing with his arguments, as contained in a bulletin entitled "Economic Value of Birds to

the State," we doubt if his opening postulate—The Bird is the property of the State—is good law. Apart from this, Mr. Chapman's pamphlet is admirable throughout. After recapitulating the good the bird does the state, the author shows what the state, in return, should do for the bird—and as there are seemingly but four things the latter can do to be of service to the avian wanderers, self-interest might, one would think, cause them to be done. Enforcement of the law; licensing cats and destruction of all non-licensed cats; teaching children to realize the economic and æsthetic value of birds; leaving hedge rows, undergrowths and clumps of trees as resorts for birds, are the only points necessary to attend to, according to this high authority and sincere bird-lover. The pamphlet is most excellently illustrated by Louis Agassiz Fuertes.

Mr. Thomas Southworth, Director of Forestry for Ontario, has returned from an inspection of the Timagami Timber Reserve, made in company with the Commissioner of Crown Lands, Hon. E. J. Davies. There is a very fine body of pine in this reserve, much of which has reached maturity, and, as appears by statements made by the Commissioner since his return from this trip, it is likely that provision will be made in the near future for taking off some of this timber. The difficulty of getting rid of the timber slashings and debris is a problem of serious moment, as all such refuse increases to a great extent the danger of fire. Some experiments will be made to see whether it will not be feasible to get rid of this material by burning. This would not only accomplish the primary object, but would prepare the best seed bed for the white pine. It has been noticed that the pine reproduces much more generally on burnt-over than on cut-over lands, owing to the exposure of the mineral soil; and, therefore, the burning of the debris, if done with due care, would probably be beneficial rather



THE IRONWOOD.

Ostrya virginiana, though by no means an abundant tree, is prized by the backwoodsman



LAKE ST. CLAIR SEA LIONS.

These are the Jumbos of their species—and beautiful as they are big



THE NORTH THOMPSON.

Its junction with the main stream.

than harmful. It is expected that the railway to New Liskeard will be completed before the end of next summer, and as this road runs for a considerable distance through the Timagami Reserve, special precautions against fire will be taken. The right of way is being cleared back for some distance on both sides of the track, and a guard will probably be placed on the road to follow each train.

It is hoped that an extension of the reserve will be made so as to include the non-agricultural lands further to the west, and eventually the greater part of the Laurentian watershed. Recent explorations have shown that there is a considerably larger quantity of pine still untouched than there was thought to be some time ago. Considerable bodies of pine have been located on the Missanabie and Seine Rivers, in addition to that standing in the Timagami district.

It has been pointed out recently by H. A. Surface, professor of Zoology at Pennsylvania State College, in a contemporary, that there is a direct and important connection between forestry and zoology, and he gives several examples of how this connection exists. Aside from the clearing of forest growths which naturally drives away denizens of the woods from the cleared localities, he finds that the effect of forest destruction on streams is a far-reaching one. Clear streams, flowing perpetually through wooded country, are the natural haunt of the trout; but if the country in which these streams rise or have their courses is destructively cut over, the streams themselves becomes intermittent, muddy, and in some cases only a succession of warm and slime-covered pools in mid-summer. As such they are fit only for the lurking places of the mud-sucker and the carp. In the larger streams and rivers which, under natural conditions, are the homes of the desirable game fishes, the black bass and pickerel, which pass the water in deep pools in a state of partial hibernation or quietude, the changes are even more to be deplored

when the watershed is disforested. Floods arising from the destruction of the trees bring down immense quantities of silt, "washings," sand, etc., and deposit them in deep pools, where the current runs slower, so that the quiescent fish are covered over and destroyed. Another disastrous result comes from the washing of the fishes out of their places of winter abode, dashing them against rocks and ice, and in some cases leaving them stranded to gasp out their lives after the water subsides.

The setting aside of forest reserves will not only keep the forest and the beauty of the landscape, but will restore game and song birds to their original haunts, protect the wild animals, and preserve the most desirable fishes—the trout, the bass and pickerel.

A very pleasant function on Thanksgiving Day was the annual open air show of the Montreal Collie Club, confined to members only. It was a delightful day for an outing, and the grounds of the Corporation quarry at Outremont is an ideal spot for such a gathering. Old Mount Royal, clothed in the brightest autumnal tints, was a splendid background, and afforded a diversified picture of green and color with which the lover of nature could never feel satiated. The glorious weather drew a large number of visitors to the grounds, who seemed pleased with the specimens of the breed shown, although at this season of the year, when they are coming into coat, is not the time to see the collie to the best advantage. There were about fifty dogs benched, and generally speaking the quality was good although the majority were undersized, and the bitches were slightly better than the dogs. Mr. W. S. Spark, of Ottawa, who has had some experience of judging in England, handed out the ribbons, but we are bound to say his rulings did not give entire satisfaction. However, dissent from the judge's decision is nothing uncommon at a dog show and ought not to be taken too seriously. The principal

Messrs. Abercrombie & Fitch have issued a new and complete catalogue of outfits for explorers, sportsmen and pros-

pectors. This is a very useful manual, and should be in the hands of all who take their vacation in the woods.

prize takers were Messrs. James Ainslie and R. C. Binning, of Outremont, and J. J. Reid, St. Lambert, the first named taking the highest awards in both sexes. The committee, who entertained the visitors to tea, coffee and cake, are to be congratulated on the success of the affair.

The value of the water supply and the necessity for its protection in the West is well shown by the following quotation:—

"In this connection it is interesting to note the many times which the water of some of the western rivers is used over and over again. First, it pours through some rocky gorge and generates an immense electric power. This is transmitted miles away to do its work, pumping water for irrigation, and supplying towns with current for lighting, street railways, etc. The river in the meantime has lost none of its usefulness. It flows down and out on to the plains and valleys, and is diverted to agricultural land until all its water is taken out and it remains a dry bed. When land has been irrigated for a number of years it becomes so well saturated that thereafter much of the water used for irrigation seeps away, so that as one drives down the dry bed of the river it is seen to be no longer dry. The water used for irrigation has drained off into its natural channels and is returning to the river bed, the lowest point. So that ten miles below the last diversion dam there is a respectable river again flowing towards the sea. This water has now been used twice, once for generating electricity and once for moistening the roots of plants; it is now taken out again to irrigate more land. This returning of the water by seepage may occur three or four times, and each time it is used over again for irrigation, and if large additional areas are irrigated by pumping, the river may actually increase in volume."

Sergeant L. R. Tippins, of the 2nd Volunteer Battalion of the Essex Regiment, is one of the crack shots of the Empire; a statement easy of substantiation by any one having access to reports of the shooting at Bisley where he has won innumerable prizes and much kudos. He has also developed into a writer who commands attention when discussing the grooved barrel and the use thereof, and we have much pleasure in calling the attention of our readers, and also of the Department of Militia, to a couple of treatises recently published by Sergt. Tippins. "Modern Rifle Shooting in Peace, War and Sport," and "The Service Rifle," should be in the possession of all Canadian riflemen, for they are the latest utterances of one who thoroughly understands the modern rifle, and keeps not only abreast of the times, but even a little wee bit in advance. The prices of these books are \$1.37 and 25 cents respectively, and the publisher is J. S. Phillips, 121 Fleet Street, London, E.C. We intend to discuss some of the matters mentioned in these works in a future issue, lack of space being our excuse for a brief notice of what deserves more generous treatment.

Bird life has been studied from many standpoints—and one of the latest books is also one of the most interesting. Messrs. Clarence M. Weed and N. Dearborn have published with the J. B. Lippincott Company of Philadelphia, "Birds in their Relations to Man," in which the habits, appetites and foods of a majority of our North American birds are minutely and accurately described. Moreover the scope of the work has been made to include the conservation of birds, both non-game and game, the Lacey Act, and a partial bibliography of the economic relations of the birds of this continent. We consider this one of the most useful, most instructive and authoritative works on economic ornithology published.

The J. Stevens Arms & Tool Company, of Chicopee Falls, Mass., has issued a puzzle which calls for a great deal of ingenuity upon the part of those who would make a success of its solution. It

will be sent upon request, and receipt of two 2-cent stamps. The Company says that if you can solve this puzzle you are certainly a crack shot.

A new edition of "Down Channel"—the third—has appeared and will doubtless find a ready sale, for its author, the late Mr. R. T. McMullen, had a host of admirers among the Corinthian yachtsmen of the British Isles. His solitary death on the "Perseus" in mid-channel on the night of June 14th, 1891, caused widespread sorrow. The last entry in his diary was on June 12th; on the following day he landed and posted a letter at Eastbourne. The next heard of him was a telegram on June 16th, saying he was found dead on the evening of June 15th, by some French fishermen. He was sitting in the cockpit, with his face toward the sky, and the vessel sailing herself along. "Down Channel" is a log of his cruises for 51 years, and is brimful of hints and shrewd observations that will be appreciated by Corinthian sailors all the world over. The price of the book is \$1.25; the publishers being Horace Cox, Windsor House, Bream's Buildings, London, E.C.

new their depredations upon the buffalo herd.

Neither the Indians nor scattered whites are killing the buffalo, and if a bounty of \$10 were placed upon the grey wolves, the Indians would soon make a business of exterminating them, or, at least, so thinning their numbers, that they would not be able to commit ravages upon the same scale as at present. We yet have a few of those magnificent, black, shaggy, buffalo bulls that the old timers knew so well; surely we can afford a couple of thousand dollars a year in order to protect them.

Messrs. Sampson, Low, Marston & Co., St. Dunstan's House, Fetter Lane, London, E.C., have issued "Angling Anecdotes" by Robert Stanley; the same being a series of humorous stories more or less intimately connected with the gentle art. It is a capital shilling's worth, and would make a nice Christmas present for any wielder of the rod.

We hope, earnestly, that the Dominion Government in its wisdom will see fit to place a very large bounty upon the grey timber wolves of the Northwest Territories. We are assured on excellent authority that there are not more than 150 of the woods buffalo now living; there are no calves, nor animals under three years living at the present moment; those that are left are all adults, able to defend themselves from the bands of timber wolves that have been preying upon the young buffalo. These destructive brutes hunt the buffalo range each spring, and after having killed the calves, they migrate, by certain well-known trails which they invariably follow, to the barren lands, and prey upon the caribou and musk oxen until the succeeding spring, when they return to re-

One of the most successful hunters in British Columbia, a man who has shot forty-two bears in three seasons, uses a 38-55 smokeless, but rarely fires at over fifty yards and tries for the neck shot every time. He uses a pack of small terriers, and while they are distracting the animal's attention, he places the fatal shot.

The value per thousand feet of pine lumber imported from Canada by the United States shows a steady appreciation from year to year. By the treasury reports it averaged \$13.24 for the first eight months of 1901, \$14.30 for the corresponding period of 1902, and \$14.66 for the same part of 1903.

The E. I. Du Pont, Nemours & Company, of Wilmington, Delaware, manufacturers of Du Pont smokeless powders, have issued a set of twelve half-tone cards, showing the Canada goose, snipe, rabbit, turkey, woodcock, blue-winged teal quail, grey squirrel, pinnated grouse, ruffed grouse, mallard and canvas back.

These twelve cards will be sent to those giving their address and forwarding 24c. in American postage, to the Bureau of Advertising, E. I. Du Pont Company, P. O. Drawer 1002, Wilmington, Delaware, U.S.A. They make very pleasing decorations for a sportsman's den.

BOVRIL



A DAY IN THE WOODS

gives a keen appetite, but as every sportsman knows, it is not always convenient to carry a large supply of food. This is where **BOVRIL** comes in, as it contains in the smallest possible bulk, and in the most convenient form for instant use, the entire nourishment of beef. It makes an appetizing sandwich or a palatable and invigorating drink.

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

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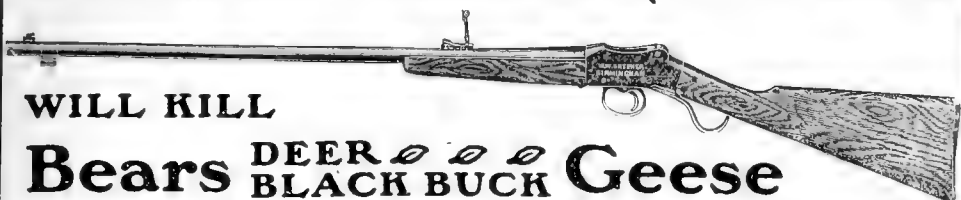
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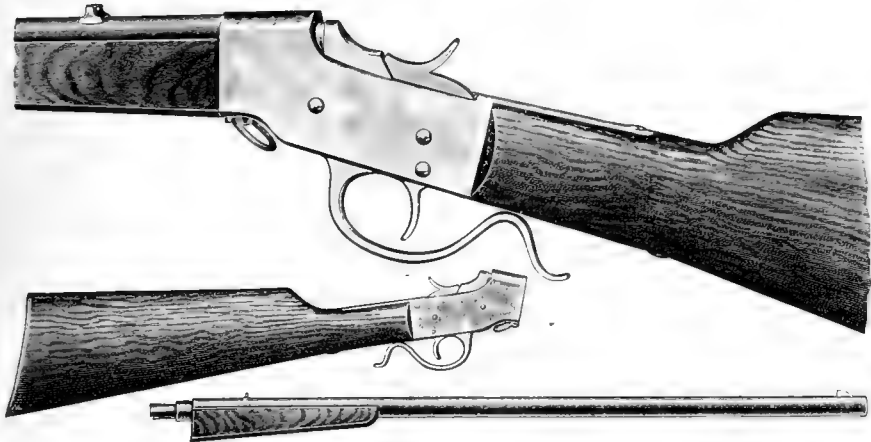
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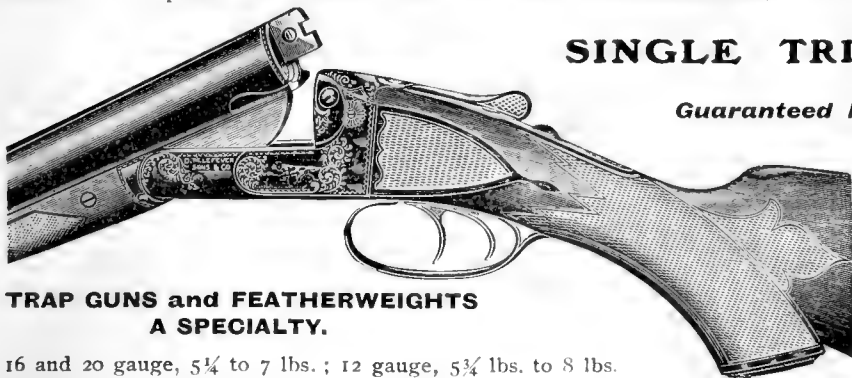
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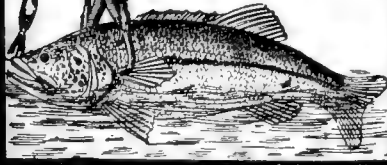
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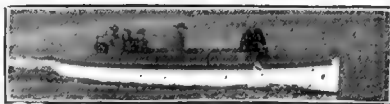
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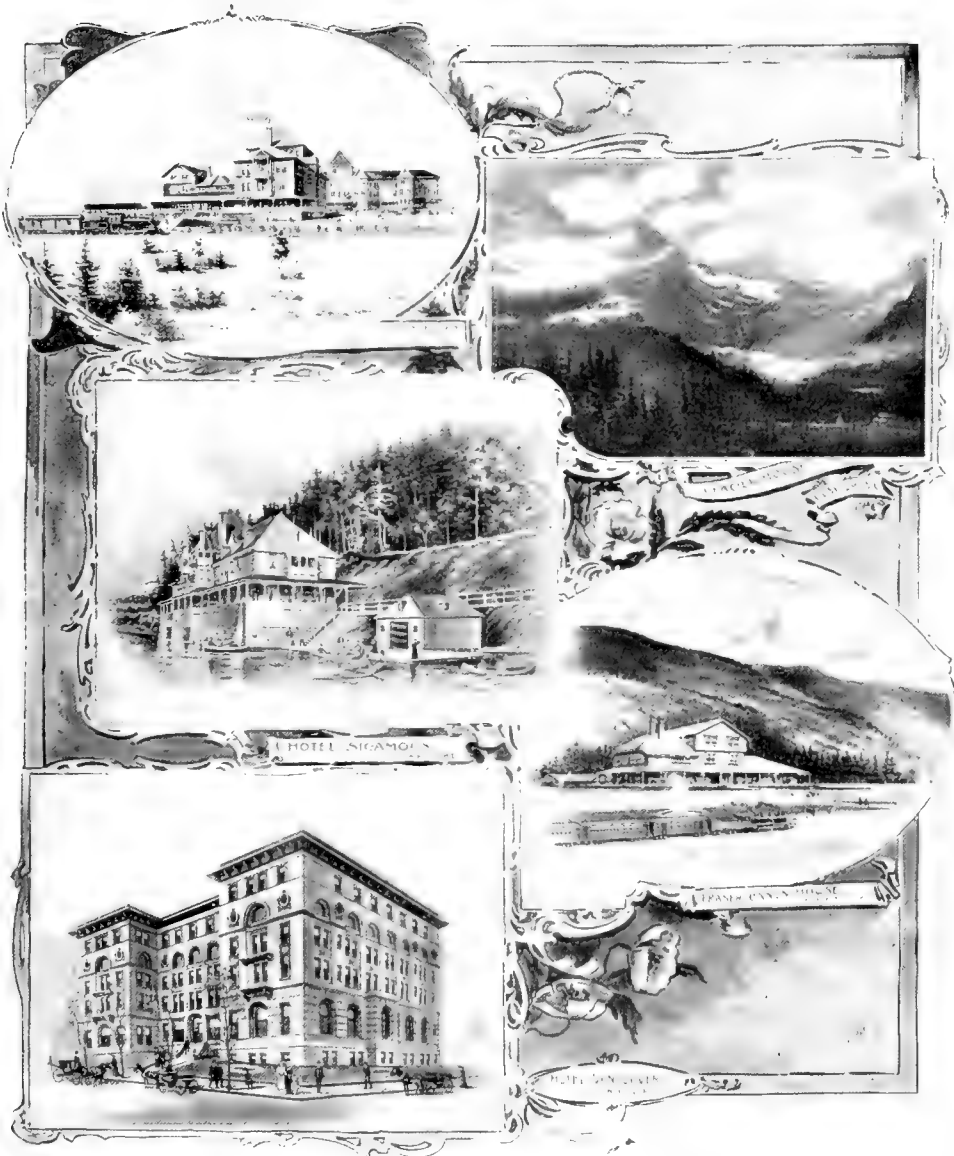


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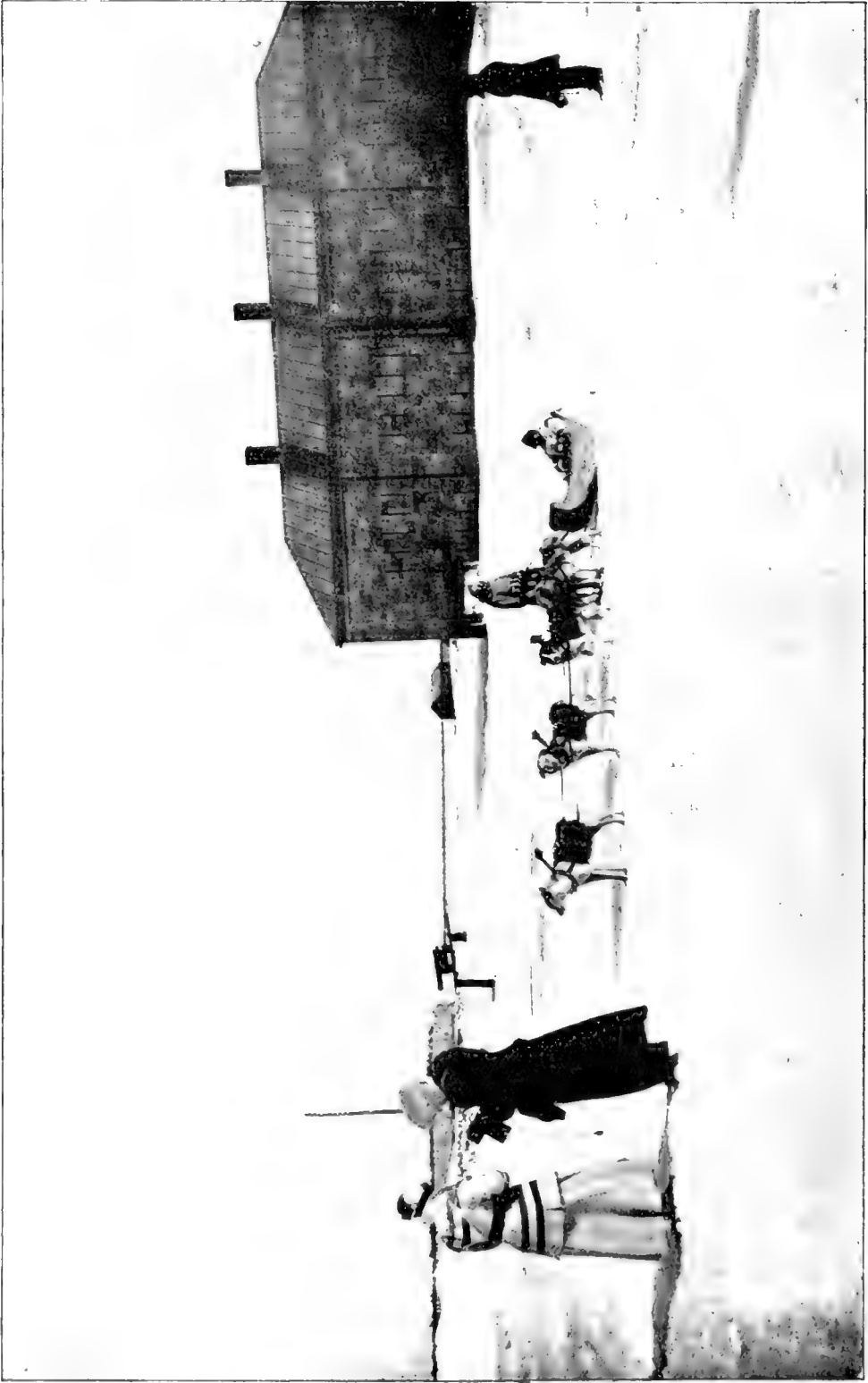
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ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, DECEMBER, 1903

No. 7

Up the Gatineau.

BY "ARROW."

A merry party wait at the station for the outgoing Gatineau train in the cool of an August morning. August is not generally cool in Ottawa, but this year is an exception, and in order to keep ourselves warm a brisk walk is resorted to, not a lengthened one though, as the train may be in at any time. Counting the cracks and the number of boards in the station platform is the highly intellectual mode we take to while away the time until the train arrives. It is only a few minutes late after all, though it seems so long to us, and soon the screeching, black engine, with its train of carriages comes up, stops a few minutes at the station, then with another screech starts off again along the line of the Gatineau Valley Railway. Early in the journey it is explained to the writer that that is a "moccasin" train, and not being any wiser it is further explained that a "moccasin" train—called on the time table an "accommodation" train—is a train which stops for everything that comes along the line. "Even if a dog runs out and barks, they slow up that it may get on," my informant told me. I may be a greenhorn, but I could not quite "swallow" this as the unqualified truth. However, I am not yet in a position to contradict my friend's statement, as we did not see any dogs on the line, that I remember, and we certainly stopped often enough to warrant such a supposition, so I give the definition as it was given me, leaving it to you to accept or reject as you will.

On we went, past Ironsides, once a flourishing settlement, but now quite dead owing to the mills having been removed to Chelsea, which is the next station we come to, a pretty place, well-wooded and looking very inviting; past Kirk's Ferry, an exceedingly pretty spot, with rapids running swiftly in the river at its foot; the Cascades, another small summer resort; Wakefield, nestling among the mountains, while below the Gatineau River flows bright and sparkling with the Pêche River joining it near the station. There is a cave of blind fish to be seen here, and rapids a little above the station, as in so many places along the Gatineau.

From this point the scenery loses much of its beauty, owing to the fact that here we leave the Gatineau, which we have been following for some time, and only get glimpses of its sparkling waters now and again; but still the mountains rise on either side of us covered with green to their bases, and the air blows fresh and bracing. The "Canadian Adirondacks," these mountains are sometimes called, but why should not a Canadian say that the Adirondacks almost equal our beautiful Laurentian hills in their scenery and health-giving air?

The Gatineau road has certainly a lovely district to introduce the tourist to, and every station leads to a pretty village, well worth exploring by the geologist, the naturalist, or—the more usual traveller here—the sportsman. The lakes and rivers abound in fish—black

bass is to my mind the best—but it is not the only variety, pike, maskinonge, trout are also found. The dwellers on the seashore affect to despise fresh water fish, but when one comes to live about six hundred miles or more inland, one gets to think that fish do grow somewhere besides in saltwater, and not too bad ones either. Cooked, as our hostess cooked our fish for us, and fresh from the lake, an epicure would not have considered he fared badly. Game, too, is abundant, and many trophies reward the modern Nimrod.

The journey up is without incident. Now and again a little boy comes through the train with fruit, the morning paper from Ottawa, and choice literature of the ten cent type, sold for a quarter. Conversation is difficult, the noise is so great. We grow impatient at the frequent delays at little stations, delays which seem of no earthly use except to enable the people to get off and pick the raspberries which grow along the track, or the flowers and bulrushes which are also close by. There are not many passengers on the uptrain in the morning, unless it be an excursion day, and then it is crowded.

After four hours' travelling we hear the conductor cry out "Gracefield," and as this is the last station on the line we know the first part of our journey is completed. Out we get, feeling not at all sorry to stretch ourselves. Taking Ellard's stage we drive to his summer hotel for dinner, and to get horses to start on our fourteen mile drive. We have not time to add a stone to the traveller's cairn at the top of the hill, to which most tourists contribute dutifully.

At length, settled in the express, our pails, our boxes, and ourselves, prepared for rain, off we start. Our elaborate preparations for it have not kept off the rain, as we fondly hoped they would: As luck will have it, we also find ourselves forestalled in reaching the scow on which we have to cross the river, by a young man and his horse and trap, who are also bound for the other side. There is no help for it. There is only one scow, and first come, first served. As a matter of course the scow is on the other side, and our friend in front has to wait for the ferryman to cross before he can begin to

get out of our way. It is natural, we say, that the ferryman should be on the other side, as he happens to live there, but when the same thing occurs on our homeward trip we begin to think he crosses on the wrong side on purpose when he sees a passenger coming. So we wait, anything but patiently, in the pouring rain. Some of our party get under the trees for shelter, the rest remain in the express and wish it did not take so long to cross the river at this point or else that more than one scow plied between the two sides. Our ferryman is at last seen on his return voyage, and we go down the hill to meet him at such a curve, that the only wonder seems to be that we do not find ourselves in a heap in the water at the bottom. But, notwithstanding the apparent danger, we get down all right and soon are on the scow. Of course we untied the horses before starting, as there is always a danger of their becoming frightened and trying to run away, and though we have been declaring the rain only added to the fun of the drive, and we did not at all mind getting wet, we referred to rain water, and none of us have anything but dislike for a sudden plunge into the cool waters of the Gatineau.

Arrived at the other side, a matter of seven minutes only—it had seemed more like seventy while we waited—we climb another steep hill, almost of sand, and then have to back perilously near the edge before we can turn to go up the road to the lake. I wanted very much to get out and allow our Jehu to do that backing up by himself, but my friends had been there before and did not seem to think there was much danger, so I had to pretend I did not mind it either, though my heart was in my mouth during the whole performance. As we all know, accidents will happen, and one member of the party I can answer for at least was greatly relieved when we were fairly started on the road.

It rained on St. Swithin's Day, and the old saint is keeping up his reputation well, but now that it is the middle of August we have looked for better weather. In consequence of the rains the road is in a dreadful state. "Here we go up, up, up, and here we go down, down, downy," just as in the old

nursery rhyme, and we have no sooner exhausted all our energies in trying to lean to the right, to prevent what seems an inevitable turn over, when we find ourselves lurching to that side, and hastily throw our weight to the left again to balance things somewhat. Our driver is not very good humoured, and when asked to drive a little faster he makes a point of whipping up his horse when he comes to a particularly bad mudhole. All this time the rain is coming down in torrents, but we are a very good-natured party, with the exception of the aforesaid driver, and as we are driving for pleasure, and he because he can't help himself, he is not without excuse, and though the rain is running off my umbrella down my friend's back, she bears it patiently and cheerfully, and I do not grumble though I feel the water steadily coming in at my side and know I have a small rivulet running round my sailor hat, which is trimmed with red, from which I momentarily expect to be dyed a roseate hue. The rest of our party are equally philosophic, indulging in witty remarks as to our personal appearance, their feelings of general dampness, and the chances of fine weather; but it is a relief when the sun comes out and we can look round us a little to see the beauties of the road. It is an extremely pretty drive, along the bank of the river, through an avenue of great trees, with here and there a smooth piece of pasture ground, a picturesque log house, or a glimpse of the chain of lakes—Abitibi, Rat and Mud. Its beauties I freely confess I did not discover until ten days later, when we were driving homewards, for very soon the rain began again, and my chief occupation during the greater part of the drive was trying to keep my umbrella over my companion, who had not brought hers, without getting her wetter than ever. If you ask her, and promise not to tell, she may inform you that I was not so successful as she could have wished.

We looked rather like drowned rats when we arrived at "The Lodge," where my friends had invited me to spend a week or so, but it did not take long to change our wet clothing, and after a nice warm tea we were none of us the worse for our fourteen mile drive in the rain;

indeed, when it was over we had to allow it was rather an entertaining drive, and very exciting.

The next day breaks rather cloudy, but still fine enough for us to look round a little to see the beauties of the country to which we have come. The lodge is built on a little rise with a broad verandah on three sides. From the front we get a beautiful view of Lake Pemichangan, and glimpses are caught of Thirty-one Mile Lake through the trees at the back. We are surrounded by mountains, in fact there is little to be found here but mountains, trees and water. There are only about half a dozen families round, some of which "families" consist of a single man come up for the fishing. The lake in front of us stretches beautiful and smooth. It is some ten miles in extent, though this cannot be seen from the lodge, as islands intervene. Our first day's fishing takes us on this lake, and its beauty cannot be described by me. Lovely little bays are found, with wooded shores, exquisite bits of scenery, at once the despair and delight of the landscape painter. We have no lake poets here, but the lakes are poems in themselves, waiting only a human voice to tell them to the world.

Another day we spend on the big lake, starting in the morning and taking provisions for a mid-day meal. We could not go a very great distance, as we were fishing, and with two oarsmen in one boat and one in the other, we did not like to tax them too much—two of them were of the party as well, and, eager fishermen, did not intend to be done out of their day's sport because three women might have liked to be rowed round to pick water lilies and see the country quietly. The fish were there in quantities, we could see them plainly through the clear water; we could feel them taking off our bait in the coolest manner imaginable, but the greater number of the beauties refused to be caught; just when we thought we had them, they would swim quietly away. At one cove the perch came and bothered us so that we had to move off, for we were fishing for black bass, and nothing else was acceptable, and we did not want all our bait eaten by the cheeky little perch,

which we had to throw back again. On the whole, this day's fishing was not successful, only nine to the five of us, but they were fair sized ones. I am not an enthusiastic disciple of Walton myself, and the beauty of the place, wholly new to me, the pure fresh air and the pleasant motion through the water, without any exertion on my part, quite made up to me for the fact that I had not landed one single fish. Had we not on many occasions been fishing for our dinner, I do not think I should have cared whether we were successful or not, but I am partial to fish—cooked!

The big lake, so far as I have seen it, is not so pretty as the smaller one, having fewer bays and inlets, but as it extends some miles in length, too far to go in a rowboat, I am not competent to give an accurate opinion. At one place on this lake the water stretches for ten miles without a break. One could almost fancy himself on the broad Atlantic. In fact, the lake is so large as to need a steamer to take one properly over it, as one of the clubmen has discovered, an American who comes every year with his family and goes up the lake fishing in his yacht for three or four days at a time.

Another day our fishing terminated rather early, owing to a big thunder storm coming up. I never before viewed a storm from such advantage ground. It was simply magnificent. We were out on Thirty-one Mile and saw the black clouds creep up from behind the mountains which surrounded us. Soon they covered the sky in angry blackness. Then the lightning began. The sky seemed literally rent in twain by the fierce light, and the thunder rolled across the waters and was caught by the mountains on one side and flung back again in echo from all sides, for we were encircled by mountains. I have often seen worse thunder storms, and this was not very close, but I never heard anything like the thunder amongst the hills, nor saw anything like the lightning in the open. Two of our party were still fishing after the rain was falling heavily, but we who had landed and sought some low trees for shelter begged them to come

in out of the wet. They did so rather reluctantly, as they said the fish were biting beautifully, and there we sat for nearly two hours waiting for the storm to abate. The thunder and lightning did not last long, but the rain continued incessantly. We turned up one of our boats and rested one end on a tree to make a covering for some. One stood smoking under a big umbrella, telling us every now and then that he wished he had come by himself, and he would not have had to stand like a frog under a toadstool, just because it was raining a little! The two men settled themselves in various ways. Ned, who had been at a country dance the night before, and was tired out, curled himself up at the end of the boat and went sound asleep in the midst of all the thunder and rain. We envied him his easy conscience. For my part I would not have minded being at home, instead of out in that deluge.

After a while the rain ceased, and we soon got our boats out again and started on our homeward journey. We made a good pull for it. Ned's sleep had evidently refreshed him. He was a strong oar, though his only practice was when parties came up to go fishing, and the other boat with its two pair of oars had hard work to beat him on the run home. As we climbed up the hill towards the lodge, and looked to west, I saw some of the finest clouds it has ever been my lot to see, amongst all our Canadian sunsets. It was not so much the brilliancy of the coloring, for the clouds were dark, but the curious chocolate, mauve and purple clouds, with streaks of light here and there where the dying sun pierced them, gave an extraordinary appearance to the whole sky, which was still very threatening, and just as we reached the house, a distance of about a quarter of a mile, the rain began again.

Two of us varied some of the days by walks down to the mill, or attempts to climb the hills, but we soon discovered that was not our forte and came back to something easier. From one hill which, though high was easily reached, we got most lovely views of both lakes, and longed for a camera that we might carry away something of their beauty, though much consisted of the coloring of the

trees, lakes and sky. The Italian sky may be blue, I have not seen it, but cannot believe it excels in richness of color our own Canadian heavens, on a clear summer day.

Many a time we made firm resolves to see the sun rise over the hills, but somehow never did, so we decided the sun did not rise, that is, in the orthodox way, up there, for nearly every day broke cloudy and when we did get up it was to see the white mist, which, "like a face cloth to the face, clung to the dead earth," rising in soft clouds from the mountains on all sides.

All too quickly the quiet days passed, and the last day of our holiday came. One at least left the lakes with much regret, for it meant going to work again, whilst the others were discussing the next trip to be taken up that way in September, when the hunting was good, and regretted we could not all be of that party. Nine deer to seven hunters rewarded that September week's work, and some very fine venison found its way to the one who was left behind.

On our return trip the hand of autumn has painted all the trees with gorgeous colors. Though cloudy when we start—our ten days have been only too well filled with rain—the sun comes out brightly, and we drive through a natural avenue burnished with red and gold. There is "something sad in all that's fair," and certainly an autumnal wood is sad, though beautiful, but the day is bright, our hearts are light, we have enjoyed our holiday despite the rain,

and the fourteen mile drive is only too short.

Back at Ellard's again, the old host welcomes us heartily and enquires about our luck, which has been good. We are carrying home some two dozen of the finny tribe, black bass, all over two pounds, some as large as seven, one day's fishing. The novice has caught the largest of the lot, and feels much "set up" in consequence. Soon the Gatineau train comes in. We exchange fish stories with some other fishing parties, of course our luck has been far ahead of theirs. The train is crowded. It is Saturday evening, when the line is always well patronized.

Soon the lights of Ottawa and Hull appear through the blackness of the night. There is the Parliament Tower, there are the lights along the avenue leading to the Victoria Park, where in the distance we hear the strains of some popular air.

The horses are waiting for us as we steam into the station, and a very substantial supper table, to which ample justice is done, waits our arrival.

While getting ready for bed, which we do early, for though a drive of fourteen miles is pleasant, it is also tiring on a country road in a country conveyance, we hear the never failing rain once more. 'Tis sixty days since St. Swithin's, and surely it has rained every day since; but we sleepily remember it is Jubilee year, and the patriotic old Saxon saint would fain bring his contribution to grace Her Majesty's long reign!



The name of Tarleton H. Bean, Chief of the Department of Fish and Game, St. Louis, is one to conjure with as far as ichthyology is concerned, hence the latest work from his pen will be in demand by students and fishermen. It is called "The Food and Game Fishes of New York," and is issued by the Fish and Forest Commission of the State, and printed by J. B. Lyon & Co., of Albany, N.Y. This valuable work contains 460 pages of letterpress; nine colored plates and 132 text figures. Everything that

may be even remotely considered as belonging to either of the classes named is included; all the bass, trout, salmon and pike species are very thoroughly described and figured, while the least important species are also dealt with in a very satisfactory manner. There is very little that the enquiring fisherman may reasonably be expected to desire to know, which is not to be found in this very painstaking and lucid description by one of the greatest living authorities.

Bear Hunting.

BY H. A. CONROY.

According to promise, I am sending a few statements gleaned by myself from the lips of the natives of the Peace River country last summer. The Peace River country has been noted from time immemorial as the greatest bear hunting country in the great district of Athabasca.

One hunter, a white man, who was talking to me, said that in one season he had killed sixty-five bears. He is one of the most noted bear hunters in that country, and says that the right time to hunt the bear for meat is in the berry season, when the blueberries and raspberries are ripe.

The banks of the Peace River at that point of which I speak are very high—twenty-three or twenty-four hundred feet high. One can see for miles away from these high places, and from here the hunter watches for his prey. He can see the bear at a considerable distance; then he tries to get as close as possible before dispatching him.

Outside of the fruit season they hunt with dogs, and a dog that is a good bear hunter is worth a good deal of money.

In the spring of the year, when the bears are travelling, the female bear drives away the cubs that have wintered with her. Sometimes one will persist in following her, and the hunters have sometimes noticed that she kills it.

The bear is a very timid animal, and sniffs danger from afar. One has to be wary to get close enough to shoot at him; but he is a dangerous animal when hunted, notwithstanding this, for in his blind rage, when wounded, he will rush at the hunters. I have come into contact with a number of men who have been maimed by the loss of an arm, ear, or nose, which the wounded bear had torn off.

Apparently the bear come down from the Rocky Mountains in large numbers.

I have seen several of an evening along the bank of a river tributary to the Peace.

Among the Indian bands there is generally one who is noted as a great bear hunter. I am well acquainted with an Indian who is a famous bear hunter. He told me that when he was a boy he shot a grizzly bear, and, on his return to camp, his father secured a good water willow and gave him a good thrashing for having the audacity to shoot a grizzly. Now, most of the Indians are very much afraid of the grizzly, but this hunter told me that they were no more dangerous than the others, unless they had young. If attacked they will run away. He had chased after a bear day after day until he had shot him. They are very much stronger than either the black or the brown bear, and generally kill them if they come in contact with each other.

Last spring, when tracking up the Peace River, a tracker found a bear about two years of age that had been killed recently. When I enquired as to the cause the Indians told me that probably two males had met, and one being smaller and younger than the other had consequently been killed by the stronger; by the look of the ground they must have had a desperate scrap.

As you travel to the north of the Peace River the bears are not so numerous, still there are a great many.

Bear hunting is very profitable for the Indian, as he has double value in it. He gets a good price for the pelt and uses the meat. The meat is considered a delicacy with them.

The bear is found in the whole Rocky Mountain range, but I understand there are very few found on the north side of the Mackenzie River, or as far north as Great Bear Lake. However, Polar bears have been shot north of the Mackenzie. The black bear is not as large in the far north as to the south.



The Coming North.

BY EGBERT OWEN.

The old world is dying. Asia has had its day, and, like some glorious vision, only to be renewed in the mind of the dreamer, is sinking deeper and deeper into an abyss, which contains but memories of the days of conquest and splendor; though the East, the dead, the dying East, has its tale to tell. And in its recital one can almost hear the faint, low wail of a world that is aware—without power to alter—of the speed of its approaching doom.

To the observant traveller the East bears clear evidence of its over weariness—too heavy to be borne—with no hope of redemption. Listless, overburdened, patiently enduring the decrees of its million gods, it lies heavily inert, like some dying giant, in the pangs, the all-conquering pangs of death. To him who is accustomed to observe, with careful contemplation, the mere puny affairs of man, and to read and regard history with reverence, as an oracle of the gods, will generally—if his observation is sufficiently analytical, and his valuation of the evidence before him discriminating in character—arrive at fairly safe conclusions as to the primary cause or causes of the rise and fall of empires. But all this is incidental and indirect, and to those of us who are weary and impatient of the chronicles of the older days, and are anxious to visit no more the decadent East—the shrinking shadow of the ancient world-wide empires—but to get closer to the primeval conditions of nature, Canada, the future country of the world, peopled with a vigorous northern race, offers herself, disdainful of competition. Here, in a temperate northern zone, with perfect climates in both summer and winter, heat or dry, invigorating cold, according to the alterations of the seasons, Canada stands out in strong contrast to the enervated nations of the dying East. Sons of a proud and glorious people, children of an Island home, the giant of the North has obeyed the genius of the North and become submissive to the will of a

dominant race. The mighty range of the Canadian Rockies has bowed to the mind of the engineer, and its passes and apparently impassable heights no longer defy the approach of freight and passenger trains. And in the West, vast interminable prairies, yearning for population—

“ From waste places comes a cry,
And murmurs from a dying sun ”—

have been made obedient to the plough, and yearly give of their fruitfulness an abundant stock.

But while in America, the advance of civilization has been extremely injurious to almost every species of game, Canada still remains the mistress of the world in this respect, standing unrivalled as the greatest game and sport producing country of the age. Her game flourishes in countless abundance, and almost every province of the Dominion offers advantages to the sportsman.

Intending tourists and sportsmen have imagined that the distance to be traversed is so great and the cost so high, as to debar them from entertaining for one moment, that for which they innately yearn. This idea, it is hardly necessary to point out, is entirely fallacious and can be refuted with the greatest ease. There is no necessity for the fisherman or sportsman to go Northwest in search of game. The north shore of the St. Lawrence, east of Montreal, will afford the fisherman splendid sport in fish of a moderate weight, and ample return for his patient toil. The Laurentians, which run parallel to the course of the St. Lawrence, and many other places too numerous to mention, are excellent fishing grounds, and all within easy distance of Montreal and Quebec. However, it is not within the scope of this article to mention each place in rotation, nor does space permit me giving directions and information, which may, moreover, be easily acquired by a study of the numerous guides and handbooks published annually.

Long ago, when Canada was but another name for the Hudson's Bay Trading Company, the prevalent idea was that the country, romantic and attractive in many ways, could offer no sufficient inducement to the settler and the sportsman, but the last thirty years have seen a remarkable change, a complete transformation of conditions and difficulties, hitherto supposed insurmountable. The interior was practically a "No Man's Land," being unknown and apparently beyond the reach of the white man's civilizing influence, except that of the occasional adventurer who went trading and passed his life in the grim but splendid solitudes of the unbending Northwest. This day, however, has passed, and with it the indefinite knowledge and hopeless inaccessibility of the west; territories, where nature was unconquered and defiant, reigning alone amidst the eternal silences, never broken by human voice, or undisturbed in its long, long sleep. At first sight it appears inexplicable that Canada should have been suffered to remain for so long a practically unknown country, whilst other portions of the British Empire were being exploited by merchant adventurers. The truth is probably to be found in the fact that the outward glamour was wanting, and that unlike India, its history had not yet told of those vast undeveloped resources, which needed but capital and population, to make it without doubt, immeasurably the richest country in the world. India had its wealth in glittering, tantalizing display, exceedingly tempting also, and it may be added rapidly demoralizing, because of its apparently easy acquisition; with Canada, potentially wealthy, this was quite different, and yet it only wanted a few determined men to show that the axiom that wealth is the result of hard work, and not necessarily of genius, was as applicable to the Dominion as to older lands. A dream, the dream of a few great men,—for most great men have been dreamers,—which rapidly, despite a formidable opposition and the scorn of many doubters, resolved itself into concrete form, and started on a stupendous enterprise, the connecting of the Atlantic with the Pacific Coast, by a railway

which was to be complete in every modern detail. A few years saw the final completion of this scheme, and the full establishment of a railroad, which is one of the greatest and best appointed in the world. So by this connecting link province has been brought into touch with province, and vast extents of sporting territory thrown open. The mountaineer has exploited Switzerland and its marvellous peaks; the Canadian Rockies still defy him and offer themselves as a tempting, but a by no means easy, prey to the adventurous climber. The vast range reaches northward in a treble line of peaks, many of them altitudes of at least 10,000 feet, and some perhaps 15,000 feet. Even Switzerland, the fashionable mountaineering resort of Europe, cannot equal in beauty and majestic grandeur the Rockies. Nor is that all, for mountaineering is not the only resource which the Rockies have to offer. Their slopes abound in streams and leaping brooklets, which afford fishing difficult to surpass, and the great, silent woods, huge dark bulwarks, in whose depths lie hidden many species of game, should divert the attention of the hunter and supply him with excellent sport. Much of the most superb scenery of the Rockies, it may be added, can be seen from the train as it rushes on its way to the Pacific Coast. Here then are attractions which should divert the mountaineer from the beaten path of Europe—Switzerland—and satisfy his sporting proclivities to satiety. Mr. Edward Whymper, the veteran mountaineer, wrote in a letter to the *London Times* "that though time may come when everyone of these unknown summits will have felt the foot of man, that time will scarcely occur during the lives of those who were addressed by Mr. Bryce, late president of the Alpine Club, or in the lifetimes of their sons. Now is the opportunity for the adventurous youth. At present he can pick and choose anywhere. It will be idle to complain a few years hence because some of the plums have been gathered in the interior." Unknown, vast, interminable, these giants stand as fortresses to the advance of the armies of civilization, and silently await the exploration of some intrepid mountaineer



A VERY DEAD MOOSE.

This picture was "composed," but, nevertheless, it gives a fair idea of what usually happens after a successful shot.



PAGAN FALLS.
One of the most beautiful spots of the supremely lovely Catineau Valley. P. 9

before they reveal the secrets hidden in their vast and gloomy recesses.

It has been said, without fear of contradiction, that the Canadian Northwest still reigns supreme as the first shooting ground in the whole of the American continent, and, indeed, can safely defy successful rivalry by any other portion of the British Empire. Vast as they are, the prairies offer every inducement to the hunter, and so many connections can, with facility, be made that the sportsman need have no fear as to the accessibility of any hunting section of the great Northwest. The hunter will find that the prairies and woodlands of Manitoba and Assiniboia afford superior sport, as these undulating plains, full of lakes and sloughs, are the homes of the migratory wild fowl that every spring leave the warm regions of the South and fly back to the far North, where they breed undisturbed by man. As is generally known, the prairies of western America once swarmed with game, and afforded excellent sport, but the terrible ravages of the market hunter have literally ruined those lands, and made many species of game as rare in those regions as the Great Auk. In the Canadian Northwest the conditions are quite contrary, for though settlers are rapidly establishing themselves in the country, the wild fowl are well protected in their accustomed haunts, and, as a natural consequence of this protection, are simply inexhaustible in quantity. But game of this description may be very tame sport for those who have been accustomed to other lands and to a certain amount of peril in connection with their hunting. For these the buffalo no longer roam the prairies in vast herds, and are now almost totally extinct; but the giant moose, elk, caribou, mule and whitetail deer, black and brown bear, grey wolf, lynx, and many other species are yet to be found in great quantities. In fact so endless is the variety of big game and wild fowl

that the mere recital of the name of each species would be a task.

Winnipeg is certainly the best centre for the hunter to work from, as it is practically on the edge of the prairie, and from there he can strike out with greater ease toward the four quarters of the globe, and find in each the variety which he himself desires to shoot.

In passing, I might mention that those who wish to take a riding tour over the country will find everything acceptable to their tastes, and the travelling perfectly easy and delightful. Horses are good and very cheap, and their keep costs nothing.

The Canadian Northwest—accurately described as the Sportsman's Paradise—still offers inducements unsurpassed elsewhere to the enterprising hunter and fisherman. But above all to the tourist, to whom the treasures of Rome and of Paris are as mere commonplaces. Sickened with the Old World, let him try and satisfy his heart's longing with the beauties of the New. Rumor—many tongued—has now, at last, changed from the whisper of uncertainty to the loud, clear call of established truth, and proclaims Canada all sufficient to meet the needs of men of widely divergent tastes. No longer rough is the road for travelling, nor accommodation by the wayside insufficient, but from coast to coast, in safety and speed, beyond the wildest dreams of years gone by, the stately expresses fly on their unwearied way. On sites once supposed impossible of habitation, now stands stately hotels, with modern conveniences to meet every taste. So is the transformation complete. Far off can be heard the murmur of many voices, and the trampling of advancing hosts on their way to conquer the West, and some day, perhaps not so far distant, many stately cities will rise in the ancient haunts of the prairie wolf. The voice of the Northwest calls: "Come now, ere it be too late," and he who hears her call will obey the summons if he be wise.



Canadian Game Laws.

BY C. CARLETON.

The United States Department of Agriculture are responsible for a work which claims to be a summary of the Game Laws for 1903, compiled by the Biological Survey Department. The book embraces every Province and State in the Dominion and the United States, and would be of exceptional value, were it not for the glaring inaccuracies which appear in its pages.

We learn, for instance, that in the Province of New Brunswick a non-resident license is required by the visiting sportsman for the pursuit of game of any description. As a matter of fact such a license is only required for moose and caribou; and any other animals, as well as birds, may be hunted and killed in the open season by anyone, whether resident or non-resident.

Again, we are told that the cost of a license for all game is \$30, and for moose and caribou \$20. In truth, there is no \$20 license for any kind of hunting, and the license for moose and (or) caribou, the only hunting license required in the province, is \$30.

The Canadian Game Act permits one moose and one caribou to be killed under each license. The compilers of the above-mentioned work, however, inform us that a limited number may be bagged by each hunter with a permit. Such a delightfully vague term could be translated by each one according to his own desires and opportunities, and it is to be hoped that, when taking out a license, the prospective moose or caribou hunter will study its clauses and conditions most attentively.

Yet again, the compilers come to grief over the licensing of guides and camp-helpers. On page 40 we read that non-resident guides or camp-help are licensed at \$20, the truth being that no non-resident guides can be licensed in New Brunswick, and the non-resident camp-help's license costs \$30. The charge for resident camp-helper's license, which is only one dollar, is entered as \$2.00.

The Provincial or Dominion Governments should bestir themselves to obtain the correction of the compilation wherever mistakes appear as to any Canadian regulations.



Although our American cousins have only practically "discovered" Canada within the last three years, we, ourselves, have been doing a little exploration on our own account for two or three centuries—yet we have by no means exhausted the possible discoveries, especially in natural history. There have been many arguments as to whether the Queen Charlotte Group contained caribou or not. Mr. R. H. Hall, Hudson's Bay factor, in charge of the post at Prince Albert, is able to set the matter at rest, as he has seen the hides and heads of four killed in the islands and

eaten of the flesh thereof. He thinks they are not exceedingly abundant, but of this he is not sure, because the Haida Indians were exclusively a salt water folk, and rarely left the coast line, or ventured into the mountain vastnesses, where, alone, the caribou are to be found. In the same group there are very big black bears, almost as large as the grizzly, and having the same most wonderful coats. It is strange that bear from a moist, warm region should have pelts even better than others coming from the cold districts east of the Rockies, but such is the case.

A Ferocious Moose.

BY REV. W. C. GAYNOR.

It was rough footing. The tall dark pines and the slender saplings of spruce were rooted in what seemed a foundation of granite, so frequent were the boulders and so treacherous the numerous pitfalls between the rocks, concealed as they were by a light covering of moss and scanty soil. Overhead, the dusk of evening was gradually settling down, and the shadows of the pines were deepening; the solemn stillness of the forest was making itself felt, and only the metallic cadences of an evening thrush brought a message of life from the outer world. John, our Indian guide, led the way. There was no special reason for caution or silence in our present trip, so that from time to time, particularly after an especially hard climb to the top of some sudden rise, he would wait for the old captain and renew their confidential intercourse with a remark on the perennially interesting subject of moose and moose hunting. Again and again would the deep voice of the old sailor reach me as I followed at my ease in the rear, and I could divine without effort that, while moose hunting by the camp fire had its attractions, the actual experience of a trail as rough as the present one was not to the old man's liking.

"Say, Johnny," I could hear the old baritone voice above the noise of intermittent stumbles, "where's this Menzies Lake, anyhow? Appears to me we have been travellin' skywards ever since we left the camp, and these dashed rocks are not the best footin' for ——" Here a stumble of more than ordinary vehemence interrupted further inquiry, and I could see John turn and help the old man.

It would hardly be accurate to say that we were moose hunting that evening in late August. The season had not yet opened, and it was a question whether a bull moose would pay attention yet to the seductive call. Moreover, it was a doubtful experiment, this calling of a moose within ten miles of the city of St. John. We had only a few unsatisfactory

signs upon which to found our belief that a bull was in our vicinity. Some mouse-colored hairs on a leaning deadfall, one or two hoofprints in the bog between the rocks, a low rumble one evening, which John claimed he could differentiate from the siren of a distant train—this was practically all the evidence we had for the nearness of the moose. Still, the Indian felt so sure of the fact, and the old captain was so eager to believe him, and I had such pleasant memories of moose calling in real moose land, that I was nothing loth to acquiesce in their project—which they had come to entertain with such evident anticipation of sport—of making the effort to call him up. John had had to take a long trip to the foot of Ludgate Lake, in order to find a birch tree of sufficient size to supply bark for his horn; and the making of the horn or moose-call had been one of the notable events of our camp on Ludgate. John and I outdid ourselves in reminiscence of adventure in search of the giant elk of our New Brunswick woods. The old captain learned more of "signs" and "works" and "doin's"—all the vernacular of the moosewoods—than any one man ever learned in the same time. This new knowledge only whetted the edge of his expectations of the coming adventure, when the Indian was to employ all his native craft in giving the old salt a view of a bull moose, free and untrammelled in his forest haunts. It was agreed that, should we by good luck raise a bull, no harm would be done the animal consistently with our own safety.

Thus it happened that we were stumbling our way north to Menzies Lake, from our camp on Ludgate, that fine evening in August. In order to make himself heard over as large a stretch of territory as possible John wanted to reach as high a point between the two lakes as he could.

At last by dint of much effort and a good deal of hanging on by our toes (in which the captain's life-long experience

with ratlines stood him in good stead) we reached the coveted prominence. To the north and east of us glimmered in the growing dusk the waters of the St. John River, spread out in a broad sheet; while to the south, in the dim and seemingly measureless distance, the deeper blue of the Bay of Fundy waves rollicked in one parting slant of sunlight. Then the August night shut down and the broad harvest moon broke in upon it to relieve its darkness.

We had first to dispose of the captain. Big and heavy as he was, and not fleet of foot, it was contrary to all the canons of friendship to allow him to remain within reach of an angry moose. We had some difficulty in coaxing him into the fork of an ancient pine, but we did at length persuade him to it. John took his position on the top of a boulder within reach of a decaying birch, whose ragged yellow bark shone in the moonlight, and I sat on a lower limb of the captain's tree. Then drawing a long breath—and incidentally interrupting the captain's query as to how we should ever get back to camp—the Indian sounded that first wheedling blast. Gently and slowly, with the cadence of the first southing of a strong breeze ere the forest feels its full force and the trees sway and the storm rushes onward, rose that primeval cry on the soft silence of the night. Higher and higher the passionate coaxing of the call, yet deeper and deeper the bottom notes upon which it rested; raucous it was in places, coarse and rough, befitting the purpose and the animal from which it was supposed to proceed, but the love-story of its closing notes was as recognizable as the fondest syllables of human speech. My Indian John was a master player on the birch conch with which men imitate the pleadings of a love-sick moose. The first call was finished, and I could hear a distinct sigh of satisfied surprise from the old captain above me. Scarcely had John taken the horn from his mouth when the echoes of the call came welling back on every side. The distant hills, which edge in Ludgate Lake on the east, sent back the reverberating roar, and the granite background of the smaller lake at our feet acted as a sounding board for the message. Surely, if his lordship is

within hearing he must hear that cry. The echoes died slowly out in the night, and all was again still. John would not repeat the call, I knew, for some minutes, but, with ears attent to the slightest sound, would hearken for a reply. As I sat on the limb, my cheek resting against the trunk of the old pine, memory took me back to other moose-callings when no make-believe purpose carried us into the wilds of Canaan, with this same old Indian guide, and when it was a fight for life, no convenient pine tree being there to take shelter in, and no footing but the uncertain one afforded by a swaying muskeg. Again I could see the glance and ripple of running brook, could hear the distant hooting of the screech owl, and peer into the mysterious shadows of night in the forest. Suddenly, a familiar sound broke in upon my musings—a deep and unmistakable grunt. John heard it too, and I could see him wave the bark horn at me and again put it to his lips. This time the call was soft and silken, the mere coo of a wood dove in comparison with previous effort. The effect was instantaneous. Away down on the lake bottom, where the alders leaned over the cat-tails and blueflag, there was a rush and commotion, and out of the darkness and moonlight came a series of hoarse grunts and the shaking of antlers like the rattling of axe-handles in a bag. We had found his lordship surely. Openly and with no attempt to follow the shadows, he came out on the plateau of rock. The hillside, bare of aught but scrub, with here and there a dead and branchless pine, afforded us an uninterrupted view of the lake below. We could see the glint of moonlight on his great antlers as he swayed on the ledge, trying to make sure that his ears had not deceived him. It was now up to John to lure him to us. I expected to hear him give the cow-call once more, but he did not—and herein lay the secret of our after misfortunes. Instead of the coaxing call of the cow, some demon of the woods tempted him to give out the hoarse cry of defiance of a bull; then, without waiting to watch the effect, he began to tear the curling bark from the birch tree by which he had been sitting. He made all the noise he could and

punctuated his gymnastics with subdued grunts from the horn. They very devil of mischief seemed to have possessed my old Indian.

No self-respecting moose, in the face of such overt provocation, could refuse this gage of battle. With a snort and roar, the echo of which, methinks, is still resounding along the shores of that silent lake, he charged up the hill. As I watched the great beast zigzag his furious course up the declivity, I could not help wondering how things would come out. We had our rifles, of course, and the ancient mariner was stowed away in a place of safety, but beyond these facts I could not speculate. Nor did I have time or pressing inclination to do so. In a shorter period than it takes to write these words, the bull was charging in upon us, believing evidently that our clump of trees concealed his enemy. As he swirled in among us I realized that a few more feet of higher altitude would help my case most considerably. In his furious onset, our friend the moose had almost shaken me from the limb on which I stood with a stroke of his horns. Now, a bull moose, when charging into a thicket, will instinctively lay his antlers back upon his shoulders, a fact to which I owed my safety on this occasion. Had he acted as if he were in the open, I certainly would have been swept from the branch. I hastened therefore to clamber beyond his reach, which brought me close to the captain.

"You call this moose huntin', do you?" he enquired with a shake in his voice, caused by the fact that the sudden swaying of the tree under the impulse of the bull's attack had almost dislodged him. "Shoot the thing, can't ye?"

I started it to explain to him that shooting was out of the question, since it meant a heavy fine in case of detection, when suddenly things began to happen. The Indian, on the first onset of the moose, had sought safety in the birch tree, but the lower stubs, which once were branches, being rotten gave way with him. The rustling which his excited efforts to climb the tree now made attracted the attention of the bull, and as it was in kind like the sounds

which he had construed into a challenge, he charged on John's tree without further ado. From my position I could witness the Indian's frantic efforts to shig up to the heavier branches, where he could be beyond the reach of his adversary. He clung to his rifle, holding it out from him as he climbed. The split hoofs of the moose rattled viciously on the stones as he projected himself in John's direction, and the next moment he was beneath the birch. Then I saw an unusual sight. The Indian went up the tree as if some friendly hand had given him a hoist in the desired direction, and the moose passed out into the open. In his hurry to catch a branch John lost hold of his rifle, which came clattering to the ground. He afterwards assured me that he found for a swift second a foothold on the palmated antlers, and thus gave himself the necessary lift upward. My own impression was that the moose did the lifting and that John had only the luck to travel in the right direction. I remember registering mentally an act of thanksgiving that his gun had fallen; for I knew that if he once got angry no protest of mine would avail to save the moose. The bull was not yet done with him, however; circling round, he came back to the charge, bellowing forth his peculiar battle grunt. Again the unusual happened. I had seen on the famous moose ground, known as the "Popple Knoll," in Canaan, a herd of moose feeding in early winter; and I had sat and watched them while the bulls reached up and with their fore feet drew down the birch saplings within reach of the young cows, and straddled the trees to keep them down. But I had no idea that an angry bull would adopt the same tactics to get at an enemy. That is just what he tried to do, nevertheless. Standing on his hind feet, his great head with its long, horse-like muzzle pointing upwards, he plied his fore feet in the attempt to reach John. In that mirage of moonlight he looked to me like some giant beast of the antediluvian period, some belated mylodon from the Pleistocene. But John was now in real danger; he had by this time reached the highest branch that would sustain his weight, and yet the lunging brute below came

nigh striking him at each jump; the air was full of flying knots and splinters, and the trunk of the tree, which was neither large nor sound, was already showing the effects of the pounding it was receiving. And yet the bull gave no sign of fatigue or relenting.

Perhaps it was the novelty of the spectacle that held me spell-bound, but the old captain found no entertainment in the sight. Snatching my rifle, which lay near him—he did not carry one of his own, being considered a poor shot—he blazed almost perpendicularly down in the direction of the moose. Whether his aim was good or not, we never had

evidence to prove one way or the other; for the bull, doubtless with the memory of previous experience of gun-powder before him, toppled over as if he had been hit, and then recovering himself made off in the moonlight down the hill. The captain sent a parting shot in his wake, but it was a shot at random, the bullet ricochetting on the rocks till it splashed into the lake.

"A mos' vorashus animal," was the Indian's solitary comment, as he stood examining his rifle at the foot of the tree. But I noted with what care he assisted the old captain as we stumbled and groped our way back to camp.



* "The Woodlot" is the title of a pamphlet recently issued by the Bureau of Forestry of the United States. This pamphlet relates to Southern New England, the trees in which are mainly hardwood, such as oak, chestnut, maple, hickory and ash. Among conifers are found white pine, pitch pine and hemlock, and in the swamps, white cedar. The woods are mostly second growth, and under sixty years of age. Second growth hardwood forests are composed principally of sprouts from stumps, with the result that the trees are frequently crowded and in bad form, and also are early subject to decay from the rotting stumps. The rate of annual decay is often so rapid in old sprout woods that the amount of wood added each year by growth is more than offset by the decay, and if a sprout forest is allowed to grow older than 40 or 50 years, many of the stumps send up only feeble shoots, and others do not sprout at all.

Improvement cutting is the first work to be done. The general rule for thinning is to remove all dead and dying trees, suppressed trees, and such individuals of the intermediate class as are crowding the dominant trees or the more thrifty intermediate trees. The trees left standing grow more rapidly and reach a merchantable size much sooner than when the woods are left untouched until maturity. It is estimated that through this kind of thinning the time

required for forests to grow from seed to merchantable size may be shortened from ten to twenty years.

There has been reported through the newspapers recently a most remarkable story of the suicide of the entire village council of Peszer in Southern Hungary, consisting of seven persons, all related. It appears that the Council, without other authority than their own, disposed of a forest which was the property of the village and pocketed the proceeds. For a considerable time, and by the exercise of extraordinary ingenuity, they were able to keep the transaction secret, but disclosure finally came, with the above mentioned result. This is a somewhat unusual denouement of boodling operations, but possibly the chief actors were only anticipating events, as the disposal of a communal forest would be a serious enough matter to arouse violent feelings. When the taxpayers of Canadian communities understand that the dwellers in villages happy enough to own forests are sometimes not only immune from taxes, but even have obtained dividends from this source, they will begin to realize with what a feeling of personal loss the news of the financial operation above outlined would be received by the community, and their indignation might rise to such a pitch as to render a hasty exit from the scene the happiest for those who were the objects of it.

* Contributed by the Officers of the Canadian Forestry Association.

“Pet Gaulan.”

BY MARTIN HUNTER.

When I first went to reside at Weymontachingue, the man who was in temporary charge awaiting my arrival, received orders to proceed to Coccooache to assume charge there. The latter post is about fifty miles south of the former, down the river St. Maurice. One of his children, a boy of twelve, had a tame sea gull which he had boxed up the morning of their departure, ready to take down with the rest of the family's belongings. The canoe was so very much overcrowded that his father ordered the boy to leave his pet behind. The poor little fellow shed tears, but was obliged to obey, and by the father's own hands the slats were torn off the box, and the gull given his liberty there on the beach.

After the canoe had left, and disappeared around the bend of the river, I noticed the bird floating about off the place of departure, and turning I went up to the house. For several days after the gull kept coming back to the post; food was repeatedly offered him, but he would not even taste it. He used on these occasions to waddle about the yard, and all places frequented formerly by his little master, and evidently much puzzled at his non-appearance in the usual places. At last the gull failed to return for several days, and we thought no more about him.

Had a canoe been going down to the other post about that time I would certainly have boxed him up, and sent him down to the little boy, who no doubt grieved for his feathered pet, as much as the bird plainly showed sorrow for his master. But, unfortunately, no canoe went to Coccooache until I had occasion to visit that post on business some three weeks after the family had left Weymontachingue.

The second day after my arrival down there (I must explain the post is built on

a small lake off the St. Maurice, and joined by a sluggish creek connecting the two) I was standing outside talking to the manager, when I noticed a gull alight on the surface of the lake a couple of hundred yards from shore. As a rule, gulls in the interior are only seen about large lakes, and this one settling on such a small body of water as Coccooache struck me as peculiar. The thought occurred to me probably this was “gaulan,” the boy's pet, but it seemed too absurd to think the bird could find its way down fifty miles of river and alight on a lake off at right angles.

I mentioned my thought to the boy's father, but he said, impossible. However, we could soon prove it by getting little Joe to run down to the beach and call him; if it was his gull he would come at once on hearing his master's call, “Gaulan.”

Joe was summoned from the house, and the bird pointed out to him. He sprang away towards the sands with glee in his eyes. As I watched the boy running I thought should it not prove his gull what a disappointment it will be to the little fellow. It was his gull, however, without a doubt, for as soon as Joe began to call “Gaulan! gaulan!! gaulan!!!” the bird rose on the wing and came and lit quite near the shore, and with the continuance of some further endearing words from Joe, he swam to the sands and permitted his master to pick him up in his arms and carry him to the house. The other children and the mother made as much of the gull as if it was a long lost brother.

Now, when the writer assures the reader that the foregoing is an actual fact, witnessed by him, what conclusion can we arrive at? Was it accident, or instinct, that brought the gull to where his master lived? Be it as it may, it was very pathetic to see the affection between the bird and boy.



A Big Game Country.

BY E. C. S.

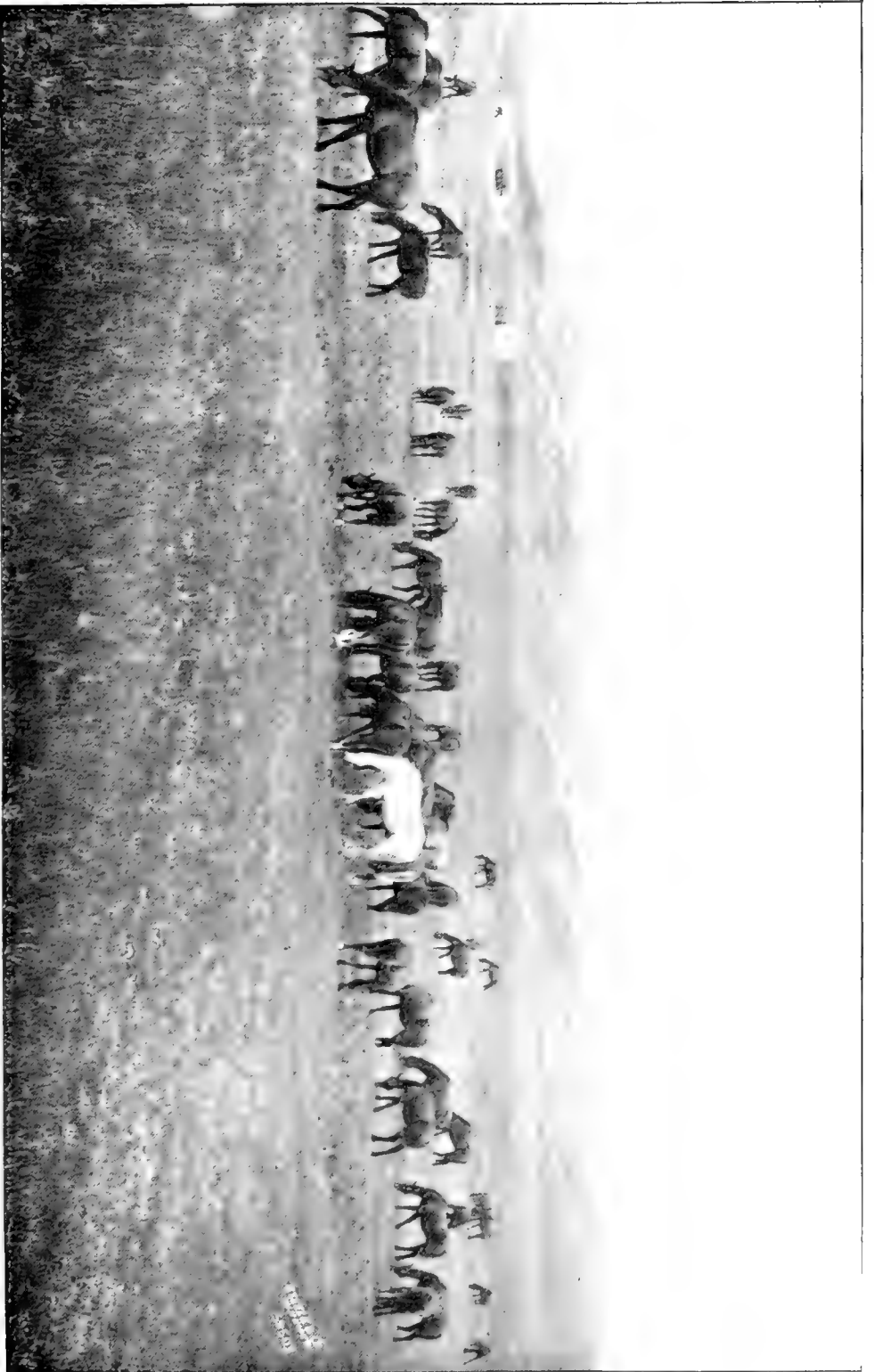
In a late issue of *ROD AND GUN* reference is made to the Mississaga River, Algoma district, as being a favorable locality for securing big game. I have lately returned from a trip up the west branch of that river, having gone in by way of Thessalon, which is forty-six miles east from Sault Ste. Marie, on the Algoma branch of the Canadian Pacific Railway. From Thessalon I went overland twenty-five miles by road to the west branch of the Mississaga, at the Cheney mine, which is above the river from what is known as the "Tunnel," a long rapids rushing through gorges in the rocky formation. The falls at the Cheney mine are picturesque. The Mississaga River above those falls has long reaches of very swift water, alternating with distances of less rapid current. In the swift reaches progress in canoes can only be made by expert poling, and then it is very slow and arduous work and entails careful navigation when canoes are heavily loaded. The depth of water, in those swift places, varies anywhere from one foot to five feet in depth. The bottom of the river is, of course, gravel, with some boulders. The further up the river the swifter the current is experienced. The return journey is, of course, correspondingly quick and easy for canoe travel. This

country is well stocked with big game. On my trip up a black bear swam across the river a short distance above our canoes, and I fired at it with a .38 calibre revolver, the effect, however, only seeming to be to accelerate the movements of bruin, the Indian guide remarking the following day that "he believed the bear was running yet." We also saw a mother deer with two fawns standing in the shallow water on a shoal of gravel almost as far out as midstream, enjoying the bright sunlight and the refreshingly cool air. On several occasions members of my party saw red deer and moose, and the tracks of red deer, moose and caribou were frequently observed. The district is a favorable one for tourist travel, many lakes, not shown on our maps, affording excellent transportation by canoe. A canoe trip from Biscotasing via lakes and the main branch of the Mississaga, which empties into Lake Huron, would be most interesting to the tourist and explorer. In fact all that district lying between the main line of the Canadian Pacific Railway to the north, and the Algoma branch to the south, covered as it is with numerous lakes, will be a region of interest to sportsmen and explorers, as it abounds in big game, timber and minerals, and is of easy access from various points on the railway.



One would think that the .450 cordite express is sufficiently powerful to kill any living creature, and yet in practice our fine-spun theories of velocity making up for lack of weight, in projectile as well as for striking surface, are sometimes not borne out by experience. Only recently an English sportsman shooting in Africa, was seriously mauled by a lion, though he had placed several .450 bullets from one of these rifles in the beast's body. Another accident is

chronicled in the Indian papers. A Mr. Pelham Rogers, in the Indian Civil Service, wounded a large tiger with a .450 cordite, but the animal had sufficient vitality to charge home and maul him so that he eventually died. It seems that for the dangerous felidæ, whose soft skins and bodies have not sufficient resistance to absorb the enormous energy of the .450 bullet, a different shape or composition will be necessary for the latter.



IN THE ANTELOPE COUNTRY.
Hands of pronghorn are seen almost daily by the men on this ranch



BREAKING A BRONCHO.

A typical Alberta scene. These are the men and these the horses we breed there.



INDIAN FISHERS.

This snapshot was taken on Okanagan Lake.

Laurentian Lakes.

A correspondent sends us the following list of lakes in the neighborhood of the branch line from Montreal to Labelle. While it is probable the list is neither complete nor exact—seeing the enormous difficulty in the way of such a compilation—nevertheless it should be of very considerable value to fishermen desirous of exploring the well-stocked waters of the Laurentians.

ST. JOVITE REGION.

POPULATION, 1850. 3 HOTELS. TELEPHONE AND TELEGRAPH. 4 HOURS' RUN FROM MONTREAL.

Name of Lake.	Distance to Station.	Distance from Village.	Kind of Fish.	Area.	Remarks.
Long		1½ miles	Lake trout		Many Islands.
Pike		2 "	Pike, perch, etc.		
Ouimet	2½ miles		Various		
Love		2 miles	"		
Clear		5 "	"		
Desmarais		5 "	"		
Sam		7 "	"		
Tremblant	7½ miles		"	2x9 miles	
Huot	7 "		Mascalonge		
Gauthier	8 "		Small red trout		
Equerre	9 "		"		
River du Diable	near stat'n		Various		
" Cachée		7 miles	Lake trout		
Noir and Clair Creeks		near vil'ge			

LABELLE REGION.

POPULATION, 800. 3 HOTELS. 100 MILES FROM MONTREAL.

Name of Lake.	Distance to Station.	Distance from Village.	Kind of Fish.	Area.	Remarks.
Trout		15 acres.	Lake trout, small.	6 acres	
Caribou	20 acres.		Brook "	½x2 miles	2 islands.
Vert	¾ mile.		" "	1x1 "	3 "
Rock		½ mile.	" " "	½x½ "	
Baptiste	3 miles		Brook & lake trout.	½x1 "	2 to 4 lbs.
Mitchell		4 miles	Trout	1x2 "	2 to 3 "
Clair		4 "	Pike	½x1¼ "	
Labelle		4 "	Trout	12 "	6 to 10 "
Brochet		4 "	Pike	15 acres	1 to 2 "
Miron		5 "	Trout	½x½ miles	1½ to 2 "
Dauphinois, small.		5 "	Small trout	½x¾ "	
" large		6 "	"	¾x1 "	
Caché, small.	8 miles		Trout	½x1¼ "	1 to 3 "
" large	10 "		"	½x5 "	1 to 6 "
Des Frères		11 miles.	"	¾x1½ "	2 lbs.

STE. AGATHE-DES-MONTS.

POPULATION, 2,120. 5 HOTELS. TELEGRAPH. 60 MILES FROM MONTREAL.

Name of Lake.	Distance to Station.	Distance from Village.	Kind of Fish.	Area.	Remarks.
Lac des Sables.....	12 acres.		Trout.....	15 miles ...	½ to 3 lbs.
Manitou or Morin.....		3 miles	"	20 "	
Brulé.....		3 "	"	12 "	
Trout.....		2 "	"	½ x ½ mls.	
Noir.....		5 "	"		
Brulé.....		5 "	"		
Long.....		6 "	"		
Lac des Sables, small.....		2 "	" large	¼ x 3 mls.	
Taillefer.....		2½ "	" small.		
Gore.....		3 "	"	1½ miles	
Grand Maison.....		5 "	"	2 "	
Fer à Cheval.....		4 "	"	1½ "	
De la Grise.....		6 "	"	2 "	
A Vital.....		6 "	"	2 "	
Quenouille (Wolfe).....		11 "	"		
Castor (Howard).....		3 "	"		
Vert, En Cœur et Sapin } (Wolfe).....		9 to 10 miles	Large trout and lake trout		
Ouareau.....					
Archambault } Pembina.....	Co. Montcalm.	24 to 30 miles	Lake trout.		
Croche.....					
Grosse.....					
Croix.....		4 to 6 miles	Trout.		
St. Joseph..... (in Tp. Howard).....					

There are also several small nameless lakes, with red trout in abundance.

NOMININGUE.

POPULATION, 500. 1 HOTEL. 18 MILES FROM LABELLE.

Name of Lake.	Distance to Station.	Distance from Village.	Kind of Fish.	Area.	Remarks.
Nominingue, Grand.....		15 acres.	Lake trout.....	35 miles ...	
" Small.....		3 miles..	"	3 x 3 miles.	
Bourget.....					
Lafèche.....					
St. Joseph.....		Few acres	Pike.....		Good roads.
Ste. Marie.....					
Charlebois.....		2 miles ..	Trout.....	½ x ¾ miles	
Beaubien.....		4 "	"		
Blanche.....		4 "	Lake trout and pike	¾ x 1¼ mls.	
Gaumont.....		4½ "	Trout.....	½ x ¾ "	
Des Cœurs.....		4½ "	"	½ x ¾ "	
Duprez.....		5 "	"	½ x ½ "	
Grandes Baies.....		5 "	" large		
Noir.....		5 "	Lake trout.....	¾ x 1½ mls	
Des Isles.....			" & pickerel		
Vert.....		6 miles ..	" pike ...	1 x 1 miles..	
Sawga.....		7 "	" " ...	Large.	

There are about thirty more lakes, between two to five miles from the village, nameless, but well stocked with fish.

STE. MARGUERITE.

POPULATION, 725 2 HOTELS. 4 MILES FROM STATION.

Name of Lake.	Distance to Station.	Distance from Village.	Kind of Fish.	Area.	Remarks.
Masson			Trout and lake trout	2 x 3 miles.	
Charlevoix.. ..		4 miles..	" "		
Lacs des Isles.....		4 " ..	Large trout.....	2 x 3 miles.	

LA MACAZA.

POPULATION, 200. 10 MILES FROM LABELLE.

Name of Lake.	Distance to Station.	Distance from Village.	Kind of Fish.	Area.	Remarks.
Osina	9 miles..		Small trout.....	$\frac{3}{4}$ x 1 miles	
Macaza		15 acres	Pike	$\frac{3}{4}$ x 2 "	
Brochet		1 $\frac{1}{2}$ miles	do	$\frac{1}{2}$ x 1 "	
Chaud		4 "	Lake trout.....	1 x 5 "	
Sapin		10 "	"	$\frac{1}{2}$ x 1 $\frac{1}{2}$ "	
Macaza River.....			Trout		
(Between the Lake and Rouge River, 2 miles)					
Chaud Creek			Coarse fish		
(From Macaza River to Lac Chaud, 6 miles)					
Froid Creek			Lake trout.....		
(From Lac Froid to Riv. Macaza, 10 miles)					

"MONTIGNY REGION."

POSTE MAILLÉ HOTEL. 11 MILES FROM NOMININGUE

Name of Lake.	Distance to Station.	Distance from Village.	Kind of Fish.	Area.	Remarks.
Montigny			Trout & lake trout	3 $\frac{1}{2}$ mil. long	
Des Isles			Trout	5 " "	17 islands.
Pie IX			"	$\frac{1}{2}$ x 1 miles	
Leo XIII.....			"	1 x 3 "	1 to 5 lbs.
Serpent			Lake trout.....	15 ac. x 3 "	{ 5 to 20 lbs. 1 to 5 "
Maillé			Various	20 ac. from house.....	3 miles around

There are fifty other lakes in this township.



The Black Walnut.*

(*Juglans nigra*.)

BY E. G. JOLY DE LOTBINIERE.

This magnificent tree (one of the most valuable and now one of the rarest of our forest trees), which at one time grew so plentifully in certain sections of the United States and Western Canada, has now become so scarce that it is likely to disappear before long from the category of our native timber trees, unless steps are taken to reproduce it on a large scale from the nut.

Fifty years ago, or even less, its value was so little appreciated that it was used not only for building purposes in some sections of the country where it grew, but also for shingles, fence posts, rails and even fuel.

The condition of things has altered since then. To-day it is worth, in car lots, from \$85 to \$100 per thousand feet board measure. The retail price must be considerably higher. Enormous prices are paid for any particularly fine piece of wood fit for veneering. Such pieces are generally obtained from a crotch of large limbs or from the stump and large roots, and sometimes from burls or excrescences that are found on the trunk of the tree.

Such a valuable tree is certainly worthy of cultivation, especially as it is hardy, and, under good conditions, of rapid growth.

The black walnut derives its name no doubt from the color of the heart wood, which is of a dark tinge. When freshly cut the sap wood is quite white and the heart of a delicate violet color, which, after exposure to the air, assumes a more intense shade and becomes almost black. The tree grows to a large size and attains sixty or seventy feet in height, and from three to seven feet in diameter. It grows best in a rich, deep, and fairly moist soil, though it will thrive well but not grow so rapidly upon dry and rocky lands. When isolated it forms a magnificent ornamental tree, assuming most graceful proportions. The leaves emit a

pleasant aromatic odour when crushed in the hand, and the nuts also, when green, have a most delightful perfume. The natural range of distribution of this tree, in Canada, does not extend east of Kingston, and even there the species was never abundant. The country drained by the St. Clair River and its tributaries was, I believe, the section where it was found in its greatest perfection and abundance.

The reproduction of this valuable tree from the nut should be an easy task when undertaken in Western Canada, its native home, but it has been successfully grown as far east as the city of Quebec and its environs. Such being the case, there is no reason why it should not be cultivated with satisfactory results in the various provinces of the Dominion. The winters about Quebec are as severe as can be found anywhere, and yet the tree does not suffer from the intense cold and frost, and when planted in a congenial soil grows vigorously. The nuts also mature thoroughly and reproduce as readily as those grown in the west.

The nuts should be planted late in the autumn—the later the better. The object of this late planting is to allow the nuts time to mature thoroughly before putting them into the ground. This is most important, for if the kernel of the nut is yet in the soft milky stage when planted, it invariably rots. In Eastern Canada the nuts cannot be allowed to winter on the surface of the soil, for the frost destroys them. They must either be planted as I have said above, or kept until the following spring in a cold garret, but one free from frost. When kept over until the spring, plant as soon as the snow has left the ground. The nuts should be planted in a sheltered position in light rich soil that has been thoroughly well worked over. I plant them in rows twelve inches apart and three inches deep. Between every three

* Contributed by the Officers of the Canadian Forestry Association.

rows I leave a space two feet wide, so as to permit of one's moving about the plantation to attend to the weeding and care for the seedlings without danger of crushing or injuring them. At each end of a row I place a little post, so as to know where to look for the seedlings when the time comes for them to make their appearance. I often take the trouble to plant a little stick near each nut, as I sow it. This saves a great deal of trouble and one is sure of not injuring the little tree when weeding.

The seedlings can be left in the nursery until they are about three feet in height. They should then be transplanted. Transplanting should be made in the spring, about the middle of May, before the buds open.

The ground in which you intend making your plantation should previously be ploughed, thoroughly harrowed and rolled, the trees planted about four feet apart. Great care should be taken when removing the young trees from the nursery to damage the roots as little as possible. If the soil is adhesive a ball of earth should be removed with the young tree, thus saving all chance of mutilating the "radiculae" or small roots. A notable feature of the black walnut is its extraordinary long taproot. Should it be broken or badly injured in the removal, cut it off above the wound with a sharp knife.

The grass in no case should be allowed to grow up to the stem of the trees, and to avoid that they should be mulched whenever necessary. The young trees should be carefully pruned until their

heads meet. Nature afterwards will do that work herself. Do not prune your trees late in the season. June and July are the proper months. The earlier you prune the better, as it will give the "callus" time to form and mature before the frosts of winter. Should you prune late in the season (in Eastern Canada) the "callus" will almost invariably be destroyed by frost, and the wound made by the removal of a branch will never heal over properly. Prune as closely to the stem as you possibly can with a sharp knife. Should you use a saw, freshen the edges of the cut with your knife so as to leave a clean smooth surface.

Do not be discouraged if a tree should appear to die after transplanting. Though the stem of the tree may die, the root as a rule will not. Before long you will see shoots forming on the stem of the tree, near the ground. Select the shoot nearest the ground and remove the others. This shoot will grow with great vigor and will make as fine a tree as any in your plantation. Your plantation should be made in as sheltered a position as possible.

I trust that these few elementary hints may be of some slight service to those who intend growing black walnut. Let all such be well assured that the time and money they may expend is time and money well invested. All may not live to reap the pecuniary benefits resulting from their labors, but in the meanwhile they have done a useful work, one of national importance, and one that future generations will bless them for.



The Art of Forestry.*

BY A. HAROLD UNWIN, D. OEC. PULL.

Forests as they occur naturally reproduce themselves on large or small areas, according to the weight of the seeds of the individual tree species. It is the business of Silviculture, or wood growing, to assist and alter this process to the

advantage of the economic requirements of mankind. Timber, which will most likely be of general utility, must be produced or perpetuated. A very good illustration of this is afforded by German forestry practice, which about sixty

* Contributed by the Officers of the Canadian Forestry Association.

years ago started converting extensive, nearly unprofitable, beech forests into those of very paying spruce.

The Germans foresaw that any coniferous timber, and especially that of spruce, would in the long run be used more extensively and rise higher in value than hardwoods. Their prediction has come true, and those forests to-day are beginning to be the most paying of any in that country.

The character of the soil, of course, sometimes distinctly limits one as to choice of tree in a great many parts of any country. For instance, it is a well known fact that it would be better policy to let the common Norway or red pine grow on a very poor, sandy soil, rather than introduce the more exacting white pine.

In Europe, at least in the most highly developed countries, natural regeneration or reproduction of a forest by its self-sown seed, unaided by the hand of man, is gradually being superseded by artificial methods such as sowing of seeds and planting of seedling trees. Here the former method, though generally occupying more time, is in place, as the forests are not of such value that one could or should expend a great deal in insuring their continuity. With care this can be done as effectively, if not more effectively, than with planting. In one way it requires more skill in handling the present growing trees than with the other system. One great point to be noticed is that the soil must be kept in a receptive state for seeds, *i.e.*, free from weeds, moist and loose. This is as it is under a dense growth of old trees as is seen in any piece of bush or forest. If the forest under consideration has been left in its natural condition, such will be the case, otherwise it will take longer for the new growth to get started once the original growth has been removed.

The gradual, and hence partial, removal of the first crop of trees is the safest way to get a fresh growth, rather than clear the area entirely and let seed fall in from the surrounding forest trees. In the former case the seeds find a splendid bed for germination, and receive just the amount of shade and shelter which they require in their earlier stages of growth. Finally, when the young seedlings have got thoroughly established the old trees

are removed with little damage to the new crop. With the latter system the ground is liable to become hard and dry and covered with weeds, including undesirable seedling trees, such as poplar and birch. In the course of time the parent crop is reproduced, but in some cases the poplars, etc., have got such a start that the conifers never catch them up but grow underneath and only dominate finally by the fact of their being longer lived trees; others again, which have not got such a start, get caught up by the spruce, etc., which outgrow them and so insure a fresh crop of what is wanted. This is not entirely satisfactory, as one does not get a full crop of the trees especially required. Modifications of both systems occur, such as clearing very small areas which are partially shaded by surrounding trees and so cannot become covered with weeds before fresh seedlings have come up. This is called the group or strip system, and the before-mentioned the shelter system. These are the chief methods of natural regeneration of a forest. These, especially the latter, do not entail a decrease in the cutting areas, as might be supposed, but on the contrary a very large portion of any forest or timber limit can be treated in this way each year. It is with this, the group method, that one attains the best financial results, otherwise the cost of drawing the individual logs together (under the shelter system) would be so great that it would diminish or leave no profit on each at all.

With the conifers, such as spruce, the group generally takes the form of a long narrow strip, which facilitates the cutting and marketing of logs. This method is very satisfactory and insures a good crop of fresh seedlings. In a level country it is possible to make the strips one-half to one mile long and three-quarters to one tree's length in width. If made wider part of the area remains unseeded, as the majority, *e.g.*, of spruce seeds fall within the length of the height of the tree, of course if it is windy a great number of seeds will be blown further away but this is not always the case.

Planting, the other great method of forest reproduction, tends in Europe, at

least, to supersede the various systems of natural regeneration. During the last thirty years it has steadily been on the increase, despite very substantial advantages of the other system. Artificial sowing of seed has been practically given up, except in some special cases where seed is very cheap and the soil easily worked. Years ago the Government of Saxony, Germany, started some experiments as to the best distance to plant trees in order to get clean stems and the greatest amount of growth, both in height and diameter per year and acre. For the one species, Norway spruce (*Picea excelsa*) with which they were conducted, three and one-half to four feet turned out to be the most satisfactory distance. This distance, though, only yields the best results combined with judicious thinnings, beginning with the twentieth year and continued once in ten years until maturity.

Reproduction of trees by stool shoots, after the tree has been cut down, gives good results with some trees. Permanently practiced it does not tend to produce good timber, but only scrubby firewood of small size. According to European results hickory treated this way grows rapidly into very flexible poles and small trees. This special means of perpetuating a piece of woodland has been given the term, coppice or copse, practised largely on this continent in the New England States and in Europe in nearly every country. A rapid return is a great point in its favour, but of course only certain species are adapted for it, of the conifers only pitch pine (*Pinus rigida*), Japanese cypress (*Crystomeria Japonica*), and red wood (*Sequoia sempervirens*), are the chief trees, whereas, most broad-leaved species send out stool, or root, shoots more or less abundantly.



Charmette.

BY WILLIAM HENRY DRUMMOND

[Copyrighted]

Away off back on de mountain side,
 Not easy t'ing to fin' de spot,
 W'ere de lake below she's long an' wide,
 A nice leetle place I got
 Mebbe ten foot deep by twenty-two,
 An' if you can see it I bet
 You'll not be surprise w'en I say to you
 I chrissen dat place Charmette.

Dat's purty beeg word Charmette, for go
 On poor leetle house so small,
 Wit' only wan chimley, a winder or so.
 An' no gallerie at all.
 But I want beeg word, sode worl' will know
 W'at de place it was mean to me,
 An' dere on de book of Jean Jacques Rousseau
 Charmette is de nam' I see.

O ma dear Charmette! an' de stove is dere—
 (Good stove) an' de wood pile too,
 An' stretch out your finger mos' any w'ere
 Dere's plaintee for comfort you—
 You're hungry, wall! you get pork an' bean
 Mak' you feel lak' Edouard de King—
 You're torsty, jus' look dere behin' de screen
 An' mebbe you fin' somet'ing.

Ha! ha! you got it—Ma dear Charmette,
 Dere's many fine place, dat's true
 If you travel aroun' de worl', but yet
 W'ere is de place lak' you?

Open de door, don't kip it close—
 W'at's air of de morning for?
 Would you fassen de door on de win' dat blows
 Over God's own boulevard?

You see dat lake? wall I always hate
 To brag, but she's full of trout,
 So full dey can't jomp togeder, but wait
 An' tak' deir chance turn about—
 An' if you was campin' up dere above,
 De mountain would be so high
 Very offen de camp you'd have to move,
 Or how can de moon pass by?

It's wonderful place for sure, Charmette—
 An' ev'ry wan say to me,
 I got all de pleasure a man can get
 'Cept de wife an' de familee.
 But somebody else can have ma wife,
 De familee too, also—
 An' I'll stick to Charmette so long ma life
 Was spare to me here below.

For we can't be happier dan we been
 Over twenty year, no siree.
 An' if ever de stranger come between
 De leetle Charmette an' me,
 Den all I can say is kip out de way—
 For dynamite sure I'll get—
 An' affer dat you can hunt all day
 For me an' ma dear Charmette!

Our Medicine Bag.

"The Approaching Timber Famine" is the title of an article in a contemporary, by Mr. E. Stewart, Superintendent of Forestry, and is an able presentation of a timely subject. Mr. Stewart calls attention to the increasing demand for timber and the decreasing supply, quoting conclusive statistics from leading European authorities to show that a timber famine is among the possibilities of the even near future. Then discussing the capability of Canada to meet the demands upon its forest resources he states as follows:—

"Regarding the first, it has been estimated that this country has an area of 266,000,000 acres of timbered land. This is certainly too low an estimate if taken to represent the whole area of land on which any kind of timber is growing, but may safely be taken as embracing the area covered by timber of merchantable value, including pulpwood. Putting the quantity growing on such land at 2,000 feet board measure per acre, we have a total area of 532,000,000,000 now ready for use. Besides this we have covering this same area an immense quantity which has not yet attained a sufficient size for cutting. This growth varies in size from the young seedling just shooting from the ground up to the young tree of 10 or 12 inches in diameter. Let us consider the value of this younger growth. In those countries where a regular system of cutting has been practised for a number of years the annual growth increment has been established with great accuracy, but to apply their figures to our forests would undoubtedly be misleading. Three hundred and fifty feet board measure per acre has been estimated as the annual growth in the United States. If we put ours at, say, two hundred feet to the acre we will have an annual growth of 53,200,000,000 feet. This, however, would include limbs and branches and very rough timber that would not be used in this country except for fuel. Deduct for such timber 30 per cent. and we have still left 37,240,000,000 feet as

the yearly product. At the lowest the stumpage, that is, the value of such timber standing in the tree, may be put at present at \$1.00 per thousand, which would give in the first case a revenue to the State, provided it was all in the hands of the Crown and subject to Government dues, as most of it is, of \$532,000,000 for the virgin forests of to-day, and a yearly return for that of the maturing timber of \$37,240,000. But this only represents what might at present prices be asked by the Government as a royalty, and forms but a small part of its value to the community as a whole. Possessing not only the raw material, but also the motive power right at hand, Canada should be without a rival in the manufacture of all articles in which timber forms the chief ingredient."



To the Editor of ROD AND GUN IN CANADA.

DEAR SIR,—The interesting account of "Canine Vaccination," which appeared in the November number of ROD AND GUN, while showing the value of vaccination as a preventive of distemper in dogs, suggests the query: How far this dreaded disease may be avoided with ordinary care, at any rate by house dogs and dogs kept about the house as pets?

It is almost incomprehensible how apparently reasonable persons will permit their dogs the run of the house during the day and chain them up for the night in a back-yard kennel, which, in nine cases out of ten, must from its construction and location be dangerously damp. Probably the dog has spent its last hour or two indoors, stretched asleep before a warm fire or stove. Dogs treated in this manner fall an easy victim to distemper, in the same way that a human being suffering from a cold, however slight, and the fever which accompanies a cold, both with dogs and men, are more prone than their stronger neighbors to any serious disease to which they may be exposed.

The writer has owned, during a period of ten years, three fox terriers, two being



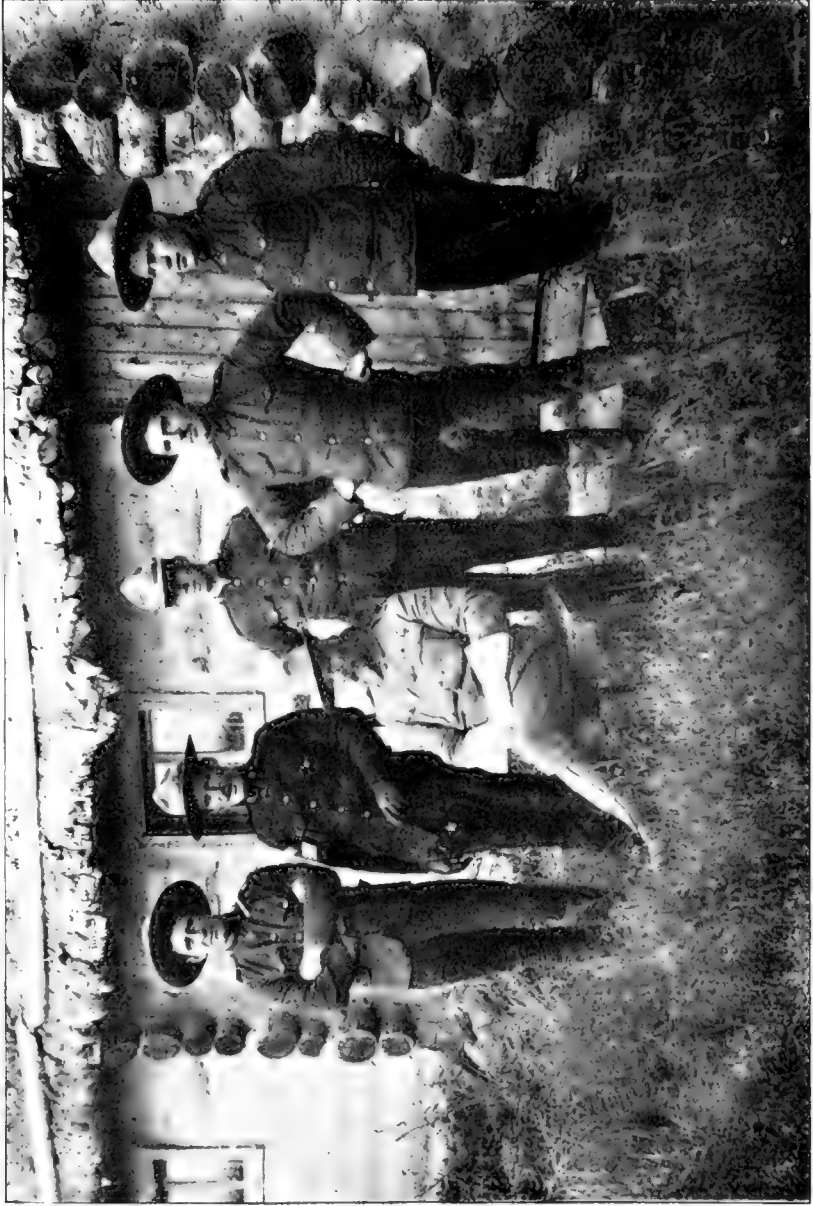
A SIWASH LASSIE

A 28-pound silver trout from Okanagan Lake, caught on spinning bait by this little miss



ANGLING IN B.C.

Everyone in the western province of the Dominion goes a-fishing, and some pass most of their waking hours rod in hand



N. W. MOUNTED POLICE.

Garrison of the Peel River post, Mackenzie River.

"The lean white bear hath seen it."—*Kipling*.

smooth-haired and one a rough-haired dog. The first named were son and daughter of "Carlton Lad," the foremost prize winner of his day, and the rough dog was of exceptional breeding. All these dogs were taken from the litter as early as possible, and, from the first, slept in a warm corner of the kitchen in a dry bed of hay, which was always selected with great care. Not one of these dogs ever had distemper, although there was mortality from this cause among the pups remaining in each of the three litters. The smooth-haired bitch lived four years without a day's sickness, before falling a victim to the poison fiend. Her brother died at two years of age from the same cause. The rough-haired dog we have had for five years, and is the strongest and most active terrier we have ever owned.

It should not be difficult to keep a house dog, which is well under control, away from infection, when distemper is known to be in the neighborhood, and, except in the case of a wide-spreading epidemic of distemper throughout the district, the full-grown or adult dog should be practically immune. Distemper, like measles, is most often confined to the young, but is more dangerous to the adult than to the infant, given equal care and good nursing in both cases.

Dog owners are apt to consider that, by allowing their pets to sleep within doors, they weaken their constitution and make them fit only for drawing-room ornaments. Nothing of the kind, provided always that sufficient exercise be given.

Yours truly,

Toronto.

E. W.

The seasoning of wood is a question of economic importance, as it has an important bearing on the life of the material and on its physical adaptability. For construction and other purposes complaints of warping and shrinkage in timber are more frequent than some

years ago, the result probably of the use of unseasoned stock owing to the pressure for supply. The publication of a report on this subject by Hermann von Schrenk, of the United States Bureau of Forestry, is timely. Seasoning is ordinarily understood to mean drying, but it implies other changes than the evaporation of water. It is very probable that one of these consists in changes in the albuminous substances in the wood fibre, and possibly also in the tannins, resins and other incrusting substances. The rate of evaporation differs both with the kind of timber and its shape. Air drying out of doors takes from two months to a year, the time depending on the kind of timber and the climate.

The advantages of seasoning are: (1) Seasoned timber lasts much longer than unseasoned. Since the decay of timber is due to the attacks of wood-destroying fungi, and since the most important condition of the growth of these fungi is water, anything which lessens the quantity of water in wood aids in its preservation. (2) In the case of treated timber, seasoning before treatment greatly increases the effectiveness of the ordinary methods of treatment, and seasoning after treatment prevents the rapid leaching out of salts introduced to preserve the timber. (3) It is believed that by proper treatment timbers which otherwise could not be used for ties, poles, posts, bridge timbers, etc., can be made to serve longer than the untreated timbers in use up to the present time. The cheap and porous wood, which may be more easily treated, will, when well treated, outlast the other in every instance. The short-lived, porous beech, which ordinarily lasts but four to five years, has outlasted the oak several times over. From the experiments so far completed it is concluded that green timber should be piled in as open piles as possible as soon as it is cut, and so kept until it is air dry. In the case of ties the pile made with seven ties one way and two across alternately was found the

We are in receipt of a very full, useful catalogue, issued by Caverhill, Learmont & Co., wholesale hardware merchants, Montreal. This firm carries

a very full line of shotguns, rifles, revolvers and ammunition. The catalogue is well illustrated and is a useful work of reference.

best, and the only difference in cost in comparison with solid piling was the space required. The lodgepole pine (*Pinus murrayana*), which is found in Canada in the Cypress Hills and westward, was one of the woods experimented with. This is a poor wood in the natural condition, but it is expected that with proper treatment it may be made a very useful material for ties.



The value of civilian rifle clubs has been well demonstrated in England. Mr. John Seeley, M.P., wrote to the London Times, giving an account of a match held between long and short range shots :

"The contention of those who have started the many short range rifle clubs now existing in England is that practice at the short range with reduced charge is almost as valuable as practice at long range, the problem of judging distance being one which cannot be solved by shooting on any range, whether short or long, and the recoil of the rifle with full charge being so small as to make but little difference. By the courtesy of the military authorities, I was enabled to arrange for the following experiment being conducted with a view to seeing whether these contentions were well founded or not. Four men were selected who had never fired with a rifle with a full charge at long range in their lives, their shooting having been confined exclusively to practice with the service rifle, fitted with either Morris tubes or adaptors, at fifty yards and under on a small open-air range in the Isle of Wight. Then they went to the range at Eastney, near Portsmouth, on a day when a strong and gusty wind was blowing, and when frequent storms of rain and hail interfered with the practice. The scores they made were as follows :

—At 400 yards (lying down) out of a possible 28—26, 12, 18, and 18. At 500 yards (lying down) out of a possible 28—21, 20, 22, and 24. The practice was superintended by the usual military authorities, since men of different branches of the service were firing at the same time. Your readers will understand that the scores made by these four men would be regarded as good scores if made by men who had had frequent practice at these distances. It should be added that it seems unlikely that similar results can be obtained by practice at an indoor range, whether the full or reduced charge be used, since the difficulties of varying light and wind are there absent. The range at which these men were trained cost £35 to erect ; a similar range where a full charge could be fired could not have been put up at all within three miles of the place, and when so put up would have cost many thousands of pounds. The results obtained have seemed so very remarkable to the military authorities to whom I have submitted them, and the whole problem of ranges and rifle shooting is so much affected by the possibilities disclosed, that I have ventured to trespass on your space."

From this it is evident that practice at short range with a 22 calibre will make a very fair rifle shot of any man with good eye-sight and good nerves.



To the Editor of ROD AND GUN.

SIR,—I take pleasure in sending you the following information regarding fishing and shooting in Japan. I enclose a translation of the police regulations regarding shooting, and also a translation of the law published by the Japan Mail in 1901. Like all translations of Japanese regulations they are somewhat

The J. Stevens Arms and Tool Company, of Chicopee Falls, Mass., have sold all their machinists' tools, patents, goodwill, etc., to the L. S. Starratt Co., of Athol, Mass. The Stevens Company found it necessary to restrict themselves to the manufacture of firearms, as the demand for these weapons has become so

great that all their time, space and energy will be absorbed in their manufacture. The J. Stevens Arms and Tool Company will immediately occupy the space thus given in increasing their output of firearms, and also that of automobiles, into the manufacture of which they have gone extensively.

vague, but will, perhaps, give you the desired information.

The shooting license costs yen 2.00, yen 10.00 or yen 20.00, according to the amount of income tax paid by the applicant in Japan. In the case of a tourist, the police advise that the highest rate would be charged. The only restricted areas are the Imperial preserves. The country around the Treaty Ports is, of course, pretty well shot over, and to obtain good sport it is necessary to go off the beaten tracks, when a guide is necessary and provisions have to be taken, as the small Japanese inns in the interior furnish only Japanese food. The northern part of the main island and the Hokkaido (Island of Yezo) are the best parts of Japan, both for shooting and fishing.

The following is a list of the principal game to be had :—

Suipe, woodcock, pheasant, mallard duck, teal duck, widgeon, geese, quail. Plentiful all through Japan.

Grouse. Only in the Hokkaido.

Hares.

Small deer (deer not allowed to be shot in the Hokkaido).

Small brown bear, large black bear, grizzly bear. Only in the Hokkaido.

Cartridges, loaded with the best English powders and chilled shot, in English made cases, can be obtained here in any quantities, and costs yen 7.00 per 100.

There are no restrictions or regulations as regards fishing, and no license is required. On the main island fishing is not particularly good; small trout can be had in some of the lakes, but the sport is not considered good. In the Hokkaido good salmon trout fishing can be had with a fly in June and July, and also salmon, but the latter will not rise to a fly, and a "spinner" is generally used.

Sea fishing can only be had by those owning a private boat, as the native

fishermen are not disposed to allow Europeans to go out with them in their boats.

I need hardly say that we shall at all times be glad to render every assistance in our power to those coming out here.

Yours truly,

W. T. PAYNE.



A correspondent writes :—“ In view of the wanton slaughter of wild birds of all descriptions, which goes on year after year in many localities, it is about time that some action was taken by the proper authorities to enforce the laws regarding the carrying of arms, and the destruction of birds which are nominally ‘protected.’ The worst offenders are young lads who have no business with fire-arms of any kind, and these little nuisances love to sally forth in couples or in bands to the woods or the lake shore, and ‘pot’ any living thing, be it bird or beast, that comes within shooting distance. I have seen a party of ten or twelve boys leave an Ontario village for a ‘shooting’ expedition, and the weapons carried included rifles, breech-loading and muzzle-loading shot guns, air guns and revolvers. They returned with a miscellaneous bag of jays, robins, woodpeckers and plover (the latter ‘protected’ at that season under the Game Acts). The son of the village constable accompanied the party with his father’s 12-bore, and was considered the best shot in the party. Such scenes may be observed in many other towns and villages where the district is thinly populated and the laws laxly administered.

“ A pair of brilliantly-hued ‘black-winged canaries,’ very rare in that part of the province, chased each other on the outskirts of a certain village on a bright June morning. By noon their exquisite plumage was being proudly exhibited by

At the Individual Rifle Championship Match for Greater New York and vicinity, which was shot on November 3rd, Dr. W. G. Hudson won the championship, breaking the 50 and 100 shot records, his score being 1154 and 3301 respectively.

Dr. Hudson used the Stevens-Pope barrel, 33 caliber. Mr. Kelly was second, using a Stevens-Pope and Mr.

Fred G. Ross, third, using a regular Stevens 32-40.

Nearly all of the records during the past two years in rifle contests have been made and broken with either a Stevens or a Stevens-Pope. The word “Stevens” on a rifle is considered by all expert riflemen as meaning extreme accuracy.

their murderers—two boys under fourteen years of age.

"The plea of the true sportsman and lover of nature is simply incomprehensible to these young savages. Possibly at a future date, when insectivorous birds have almost disappeared, and the farmer is confronted with the ruin of his crops, he will, when asked by his young hopeful to hand down the old gun from its nail on the wall, reach for a stout strap instead, and find his way to the feelings of the youngster by the only certain road."



A very erroneous stand has been taken by the Vancouver World with regard to a new automatic shotgun, which, rumor has it, will be placed upon the market some time next year. That journal says, editorially, that the repeating shotgun is a weapon which will lend itself to the designs of the pot hunter and contribute to a rapid decrease of our game birds and wild fowl. Truly a little knowledge is a dangerous thing. We do not believe in making sportsmen by Act of Legislature, and we are very sure that the automatic shotgun, should such a thing be produced, will not, as a rule, be found in the hands of the market hunter and the game butcher. More game has been killed by "family shots" from a big-bored muzzle-loader than from any other weapon, and even were it the case that the perfected mechanism of the automatic shotgun would have a disastrous effect upon the game supply, how could manufacturers be prevented from placing such a weapon upon the market? No legislation would be legal that could be passed for such a purpose. The world moves; the bow and arrow was replaced by the flint-lock; the flint-lock by the

percussion gun; the percussion by the breech loader, and in all probability the double barrel will, within the next ten years, give place to the automatic. In Great Britain, where the ethics of sportsmanship are, as a rule, considerably higher than they are on this continent, crack shots use three double barrels upon driven game, and we believe that for rapid shooting the automatic gun will be in great demand, but we do not think that it will turn decent sportsmen into game butchers any more than we consider it will reform the market hunter or the greedy shooter. Sportsmen, and their name is legion, that delight in perfected mechanism, and the smooth working of cleverly constructed machinery will be certain to avail themselves of any improvements that may be put within their reach, notwithstanding the ignorant or ill-natured strictures of certain disgruntled scribes.



Reports from the hunting camps in Quebec are that unprecedentedly good sport is being enjoyed this season. One small party of Ottawa sportsmen in the vicinity of Coulonge, secured five fine deer in forty-eight hours, and equally good accounts have been received from other camps in the district, writes an Ottawa correspondent. The Waltham section of the Ottawa, Northern and Western Railway, or the Pontiac and Pacific Junction, as it was formerly known, traverses a country unrivalled for picturesqueness, and within a few miles of the line there is to be had some of the finest hunting and fishing in western Quebec. Its road bed has been improved until now it is quite up to the standard, while the train service is ad-

The Longman Gun Sight Corporation, of Middlefield, Conn., have sent us their 1903 catalogue; it is a very full and useful little pamphlet. In it are figured all the ingenious sights manufactured by the corporation. It may not be out of place to say that the prejudice once existing against peep-sights for actual sport has now almost passed away, in consequence of the admirable devices put upon the market by the Longman

Company. In Great Britain the very extensive miniature target and rook rifles, so much in demand since the impetus to rifle shooting caused by the late struggle in South Africa, are in most cases fitted with Longman sights. They are of especial value to those who from one defect or another in their vision are not able to focus accurately at the same moment the rear and fore sights and the objects aimed at.

mirable. The present terminus at Waltham is within a few minutes' walk of the famous falls where the Black River tumbles over a sheer precipice of eighty odd feet, and whirls in a mass of creamy foam through a deep canyon down to the broad, open channel a few hundred yards below. There is a saw-mill above the falls, owned by Mr. David Rochon, who is the proprietor also of a fine brick hotel overlooking the rapids, but it is likely that before long the waterpower will be developed on a large scale for manufacturing purposes, as surveys of it have been made by engineers for two or three parties during the past few weeks.

When the railway is extended westward, as it will be next summer, it will cross the Black River quite close to the falls. Fine trout and bass fishing is to had in the Black River in the vicinity of the prospective railway crossing. Quite

a number of Ottawa people enjoyed their holiday outing at Waltham last summer.

What very mistaken notions some people have as to temperatures in the north and west of this great Dominion. The writer has been more inconvenienced by the heat in latitude 60, on the border of northern British Columbia, than he ever was from the cold in winter, and on the 28th of September last, near Prince Albert, the temperature at mid-day in the shade was within a few degrees of that registered at New Orleans.

The Pine River Pass is at present an excellent point for elk (wapiti) and bear. How long this will be the case remains to be seen, as there are at present a couple of surveying parties in that region.

HOW FAR DO YOU WALK?

Of all the various forms of exercise there is none more healthful, none which gives a greater variety, or from which more real, lasting enjoyment can be derived than walking.

When studying nature, either in her wilder aspect on mountain top or rocky pass, one realizes that on foot, and only on foot can she be thoroughly studied, appreciated and enjoyed.

It is a regrettable fact that, owing to the rush and hurry of the strenuous life of the twentieth century, with its electric cars, swift mail trains and the new terror, the automobile, walking has in the past fallen very much into disuse among the American people. Thanks, however, to golf and the growing spirit for outdoor sport, walking is again becoming the national pastime.

To those who enjoy walking for walking's sake, next to the enjoyment of the scenes through which they may pass, the all-pervading question is, "How far have they walked?" This, upon well-kept turnpikes where the milestones are regular, is a comparatively easy matter to keep track of; but where the tramping is done along city streets or in country by-lanes, the pedestrian has no

means of accurately totaling the miles he has covered.

Interesting experiments have recently been conducted along this line with a most remarkable American invention called the American Pedometer. It is a simple, accurate, well-made little instrument, the size of an ordinary watch, which it very much resembles, and can be regulated to the step of the wearer. It is carried like a watch in the vest pocket or attached to a belt, and it carefully and methodically ticks off and registers every mile or fraction of a mile walked. The dial is very similar to that of a watch, the figures representing miles. The movement, too, is like a watch, the pendulum within swings to the rhythm of the stride, ticking off the steps as a watch ticks off the seconds, and the hand points out the miles walked.

Apart from the pleasure of registering the number of miles tramped in a given walk, it is also deeply interesting to note the number of odd miles covered in the course of one's daily business. The man about town, in and out of office buildings, up and down corridors, etc., would be surprised at the grand total of steps which he takes in the course of a day. This the pedometer registers just as

If you wish to shoot antelope, go to some station between Moose Jaw and Morley, on the main line of the Canadian Pacific Railway in the month of November; antelope migrate in the spring and fall and a good many cross the track. In the winter they wander down to the shelter of the Cypress Hills, while in the spring they journey north to the great sand hills along the course of the South Saskatchewan, in the perfect seclusion of which they rear their young unmolested by man. The antelope is an animal of most curious disposition. At a single bound it can clear the track, ditches and all, yet it will hesitate sometimes for weeks before making the spring; it is a famous "long jumper," but a fence three feet high will stop it effectually. Some days it is tame, so tame that you may kill it by a shot from a revolver; on others the best long range rifle will be none too good. It is extremely probable that most of the successful hunters, about whose exploits we read so much, secured their game on one of these easy days, but, of course, this supposition is not susceptible of proof, and the testimony of the

persons most vitally interested would probably be dead against this assumption.

How few of us realize the wonderfully interesting life that surrounds us, as we stroll along the wet sea sands when the tide is out. It is probably correct to say that a dozen amateur naturalists could be found with a fair working knowledge of birds and fishes, to one that knows even the rudiments of invertebrate paleontology, and, therefore, we welcome with pleasure the balance of the third edition of "Animal Life of our Seashore," by Professor Angelo Heilprin, of the Academy of Natural Science of Philadelphia. This little manual will be found a thoroughly satisfactory guide book to the animal life of the much frequented Atlantic Coast, as far north as Cape Cod. It is divided into chapters, dealing with the shell fish of the coast, polyps and jelly fishes, star fishes, sea-urchins and sea-cucumbers, carcinological friends, worms, sponges, etc., and some coastwise fishes. The publishers are J. B. Lippincott & Co., Philadelphia, Pa.

accurately as it does the straight-away walk.

Learn to walk—walk often—and walk far. No one should let a day go by without walking at least two or three miles, five to fifteen would be better.

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

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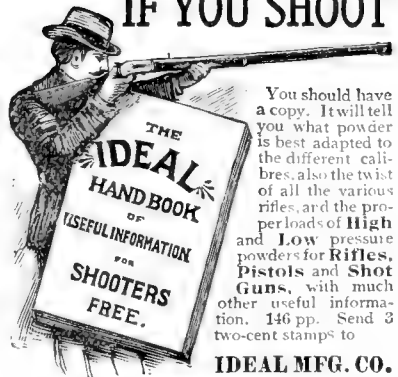
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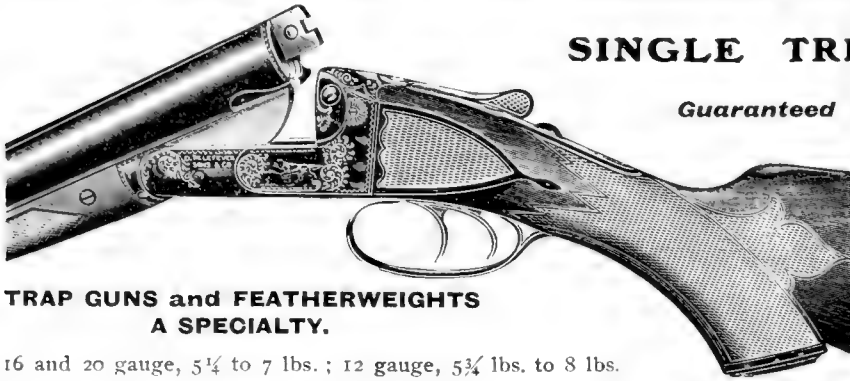
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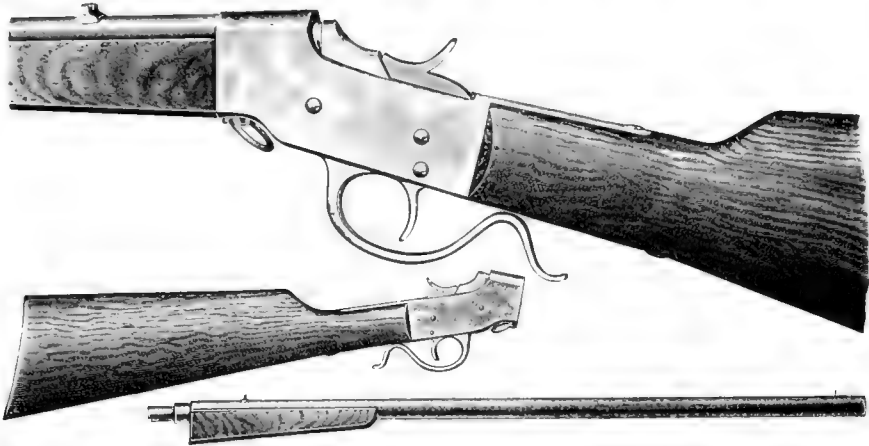
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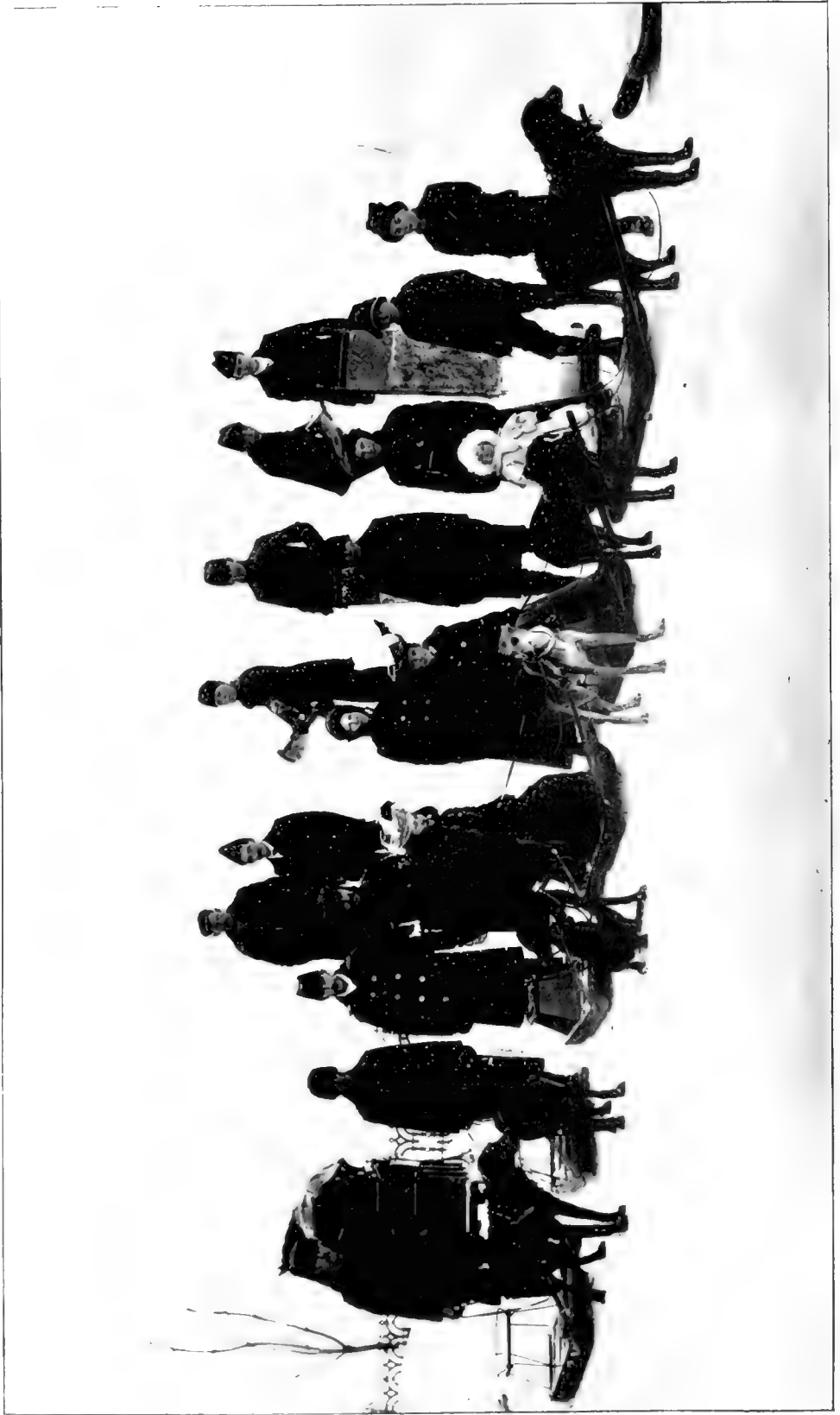
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VOL. V.

MONTREAL AND TORONTO, JANUARY, 1904

No. 8

Over the Height of Land.

BY A. C. FALES.

The "Height of Land", so called, has reference to the watershed, which separates the streams flowing into Hudson's Bay on the north, from those which empty their waters into the St. Lawrence on the south. The mountain range here is known in the geography as the Wotchish and is a continuation westward of the Laurentian Hills north of the St. Lawrence.

Being desirous of visiting the headwaters of the Ottawa River during the month of September on a hunting and fishing excursion, my friend, Mr. H. I. Jenkins of Malden, Mass., and myself, applied to the Province of Quebec for a special permit to hunt and fish over the "Height of Land," it being illegal to hunt in Pontiac and Ottawa counties, south of the "Height of Land," until after October first. This permit being granted, we left Boston on the evening of September first and found ourselves in Montreal the next morning, and without delay proceeded to Ottawa, where we arrived at about one o'clock. We visited the Senate and House of Commons, then in session, and afterwards proceeded to Mattawa, on the Canadian Pacific Railway, where we met our guides, Messrs. George Crawford and Angus Bastein, at the store of the Hudson Bay Co. Everything that a sportsman needs in the woods can be obtained here, and we purchased all our provisions and rented our camping outfit, including tents, blankets and cooking utensils, also three birch-bark canoes. Not being able to catch the train to Timiskaming that day, we were compelled to stop a couple of days

at Mattawa, but we passed the time very enjoyably fishing in the neighborhood. There seems to be no trouble to catch all the fish one cares about right at this place. We caught bass weighing over three pounds, pike over twelve pounds and mascalonge over twenty-three pounds. On Saturday, the fifth, we left Mattawa for Timiskaming, which is on the south end of the lake of the same name, and taking steamer there, went up the lake, stopping at Ville Marie, Haileybury, New Liskeard and finally reaching North Timiskaming the afternoon of the sixth. Here we stopped over night and engaged a double team to carry our luggage over the portage, which cuts off the rapids of the Quinze River. It is here that we leave civilization and enter the almost uninhabited regions beyond. I have said nothing of the trip on the railway up the Ottawa River and the scenic beauties of this noble stream, nor of Lake Timiskaming, of which so much has been already written by those who have gone before, but shall speak more particularly of our trip beyond North Timiskaming, of which not so much is known to the sporting fraternity, though it is easy to predict that it will be a favorite resort for many in the future.

Leaving North Timiskaming on the morning of the seventh we followed the team over a fairly good road through the forest for about thirteen miles to Klock's farm on Quinze Lake. While travelling over this road we met William Paulson, who was on his way to North Timiskaming, having just come down the Lakes. We immediately hir-

ed him for the trip and he proved to be a very valuable man to us, as he was familiar with all the northern country through which we were to travel.

On reaching Quinze Lake we had dinner and then launching our canoes we commenced the long paddle northward. We could very well have proceeded up the Quinze River, by carrying around the various rapids as we encountered them, and taking in the scenery there, but our delays prompted us to adopt the quicker route. On the evening of the seventh we camped at the north end of this lake and started early in the morning up the river to Barriere Lake. This river is, I believe, sometimes called the Lonely River, but it must not be confounded with the Lonely River that we ascend later on in our journey. At the foot of Barriere Lake, we again encounter rapids, and a short carry is necessary to get into its waters. From here we paddled northward all day, stopping on an island for dinner. This lake is very long and narrow, with dense forest down to the water's edge. Wild fowl, including various species of duck, were fairly plentiful, though shy, owing to the route being frequently travelled by the Hudson Bay Co.'s men and by those engaged in lumbering and surveying.

In the afternoon we entered the Lonely River, which is almost a still-water stream about eight miles in length, connecting Barriere with Opisatic Lake. We saw many duck on this stream and numerous fresh signs of moose. Reaching the foot of Opisatic about an hour before sundown, we camped for the night and caught several pike. There is very good fishing from here onward.

Next morning we journeyed onwards until we came to the Narrows, where William Paulson lives with his family during the trapping season. Continuing through the Narrows the Lake expands again and we find two large bays extending to the west and east. On the journey up this lake we saw our first moose. He was busy eating lily pads when we first saw him, but as the wind was blowing towards him, he soon got our scent and made off into the forest.

Soon after we reached the north end of the lake and crossed a short passage into "Height of Land" Lake. Paddling down this we came to a somewhat longer portage, parts of which were planked, it being one of the routes of the Hudson Bay Co. Crossing this portage we came into another small lake, which empties its waters northerly by the Snake River into Island Lake.

We are now over the "Height of Land" and are on waters which eventually reach Hudson's Bay. Down Snake River we go and soon find ourselves in Island Lake, where we were to have two weeks of genuine sport. It being late in the afternoon, we did not go far on Island Lake that day, but pitched our tents on an island, where we remained a couple of days to explore that part, and ascertain where the moose were located.

All along the route travelled by canoe there are dense forests of poplar, birch, fir, spruce and tamarack, but the latter were all dead.* I think it would be very difficult to find a living tree of this species. What is the cause of the death of all the tamarack I was unable to determine, unless from the depredations of some species of caterpillar. We certainly enjoyed immensely the long canoe trip, with a south wind sweeping us along all the way. I would be glad to take the trip again, if for nothing else than to view these magnificent lakes. The air here, unpolluted by smoke, is enough to bring health and vigor to any, and I thought if one could transfer these waters to the vicinity of some of our American cities, what a resort they could be for holiday excursions of our over-crowded people.

In passing up these lakes, you find that lumbering is carried on to a considerable extent, though I failed to see any timber that I considered worth cutting, unless for pulpwood, and inquiring to find if the territory had been lumbered over in former years, I was informed that such was not the case, that the large timber is found principally on the high ridges, somewhat distant from the lakes. Here they get fairly good pine, but in general from the lakes the forest trees appear small and I

*See Editorial Comment.

understand that one hundred years or more ago, according to Indian tradition, this immense country was swept by destructive fires. Hunting in the bush here is difficult work owing to the denseness of the undergrowth, so we always confined ourselves to the small creeks that make into the lakes.

To return to our story: We found on exploring the various bays, outlets and inlets of Island Lake that our geographers are much astray. There seems to be no end of islands, which hide the shore line, but as we had lots of time, we determined to make use of it, and discovered that on the east side, there is a short channel leading into another large expanse of water, of very irregular shape, almost, it seemed, to me, as large as the main body, and this is not shown on the map.

On Friday, the eleventh, we determined to reach the northern end of the lake and find the stream that leads into it from Labyrinth Lake, through which latter runs the boundary line between Quebec and Ontario. But though we went several miles up a small creek, which seemed the right one, we had to abandon following it farther owing to the fallen trees which obstructed our passage. Here we found plenty of fresh moose sign. We camped in a veritable jungle for the night, and retraced our way next morning to the lake, where after another hour's hunt, we found the right stream, the outlet of Labyrinth Lake. At its mouth we made our headquarters for the rest of our stay. Here away from the route of the fur traders we enjoyed complete seclusion from the rest of mankind, and had things all to ourselves.

Though we had rainy weather most of the time, and very windy, yet a few evenings and mornings were calm enough to call moose. George Crawford acted as my guide, and William Paulson for my friend, Mr. Jenkins, while Angus Bastein acted as cook. Every day when it did not ram too hard we paddled across bays and up creeks, in search of fresh signs of game and found that they were there somewhere. Monday, the fourteenth, we thought we had them located and started off, George and I up the creek where the logs were, and William and Mr. Jenkins farther west to another creek. We were not there long, and had called only a few times, when it

was evident that our chopping the day before had scared the moose out, and soon we heard shots in the direction of the other party. Returning to camp for breakfast, we had not long to wait before Mr. Jenkins and William returned with smiling countenances, and after hearing their story, we breakfasted and went with them to skin the moose. We found him near the water, and he proved to be the largest that I have ever seen on any of my trips. His antlers had a spread of fifty-one inches, which though often surpassed, were nevertheless very symmetrical and we were well pleased with them. After cutting him up we returned to camp, and as they said they had heard two or three more there, it was resolved that we try there again next morning. This time George and I went, and after some time meeting with no response to the call, concluded the other moose had been frightened away, and accordingly we paddled for headquarters. But we were to have our share of sport before we reached camp, for on approaching a point of land that makes out into the lake, George espied a black object on the shore, and after watching it a while, to ascertain if it moved, he called my attention to it, and there was Bruin sure enough.

The wind was blowing at this time, but fortunately from the bear toward us. Approaching him carefully we came within about one hundred and fifty yards, then stopped to see what he or rather as it turned out, she would do. The bear was evidently undecided herself, for after walking backward and forward a few times, on the shore, she started toward the bush, when George instructed me to fire, which I was about to do, when she retraced her steps to the water's edge. Being requested to reserve my shot, we watched her awhile longer, edging nearer meanwhile for a closer shot. Why she did not see us I cannot understand, but she was evidently thinking of something else, and after looking all round, she plunged into the lake and started to swim across and strange to say, in a direction almost directly toward us. When within about fifty yards of the shore, she raised herself in the water and looked straight at us with a very much surprised air, then turning made haste for the point

Dropping the rifle and grasping a paddle, we were soon close on, when I suggested that we get between the bear and shore, but my guide thought it better since we were then so close to land to take no chances and advised me to shoot, which I accordingly did, killing her instantly by a shot through the neck. Then grasping her by the ear we towed her ashore. She proved to be an old bear, with the incisor teeth broken off, which my guide said was probably due to her having been caught in a trap somewhere, and sure enough when skinned, we found a large horizontal scar on her back, where she had been crushed in a death fall. We began to think by this time that Quebec was not a bad place for big game after all. Later on we secured another pair of fine antlers, which, though not having so wide a spread, were much more massive and had twenty points in all.

Small game was very abundant, including two varieties of grouse, also rabbit and muskrat. We used a .22-calibre for these, as a shotgun would have made too much noise and disturbed the larger game. In the vicinity of the camp we found old beaver dams, otter slides and muskrat houses. The animals were very plentiful, and paddling down the rivers after dark, we would be almost scared overboard by the noise caused by their sudden plunges in the water. My guide would smile at me and grunt: "O jusk!"

Their knowledge of the habits of all kinds of game furnished us always with an interesting subject of conversation, as we sat smoking our pipes around the evening camp fire.

Our time was now limited and we began moving south by easy stages, in order to reach Klock's by Friday night, twenty-fifth and get our baggage on their teams Saturday morning bound for North Timiskaming. On our way out we met a number of other parties going in. These came from various parts of the United States, New York, Philadelphia, Chicago, Annapolis, Maryland, and from Ohio. The last day of our canoe trip we had the wind against us, and the lake became so rough that we shipped water badly and it looked dubious for a while, whether or not we could make our connections in time. Fortunately an "alligator" came along and taking us

aboard, helped us over a very considerable part of the balance of our journey. These "alligators" are so constructed that they can navigate over land or water and if required can be turned into a portable steam saw mill. They are a very convenient craft for this northern country.

The voyage from North Timiskaming to Mattawa was uneventful. We reached there on the evening of the twenty-ninth, and after a hurried change of clothing, we bade our guides and the Hudson Bay people goodbye, and boarded the train for home, reaching Boston Wednesday, the thirtieth, after an absence of thirty days.

As I think over the trip now at my leisure, I feel that up to date it is the best that I have ever made and the most successful. Our guides were all that mortal could wish. They were most painstaking to provide for our comfort, and the best hunters I have ever yet accompanied, and I cheerfully recommend them to others who may desire their services.

*(The destruction to the larch or tamarack throughout the forests of Canada, by insect depredation, has been severe and widespread. The appearance of the destructive agent, the Larch Saw Fly (*Nematodes Ericksonii*) was sudden, and its spread very rapid, but it has now almost disappeared, leaving however the tamarack trees bare and dead, until the new growth, which is now coming up, takes their place. The Larch Saw Fly was first noticed in the United States in 1881, and in 1882, and 1883, its first appearance in Canada was recorded in the Eastern Townships of Quebec: In 1885 the tamaracks were dead or dying all along the line of the Intercolonial Railway, and the work of destruction had advanced into Ontario and quickly spread through the northern forests. Whether the insect is introduced or indigenous is uncertain. Dr. Packard stated that the American Saw Fly differed slightly from the German, in the eggs being laid at the base of the leaves of the newly grown shoots, rather than on or under the epidermis of the last year's shoots, where they were repeatedly and in vain searched for, and he considered that it could not have been introduced with the European Larch, as its ravages

were committed in the wilder and least frequented parts of Maine, New Hampshire and New York. Dr. Fletcher noticed that the eggs of the German insect were laid in double rows, and those of the Canadian in single rows, but was of opinion that the species must have been introduced on account of its rapid increase and spread, and freedom from parasites, and the fact, frequently observed, that the Euronean Larch was attacked in preference to the Canadian. The practical disappearance of the pest is probably due to parasites, as this is Nature's usual method of keeping the balance of forces.

The Larch Saw Fly belongs to the Order Hymenoptera, and is a small insect about half an inch long, its color being black and orange. The wings are four in number, black-veined with a tawny fore margin and dark black spot—the stigma—towards the tip of the wing, and in the female have a spread of three-fourths of an inch. The head, thorax, and base and tip of the abdomen are black, and segments two to five of the last and part or all of six are a rich waxy orange color. The first and second pair of legs are yellow and the third pair longer than the others. The ovipositor, or female organ for depositing the

eggs, is fitted out with a saw apparatus for making the necessary slit in the larch needles to prepare a receptacle for the egg, hence the name sawfly. The eggs are laid in the terminal young shoots, and sometimes in one of the lateral shoots as well, and give them the peculiar distorted appearance which is a sign of the work of this insect. The larvae, when hatched, are dark green, with the head large and dark, and they begin immediately to eat the leaves with a voracious appetite, beginning at the apex of the twigs and working down. When disturbed they curl up into the peculiar "S" shape so characteristic of the saw fly. They are active for about one to three weeks and after the last moult the color is bluish, the head and thoracic feet black and the lower part green, while the length is about $1\frac{1}{4}$ inches. They then change to brown or pink, drop from the trees and prepare for winter, by spinning brown cocoons under the leaves, or debris, or sometimes down a short distance in the earth. The mature fly appears about the end of June or beginning of July, according to the locality and the cycle goes on again. The damage is done in the larval stage by the destruction of the tamarck needles, the trees being bared and killed out.—Ed.)

In the course of an article on "Things a boy should have a chance to read," in the "American Review of Reviews" for December, Mr. H. L. Elmendorf deals with the so-called Nature books, and as we agree most cordially with what he has said, a few excerpts may not be amiss:—"For instance, he must know the value of the ethical animal stories, in which animals talk and reason in a human way, beginning with 'Aesop's Fables,' which the boy may have as a very little boy in 'Baby's Own Aesop,' pictured by Walter Crane, or later in Joseph Jacob's 'Fables of Aesop,' through 'The Delectable History of Reynard, the Fox,' down to their natural successors, Kipling's 'Jungle Books.' These teach ethics, — the power of kindness, the necessity and nobility of obedience, the strength of the weak, and the quality of mercy. Then there are ani-

mal stories such as Lloyd Morgan's 'Animal Sketches,' Ernest Ingersoll's 'Wild Life of Orchard and Field,' W. T. Hornaday's 'Two Years in the Jungle,' and Paul Du Chaillu's 'World of the Great Forest,' which teach natural history,—healthy books of which boys, as a rule, are very fond. Between these two classes there is a mass of pernicious stuff, generally published under the name of 'nature books,' but most unnatural, where 'peach trees ruminant on the distribution of their pits, and the caterpillar reasons as to his future metamorphoses,'—false science and poor stories. Those who love nature and outdoors should be told of the best bird books, such as Chapman's 'Bird Life' and Dugmore's 'Nature and the Camera,' of Mrs. Dana's 'How to Know the Wild Flowers,' of the fern books, the mushroom books, and the like."

Sir James Hector.*

BY MARY S. S. SCHAFFER.

In August of 1903 the climbers, explorers and visitors generally among the Canadian Rockies, heard with delight and interest that Sir James Hector had arrived on the western coast and was wending his way east to retrace some of the old ground which he had visited forty-three years previously. He had come from Wellington, N. Z., where he had made his home all these years, holding the position of director of the Royal Museum of New Zealand. Needless to say that among many there was the keenest anticipation of his coming, and a pardonable curiosity to see a man whose life-record was such as his. The eagerness to behold the hero was tempered by some of younger generations, who asked the question: "What did he do?" It is for the questioners chiefly that this slight sketch is given, with the accompanying photographs. It seems strange that a man who struck such a superb blow for the liberation of the west from its vast solitude, silence and impassibility, should be so little known today among general travellers. Many of those who have given their best of brain and strength that two threads of steel might traverse in unbroken line from Atlantic to Pacific are gone. But the man who drove the first wedge lives, and to climbers, explorers and students in the vast new countries, his name carries a deep and abiding reverence. Little did we think when the snowy-haired traveller descended from the train at Glacier, that hopes were to go unrealized, and that he would return alone with his sorrow to his home, leaving a young, bright son, to rest forever in the valley of the Columbia.

Our first evening with him was one of intense interest listening to little sketches of that expedition which began in 1857, ended in 1860, and whose hardships started on landing at Fort William, extending directly west and finally reaching what is now Golden via the Columbia. The extreme limit of the expedition was conduct-

ed by Dr. Hector himself in his search for a pass. Reaching Golden, he started back by way of the famous river, since called the Kicking Horse. Reaching a point not far from the present little village of Field an incident occurred which is best told in his own words. Bringing his hand down emphatically upon his knee he said: "There is one place I mean to see, and that's my grave!" "Your grave?" "Yes, I'm sure I can go to the exact spot. We had followed a deep and swollen river from its junction with the Columbia through a very narrow and precipitous pass and eventually came to an end. Just before reaching the end, it was necessary to get our entire outfit across. I undertook to drive the first horse in, always a difficult and tedious proceeding and he resented my efforts and showed his dislike of fording an unknown angry torrent by a most emphatic kick, which struck me on the left side, breaking several ribs. I dropped of course, and after working over me for some time, my men concluded the end had come, and proceeded to dig my grave. But that's a good many years ago and I did not use that grave. Instead, they named the river the Kicking Horse, and gave the Pass, which we made our way through a few days later, the same name." Another little incident which the explorer mentioned, may be of interest to others as it was to his listeners. Half-breeds were employed to a very large extent as packers throughout the entire three years, though in the farther western work friendly Indians occasionally assisted. But one of the most faithful, reliable men of the entire trip was one Louis Riehl. Louis Riehl, who headed later the rebellion that has since taken his name. To return now to the incidents as they occurred at Glacier. The son Douglas grew rapidly worse and it was decided to remove him to the Revelstoke Hospital. There he died after thirty-six hours' illness. Sorrow makes the world akin. On

the 17th of August those who gathered about that open grave were friends of the one who was gone, and to the one who was left. Where the Selkirk Mountains will forever cast their purple shadows across his grave, where the winding Columbia will murmur a dirge as long as the river flows, we left him. Strange that the father leaves a son in the land, where so many years ago he brought his best manhood. Returning to the Revelstoke hotel, we asked for a portrait, that those who had so eagerly awaited the coming of the Grand Old Man (a borrowed but a fitting title), might form some idea of the one who had been such a power in the Palliser Expedition.

Edward Whymper, the well-known mountaineer, was by his side that sorrowful day. The first handclasp of the two well-known men was one worth seeing. They had known each other for years and never met. But when they greeted, Sir James' eager exclamation "Ah Whymper, is it you?" spoke volumes. The expression of the two faces is typical of each. The one overcame difficulties by bending with gentle insistence to the force—the other overcame obstacles by absolute mastery, as the grim powerful jaw and straight rigid lines would indicate.

Here came together on that August afternoon, Edward Whymper, master of the Matterhorn, and a long list of other famous mountaineers, and Sir James Hector, botanist, geologist and surveyor of the Palliser Expedition.

And now a word of this expedition. It seems almost sacrilege to infer that there are those who know not of its import. There are many living on the very threshold of the land explored who do not comprehend the value of their beautiful country. One portion outvies the great wheat fields of the United States, at which hitherto all the world has marveled; and another ranks or eclipses the Alps.

And it is the man Hector to whom Canadians owe so much,—that he endured hardships of extreme cold, starvation and the risk of life among the Indians, pluckily inspiring his men, and by his own magnetism leading them on to the victory which discovered the Passes so much sought. The wild tribes among the foothills were one

of the most serious problems, and his capacity of making friends with them, through his knowledge of drugs is best told in his own words: "I was very fortunate in having an epidemic break out among the Indians, which I was able to master with very simple drugs, and by frequently changing their camps. But it was that epidemic that made some very doubtful neighbors our friends, and enabled us to continue our exploration, where doubtless we would have failed had I been unable to cope with the trouble." Palliser in his own report refers in the following manner to Sir James' skill, to which he himself referred so lightly: "Dr. Hector, whose able assistance and exertions mainly contributed to the success of the expedition, was most indefatigable, not only during the general exploring season, but also during the several winter excursions, exposed to all the hardships of an Arctic temperature. A great cause of our success was due to Dr. Hector's skill at his profession among the Indians, especially the women and children." Again quoting from Palliser: "The object of the expedition was: 1st. Information for a favorable route for immigration or agricultural advantages. 2nd. To ascertain the nature of the country west of the Red River, and elbow of the Saskatchewan and north of the boundary line. 3rd. To find a pass or passes across the Rocky Mountains, north of the boundary line."

In closing this particular preface to the general report, he says: "The knowledge of the country on the whole would never lead me to advocate a line of communication from Canada across the continent to the Pacific, exclusively through British territory. The time has now forever gone by for effecting such an object and the unfortunate choice of an astronomical boundary line has completely isolated the Canadian - American possessions of Great Britain from Canada in the east, and also almost debarred them from any eligible access from the Pacific coast on the west." If Sir James Hector shared Palliser's doubt at that time what must have been his thoughts on seeing the beautiful harbor of Vancouver, with her Majestic Empress boats and her trains lying hardby to carry the stranger direct across the continent,

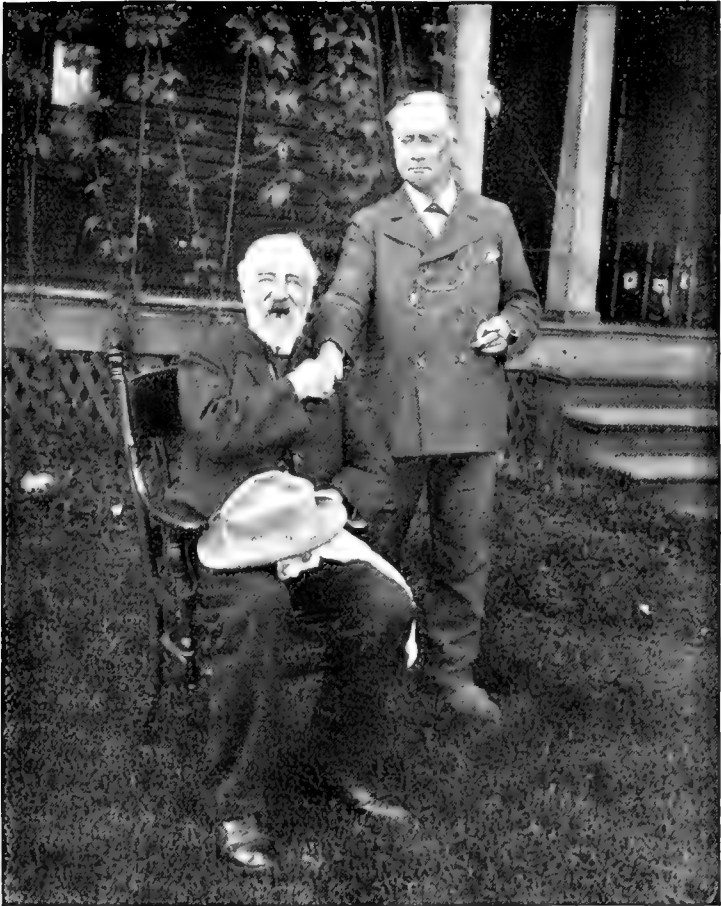
with no need for the rivers and lakes which dip below the boundary line. He did not say. But above all what would have been his feelings, had he been taken over the Kicking Horse Pass—his Pass—and seen the marvelous engineering, with which true Canadian grit has overcome such enormous

obstacles, obstacles which caused Palliser to speak so positively of absolute failure. Let us trust that Sir James Hector will come again to see the work which is finished, a work that received its first impetus from a brave, intrepid self-sacrificing explorer. And when he comes a royal welcome his. Such men as he are few.

Messrs H. W. Moller and R. J. Rioux, lately made a very interesting canoe trip and one that we think would give the greatest possible satisfaction to eleven men out of every dozen. Those who have been in the Saskatchewan country know what a fascination it has for lovers of the smooth bore or rifle. Of this journey a correspondent writes:—

“The trip affords magnificent fishing, shooting, and scenery, and is a perfect one for a holiday outing. Messrs Moller and Rioux were away twelve days. They went to Innisfail by train and drove thence to the Clearwater. The route from Innisfail to the Clearwater is but little used, and it requires someone acquainted with the country to make the journey. Three miles west of Innisfail the Red Deer river has to be crossed. The cable ferry operated there by the government was not working, necessitating the swimming of the horses. A splendid ranching country, without much timber, and having plenty of hay sloughs, is traversed to the Medicine river, ten miles beyond the Red Deer. Four miles after passing the Medicine River, settlement ceases, the only habitation to be seen being that of Thompson, a trader, on the Clearwater. The weather was unfavorable and the travellers, after spending a night in camp on the banks of the Clearwater, started down stream in a drizzling rain. The river is swift and the water clear. The country through which it runs is very flat, the banks not being more than two or three feet high. At low water the river is full of sand bars and channels, and spreads itself over a distance of about a quarter of a mile in width. During the high water of last year it spread out to a width of two miles, and the driftwood it

left on what is now dry prairie can be seen a mile from either shore. At Prairie Creek, a confluent of the Clearwater, about thirty miles below Thompson's post, is the great trout fishing spot. Here the travellers spent a short time, but the fish were not biting much that day, and after securing a few they continued the journey. The next afternoon brought them to the junction of the Saskatchewan and Clearwater. The view here is magnificent. The Saskatchewan broadens out to a great width, and comes rolling down in great waves where the waters meet. Just across the river are the remains of the old Rocky Mountain House, an old post of the H. B. Co. In crossing over to view the remains the travellers swamped their canoe and lost much of their food supplies. The next day the down-river journey to Edmonton commenced. This part of the trip occupied eight days. The day after leaving the Clearwater, a magnificent elk was shot along the river bank. With a number of others he had come down to cross the river, when Mr. Moller brought him down with a long shot. They estimate that the animal weighed 1100 or 1200 pounds. The horns and some of the meat they brought down. On their journey down the Saskatchewan it had been their intention to go up the Brazeau after jumping deer, antelope and moose, which are reported plentiful in that region, but they passed the mouth of the river unknowingly, and so missed that part of the trip. In places the river is dangerous to one not knowing the channels, and at all times the scenery is magnificent. As a holiday outing it is unequalled. Game and fish are plentiful, and the journey being down stream all the way makes it an easy one to make.”



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TWO VETERAN EXPLORERS.

Sir James Hector and Edward Whymper; taken by Mrs. Mary Schaffer
at Glacier, last summer.



KOOTENAY LAKE.

An early morning scene near Balfour showing the Selkirk Range draped in mist.



GATHERING DRIFT WOOD.

A Stoney Indian Squaw picking up fuel on the banks of the Bow River, Alberta.

The Cottonwood.*

One of the common poplars of the West, and an occasional visitor in Eastern Canada, is the Cottonwood, (*populus monilifera*.) The poplars are soft wooded trees of fast growth, and although the wood is not of great value, their quick maturity is a great advantage. The Cottonwood produces the best wood of the species growing in the West and is a favorite tree for planting where the object is to obtain a quick growth. The favorite habitat of this species is along the river valleys and as it is a native, success with it is not difficult, provided its natural proclivities are given due consideration. It has been largely used by the Forestry Branch of the Department of the Interior in connection with its co-operative tree planting scheme. The number of trees of this species supplied is not differentiated in the last annual report, but the stock provided for future use was 300,000.

Populus, the people, and the rustling whispering, restless leaves of the poplar suggested to the ancients the tossing, murmuring, ever-moving populace, which could never keep secrets or maintain silence but must ever be telling to the vagrant wind and the passing stranger the empty nothings of a vacant hour or the light gossip that might possess a power of evil which it was too empty-headed to have the power to discern. The Aspen Poplar is the chief representative of this characteristic, but the laterally compressed leaf-stem on which the trembling depends is more or less developed in all species of the genus.

In the bright sun the play of light on the leaves as they quiver in tremulous motion has a beauty that compels the gaze of the onlooker and gives a sensation of exquisite pleasure such as only natural scenes can arouse. The Cottonwood has the young branches slightly angled, and the leaves are broadly deltoid, about as wide as they are long, slightly incurved at the base, and narrowing somewhat abruptly at the top into a short, sharp point. The margin is distinctly serrate and sometimes has incurved hairy teeth. The fertile catkins, which appear in the spring, are very

long and from them is derived the popular name of Necklace Poplar, sometimes applied to this tree, and also its scientific designation "*monilifera*" or necklace bearing. It grows to a height of from eighty to one hundred and fifty feet, in favorable conditions. While found only incidentally in Eastern Canada it is more generally found in the West. Macoun's Catalogue makes the following statement in regard to its distribution:—

"Rather common in all the river valleys throughout the prairie region from the Red River westward to the base of the Rocky Mountains. At "Big Stick" Lakes, north of the Cypress Hills, there was a grove of these trees of a very large size in existence in 1880. These had escaped the annual prairie fires, being surrounded and partly covered up by sand, and stood as a proof of the existence of forests in the past, where now there is not even a bush. The trees were over fifty feet high and some of them at least two feet in diameter."

*Contributed by the Officers of the Canadian Forestry Association

THE HUNTER'S MOON.

By Helen M. Merrill.

Night on the mountain, not a sound
 Save dead leaf falling,
 The bay of hound, the far-off cry
 Of wild fowl calling.

Mists swimming under the white stars
 Where the deer drink
 In silence, like dusk shadows looming
 At the lake's brink.

Beyond the summit of black pines
 The hunter's moon,
 Dim growing in the misty light
 That breaketh soon.

Down The Croche.

BY MARTIN HUNTER.

While the route I am about to describe is not actually virgin water, still, I fancy, it is not generally known to anglers.

Though having the entry into numerous club preserves, were I so minded, I decided to avoid the usual haunts of fishermen and—figuratively speaking—paddle my own canoe.

A visit to the Crown Lands Department in Quebec gave me access to a very complete map of the Lake St. John's basin, and that of the St. Maurice to the west. I found the divide between the Riviere au Toma that flows into Lake St. John's and the upper reaches of The Croche was only a few miles, and by referring to the description of the smaller river, I found it was navigable for canoes, and decided there and then that that route would be my field of outing.

Next morning I took the Lake St. John's Railway for the lake and passed through some of the most pleasing and varied scenery imaginable.

Having put up at the Hotel Roberval for the night, next morning I found any number of guides hanging about the piazza of the hotel. The clerk gave me the benefit of his knowledge of the men and selected two first-rate, all-round bush and canoe men. Of course they provided their own canoe, and between us we made up a list of necessary provisions for a ten-day trip. This was handed into the principal store of the place to be filled during the day, and that evening, canoe, tents, provisions, etc., were packed and corded on a wagon ready for an early start in the morning to a point, or rather, a bend of the river nine miles back from the village. This portage exempted us from about twenty miles of the lower part of the river, a portion of almost continuous rapids, so the guides informed me.

By noon the wagon had deposited our belongings at the river. The guides and myself following in another vehicle. The teamsters let their horses graze, while my men loaded the canoe, and I wrote a few pen-

ciled lines home to be posted at Roberval.

We paddled up over about a mile of sluggish water to the first rapid, and there finding a good camping place, and the head guide informing me there was pretty fair fishing at the foot and half way up, I gave orders for the first night's camp to be made, though yet early in the day.

While the men were busying themselves at this work I jointed my rod and fished for an hour or so, with very good success as to number and quality, but small in size. What a soothing and delicious night's rest I had—my bed of fresh pine bows and the gentle rippling of the rapid to lull me to sleep.

The next day we were off bright and early as we had numerous small rapids to pole the canoe up and some where the waters were too turbulent, canoe and baggage had to be portaged. Places where the men could pole the canoe up they put me ashore to walk across the short portage.

That evening at dusk, we landed at the place where we left the Toma and camped on the end of what is known as the long portage. The men were pretty well tired out from their long day and as soon as supper was over, we rolled into our blankets and were soon fast asleep.

The long portage is long, probably three and a half miles, but the walking is good. The land is a gentle roll and was burnt clear to the ground some years previous. We went through in what the guide called a trip and a half and was accomplished in this way.

All the stuff was done up into two bundles, except my rod, gun and satchel: these I said I would carry. Man No. 1 took the canoe and went ahead on the trail as far as he could comfortably carry it, and then put it down. Man No. 2 loaded one of the large bundles and followed the first man until he was tired, and while No. 2 was returning for the second bundle No. 1 had come back on the portage to where he found the bundle, and when he carried this as far as the canoe, he put it down and

went ahead again with the bark. Considerable time can be saved by proper ordering of trips on a portage.

At the upper or West end of the long portage we fell into a small round lake, the waters of which flowed both ways, westward into the Croche and eastward into the Toma.

Across this small body of water we took "Antler Portage." It is about a mile long, the whole length of which is carpeted by beautiful white moss and studded by clumps and avenues of pitch pines. Some of the views down these delightful glades were surpassingly beautiful to the eye.

We embarked at the other end with as little delay as possible as the sun was getting near the tree tops, and we had yet two miles of lake-like river before us to reach the Grand Falls of the Croche. This was our objective point, when we broke camp in the morning.

We camped that night at the upper end of the portage and the roar of the falling waters kept me awake far into the night, so the next day we moved camp half-way through, where the trail lay back from the river a little. Here we found a fresh, grassy glade, a delightful spring of clear, cold water and abundance of dry wood for our camp fires.

A more ideal place could hardly be imagined. Our tents were in easy distance of all the best fishing points.

The great falls are, more properly speaking, a succession of three falls varying in height from forty to sixty feet, each of which is cut into by rocky, tree-clad islets, making the most picturesque scenery one could desire. Too late, I regretted having purposely left my kodak. Here, in this delightful spot I remained three days and had all the sport I wanted for one season. Below the different ledges and around the little bays was room for twenty rods. The fish were in abundance and varied in weight from one pound up to three or four.

Every angler knows the lusciousness of speckled trout direct from the water into the frying pan, and this we had a la demande.

As a change in our menu one of the guides shot two brace of partridge back of the camp and these were cooked as only a bushman can cook.

Unfortunately my time was limited and it was with much reluctance I at last left the Falls.

Down the Croche we paddled, passing several other minor falls and rapids. The last twenty miles of the river is almost still water and by its torturous windings gives the name "Crooked" to the river. The Croche debouches into the St. Maurice five miles above La Tuque. Here I paid off my men and took the river steamer for Grande Piles. This little steamer carries one safely down sixty miles of the grand St. Maurice, making close connection with the branch C. P. R. into Three Rivers. The evening train from Grande Piles connects with the express from Quebec and at 10.10 p.m. on my tenth night I was in Montreal, refreshed and much pleased with my journey by "Forest and Stream."

The Fourth Annual Report of the Canadian Forestry Association has been issued and any member of the Association who may not have received a copy will be supplied upon advising the Secretary.



"Go ask papa," the maiden said.

The young man knew papa was dead,
Also the wicked life he'd led—

So understood, when the maiden said,
"Go ask papa."

—Fishing Gazette.



Some very reckless statements appeared in the daily press touching upon game preservation and the slaughter of game. One Ontario paper quotes a gentleman who has hunted in Northern Ontario and Quebec for years, as stating that ninety-five per cent of the deer killed in Ontario are slaughtered out of season. As the number of deer slaughtered in season is approximately known, it is easy to check up this statement. Let us suppose that 5000 deer fall to the rifles of hunters during the legitimate season, and this total is under the mark, then 45,000 deer at least, according to this old hunter, must be killed annually, something that is by no means probable.

The "Capital City."*

When a Governor-General coined the phrase "fair city with its crown of towers" to designate the capital of the Dominion he used an appellation which was not only singularly happy in form but is fully justified by the natural beauty of the surroundings in which the City is set and the fine gothic pile of the Parliament Buildings standing out in bold relief on the high rocky bluff overlooking the Ottawa River. Canadians have reason to be proud of the natural charms of their national capital, and may be expected to take a deep interest in and to give cordial support to any measures that may be undertaken to enhance its attractiveness and make it an expression of the national ideals of beauty.

The first step in this direction was taken many years ago in the improvement of the grounds surrounding the Parliament Buildings and of Major Hill Park, both overlooking the Ottawa River and framing in the beautiful view of the Laurentian Hills through the valley of the Rideau Canal. Quaintness is lent to the picture by the old canal locks, interesting in their reminder of the fears of invasion from the South and the industry and engineering skill of Colonel By and his associates by whom it was constructed under the direction of the Imperial Government as a military route.

More recently the city itself, by acquiring several small parks throughout its bounds and the beautiful Rockcliffe Park in the eastern suburbs, has made still further advances. But no comprehensive scheme was undertaken till the appointment of the Improvement Commission by the Dominion Government. The Commission have projected and largely carried to completion a roadway across the City from Rideau Hall, the residence of the Governor-General, in the eastern suburbs, by the way of King Edward avenue and the banks of the Rideau Canal, to the Central Experimental Farm on the West. Where trees were already growing on this route they have been worked into the general plan with good ef-

fect, and elsewhere trees and shrubs, both native and foreign, have been set out. This is now, and will in the course of years become increasingly more so, one of the most beautiful drives to be found in any city.

The funds of the Commission have recently been consolidated and the personnel added to so as to make it more clearly national rather than civic, and in order to have larger plans fully considered and matured it was decided to ask for a report on a general scheme from an expert landscape architect. The choice fell upon Mr. F. G. Todd, of Montreal, and we make no apology for bringing to the attention of our readers an outline of the proposals submitted by Mr. Todd.

The keynote of the proposals is found in the following quotation:—

"We have only to study the history of the older cities and note at what enormous cost they have overcome the lack of provision for their growth to realize that the future prosperity and beauty of the city depends in a great measure upon the ability to look ahead and the power to grasp the needs and requirements of the great population it is destined to have. Not only is Ottawa sure to become the centre of a large and populous district, but the fact that it is the capital of an immense country whose future greatness is only beginning to unfold, renders it necessary that it shall also be the centre of all those things which are an index of man's highest intellectual attainments, and that it be a city which will reflect the character of the nation and the dignity, stability, and good taste of its citizens."

Large expenditures have been necessitated in many cities for parks and other improvements by the failure to look far enough ahead and provide for the needs of the future. Washington was a unique exception but the plan laid out for that city over a hundred years ago was discarded after half that time had passed and is now

*Contributed by the Officers of the Canadian Forestry Association.

being returned to when the development of the intervening years has rendered necessary the outlay of millions of dollars to carry out what might have been accomplished earlier at a comparatively small expenditure. Ottawa is not a large city at present but is growing steadily and unquestionably it will be possible to lay the basis of a general scheme of improvement more easily and with a less outlay now than at any future date.

One of the proposals involving an extension not previously suggested, is for a large natural park or reserve on the Quebec side of the river in the vicinity of the Gatineau River and Meach Lake. As Mr. Todd justly observes, the Dominion of Canada is famous the world over for the extent and beauty of her forests, and for this reason it would seem appropriate that there should be reserved in close proximity to the capital good examples of the forests which once covered a great portion of the country. Not only will these reserves be of inestimable value to future generations as an example of the original forest, but they will also provide a place where nature may still be enjoyed unmarred by its contact with humanity. The suggested reserves include lands which originally were densely forested and which now include groves of well grown hardwoods such as hard and soft maple, beech, ash, etc., and also less extensive areas of second growth pine and spruce and other coniferous species. The gorgeous setting of these woods in their autumn colors is a sight not easily forgotten. The scenery of hill and lake and stream is that characteristic of the beautiful Laurentian formation and the rocky character of the district renders so much of it of little value for other than park or forest purposes that the few thousand acres necessary to the carrying out of the scheme could be obtained at a reasonable figure. The City of Boston within the last eight years has spent about ten million of dollars in creating just such parks and reserves which, if purchased fifty years ago,

could have been acquired for about one-twentieth of this amount.

The foundation for suburban parks is already laid by Rockcliffe Park in the east, having a beautiful outlook over the Ottawa and Gatineau Rivers from its rocky elevation. This park which is pleasantly wooded with groves and groups of matured hardwood and coniferous trees, was established by the city. It has been left largely in its natural condition, and is a favorite resort of children and others during the warm summer days and evenings. Mr. Todd suggests an extension of this park so as to take in similarly wooded lands in that vicinity and to extend to the Dominion Rifle Range, which lies some distance beyond.

The west end of the City above the Chaudiere Falls and overlooking the Little Chaudiere and Remous Rapids has a considerable area of land fairly well wooded and of little value for other purposes, which, with the islands located in the river just opposite, would make a park of great beauty, and the dark waters of the broad river foaming over their rocky bed, give life and animation to the scene. An extension of the driveway to the Experimental Farm so as to connect with this site would make the scheme of parks and parkways through the City complete, while the suggestion is made that a boulevard be constructed along the Ottawa River for the return journey.

These are the main features of the scheme as suggested, though there are some further points and minor details which have not been referred to. Enough has been given however to show that the plan is a comprehensive one and that if adopted and carried to completion, it will make of the Capital city of the Dominion one of which Canadians may well be proud, and which will bear comparison with that of any other country—both for its natural features and as a concrete presentation of the national ideals of beauty and civic adornment.



Wood Utilization at Deseronto.*

While Germany is looked to as the exemplar in forest management the differences that obtain in other countries must always be a check on a too close following of the model. The rate of stumpage in Germany has been given by a good authority at \$20, while in Canada it ranges from an unappreciable amount to as high now as \$6, though \$2 to \$3, might be taken as the average. This difference is not merely the result of higher prices for lumber for the difference in that respect is not very great. According to the reports submitted a few years ago by the Consuls of the United States in regard to American lumber in foreign markets, the prices at which pine and fir lumber was being sold at Frankfort by lumbermen who had saw mills in Bavaria, Wurtemberg and Baden, would be about equal to \$30 per thousand feet, B.M., for clear pine lumber one inch thick, twelve inches wide and sixteen feet long, \$25 for half clear, \$22 for good and \$17 for culls.

The value of the wood crops depends on the expense of cutting and getting it to market, which is determined mainly by the scale of wages and cost of transportation, and on the possibility of making profitable use of all the forest products. Where all parts of the tree have a value, even down to the twigs, there is a larger return financially.

The question of methods of utilization of forest products is therefore of great interest even though the stage may not be reached where everything produced, even to the smallest dimensions will bring a return.

The factories at Deseronto furnish an example of very complete utilization of the wood of different kinds produced on the limits and a short description of the works at that place may give some points of interest. Deseronto is beautifully situated on the slope of a hill overlooking the Bay of Quinte and has some lake traffic and local traffic, particularly with the county of Prince Edward, for which it is the near-

est port. Practically, however, the existence of the town, which has a population of 3,725 according to the last census, is dependent upon the lumber industry and other industries connected therewith. The lumber mill was established by H. B. Rathbun and continued by his son, E. W. Rathbun, and round it has grown up additional industries for the further manufacture and more general consumption of the products of the forest.

Both softwood and hardwoods are taken from the limits as the variety of manufacture makes it possible to use both. The logs are not cut to a uniform length in all cases, as by leaving them of irregular size, the whole log length of trees which would not cut equally into logs may be brought out. The ends of such over-sized logs are cut off before they are passed into the mill and are sent to be worked up in any of the industries for which their size and quality make them available.

In the sawmill which has a capacity of 300,000 feet B.M. per day, the logs are converted into lumber in the usual way by band and gang saws. This process, though familiar, is one of unflinching interest as the carriages swing backward and forward and under the skilful manipulation of the log handlers, on whose judgment and skill so much depends for getting the best value out of the logs, the saws steadily eat their way into the heart of the monarchs of the forest. The edgings and other portions of pine logs not suitable for boards are passed on, some to be cut into lath of different grades, while other pieces of suitable quality are prepared to be made into rollers for window blinds, and others again into mouldings. Pieces of greater width are made into box shooks and barrel headings in another building. Odds and ends are sent on to the match splint factory and whatever cannot be devoted to any other purpose is sold as firewood, for which there is a ready demand at a good price.

*Contributed by the Officers of the Canadian Forestry Association.

The door and sash factory, while using some board material, is largely supplied from smaller pieces which can be worked into the panels, mouldings and the frame work both of doors and windows. Pine is the wood most used for this purpose, hardwood being but little employed. The products of this factory find their way as far as the British market.

The box and heading factory makes use of smaller pieces, the equipment including in addition to what is necessary to prepare the material a simple but ingenious machine for nailing the boxes together and a complete printing outfit for labels. Here also are made racks for bricks in which thin strips of about one inch in width and a foot or more in length are employed.

The smallest blocks are passed on to the splint factory, where they are converted into match splints for the British markets. In this industry the work is light both in cutting and packing, the materials handled being small in bulk and weight. It is therefore done mainly by boys and girls and gives an opportunity for employment to those who have reached a suitable age, thus augmenting the family incomes and by rendering the conditions of the workmen more comfortable, making them more contented.

In the cedar mill, logs which are sound and of proper size are made into ties. Posts are sawn from others and the remaining pieces are worked up into shingles. The deftness and celerity with which the shingles are cut from the blocks and differentiated into the several grades of quality, are a wonder to the uninitiated. All progress in the more economic use of products means an increase of dexterity and a higher grade of intelligence in those employed, thus being an advantage from every point of view. Skill and foresight are developed.

The hardwoods are sawn into boards and disposed of as such, but the same care is exercised to make use of all material. The hardwoods that are suitable for lumber, and some soft woods are made use of in the charcoal plant. The wood is baked in retorts, both the newer metal retorts and the old style brick ovens being used at Deseronto. From one cord of wood are produced 40 to 50 bushels of charcoal, a bushel being equal to 20 lbs. Other products of

value from a cord of wood are wood alcohol 3.05 gallons, tar five gallons, and acetate of lime (lime being added) 110 lbs. The fuel for heating the retorts is supplied by the gases therefrom, mainly carbon, monoxide and hydrogen, and by the tar product mixed with the finer portions of the charcoal which cannot be used in the smelting works. The charcoal works are not now under the control of the Rathbun Company and the smelting company has always been a separate organization.

The Deseronto Iron Company, which came from the United States and has been operating for a comparatively short time in Canada, was induced to start its works on this side of the border, according to the statement of its management, by the placing of a duty on charcoal by the Government of the United States, making it more profitable for the Company to locate nearer the source of fuel supply. The special advantage of charcoal as a smelting fuel is the fact of its purity as compared with other forms of carbon used for this purpose, such as coke. The ore being similar in composition, this gives a purer product, thus making it possible to better control the chemical constituents. A disadvantage under which charcoal labors is a less ability to stand the crushing strain in the furnace. For this purpose the firmer hardwoods give the best material and only the larger pieces of charcoal are used, the dust and smaller material being returned to the charcoal works. The furnaces used are, however nine feet, six inches in diameter and sixty-one feet in height, while an ordinary coke furnace would be thirteen feet in diameter and eighty feet high. The product is from thirty-five to forty tons of pig iron per day and is all disposed of in the Province of Ontario. In fact the only difficulty that stands in the way of the continuance and extension of the works is the question of the supply of charcoal. It is necessary at the present time to obtain occasionally a supply additional to that already furnished by the Deseronto works, and the future of the wood crop is so problematical and so evidently reaching a less satisfactory position as time goes on that extension may not be the part of wisdom.

From the foregoing outlines some idea can be obtained as to the extent and the

varied ways in which the wealth of the forests is being made use of in Deseronto. Such an extension of methods of utilization means an increase in the value of the product and so of the raw material, thus bringing nearer the time when it will be financially possible to put forest management in Canada on a sound and scientific basis. It brings out clearly also the importance of the forest as a means of livelihood for the people. The existence of the

works means first the employment of numbers of men in the woods, it means the continued prosperity of a town of nearly 4,000 inhabitants and of the country surrounding it, and it means the establishment in Canada of other industries to supply raw materials for the manufacturers of the Dominion, so that the progress of the country and the perpetuation of the forest are bound together in many ways and by the closest ties.

It is by no means uncommon for wild fowl on their migrations to encounter a fog, and when they do they immediately alight to await more favorable conditions. They seem perfectly incapable of making a direct course in foggy weather. The writer has seen this upon more than one occasion. At such times geese are very helpless; their natural wariness seems to desert them entirely, and they are easy victims to the first farmer's boy with a gun that comes along. On the 28th of November, according to the *St. John Sun*, the inhabitants of Chatham, N. B., had an opportunity of witnessing just such an interruption of the southward flight of the last of the migrating geese. According to that paper: "A storm was in progress during the day which took the form of rain and sleet. The rain froze as soon as it reached

the ground, as the temperature was low, and it soon became evident that the geese were getting seriously impeded in their southward flight, as large flocks were observed flying with labored efforts and very near the ground. A telephone message was sent in from the railway station to the effect that a large number of geese had lit in a field in the outskirts of the town and some sports proceeded to the place indicated, but it is not known that any birds were killed, as they made off after resting awhile. Reports indicate that the whole country from Napan Bay to Barnaby River and as far north as Bay du Vin was literally a resting place for the wearied and ice-burdened wild fowl. The fields, barrens, marshes and even the woods, were invaded by the birds, but very few are reported as having been killed."

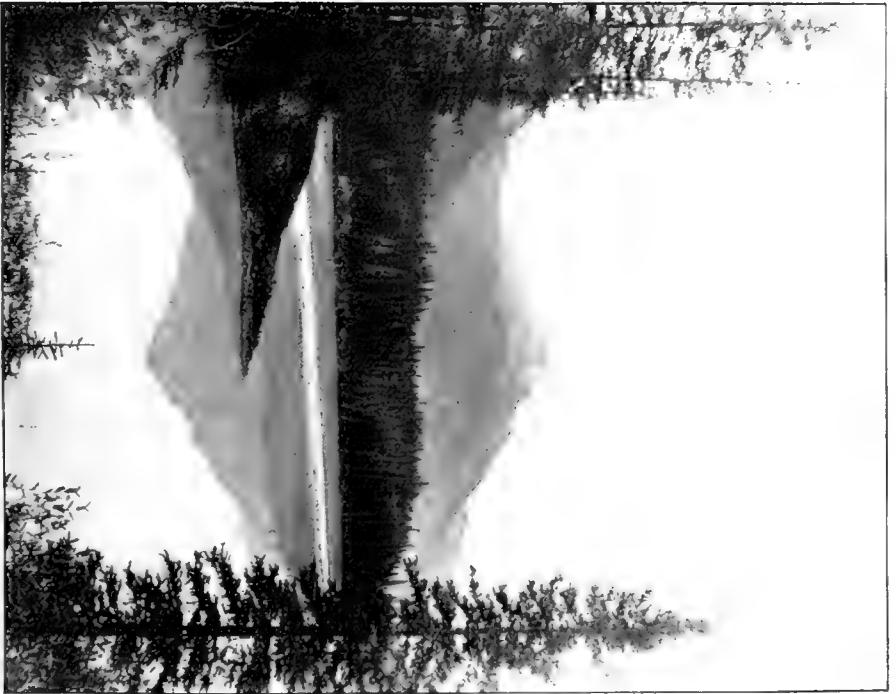
The *London Times* said recently that 300,000 tourists go to Switzerland each year, and that these tourists give occupation to 35,000 people. Of course Switzerland has got the densely populated European countries to draw from, but we in Canada have got the United States to

draw upon, as well as our own Empire, together with some assistance from the more wealthy classes of continental Europe. For scenery and sport you may travel far and you may travel wide, but you will not easily find Canada's equal. Why should we too not have our 300,000 tourists visit us?



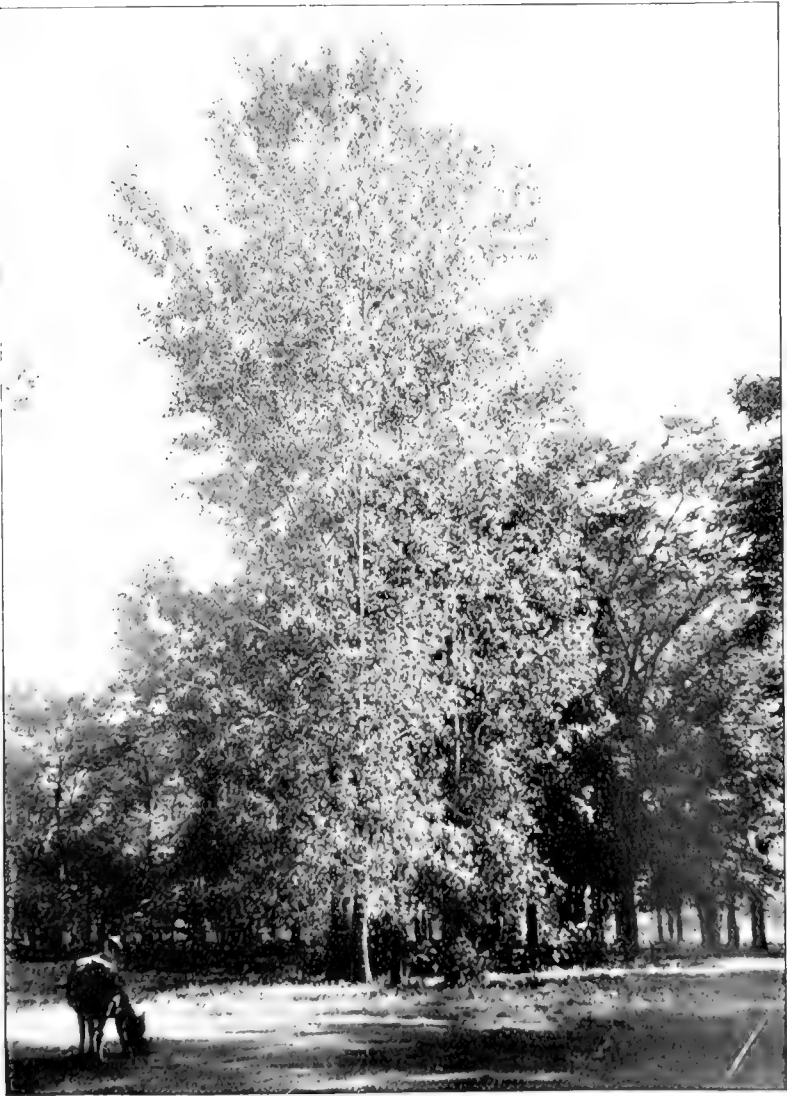
BEAUTIFUL, B. C.

A scene in Vancouver Island



EMERALD LAKE, B.C.

The mountain in the background is Mt. Field. Emerald Lake is reached from Field Station. It is a famous water for trout.



THE COTTONWOOD.

Populus Monilifera, is a handy, graceful tree, typical of the north, though not so valuable, economically, as many others

Indians and the Weather.

BY C. C. FARR.

Even amongst the indoor-loving denizens of cities the weather is a never-failing subject for comment. Imagine then the importance of it to a people that practically lives out of doors, and then one can readily understand how, on meeting an Indian, his first word, after salutations are exchanged, is an allusion to the weather. It may be "Meeno-keejigan", "It is a fine day"; or, "Keemuun", "It is raining." If it is winter he will probably say "Keesina", "It is cold", or "Sukipun", "It is snowing." When the wind is blowing hard, it is "Geetchi-nodin", "Big wind." Whatever it is, it is nearly sure to be some allusion to the existing meteorological conditions, showing how ever present in his mind the subject is, for the weather is so bound up with his daily life, that it is impossible for him to forget it. It is only natural that he becomes a keen observer of all phenomena, terrestrial and celestial, connected with it, and that he can forecast with fair precision, but this very knowledge, gained by observation, and experience enables him to recognize the fact that he is often liable to be wrong, and he holds his white brother, who is afflicted with the malady of "cock-sureness" in this matter, somewhat in contempt, tinged with amusement. He is not like that old fraud, "The old trapper," who pretends to deduce the future from signs that would imply a greater intelligence, and reasoning power in the lower animals than in man; such as the manner in which a muskrat builds its house, or the quantity of food supply laid in by a family of beavers, which kind of "rot" is on a par with the superstition of the simple farmer, who watches with bated breath the milt of the last pig that he kills, with the view of determining the probable severity of the coming winter.

The Indian is inductive in his methods of his treatment of the seen world, for he builds his theories on known facts, and is always ready to make all allowance for the modifications of conditions. For instance, when he sees a large flight of migratory

birds in the fall going south, he does not ascribe to them a foreknowledge of what is about to happen, but he knows that, in addition to their natural migratory instinct, they have been driven before, or have rather outstripped conditions of cold and storm that would reduce, or perhaps, entirely destroy their food supply; especially if they happened to be of an insectivorous species, and hence they would be to him, as it were, a telegraphic message from the far north, a hint, in fact, that Boreas was on its way south.

The Indian loves the sun. In the early spring he will fairly bask in it. When the ice begins to soften under its mid-day rays, he does his travelling at night, or in the small hours of the morning, until he can feel the warmth of it; then he picks out a spot sheltered from the north wind, a bank, or the sheltering shore of a lake, where he gathers copious balsam or cedar brush, and lays it down, to form for him a luxurious bed, whereon he can sleep without need of blankets, for the sun's rays act for him as blankets and thus he courts Nature's sweet restorer, until either the pangs of hunger or the gathering chill of evening, force him to leave his luxurious lair. I have often wondered why Indians have not been sun-worshippers, for to them the sun means so much; life, light, heat, and comfort; but they are not, and the only explanation that I can think of is, that the sun lacks the power of volition and is so set in its course, that, to a rational being such as the Indian undoubtedly is, it appears an instrument, or slave of a still greater power, say, the Geetchi-manitou. The Great God.

The Indian word for sun is "Keesis", and from it is derived "Keejikan", "Day" as "Keesis," "Month" is derived from "Tipik-keesis". The moon, or "Night sun", and "Keejigahtay" signifies "It is moonlight." "Wahban" is "Dawn" from which comes "Wahbunk" "Tomorrow", and "Pee-dah-bun" "The first sign of dawn", formed from the root "Pee" "coming towards."

Another term for light is "Wah-sia" which implies rather a brightness than actual light, for instance, the Northern Lights are called "Wahsia-tipikan." "Brightness at night." A bright display of these lights signifies, to the Indian, fine weather, but somewhat cold, in proportion to the time of year. "Wahsi-konaysie" means "Lightning" and that redundant polysyllable "Wahsikahkinendamhagan" expresses the insignificant tallow "dip." "Onigoush" is "star", and I am somewhat at a loss regarding the full meaning of the word, unless it is derived from, or connected with "Onaykisah" which implies "trembling" i.e. "twinkling." When the stars are very bright at night the Indian cheerfully prophesies snow or rain, according to the season "Cloudy" is "Wahweewan", and "Meshahkwan" is "Clear sky" from "Meshah", "large," and "Kwan" "space."

When a Christianized Indian sings that he wants to go to Heaven, he sings "Wahkwing ne we-ijah" : "To the clouds I want to go," for he has no conception of space beyond. The pagan Indian is still more earthly in his aspirations, as will be shown later on.

The points of the compass are named, in two cases, from the character of the winds that blow from them; for instance, the North wind is called "Kee-waydin" : "The wind that goes back" from the word "Kee-way" : "to go back", again illustrating the observant nature of the Indian, who has learnt that in these northern latitudes, no matter from which way the wind may be blowing, it is bound to go back to the north.

The south wind is called "Shawwinin-noe" : "The soft, kind, gentle wind", which in a cold country expresses the character of this same wind to a nicety.

The east wind is called "Wahbahnin-noe," which means the wind that comes from the "dawn."

The origin of the name of the west wind must be wrapped up in their religious beliefs, and conceptions of a hereafter. They call it "N'gahbehan-noe." : "The wind that

comes from the place where I am going to." "N'gahbehan" meaning "I am going to be (there)". Now, if we think over it, we remember that Longfellow sends his hero, Hiawatha, out into the West, as the sun went down, when he wanted to get rid of him, and in so doing he showed an accurate knowledge of their beliefs regarding a future state, for, it is in the west that the pagan Indian considers his future home to be. He looks upon this earth as the sum total of it all, and at the last, instinctively follows the light of the sun, his friend, and comforter. To him it would appear madness to turn his face to the dark, uncertain south, and he would have to cross the night to meet the dawn; so his instincts bid him, in the evening of life, to turn his face to the light, to the setting sun, and to follow it to the place where it sinks below the horizon, and where he probably thinks the sun is again lit up at the perpetual source of light, to enable it to run its beneficial course another day.

I am afraid that after all I have not given much information of practical value to the white traveller in the bush, such as would enable him to determine the probabilities of the weather by means of the set theories, and traditions of Indians, but as I have said before, they are not dogmatic upon the weather, of which they are undoubtedly keen observers, and in determining the immediate meteorological probabilities, they base their calculations on previous experience, just as you or I might, and with often like results, for after all, amongst white, red, and black, such prophecies are simply conjectural, coupled with a slight admixture of the simple rule of three.

A busy life has not given me much time to study these matters from a purely philological stand-point, hence I cannot speak with authority, and I may say that my etymological deductions are simply based upon my limited knowledge of the Indian language, and my limited powers of reasoning.



Climbing in The Rockies.

By ST. CROIX.

It was a foregone conclusion that so soon as the climbing world had discovered the northern Rockies, that vast solitary mountain range would soon be made to unfold the mysteries of its forest-clothed valleys and virgin peaks, and now these things are coming to pass. The latest contribution to our knowledge of the northern portion of the cordillerean chain, is a work just issued from the press of Longmans, Green & Company, by Messrs Hugh Stutfield and Professor J. Norman Collie, which is entitled "Climbs and Explorations in the Canadian Rockies." Several useful books have been published dealing with the Rockies, and one by Mr. Wilcox merits the highest praise, judging it solely on the score of artistic merit, yet this latest work far exceeds it in interest, as Messrs. Stutfield and Collie have been perfectly indefatigable in their explorations, wonderfully successful in their climbs, and particularly happy in their joint literary effort.

Professor Collie made the acquaintance of the Rockies in 1897, when in company with Messrs. C. E. Eay, Rev. C. L. Noyes, C. S. Thompson and others, he made the ascents of Lefroy and Victoria, and set foot upon the great Waputehk ice-field.

Other visits to the mountains followed, the authors being fascinated by their beauty and solitude of the glorious Rockies; they were also exceedingly anxious to discover Mounts Hooker and Brown, reputed to be of great height, and, in the end, they actually did discover these two peaks, and had to take a great many thousand feet off their reputed heights after having done so. This result gives me, personally, the greatest satisfaction, because in '98 I pointed out, in the columns of the Manitoba Free Press, that Mounts Hooker and Brown either did not exist, or else that they must be masquerading under false pretensions, as there could be no mountains of that height in the region in which the North Saskatchewan has its source. My

contention was scoffed at by an Edmonton editor, who, although he had never been there, evidently felt a personal affection for the mythical 15,000 feet mountains, and resented any attempt on the part of an outsider, that is to say, a person residing beyond the limits of Edmonton, from attempting to dispossess them of their pride of place.

Being unsuccessful in '97 in finding these illusive mountains, though the climbers conquered Mounts Freshfield and Forbes, and explored the dreadful brules of Blae-berry Creek, Professor Collie gave his spare time during the winter of '97 and '98 to consulting all the literature he could find in London dealing with the Canadian Rockies.

In the spring that followed, the indefatigable Collie, "feeling drawn," as he himself says, "by the fascination of those wild western valleys, irresistibly back to the Canadian Rockies, laid his plans for another trip." Mr. Stutfield accepted an invitation to accompany him. Their plans were: "to reach the actual sources of the vast Saskatchewan, Athabasca and Columbia systems; to explore and map out the unknown mountain country, where they took their rise; to locate, and perhaps, to climb the semi-fabulous peaks of that region; to rehabilitate if the facts prompted, the outraged majesty of Mount Brown—all this with much more besides, was a tempting enough programme in itself; but he also hoped to work in a little sport, on his own account, with mountain sheep, upon bear or goats, so long as such frivolities did not interfere with the more serious business of map-making and mountaineering."

This programme, ambitious as it was, was pretty well worked through before the end of the summer, although had it not been for Stutfield's unerring rifle the party would have had to beat an ignominious retreat before the completion of their work, owing to lack of provender. The actual dethroning of Mounts Hooker and Brown

could not be verified until the party had returned to civilization. After so doing Professor Collie discovered a reference in "Bancroft's History of British Columbia" which had been published in the *Companion to the Botanical Magazine*, by Dr. W. T. Hooker, and which, eventually, gave the solution to the problem. Mount Brown had to go down into the 9000 feet class, and the Professor's verdict was: "These two fabulous Titans, therefore, which for nearly seventy years have been masquerading as the monarchs of the Canadian Rockies, must now be finally deposed; and Mounts Forbes, Columbia and Alberta, with Peak Robson, west of the Yellowhead Pass, must reign in their stead."

In the summer of 1900 another visit was made to the mountains, the Bush River being explored. In 1901 the party were back again and did some good climbing. Strange to say, because the reverse is usually the case, one of the party became more luxurious in his tastes than he had been on former expeditions, and actually took a mattress into the mountains. This mattress was doubtless a great comfort at night and also a horrible encumbrance on the trail. However, it caused the poet "lariat" of the party to burst forth into poetry, and very good poetry too—so after all the mattress was not without its good points. The principal climbs of the seasons were Mounts Forbes, Howse, and the Lyell ice-field.

Mr. Stutfield contributes a chapter, summing up his sporting experiences during his visits to the mountains, and we do not think that anything better has been written, or a more absolutely trustworthy. As all experienced men know game does not abound in the Rockies; it is very much more abundant in the Coast Range, on the interior plateau, and in parts of the Selkirks, yet there is more or less shooting to be had, and shooting, moreover, that will repay a hardy, keen sportsman. Sheep appear to be more numerous at the head waters of the Brazeau than anywhere else. The Rocky Mountain goat is widely distributed, and few sportsmen should return without a couple of good heads. Bears, black, brown, and grizzly, abound more or less all through the Rockies, but hunting them is an extremely difficult matter, and

not one is shot for every twenty trapped. The almost impenetrable thickets of Blae-berry Creek are a favorite habitat of bears, as are also the immense forests on the slopes of the Selkirks, and along the main side of the Rocky Mountain chain, but the hunter may not see one for weeks together. Bruin will come into the open to feed on the berries at uncertain intervals, but as a rule remains concealed in the mysterious depths of the forest. In the winter he dens up under some root or ledge, sheltered from the piercing winds by a heavy covering of snow.

The conclusion of Mr. Stutfield's interesting chapter is well worth quoting, as it breathes the spirit of true sportsmanship:

"Happily for the hunter whose lot is cast in these times when large game is growing even scarcer, if only he be a true lover of Nature in all her forms, sport in the mountains offers other joys than those contained in the mere gunning part of the business. It is enough for such an one, even if a stalk be out of the question, to sit out in the sunshine on some ridge or hill-top, and watch the quarry, whether it be Rocky Mountain sheep, or goat, or alpine chamois, or ibex. Again, half the charm of mountain sport as opposed to mountaineering proper, is that it gives you so much time to admire the scenery. As you lie concealed behind some knoll, or rocky protuberance, you can watch at your ease the face of the landscape, changing after each change in Nature's moods, the great glaciers and snows around you, while above them the tall peaks thrust their heads up into the deep, blue sky. Below on the grassy hillside, the big-eyed, white-faced ewes, keep watch and ward over the lambs, frisking and gambolling around them, while further off on some jutting promontory of crag, may be seen the curving massive horns of an old sentinel ram, his eyes intently fixed on the middle distance, alert and ready to give the alarm the moment that danger threatens. Such a sight consoles you for much hard work or long hours of waiting, or even for the disappointments of the chase; and you feel that kill or no kill, after all your labors have not been entirely in vain, and that life is worth living—at any rate in the mountains."

The Finding of Lost Lake.

BY FRED C. ARMSTRONG.

The evening of September nineteenth found a party of six in camp by the shores of Beaver Lake, at the head of Burnt Hill brook, New Brunswick. The Burnt Hill is one of the most important tributaries of the upper southwest Miramichi. The party was made up of three sportsmen from New York, and their three guides, and they formed a very jolly crowd as they sat before the roaring fire of burning logs yarning.

One of the sportsmen at length said, addressing me:

"Fred, I have a proposition to make to you; but as it will demand a lot of skill to succeed if you accept, think it over a bit before replying."

"All right, let's have it."

"Well," said he, "it is this. I want you to start off tomorrow, take a camp helper with you, and cruise until you find a new lake or pond, where we may hunt all by ourselves. I will give you three days' leave and if you find such a lake, spot out a trail to it by the shortest route. Do you think you can do it?"

"I think I can, Mr. Moore. Of course, this is a strange country to me, but I will try and I think I can succeed." And after talking the matter over we settled ourselves in our blankets and were soon in dreamland.

On the morning following, bright and early we packed our provisions in a bag, and Stephen Campbell and I started off for what was to prove a long tramp. We had travelled about two miles, hardly ever speaking, when we came upon a moose standing in the road. He saw us first, but not getting our wind was reluctant to go. At last, however, he went crashing through the underbrush, the maple and rowan twigs rattling against his horns as he freed his way. Not a little relieved by his departure, because a big bull in autumn is like a college freshman—you can never guess what he will do next—we resumed

our tramp, and at four o'clock came to Eagle Bird camp, where another sportsman was. He had secured a large head with 15-inch spread, with twenty points on each side, and after telling us about their exciting experience in getting him, it was too late to travel, so we concluded to stay there that night. We had a fine dinner of moose steaks and trout before turning in.

By six next day we were off once more. I determined to travel south by the compass, through a hilly region to which we were strangers. We climbed many quite steep mountains, and at length from the summit of one, somewhat higher than its neighbors, we saw what appeared to be a deep valley, which we felt sure contained a lake. I climbed a tall spruce, and had hardly got to the top when I heard a cry from Steve. "For God's sake, Fred, come down quick, there is a big black bear coming!"

I yelled to him: "Stay where you are, the bear won't hurt you"; but all to no purpose. Off he started through the woods, like a bull moose—jumping over tree-tops, and breaking down the bushes, so that he could have been heard a mile away.

I shinned down that tree as quickly as I could without actually falling, and looked about for the bear. It took a few seconds to distinguish him—and then I saw a big, black stump, that Stephen had mistaken for bruin. So I climbed slowly back to my perch near the top of the big spruce and took a careful bearing by compass of the valley. Stephen returned, with clothes torn, and face and hands bleeding. He was so badly rattled that he thought the bear had chased him a mile or more, he having escaped merely through his fleetness of foot.

I told Steve we would not take lunch until we took it in the valley to which we were bound. After walking four miles we came to a large barren with a small winding deadwater through its centre. I told

Steve not to make a fire—as then we might see game. Sure enough before long we saw a bull caribou, and later several others, as there was a herd in the barren as I had guessed by the fresh tracks leading in. Many a sportsman would have paid well for such a sight. The bull fed within twenty yards of us and might have come even nearer had not Stephen let an unfortunate sneeze.

After our lunch, I took a bearing to a high hill, and started for it. It required three hours' steady travelling to reach its summit, but we were rewarded by a most superb view. All around lay miles and miles of forest, and, best of all, at the foot of the mountain, was a most beautiful pond, just the place for moose.

(To be continued.)

We ran down* the mountain and before long were standing by the water side, looking at as sweet a place for moose to feed as ever I have seen. Tracks were numerous and we knew that if we could get our sportsmen there they would have good sport.

By this time it was growing dusk, so we made a bough shanty, and ate a frugal meal of cold corned beef, having finished our bread at lunch.

So far all had gone well, but we could not help asking ourselves three questions:

Where were we?

How far were we from camp?

How are we going to reach it, seeing that most of our grub was gone?

Mr. C. Camsell of the Canadian Geological Survey, read recently an interesting paper on the Country of the Wood Buffalo, before the members of the Winnipeg Historical Society. The Honorary President, Rev. W. A. Burman in introducing the lecturer, spoke of the large portions of this country which are still unexplored, and also of the large field for investigation in the department of natural history, particularly with reference to the smaller animals, birds, insects and plant life. Mr. Camsell, he said, had been able to explore some parts hitherto practically unknown.

Mr. Camsell told in a very interesting way how in 1902 he had gone out under instructions of the Geological Survey department, to make an exploration of the country lying to the west of the Slave river and between the Peace river and the Great Slave lake. The objects of the expedition were primarily geological, with reference particularly to the large salt depos-

its and beds of gypsum; in addition to which he was instructed to collect as much information as he could with regard to the numbers and distribution of the wood buffalo. He described the journey to that far off region, gave glimpses of the life of the Indians, and indicated the limits beyond which the wood buffalo are not found. The number of these animals had been estimated at 400; they were found, he said in small bands of ten or a dozen. The numbers had formerly been far greater; the diminution was ascribed by the Indians to timber wolves, which destroyed the young buffalo. The wood buffalo and the buffalo of the plains were considered to be of the same species, the former being larger animals, owing to more favorable environment. The lecturer spoke further of the salt springs, the gypsum deposits, and the beaver dams which were a characteristic feature of that country.



Our Medicine Bag.

Although Alaska is not by any means Canada, yet we think that all Canadian hunters of big game, as well as our American friends who come in such vast numbers every year, will be intensely interested in a little book just published by Messrs. Horace Cox, Windsor House, Bream's Building, London, E. C. It is called "Summer and Fall in Western Alaska", and it is written by Colonel Claude Cane. We do not recollect any book that gives a greater feeling of confidence in the writer than this one. It breathes a spirit of honesty and fair play that is very refreshing. Colonel Cane is evidently too good a sportsman to be a braggart; he has no need to vaunt himself, as he has just finished one of the most successful sporting trips to Alaska, of which we have any knowledge. We will not spoil the interest of the reader by quoting too much, so we will merely extract what the author wrote about firearms. He says: "My weapons were only two in number, a .256 Mannlicher-Schonauer and a 12-bore Paradox. I have used the small bore Mannlicher ever since 1895, both in Scotland and abroad, and have the greatest possible faith in it. Owing to its very high velocity and flat trajectory, I find that I can do far better work with it than with any other rifle, and the shock given by its tiny little bullet is out of all proportion to its size. I may have been exceptionally lucky, but I have shot nearly fifty red deer stags, a good many sheep, moose, wapiti, bears, etc., with it, and have only lost one wounded beast, a red deer stag, and he was hit in the haunch, so that it was not the rifle's fault. The Schonauer pattern is more convenient than the older one, as there is no underneath magazine to get in the way when one is carrying it, otherwise, of course, the weapons are exactly similar. That it did not disappoint me this time, those that read my narrative to the end will discover. The Paradox I took for use with bears, and possibly moose at

close quarters, and as a shot gun. In the latter capacity it came in very useful, but as a rifle I was very much disappointed in its performance."

Further on the author writes: "In the matter of a choice of a weapon, of course, everyone has his own ideas. I think the Mannlicher cannot be beaten—indeed, I do not think it has any equal; but all the modern small bores are so good that I do not think anyone who prefers a Mauser or a .303 will be making any great mistake. My experience with the Paradox is not such as to make me recommend it, though I may have been unfortunate; and, if a heavier rifle is desired for bear or moose, I should recommend one of the larger bore nitro rifles, such as can be obtained from any of the leading makers. Expanding bullets should, of course, be used with whatever rifles may be selected. On this trip I was using Jefferies' split bullets in the Mannlicher, though I had previously been rather prejudiced against them on account of two cases I had in Scotland, when they failed to expand in a stag. This time I am bound to say they did their work admirably, and the way they crumpled up two big bears at Krison River was a caution. A shotgun, if brought out, had better be left at the Coast for use on the duck later on, and a small .22 American rifle, with plenty of cartridges, which weigh next to nothing taken for the grouse and ptarmigan. Besides giving one much better sport a small rifle like this has the advantage of being almost noiseless." One of the reasons why Colonel Cane was so successful was that he possessed the rare faculty of doing without things. If the ambitious tyro would condescend to take a leaf out of the Colonel's book, and leave behind him two-thirds of the rubbish he usually carries into the woods, he would very possibly enjoy a measure of the success, which fell to the lot of this admirable sportsman.

Messrs. Cadham and Ritchie of Beausejour, Man., secured a magnificent moose a piece last month.

Some very fine caribou were secured in November on Hooper Creek, flowing into Canoe Lake, near Crawford Bay, Kootenay Lake, B. C.

Four Teulon hunters returned to that Manitoba town with six moose a short time ago. Manitoba is very well stocked with moose, though the heads are not quite so good as those of the Ottawa Valley.

The first preliminary, and by no means complete, statement of the deer killed this season in Ontario shows that 2950 have been accounted for, having a total weight of 309,101 pounds. Many of the best northern districts have yet to be heard from.

Moose hunters have had more than usual success this season says the Birtle Eye-Witness. Two loads of them have already been brought down from the Riding Mountains and accounts from other districts are equally good. Hunters say they are more numerous than for years and it is a common thing for those driving over the trails to pass bands of jumping deer.

In last issue of Rod and Gun we were made to speak of "The Longman Gun Light Corporation of Middlefield, Connecticut." Of course our readers understood The Lyman Gun Sight Corporation was intended. By the way how far ahead of his day the late William Lyman was. Only quite recently have his sights secured in Europe the recognition they deserved.

A Cape Breton farmer, M. D. MacDonald, of Murray Bay, Victoria County, has got into trouble with the game warden for

killing a moose with a pitchfork, out of season. Moose some years ago were very abundant in Cape Breton; now they are increasing slowly in number, but, of course, if free and independent electors are to kill them with pitchforks, we can hardly expect moose ever to be "real thick."

Dr. A. Harold Unwin and Mr. Norman M. Ross, of the Dominion Forestry Branch who have been in the West during the past summer superintending the tree planting under the Government co-operative scheme, have returned to Ottawa. They report a continued interest in tree planting and a favorable condition of the plantations set out. The land secured by the Branch for a nursery is being put into good condition and the supply of trees will be equal to the demands.

The city of Vancouver claims to be the only city on the North American continent where goats, deer and bear are to be shot within sight of the city hall. It is perfectly certain that these animals may be shot as stated, and only last month Messrs. Fred Madison and Charles Mullen of that city shot four goats, just across Burrard Inlet, upon which the city is situated. The mountains on the other side of the arm are exceedingly lofty, but a man standing 4000 feet or so up in the air, is able to look into the city of Vancouver, and may be seen with the aid of a good glass from the city hall, so that the claim is substantiated.

According to the New York Mail and Express, while "white maple" sugar was most commonly made in the olden time, sugar was also secured from the birch, ash, and box elder. The birch and ash sugars were dark colored and seemed bitter and had medicinal properties. The box elder yielded a beautiful white sugar, whose only

The Northwest School of Taxidermy of Omaha, Nebraska, teaches every branch of taxidermy. It is endorsed by sportsmen all over the United States, and it has had a good many Canadian pupils. Taxidermy is an art that, like music and painting, requires study, practice and some brains, but there is nothing to prevent any sportsman

from taking it up and succeeding, providing he will give his closest attention to the work and go to a good master. The Northwestern School of Taxidermy teaches by correspondence, and its success demonstrates the entire feasibility of the method.



WHEN THE SNOW LIES DEEP.
Falls in the Winnipeg River at the outlet of the Lake of the Woods.



TIMISKAMING STATION.

This scene will bring back lively recollections of pleasant days to many of our readers.

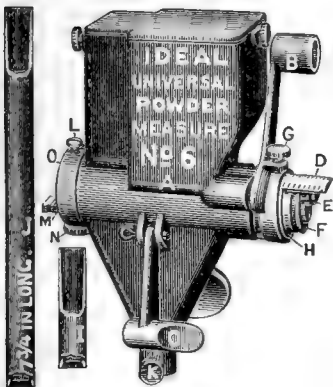
fault was there was never enough of it. We wish some of our correspondents would confirm these statements if they can, or if not, contradict them. Personally, we have never seen sugar made from anything but the rock maple, though we understand that some of our woodsmen have tried to make sugar from the birch without success.

Mr. J. C. Munro, the new Master of the Atherstone Hounds, forms the subject of the Portrait and Biographical Sketch in the December number of Baily's. Then we have an informing article on the successful sires of the past racing season, followed by a thoughtful and able essay on Riding to Hounds, over the familiar initials W.C.A. B. Golf is the field wherein readers of the magazine seek the "Twelve Best" this month. The editorial remarks on prominent exponents of the game indicate wide and discerning acquaintance with their merits and methods. Mr. Robert Maxwell, the amateur champion, ties with Mr. H.H. Hilton for first place and the ordeal of the ballot, it will be agreed, has produced a very just result. Mr. F. S. Corrance contributes a very pleasant glimpse of "Partridge Shooting at a Country House in the Fifties"; our only complaint is that there is not more of it.

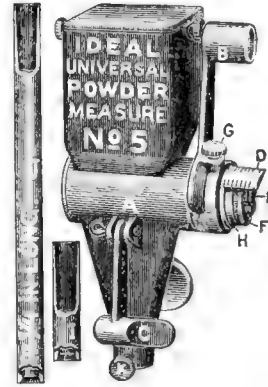
An unusual sight was seen near Montreal on November twenty-ninth. A flock of wild geese, probably between five and six

hundred birds alighted on the St. Lawrence a short distance above the bridge. The current at this point is rapid, and every few minutes the birds would drift down within about fifty feet or so of the structure, when they would take wing, fly up stream three or four hundred yards and then alight and repeat the performance. A large crowd of persons stood on the bridge, but the birds were not at all alarmed, apparently, until some hunters, with more ambition than dexterity, put out in a boat, when the birds left for good, flying southward. These geese appeared to be very tired, and had no doubt come a long distance, possibly from the lower St. Lawrence. The oldest inhabitant, a man close onto two hundred years of age, according to his own statement, does not remember to have ever seen so large a flock so near the city.

Mr. E. W. Rathbun, head of the Rathbun Company of Deseronto, died at that place on the 24th November. He had been unwell for a considerable time owing to heart weakness, but the end came quite suddenly. One of the leading lumbermen of Canada, who had built up a great business on which the existence of the whole town of Deseronto depended, he was a kindly and considerate employer and was respected as a man and considered as a friend by those who served under him. While his health permitted he took much interest in



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the forestry movement, being one of the members of the Forestry Commission appointed by the Ontario Government in 1897, the report of which is one of the best expositions of a sane and practical Canadian Forestry policy. He was a member of the first Board of Directors of the Canadian Forestry Association and always gave it cordial support. The Forestry Association and the forestry movement generally owe much to lumbermen like Mr. Rathbun, whose support is a sufficient answer to those who consider its aims impractical or visionary.



The crop of "nature writers" is a rank one. It would almost appear as though every professional writer, who is not seriously crippled in the arms, is holding a pencil in either hand and scribbling for dear life. The blunders they make, and the statements they foist upon an unsuspecting and long-suffering public—Ye gods! Even in the West, where men should know better, seeing that they are very near to the broad bosom of Mother Nature herself, they are writing some horrible rubbish. One ambitious scribe in describing the habit of the beaver says:

"Perhaps the best known example of such preparation is that of the beavers, which first make a pond by damming a stream with trees, brush, stones and mud, and then, in the pond thus made erect stanch huts, whose roofs are well above the water, and whose door-ways are well below it."

Of course, as every trapper knows, the beaver does nothing of the sort. Like a sensible beast he first builds his house, and then makes his dam, but, naturally, a nature writer could not be expected to know this.



The Biennial Report of the Commissioner of Fisheries and Game for Indiana, Mr. Z. T. Sweeney, has been received. Our American cousins leave us so far in the rear in the matter of getting out reports upon fish and game matters, that we should have had our pride humbled in the dust long ago. They have the men and the money, too, and although we have infinitely more game

we certainly do not sacrifice much time to making the most of it. An American writer will dwell with loving affection on such fish as the crappie. Commissioner Sweeney has turned in a very capital report, and we congratulate him most heartily upon it. The expenses and disbursements of the office of the Commissioner of Fish and Game for Indiana, during the two years comprehended in this report, amounted to \$15,212.27, to which should be added apparently, the salary of the Commissioner himself, whatever that may be. It seems to us that such an appropriation was a very wise one, and that the State of Indiana will reap a manifold return for the money it has spent through its Fish and Game Commissioner.



We are in receipt of the Annual Report of the Board of Regents of the Smithsonian Institution, for the year ending June, 1902. The most interesting article in it, from a purely Rod and Gun standpoint, is, perhaps, that on "Reindeer in Alaska," by Gilbert H. Grosvenor, though, of course, nearly all the papers in it would appeal to any educated man of scientific tastes. Mr. Grosvenor is the Editor of the National Geographic Magazine, and he was very well equipped to write this account of what Dr. Sheldon Jackson has been doing for the natives of Alaska. Dr. Jackson is the general agent of education in Alaska and has made annual visits to the territory since 1885. He saw that it was either a question of providing reindeer for the natives, or of allowing them to starve to death through the scarcity of game, and in the winter of 1891 he succeeded in inducing the benevolent to subscribe \$2000 toward importing deer into Alaska from Siberia. Success followed his efforts, and in '94 the United States government stepped in and has since contributed \$25,000 a year in aid of the undertaking.

The Smithsonian Institution is beyond all praise, and its reports should be more widely distributed than is the case, although the Exchange department of the Smithsonian now costs \$24,000 a year.



The following item appeared in a Montreal paper a few days ago:—

"The Comptroller of Mounted Police yesterday forwarded to Winnipeg three and one-half pounds of mail matter for the officers and men of the Hudson Bay expedition. The matter consists of letters from the men's wives, relatives, or friends. From Winnipeg the letters will be taken by a courier of the Hudson Bay Company and a dog team to Fort Churchill, on the south-westerly shore of Hudson Bay. The mail packet may not reach its destination until May next."

Those that have never travelled in the north by dog team and on snowshoe, cannot realize the vicissitude this little mail of three and a half pounds will undergo. There will be days of blinding blizzard; leagues of bad going, when the granulated snow affords no footing; nights of bitter frost, when the mercury is out of sight in the bulb of the thermometer, should there be one in the outfit, as is extremely improbable; and then, later on, the warm, slushy days when it is good to sleep, and the clear starlight nights when man and dog may step out merrily on the crust, until at length the three and a half pound mail packet—damp and soiled, but yet intact and safe—shall be handed by the Esquimaux mail-carrier to the leader of the expedition in his camp by the Arctic Ocean.

A new pass has been discovered through the Rockies. This of itself would hardly be worth mention, as there must be any number of passes in the Rockies that have never yet been trodden by a white foot. But this particular pass shortens the distance between Dawson City and the Mackenzie River by more than 300 miles. For generations the Hudson's Bay Company and others have been following the old trail by way of the Porcupine River, to reach which you have to descend the Yukon to the mouth of the Porcupine, follow that river up to its source, and cross over to the head waters of the Peel River, by following which the Mackenzie is eventually gained.

The new trail through the Zola Pass gives a direct route to Twelve-Mile River, which flows into the Yukon, just below Dawson. The Zola Pass leads to the Black-

stone River, which is a tributary of the Peel. Even the Indians profess to be unacquainted with this route. The two discoverers were N. W. Craigie and George Bull. They were hunters, and it was while following the wild sheep and caribou that they found their way through this pass. And how many other notable discoveries have not hunters made? The big game hunter, provided he is not a game butcher, deserves almost as much honor as the soldier.

The usual tinkering of the game laws has been proceeding merrily for several weeks. Our legislators are never too busy to amend the game laws. The following is said to be the text of the latest effort in the Northwest Territories:

The recent session of the Northwest Legislature passed a new game ordinance which makes the open seasons as follows:—Mountain sheep and goat, 1st Oct. to 15th Dec.; antelope, 1st Oct. to 15th Nov.; caribou, moose, elk, wapiti, deer, 1st Dec. to 15th Dec., in Eastern Assiniboia; caribou, moose, elk, wapiti, deer, 1st Nov. to 15th Dec., in other parts of the Northwest Territories. The shooting of females of the above is prohibited.

Ducks, 23rd Aug. to 5th May; cranes, 1st Aug. to 1st Jan.; rails and coots, 23rd Aug. to 5th May; snipe, sandpiper, plover, curlew, 23rd Aug. to 5th May; grouse, partridge, prairie chicken, 15th Sept. to 15th Dec.; not more than twenty of the grouse family shall be killed in one day or two hundred in a year.

Mink, fisher, marten, 1st Nov. to 1st April; otter, 1st Nov. to 1st May; muskrat, 1st Nov. to 15th May; beaver is protected until 21st Dec., 1908.

The license for non-residents is \$25 for general and \$15.00 for birds; permits for guests may be had from the guardians on payment of \$1.00.

The above open seasons are fixed by the new ordinance for the protection of game and include the first date, but not the last mentioned.

Just in time for the opening of the season's sport, we have received a copy of

"Ski Running", by Messrs Somerville, Rickmers and Richards, printed by Horace Cox, Windsor House, Bream's Building, London, E.C. This book is sure to have a large sale in Canada, because we have just taken up ski running with enthusiasm, and, moreover, what we do not know about ski running would make a very thick book, even in agate type. The feet of our young men seem unaccustomed to the ski, as may be verified any Saturday afternoon upon the mountain back of Montreal. The ski is as far ahead of the Indian snowshoe for certain purposes as anything well could be, but skiing is an art, and one that does not come naturally to any of us. This book tells everything, apparently, that is worth knowing about skiing, and all our large sporting goods suppliers should have it on their counters. The authors deal, firstly, with the origin and history of the ski; then they tackle the elements of ski running, including the skiing outfit, how to stand, turning on the spot, walking without stick on the level, uphill, gliding down, how to stop and brake with the stick. Then, for those which are further advanced, there is a description of ski-jumping and the Telemark swing. There is perhaps one division of this chapter that will appear unnecessary to the average tyro, viz., that "on falling." Most beginners can fall successfully, if not gracefully, but they should derive comfort from what the authors have to say on this important branch of the past-time. "Be sure that you will fall, but let not the prospect trouble you greatly. In the Holmenkollen competition of 1902, when the snow was fast and good, there were two hundred and forty-four competitors, of whom forty per cent. fell, after leaping on an average of about seventy feet; there was not a single accident. In general the unsuccessful jumper hurtles through the air, alights, falls, and, with many somersaults, proceeds in a soft and cloudy pillow of snow to the bottom of the hill, where he picks himself up and shuffles off to try again." The price of this book is 2s. 6d.

A meeting of the Board of Directors of the Canadian Forestry Association was held at Ottawa recently for the purpose of

discussing the business of the Association generally and making preliminary arrangements for the annual meetings to be held at Toronto on the 10th and 11th March, 1904. The meeting, it is expected, will be one of the most interesting yet held. Papers will be given by prominent scientific men and lumbermen of the Dominion, and invitations will be sent to leading foresters of the United States. Full announcement will be made later when the programme is completed. In accordance with the suggestion of the Toronto representatives the evening entertainment will probably take the form of a public banquet. In view of the slow process of reaching the whole Dominion by itinerating the Annual Meeting it was decided that it would be advisable to hold a series of meetings in the different provinces, commencing in the Maritime Provinces. These will be arranged for as soon as possible.

The Treasurer reported that the Ontario Government had granted the sum of \$300 to the Association and the British Columbia Government the sum of \$200. A resolution of thanks was passed and the Secretary instructed to transmit a copy to each of the Governments. In view of the improved financial condition it was thought that the question of starting a forestry journal specially representing the Association might be considered, but it was finally decided to take no final action, but to refer the matter to the annual meeting. A proposal to have small tracts or pamphlets issued both in English and French for wide distribution was mentioned and favorably considered, but will not be undertaken until the financial and other conditions are such as to give the venture assurance of success.

It was with much regret that we learnt that Arthur Corbin Gould, the founder and Editor of *The Rifle and Shooting and Fishing*, was dead. Mr. Gould died on the evening of December 15th in New York, of an affection of the heart. The deceased was one of the greatest authorities upon the rifle and revolver that the United States has produced, and in addition to knowing the theoretical side of his specialty, he was a very good shot, and during his long residence in Boston, before Shoot-

ing and Fishing was moved to New York, he was one of the most regular attendants at the Walnut Hill Range. Mr. Gould's name is associated with a pistol manufactured by the Stevens Arms Company, and with a special hollow point bullet for use in .45 caliber rifles. He was the author of two works that have had a large sale; one upon rifle shooting and the other upon the revolver. No one was more universally respected or esteemed, among the sportsmen and sporting goods manufacturers of the United States than the late Mr. Gould.

According to the *Union Advocate* of Newcastle, N. B., big game shooters have been doing very well in the Cain's River region. Game now appears to have increased enormously in New Brunswick, owing to protection. Some years ago the writer knew that district thoroughly, and the amount of game then in existence was not remarkably large; what the intelligent New Brunswickers have done through protection, the Ontario, Quebec, Manitobian and other intelligent electors can do if they try real hard. Game protection is after all not such a difficult problem. Just protect the females during the breeding season, keep down their natural foes as much as possible, spare the females and young, and limit the bag of male animals to a reasonable size—and there you have it.

One of our subscribers in renewing his subscription says: "If not presuming, I might suggest raising the rate of subscription to your paper. An individual posing as a sportsman in my opinion is a poor sportsman who cannot afford to pay a couple of dollars for a paper of this nature." After this we shall be prepared to accept a couple of dollars, or more, from any sportsman who feels that *Rod and Gun in Canada* is worth that amount to him, but nevertheless we shall continue to do business at the same old stand, as well as at various news stands, at the same old price.

The manufacturers continue to shorten the barrels of high velocity rifles, until we already find that a 24-inch barrel is a comparatively long one. It is said upon good

authority, that the Austrian Arms Company, of Steyr, Austria, is now manufacturing a new style of rifle, of which the following is an accurate description:—

"It is like most of the high power foreign repeaters, a bolt gun, caliber 6½ mm., being intended for game such as deer and chamois. The magazine is of a new design, being of cylindrical form, rotating on an axis, and gives the arm a neat appearance. This magazine system is said to be the most perfect and surest in action, with less chances of getting out of order, than any yet employed in bolt action rifles, even surpassing the simple Mauser magazine now so popular with military authorities. It is loaded with a clip, similar to the Mauser, holding five rimless cartridges, which are pushed into the magazine by the thumb. The rifle can also be used as a single loader by simply placing the cartridge on the carrier and pressing into magazine. The arm has an ingenious device for unloading a filled magazine. By simply pressing a button, placed on the side of the bolt in the receiver, and turning the rifle so that the sights are on the under side, all the cartridges will fall into the hand when held over the receiver. The standard barrel is seventeen inches long and the muzzle velocity obtained about 2400 feet per second. The rifle with seventeen inch barrel weighs about 61.5 pounds. It is also furnished with twenty-two-inch barrel if desired, slightly increasing the weight. It is furnished with set trigger and swivels for strap, and made with round barrel only. The butt of stock is hollowed out so as to hold a jointed cleaning rod and the necessary cleaning materials."

His Excellency, Lord Minto, and Mr. Arthur Gates, returned recently from a hunting trip to the Mattawa district. They were successful, each one securing a good moose head.

We have received a very neat little desk calendar from the Marlin Firearms Co. Any of our readers sending stamps for postage to the Marlin Firearms Company, New Haven, Connecticut, U.S.A., will be furnished with one of these.

The following is the text of the proposed amendments to the British Columbian game laws:—

No person shall, save for the personal consumption of himself and the members of his family residing with him, buy, and no person or corporation shall buy, sell, offer or expose for sale, or have in his possession for sale, or supply, or deal in, or keep for any of such purposes in cold storage or warehouse, or otherwise store, game without first taking out an annual license effective from the 1st day of January of each year, and, on payment of a fee of \$25, may be issued by any government agent or by the superintendent of provincial police. Such license shall be a personal license to the applicant and in no way transferable, and in the case of a corporation, it shall be necessary for each director of the same for the time being, and in the case of a partnership firm for each member of such firm to apply for and take such license. The license aforesaid shall be issued with and under the following conditions and restrictions to be endorsed on the same, viz:—

(a.) No license dealer shall purchase game save from a person licensed under this section to deal in game.

(b.) An entry of each purchase and sale shall be made in a manner required by section — hereof.

(c.) The license to be revokable by the Lieut.-Governor in council at any time, and to be cancelled upon any conviction of the holder of an offence against the provisions of this act.

(d.) The game covered by the license shall be lawfully killed and dealt with.

The license under this section may at any time be revoked by the Lieut.-Governor in council.

(a.) Upon recommendation of the superintendent of provincial police stating that he reasonably suspects the holder has been persistently guilty of infractions of the provisions of this act.

Game found upon the premises or under the control of any club manager, hotel-keeper, fish dealer, butcher, or any licensed game dealer, shall be deemed to be "exposed for sale," and "in possession for sale" without further proof.

Any person knowingly permitting premis-

es to be used for storage of game in aid of or for any persons carrying on the trades before in this section enumerated, or otherwise than under the provisions of this act, shall be liable upon conviction to a penalty of not less than \$50, or more than \$250, for each day or portion of a day on which the offence charged shall be proved to have been committed.



According to a correspondent of the Ashcroft Journal, of no country can it be said that its possibilities are greater than the northern interior of British Columbia.

"That the Northern Interior is rich in minerals we have plenty of evidence," says the writer, "and to the evidence familiar to us of prospectors who have been through the last few years, we can now add that of Mr. G. M. Gething, a resident of Slovan city, who returned from spending the summer prospecting in this section.

"Mr. Gething left Ashcroft in May last, accompanied by several others, prospectors like himself, on a trip of discovery for minerals. The Findley and Peace rivers were the objective points but this did not prevent them from taking many side trips to other places. Four of the party will stay through the winter. Next spring M. Gething will return and continue prospecting.

"Of the maps of that part of the Province he says they are all misleading and of no practical value. They give only an idea of the country. For instance, the Parsnip is shown as much larger river than the Findlay and as the chief feeder of the Peace river. The reverse is the correct position of these rivers. Other rivers and lakes were found whose position on the maps are as incorrectly given as the instance cited. He visited Fort Graham, the Hudson Bay Co.'s northerly post and from there struck into the Rocky Mountains north and east to examine copper, indications of which he had been advised. The Oslinca, Omineca, Findlay, Peace and surrounding rivers and country were all travelled by the party, thus giving them a general knowledge of the vast country that can in no other way be obtained. Mr. Gething knows something of the advan-

tages which the Peace river and Pine river passes.

"A number of coal locations have been made by this party, and although averse to talking much of their prospects, Mr. Gething said the country was good and there was plenty of room for all to prospect in a thoroughly mineralized district. Nothing can be accomplished beyond the merest prospecting until there is railway communication, as the cost of supplies there is prohibitive. Not only that, but at times impossible to get. Fancy having to order food supplies one year and sometimes eighteen months ahead. This is the situation today anyone will find himself in that attempts to live in the northern interior of British Columbia."

Is not the District of Sulzburg in Germany the land of promise, flowing not with milk and honey, but with forest wealth. Listen to this description of it:— The average net revenue derived from this district for the last five years is nearly \$8 an acre. In Sulzburg itself each adult male inhabitant and each widow receives yearly \$17 of revenue from the forest, which, as a rule, overbalances their local taxes. In addition, the town has been lighted with acetylene gas, has built a court house, has put in waterworks, and subsidized a local railway. These special expenditures altogether amount to about \$65,000, and the forest is expected to pay for them in ten years. In all there are thirteen villages and about 8,000 people interested in these 5000 acres of forest.

"We have no waste lands; our state is all good agricultural land, and there is neither need nor room for reforestation," said the governor of one of the Lake States a few years ago. "We have no waste lands in our town or country," say the officials of a county which, in spite of thirty years settlement, is poorer now than it ever was, and has today scarce one per cent. of improved land, more than ninety per cent. of its land not even in the hands of settlers and much of it abandoned for taxes. That the county people should for a moment admit that some of these lands are non-agricultural or forest lands is too

much to expect. The editor feels that he must make it clear that every acre of land is suited to settlement and the building of prosperous homes. "These lands are valuable; our expert informs me that they are worth \$100 per acre, and it is sheer folly to reserve them for reforestation," says the land speculator, who bought large areas at less than fifty cents an acre, and who wheedled for a rebate of taxes because his holdings were assessed at not to exceed one dollar per acre. Speculators get options on these lands, buy them for a trifle, and then demand that the state shall deal with its own property as they prescribe, and sell lands for a mere song. They persuade thrifty laborers in the cities, men without knowledge and experience of farming, into the exchange of the city home for eighty acres of sands. In this way they bring ruin to hundreds of families and replace prosperity by pauperism. Yet these men try to persuade us that they are acting as agents of civilization and development. The value of their testimony as to the waste of lands of our States should not be considered too seriously. If we go among the people of these land districts we soon learn the real truth of the matter. "That is one of the poor sand farmers' is the phrase in town when a man comes in with a poor horse, dilapidated harness and wagon, and a general air of wretchedness."

This is a description of a certain district in the United States. Do such things occur in Canada?

The annual tournament of the Hamilton Gun Club will be held on January 12th, 13th, 14th and 15th. The tournament committee intends to make this meet the best in the club's history.

"A Saskatchewan exchange says: Ben, Neal and John Robinson of Tisdale trapped a timber wolf on Tuesday. It weighed 200 pounds and measured nine feet from the nose to tip of tail, and had teeth five inches long. It was a monster and was the first timber wolf ever seen in the Tisdale settlement."

(This is another instance of animal growing after death.—Ed.)



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

The Official Organ of the Canadian Forestry Association.

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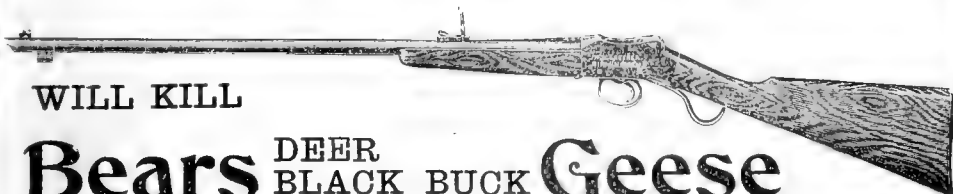
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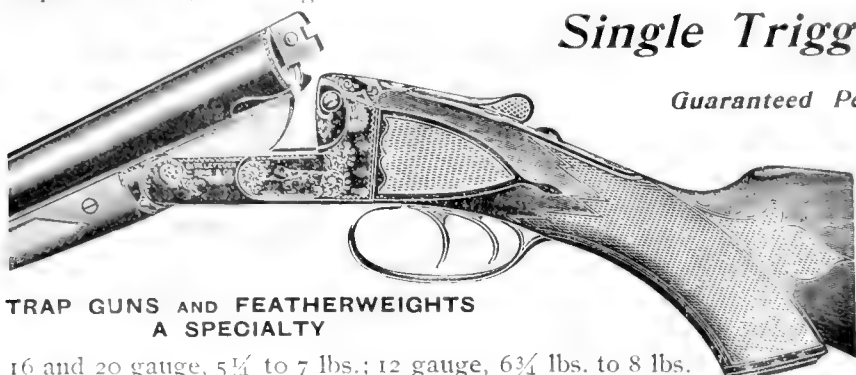
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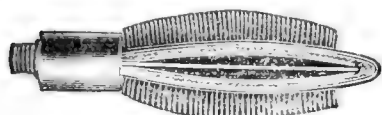


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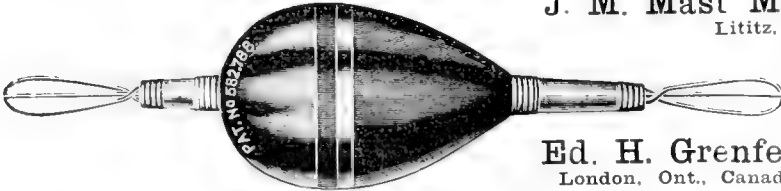
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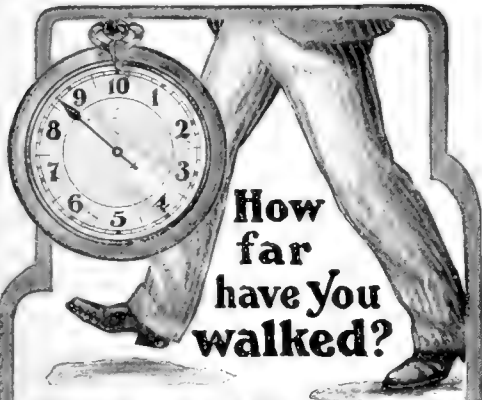


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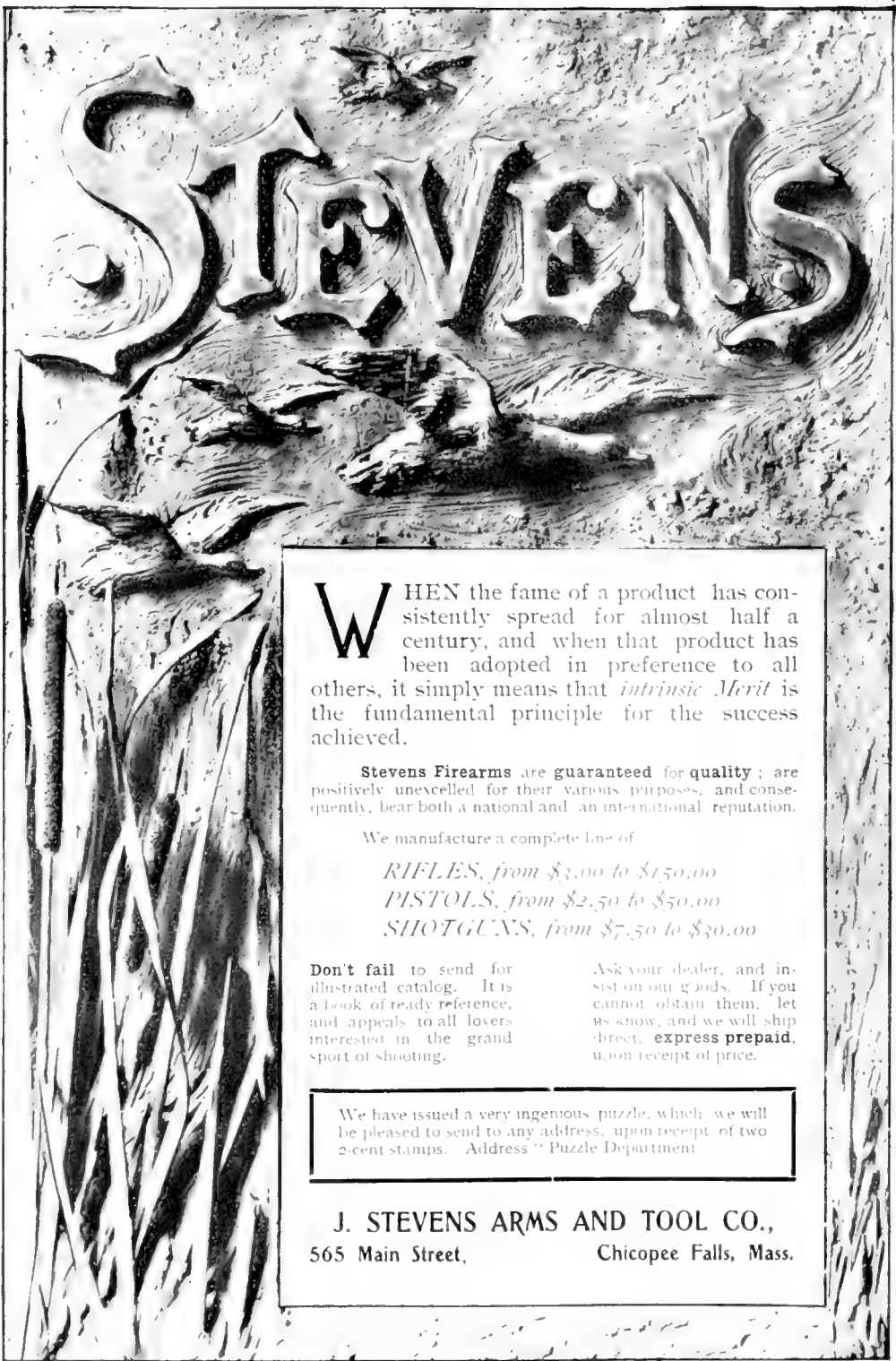
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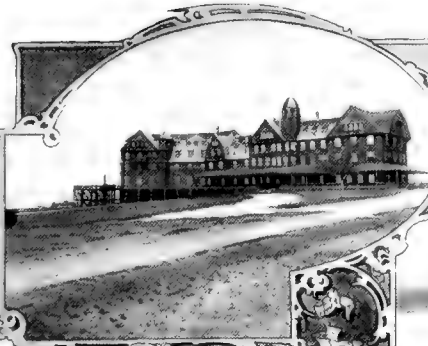
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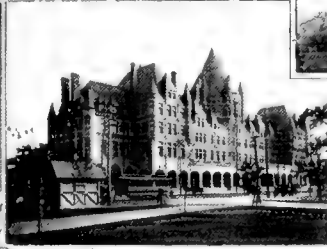
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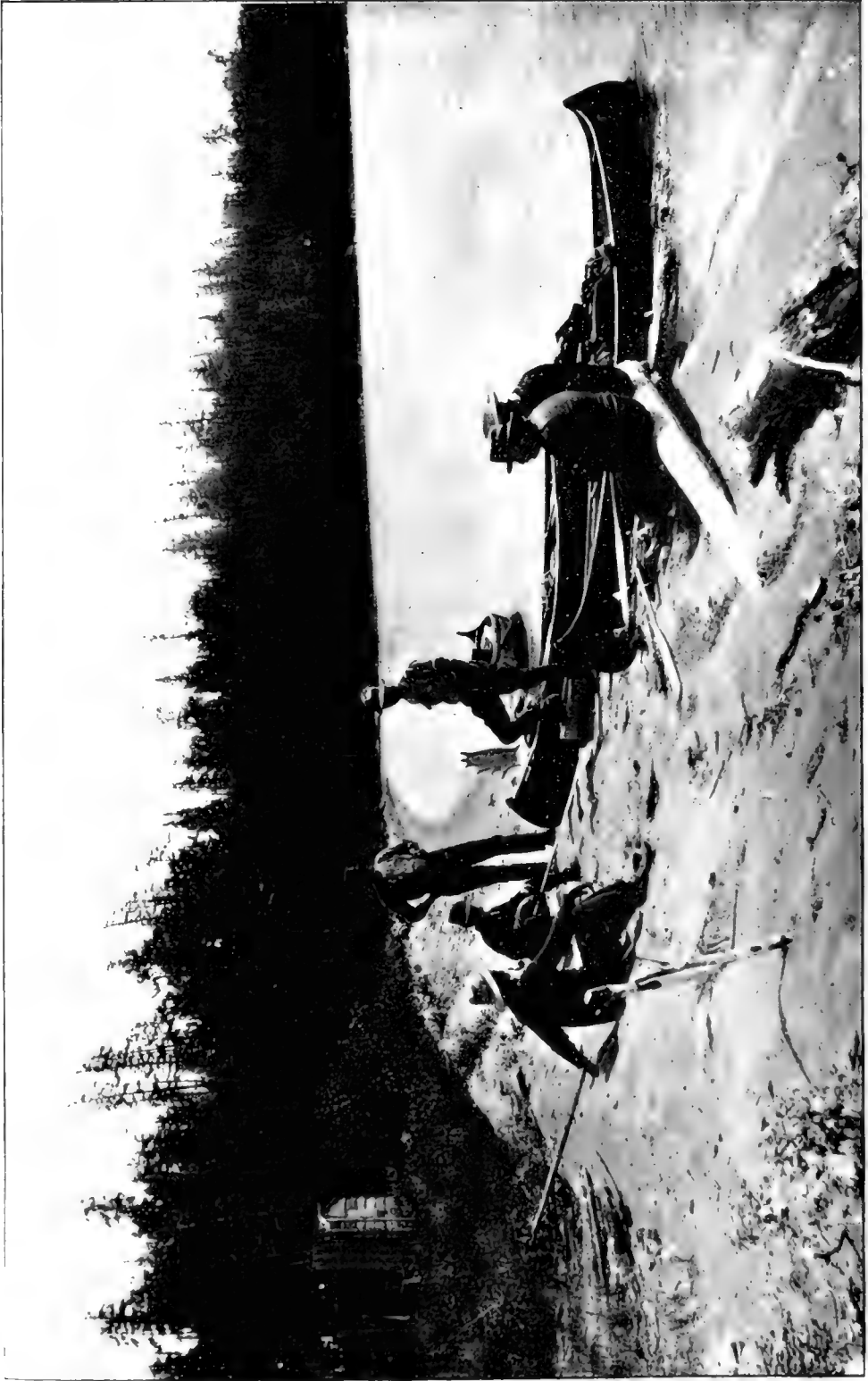
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ON THE MISSISSAUGA.
Mr. Geo. C. Cotton's Party at the H. B. C. Post, Upper Green Lake.

ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, FEBRUARY, 1904

No. 9

Mississauga

BY GEO. G. COTTON

In August last we made a trip to the far-famed Mississauga River in the Province of Ontario, starting from Biscotasing on the "Main Line" of the Canadian Pacific Railway on the morning of the 19th.

The party consisted of Mr. L. O. Armstrong, of Hiawatha Indian play fame; J. S. C. Bennett, photographer; my son Donald and myself. Our guides were Wm. Harris, Jr., an Englishman of Day Mills, rather small, but quick and energetic and quite a character; George Linklater, a "breed" of Desbarats, and an ex-factor of the "Company of Gentlemen Adventurers", of medium height, broad and solid, thews of steel, the best canoe man and packer in that region and an expert paddler, born at Moose Factory on James Bay, the southern part of James Bay. At the age of thirteen he began his apprenticeship to the Hudson's Bay Company as a boat builder. He had been factor at the Green Lake Post for many years, which post was situated in the heart of the Mississauga country, thus he was fully posted as to the river. Last, but not least a French-Canadian half-breed Indian, Aleck Longevin, six feet four and one-half inches tall, a giant in proportions and taciturn as they are made.

The three canoes purchased from the Hudson's Bay Company by Mr. Armstrong were loaded as follows: Bennett and his

photographic outfit, the camp stove and a bag of pork were entrusted to Harris in one; Don, boxes of provisions and one of the tents were consigned to Linklater in the second. Mr. Armstrong, the writer (no light-weight,) the balance of the provisions, two tents and our two personal packs to Old Aleck in the third. Each canoe had an axe, at the start, but later on—though as Rudyard Kipling says, "But that is another story" not to be told here.

Donald had his shotgun and revolver, and I my inseperable Winchester .30-.30.

After the canoes had been thoroughly inspected and discussed, we gathered our traps to make a start, "our Store Clothes" being shipped to Blind River station on the Soo branch, to await our journey's end.

Mr. Shannon, who is taking out pine on Ramsay Lake, offered the service of his gasoline launch "Helene" to take us over the Biscotasing Lakes, and we accepted. We piled in the duffle, placing the canoes on the "deck" and were off. The ride up the Lake was delightful; the day was beautiful, not a cloud in the blue sky; the breeze was cool and filled with odors of the forest; the lake had scarcely a ripple, excepting those made by our ship's prow. It was not to be wondered at, that after a "short" night in a sleeper and an unceremonious landing at a wayside station at four a. m., that the most of the party suc-

cumbed to the drowsy god, and did not awaken until the cessation of the throbbing of the propeller foretold that the landing was near. We were much surprised at the excited tone of the erstwhile captain to the new Indian engineer (his trial trip) to "get under way and give him steerage." We found that in the short channel between the Biscotasing Lakes, there was an abrupt turn and swift current and unless the current was entered at a certain point, the boat would be thrown to one side or the other against the rocks, and it would have to drop down and then try again. This had proven true in our case. On the second trial we had better fortune and succeeded in making the passage. The upper lake is also beautiful, but the forests have been devastated by fire, and the blackened trunks are in view wherever you turn. We reached the head of the lake and landed. A short portage of about one-eighth of a mile brought us to one of Mr. Shannon's camps, and we were invited to partake of dinner, "shanty men's style." We accepted. The camp was I should judge about thirty by sixty feet, built on timbers at the water's edge. At one end is the kitchen and cooking stove; the other end is the dining room (an imaginary line dividing), furnished with a table of rough boards about six feet by sixteen feet, and around the edges of the camp are boxes and barrels containing potatoes, canned beef, flour, pork, beans, hard tack, dried apples, sugar, molasses, tea, etc. When dinner was announced we stepped into the shanty and were given a tin plate, pint cup, knife, fork and spoon, and invited to "help yourself" from the dishes of food set out on the table. Each helped himself, and found a place to stand or sit. About thirty men were served that day to pork and beans, baked in big pans, potatoes boiled in a can that would hold a bushel at the least calculation, bread cut an inch thick, heaped high up in a milk pan, butter in a wooden firkin, apple sauce by the pan full, warm biscuits, dried apple pie, fresh blueberry pie, and a big can of tea, certainly ten gallons. It was good and wholesome and we did it ample justice.

On the side of the log that acted as ridge pole for the roof, over the centre of

the table, a swallow during the long summer days had builded her nest of mud and sticks, laid her eggs and hatched her brood of four little ones. Evidently she knew there were strangers, because for some time she fluttered about and finally anxiety overcame her fears and she flew in, fed her babes and away again she went for more. After dinner Mr. Bennett tried to photograph the nest and birds, scarcely five feet above the table. To this the mother bird, thinking we meditated harm, strenuously objected. I am afraid the picture was not a success, as no good light could be had except by disturbing the roof boards and nest, which was not to be thought of. I doubt, if the shanty men would have "stood for it" anyway. What grand faith and confidence that swallow had in the goodness and kindness of those big-hearted, hard working, rough, shanty men.

As soon after dinner as the pipe had been smoked, we loaded up the canoes as planned, and embarked on Ramsay Lake for the head waters of the Spanish River, of which the lakes are but widened parts. Linklater says the Indians call this lake Wah-bu-me-quek-co-sa-kai-gan, meaning the "Lake with the Water Lillies in the Inlet." In this lake we caught five good size pike. We paddled all the afternoon and camped on a point on the main land, put up two tents, had supper, and shortly after went to bed, all pretty tired.

We had for our camp cooking outfit a Baxter stove of sheet iron, with an oven and a service for six people. The guides looked upon it at first rather askance on account of its weight (fifty pounds) and strangeness. At the first trial they used more wood than was necessary, making too quick and too hot a fire. When they were more accustomed to it, there were no criticisms—nothing but praises. Twenty minutes would get a meal, except on state occasions, when a new relay started in, or when experiments with new concoctions were tried.

On Thursday, August 20th, we were up at 4.30 a. m. and started up the Inlet. At about 10.30 we reached swift water, and at the head found a fall of about ten feet. Aleck portaged his canoe around both rapids and falls. Harris tried

paddling and poling up the rapids and came to grief; had to get out and drag his canoe up. Linklater tried to follow him with no better success. Both got wet and had to portage after all. At the head of the fall Shannon's people were building a dam, which was about half completed, so Mr. Armstrong named this carry "Half-dam portage." A timber slide was also in process of construction. Half a mile above the fall, Shannon had a bridge and another camp. In return for taking a picture of the camp the shanty men gave us a small bag of flour. Two miles further up the stream there was another rapid, and a portage of one-quarter of a mile, with another dam at the head (Whole-dam portage). Here also were three shantymen caulking a large batteau. This night we camped on an island in Canoe Lake. We caught a couple of pike trolling, and as we were paddling along the shore heard some large animal in the wood but could not get a glimpse of it. We surprised an otter while fishing, but he made off into a tangle of logs. Immediately after supper we took to our beds, but did not sleep very well. The bed might have been softer.

Friday morning the wind was blowing a gale, sky was cloudy and it looked like rain. On the lake the waves were capped with foam and it was noon before the wind began to die down. We passed the morning in playing bridge whist. After dinner we reconnoitered and concluded that by paddling down behind the islands, we could get under their shelter and make the lee shore of the main land. This we did, but the waves were still high and all the canoes had more or less water in when we reached the main land. By keeping along the shore, close in, taking advantage of every headland and island, we arrived at the head of the lake and portaged over quite a sharp "hogs-back" to Sulphur lake, and camped for the night on the south shore. Mr. Armstrong and I went fishing while supper was being made ready and the tents pitched. We caught some fine pickerel, averaging about four and one-half pounds. Being from this clear, cold water, they are very good eating.

The country around Sulphur Lake is hilly and rocky and not very attractive, on account of having been burned over. The

water is dark as though saturated with iron.

On Saturday morning we broke camp, crossed Sulphur Lake, made a short portage, then across to another lake, to the head of the Spanish River. Then a long, hilly, rocky portage over the "Height of Land" and we launched our canoes in the head waters of the far-famed Mississauga—"The river of the heavy forests." We were on the old Hudson's Bay Route, to the post on Green Lake. Going with the current the travelling was easier. We dined at the abandoned Hudson's Bay post "Mississauga" on the upper Green Lake. Geo. Linklater has been factor there for about fifteen years. The Post is on a strip of sandy beach between the river and the lake. Back of the post, the land begins to rise and on the bluff overlooking the Post is an Indian burying ground. The Post has been abandoned about twelve years, and the buildings are rapidly going to decay. Green Lake is nearly circular and stretched out to the south surrounded by pine forests; has beautiful sandy shores and bottom, and was pronounced fine bathing by Mr. Armstrong and Donald. In one of the storehouses we found some old sheet iron stoves, made large and roomy for burning two-foot wood, and some old pine chests, one of which we attached, as a memento.

It is a lovely spot, and if a person could afford the time for a vacation to go and come, I know of no other place better suited for a summer camp.

We got away about two o'clock, crossed the Lake into the River, and camped on a portage at a small rapid.

Although the following day was Sunday we travelled to make up the time we were wind-bound on Canoe Lake. On crossing a small lake about ten o'clock we stopped at an Indian camp. The Indians were away, the poles of their tepees were standing stripped of their birch bark covering, which covering was "thatched". That is, the Indians build a pole platform about four or five feet high and the things they do not want to take with them (in this instance, their guns, axes, clothes and some provisions) are tied up in birch bark and placed on this platform, covered over with the birch bark covering of their tepees and the bark not needed for this covering is

rolled up with the other goods. In a green thicket were two birch canoes with paddles and poles. We left the camp and crossed the lake. Here we made a shortcut consisting of two portages and crossing a small lake, which saved us about thirty miles of river running. During the day there were many small rapids. Since our canoe was large, it drew considerable water and being pretty well loaded, the largest single piece of baggage (I), was usually invited to take to the woods or rather the portage; some times Mr. Armstrong as well. The river averages about thirty yards wide, and so far was wooded to the water's edge with pine, hemlock, spruce, etc. The hills are a mile or more back.

We camped on the river bank at the foot of a rapid, and as the weather was quite damp and chilly, we arranged to have a camp fire outside the tent. About three o'clock in the morning it was decidedly cold, the mist from the river being like a wet blanket, so we called Harris to build the fire anew, and then we slept quite comfortably until morning.

Monday was our sixth day out. We agreed that each day's cooking should be done in squads. No. 1, Linklater and Don; No. 2, Aleck and Armstrong; No. 3, Harris and Bennett; I was to put in my talents where they seemed most necessary. To the most proficient a prize was to be awarded. Today squad No. 1 had the carpet.

We were started by 7.30 a. m. Twenty minutes later, a portage; and at 9.15 a. m. I was perched on some rocks at the end of the second portage at the foot of a rapid, watching the rest coming down in the canoes. I was out of the running, so out of the fun—too much *avoirdupois*. At 10.15 I was again watching them coming through the third rapid. As the pack straps begin to cut in, and fit rather snug, your temper grows shorter, and you begin to think the canoe could just as well carry another one as not. At 11.30 o'clock another rapid; they are beautiful and were lots of fun—for the other fellow. Aleck comforted me by saying that there would be no more portages in the afternoon. Shortly after dinner we ran into the bottom lands. The river bank on each side was covered with beaver meadows, through which the river

ran its length. The grass was so high that you could scarcely see over it standing up in the canoe, and there were deer and moose tracks in plenty. In some places the rife was still in the water, where they had passed. At 2.30 p.m. we passed an Indian burying ground on the bluff, at a return bend. The graves were surrounded by a wooden fence painted a bright blue, and decorated with a pair of deer antlers. Empty vessels of birch bark and bottles were strewn about. Evidently they had held food to cheer and sustain the dead on their journey to the "Happy hunting ground." Those graves were of recent date, while further up the hillside were traces of an older burying place.

It was proposed that we could stock our larder with a little red meat. "Man was not made to live by bread alone," and "salthorse" for our "stiddy" was getting a trifle familiar, but alas! it was the close season and like the good sportsmen we would like to be, we abstained from shooting in spite of great temptation. At 8 p.m. Harris was out in his rain coat, beginning his preparations for breakfast. He had very craftily contended all long that cooking was not in his line, and it was chiefly on this account, that the cooking arrangement was made. Harris had taken upon himself to pitch the tents, make the shake-down for our beds, and do the packing up, and a great success he made of it, but the others made a kick about doing all the cooking. So it was arranged, and they found that Harris could cook and wash dishes with the best of them.

On Tuesday we slept later than usual, and found it showery and a heavy mist enveloping everything. We started on our way about eight o'clock, and at eleven o'clock we ran into lower Green Lake, where there were the remains of another Hudson's Bay Post. The roof had tumbled in, the walls alone were left standing and the whole grounds were grown-up with berry bushes. Geo. Linklater had been factor here for about a year. We cooked our dinner on the rocks at the landing and got away at one o'clock and crossed the lake. The shores are low and grassy and look like exceptionally good moose grounds, and George says "they can't be beat." At

two p.m. we made portage around a rapids and falls. Mr. Armstrong informed me that when this trip was concluded, he was going on some business up to Timagami Lake, where we had been together some six years before, and intimated that a camp outfit like the one we had with us, and which belonged to me, would save him much valuable time, on the way, because it would be necessary to cut so little wood, also that it could be used to warm the tent at night, and further, that its economies in the wood line would help to preserve the Canadian forests. (As he is deeply and vitally interested in the Canadian Pacific Railroad as a grand highway to this great "game country" he should pose as a bright and shining example in these economies.) All of this I cheerfully subscribed to, and suggested, that as Donald thought he was in need of a birch bark canoe to complete his education at Cornell, and if Mr. Armstrong would see that the canoe the young man had been traveling in was safely shipped to Ithaca, he might take the camp kit on his journey; and "so mote it be."

While these negotiations had been going on we had been running into a more hilly country, and soon we passed into a lake, the like I have seldom seen, full of high rocky islands and points jutting out into it, called *Min-ne-sina-quah Sakaigan*, the "lake where the head lands look like islands." If the guides were not familiar with it, I can imagine strangers would spend some considerable time finding the outlet, which is hidden behind a high bluff. The current sets in pretty stiff. It is all one could do to paddle a canoe up it. We camped on a flat rock covered with moss, only about a quarter of a mile from the lake, and opposite a bluff, fully six hundred feet high.

While making camp I jointed the rod, and having a leader with some midge flies on went to casting, and in the swift water had a strike. The fish started for the other side of the river lively and I had to let him have the line. After about twenty minutes work, we got him in, and lo and behold, a pickerel weighing about five pounds. I first thought I had hold of a big "small mouth bass", by the way he went for the swift water. The hook being

caught way back in the corner of his mouth, made him so hard to land.

Wednesday was the day of our lives. We slept late, then photographed the country from the top of the bluff, and got away about nine o'clock. The water was quick and we ran several rapids, the "heavy-weight" walking around three. Then we struck what Linklater called the "Devil's Portage" and it was the "Devil's own." At this place in the river is a chute, and a rapid that could not be run, so there was nothing for it but the pack straps. The portage was about three-quarters of a mile up a stony, very steep hill, then wound down a rocky ravine to the river. It was a poser. I thought the blamed straps would saw my shoulders off. Donald insisted on carrying his canoe and nearly put himself out of business. Well, we were all glad when over it. The river here is about one hundred yards wide and has a big volume of water. We had dinner at the foot of a portage around a rapid and at the junction of the Winnebagon with the Mississauga. The Winnibegon has about the same volume of water as the Mississauga. We ran up the Winnebagon a short distance so we could say we had been on it and picked and thoroughly enjoyed some high bush cranberries that grew over the banks.

Linklater told us there was one more portage before we cramped and old Aleck said if the last portage was the "Devil's" the next one was his wife's. It was all down hill around Aubrey Falls, and awfully stony.

We started on with not a little enthusiasm. In the middle of the afternoon we came to a narrowing of the river where it looked as if it melted away. On each side of a small rocky island you could see the mist rising and the tops of the trees away down below. We landed at the side and found it impossible to get much of a view, and on the assurance there was a good place further down the portage, we started. If anything the "Devil's Wife" was harder on our feet than the Devil. About one-half mile down, we halted, put down our packs, and took a walk over the rock, and came out on a ledge. Such a sight I have never seen: Aubrey Falls, one hundred and sixty-five feet high. I wish I could describe them, so that the reader

could get a realizing sense of their beauty, with the setting sun flooding them with its radiance, the mist one mass of prismatic colors, and the waters foaming milky white.

As you stand on the rocky brink of the chasm, looking up the river, you see the waters tumbling on either side of the island, into a broad shelf of rock and across the shelf down into an abyss. The second, or lower fall, is divided by an immense shaft of rock, which rises out of the seething waters below. The waters are then gathered from right to left and sweep across the face of the fall and plunge into a rocky gorge or canyon approximately one hundred feet wide and as many feet deep, the sides of which, gradually drop and sink away a half-mile below to the level of the waters of the river. After gazing our fill and doing some photographing, we returned to the trail, resumed our packs and shortly found ourselves on the flat rocks at the river's edge, where we made our camp for the night. We were tired, and slept well, with the music of Aubrey Falls for a lullaby.

We were up at five o'clock on Thursday (our ninth day out) and breakfasted at seven. Opened a barber shop while waiting for breakfast. Harris shaved me, Mr. Armstrong started in to do the same for himself, using a tin plate for a mirror. By nine o'clock we had passed two portages—around rapids for me—and now came to a thirty-five mile run, and Harris remarked: "When you get down, you will wish you were back." Don asked him "Why?" and he said, "So you can do it over again." And it was a ride for your life. We were in the hard-wood country now, and the trees were beginning to assume the brilliant hues of autumn; the banks were a series of rocky bluffs, several hundred feet high, and a panorama of beautiful views. The river is like a mill-race, from one hundred to one hundred and twenty-five yards wide, and one need not put in a paddle except to dodge the rocks or keep out of too violent waves or eddies. The smaller canoes took in more or less water, but the large canoe with crafty, careful old Aleck barely took two nailfulls the whole distance, and only touched two rocks. About

five p.m. we passed the place where a trout stream came in from the west, but we were in a particularly swift current so could not stop.

At noon we had dinner at a point where a surveyor's line crossed the river. Here they had had their camp. We were out of matches excepting some Donald had in his pack, and he and Aleck were not handy, so we took the lens out of Bennett's 8 inch. x 10 inch. camera for a burning glass to light a fire to cook dinner, but could not induce a flame. We looked about and found an Indian "cache" near the old surveyor's camp, and on opening one of the chests we found several small boxes of matches, some of which we appropriated, and left in lieu enough money to cover. This Aleck assured us was the proper and only thing to do in the woods.

Friday (ten days out) camp was left at 7.45, and still we went on down hill, in the swift waters. At one place it looked as if the river sank away before us like a toboggan slide, and dashed itself against the foot of a huge bluff, then rolled away to the left. Here we had to paddle lively to get out of the rough waters without being upset.

Mr. Armstrong believes this to be the most beautiful river he was ever on, and he has been on many of them, not only in Canada but in the States.

At 9.30 we met two Indians, Bamagesick by name, poling their canoe up the river. They were taking supplies to a Government surveyors camp on Township 195 and 201.

At 11.30 we arrived at Squaw Chute and we portaged around. At this place there is a cabin (no one at home) with a potato and cabbage patch. As we had seen no green vegetables for ten days, we did not get away until 1.30 p.m. We ran rapids and paddled until 3.15, when we reached the Falls at the head of the Tunnel. These falls are about seventy feet high and would have been considered grand, if we hadn't seen the Aubrey Falls. At the foot is a large pool; then it sweeps around to the left and into the Tunnel as it is called. It appears as though the river had worn a cut through the solid rocks about one hundred and fifty feet wide and as many feet deep, and about three miles long, and is

full of ledges and jagged rock. The guides say that logs coming through are pounded almost into pulp wood, and it certainly looks as though they might be. There is a copper mine and stamp mill at this place, but not being worked; also three or four cabins, one or two occupied, and these were the first habitations excepting the one at Squaw Chute since we left Biscotasing. We sent over the hills and got a farmer to come with his hay rack filled with hay to take our duffle and canoes over the three-mile portage. When about half way over, Aleck invited me to go with him and take a look at the tunnel. We left the portage and climbed down the hill to the edge. It was a wild sight, the water dashing against the rocks and flying many feet high in the air, and white as milk. I can assure you it was a tough climb back up to the portage. We traveled along, reached the River and camped for the night. We appropriated the farmer's hay and were assured of good beds for the night. We had a turn at the great American game before sleep overtook us.

On Saturday morning it was raining, but we started at 7.15 and paddled to Slate Falls, twelve miles through the rain, portaged around the falls on the left side, crossed the river, and while we were holding a counsel of war to decide on our future plans, we had the guides put up a tent, to keep off the rain and build a fire to warm us and dry our clothes. None of us were very strong to keep on down the river, and Harris invited us to go home with him and spend Sunday. His home is at Day Mills, on the south shore of "Wah-que-ko-bing" lake, and to get there we must climb over a hill and cross the lake. There had been at one time a portage, but it had grown up with brush. Mr. Armstrong, Harris and Linklater volunteered to cut out the portage, while Aleck cooked dinner, so we decided to accept Harris' invitation. We put up the second tent for Aleck to cook in, while the volunteers cut out the portage. After dinner we took what duffle we thought we would need and left the balance in the tents, and started everybody for himself. Don and I followed the Indian, but he was too quick for us, and going up a "dry water course" we missed the blaze on the tree that indicated the portage,

and got lost, so we stopped and began to howl. Harris answered away up the hillside to the right, and we were found. Just at this time the Indian came back over the trail for his canoe, and I stopped him and made him take my load and nearly all of Don's and then we had all we wanted to do to get over, the rain coming down harder than ever. Mr. Armstrong and the guides made the trip three times and pronounced it an easy portage for the distance. Under such conditions we will have to adopt some new footwear for the next time. The boot packs when wet through are soft and slippery and treacherous. I never tumbled around so much in all the times I have been in the woods as I did on that tramp over the hills on that portage of about three-quarters of a mile, and never but once did I attempt to travel through the woods in such a rain storm, and that to keep an appointment, and travelling light. I should have remembered my vows on that occasion; but all things end, and so did that. Harris and Bennett with the photographic supplies had embarked, and were well out into the Lake. Linklater, Don and I went next in the big canoe, and Aleck went back for the third canoe, and Mr. Armstrong waited for him. When we were on the Lake the rain ceased, the wind began to come up and the waves with it. We arrived safely before they got too lively. We shouldered our packs and hustled down to the Harris residence, wet, tired and dirty, at 4.30 p. m. We cleaned up, had a good hot supper, and felt more like "white folks", played cards, and went to bed at ten o'clock.

The indefatigable Mr. Armstrong changed his clothes, hired a man with team to take him twelve miles to Dayton, caught a train for Blind River, where our things were to be, and got his mail. He stayed over night, shipped our things to Desbarats, hired a team and man, and drove the thirty miles to Day Mills and arrived Sunday noon.

We loafed around all Sunday morning. Day Mills has a population of nine families, and its principal industry is a saw mill, and a Methodist church. The mill saws lumber by daylight, and furnishes the power to run a generator that lights the houses and church by electricity. We all

thought Harris was "joshing" us when he was telling about all the comforts of home, he had in the "wilds of Canada," but they were gospel truths each one of them.

Mr. Armstrong's plans were to go back to Slate Falls and on down the river to the railroad station at Blind River, but we declined. So Aleck and Linklater went over to Slate Falls, got the tents and duffle, while we made arrangements to be taken to Dayton in the morning.

During the afternoon we made a call at the cottage of the Kingfisher Club, 1892, at the landing on the lake. Messrs. Gooder and Hartman of Cincinnati, Ohio, were our hosts, and dispensed its hospitalities in royal manner. We returned to the Harris residence, and photographed the family and the guides in the garb of civilization. In the evening a neighbor brought in a fiddle, Linklater executed the leading part, and Harris accompanied him on the organ.

Early on Monday a team came and was loaded up. On account of my lameness I was honored with a conveyance; the rest walked. Going out in our party was a young man from the Stevens Institute of Technology at Hoboken, New York, Geo. M. Richards, who had been spending his vacation at Harris' and earlier had gone down the Mississaugua with Harris and a party as second guide. His account of his experiences were quite amusing. We parted with Harris at Day Mills, with the young man and Indian Aleck, at the Station, the Indian returning to Biscotasing, where he lives.

The rest of us journeyed on to Desbarats. The people on the train must have thought we were a wild west show in our hunting clothes, with guns, rods and hunting knives in our belts, ragged and dirty after a couple of weeks in the woods. I can assure you that when we reached Desbarats, we soon made for the hotel, secured our trunks and got into civilized clothes.

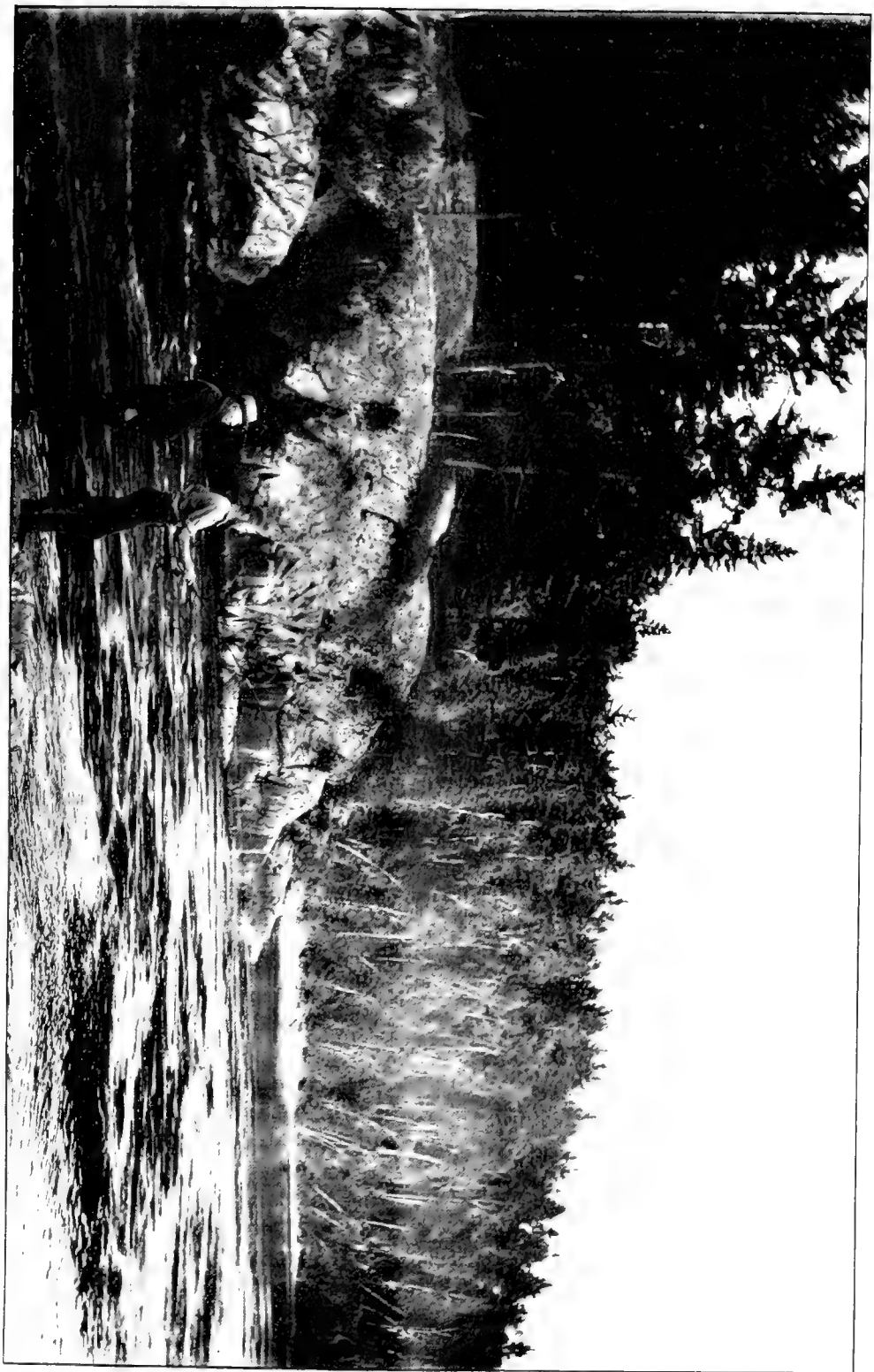
In conclusion, we should have adhered to our original plan and taken another week to the trip. It was too beautiful to have been hurried over, and I am sure there were many lakes but a little off the direct route where there would have been elegant fishing and hunting; but the hardships are all forgotten and only the pleasant times

and beautiful scenery will remain in our memories. It is a glorious country and it will be many years before the hand of the lumberman will find it profitable to go to the trouble and expense to do the work necessary to pass the logs by the falls and tunnel to the mills and railroad.

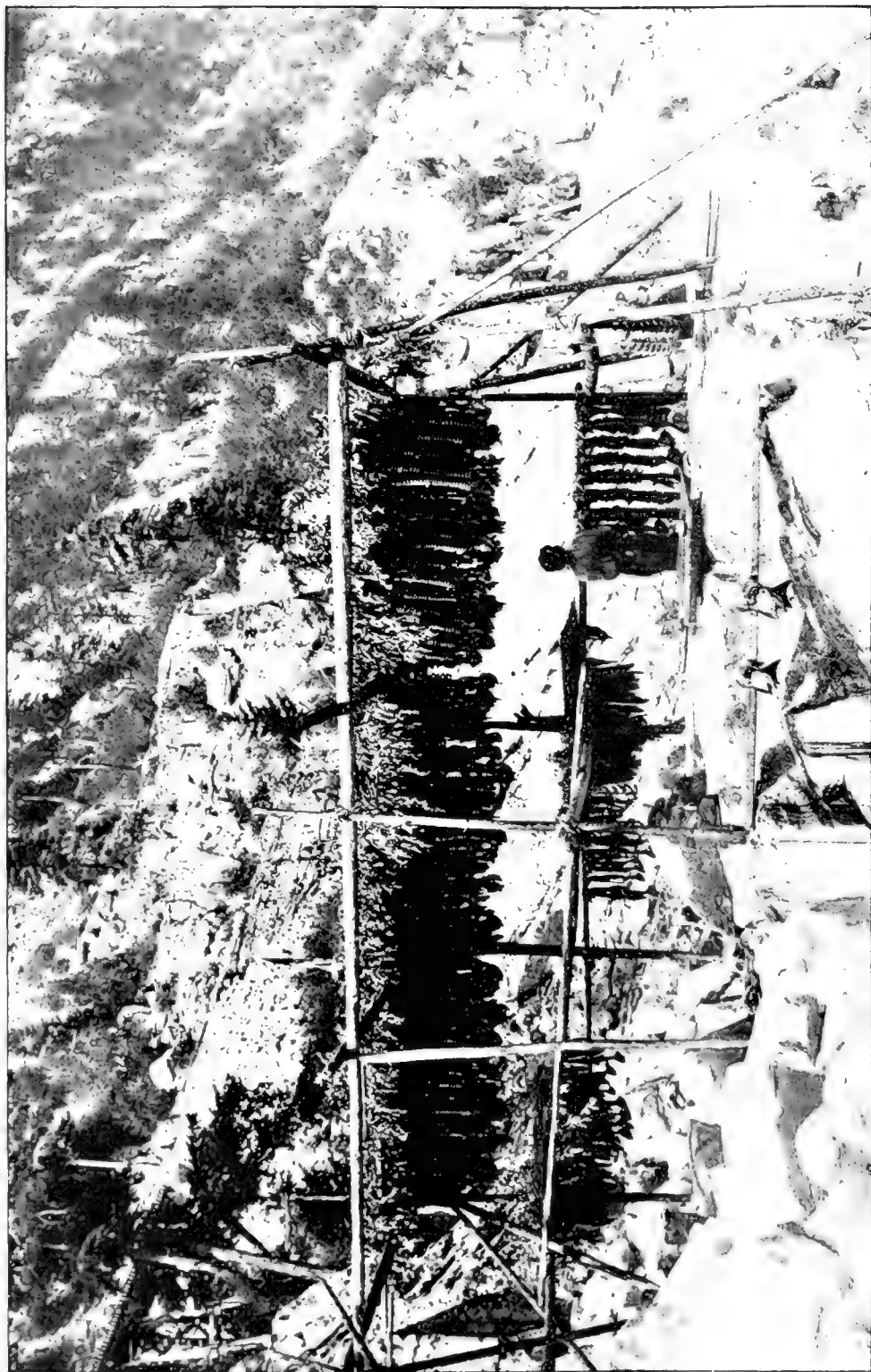
Only once did we see deer or moose. I think it was on Tuesday, our seventh day out, we saw a buck and two does in the river drinking. They leisurely walked out and disappeared in the forest, seeming familiar with the fact that the game law protected them.

I must say that the prize for cooking was awarded to the Indian. He could, and did, make white and corn bread and biscuit. If the others could they would not, so Mr. Armstrong gave Aleck a sample (half-pint) bottle of whiskey. It was worth the price of admission to see the look on the face of the old Indian when he took the miniature bottle. He rubbed his stomach and said: "No reach down here" and I am of the opinion that he felt as if he had been defrauded of his rights, but Mr. Armstrong had given him all the had and he squared himself afterward, to Aleck's delight.

It was rather amusing to me to hear Aleck's remarks in Canadian-French and Indian about me to Mr. Armstrong, when I would get tired of being doubled up and attempt to stretch out in the canoe, sometimes putting my feet on the gunwales. He would grunt and grumble, calling me Windido Shaganash (the long legged Englishman) and saying that I would capsize the canoe. One day going through the rapids, Alex yelled "Au large,—Ramnez au gouche, au gouche." Mr. Armstrong above the noise of the waters heard the "au gouche" and started to throw the head of the canoe to the left and directly onto a huge rock, when I repeated the direction. Aleck "sensed" in a moment that I must have known and understood all his little side remarks to Mr. Armstrong. From that time on he was not so grumpy. I understood from Mr. Armstrong afterward that he had been warned to be careful of crossing Aleck, as he would take offense on the least pretext and leave one in the woods and start for home, so Mr. Armstrong humored him and deferred to him in the



A LESSON IN CASTING.
Three Island Portage, Missis-sauga River.



SALMON FISHING.

These fine fish have all been dipped out of the Fraser by the Siwash Indian shown in the picture.

running of the canoes, which I think caused me to walk around many portages, which could have been run, without very great danger; but, then, "Who knows?"

We spent a couple of very pleasant days at Desbarats, seeing the Indian Play of Hiawatha and enjoyed it very much. Then home.

The United States of America is popularly supposed to be the freest country under the sun, but we Canadians can assure our friends across the border that the sportsmen of the British Empire would not tolerate for a day such legislation as certain persons in the United States have attempted to bring about. We refer to the childish attempt to prevent sportsmen from using such up-to-date weapons as may be offered them by manufacturers. Some, no doubt well meaning but misguided, individuals would actually forbid the use of repeating rifles in addition to their *bete noir*, the automatic shot gun. Their contention is, that by forbidding the use of these improved weapons they will protect game, but if they were practical sportsmen, they would know that the only effectual way to protect game is to forbid its sale; make it illegal to kill more than a certain number of birds, in a day, and in a season; to destroy vermin, and last, but not least, to enforce such laws. The percussion gun would be quite effectual in cleaning out the game, provided no check were put upon its use, and every loafer could pass his days gunning. We are glad to see that Judge Ross of the United States Circuit Court of the northern district of California, has taken this stand.

It appears that a certain W. A. Marshall was convicted in the Justices Court, of Marin County, California, of a violation of an ordinance enacted by the board of supervisors of that county, which said: "Every person who, in the county of Marin, shall use any kind of a repeating shot-gun, or any kind of a magazine shot-gun, for the purpose of killing or destroying any kind of wild duck, geese, quail, partridge, doves, or any birds, shall be guilty of a misdemeanor." In his decision, previous to giving an order discharging the prisoner from custody, Judge Ross said: "In the present instance what was the end sought? Man-

ifestly the prevention of the taking or killing by one person of more than twenty-five quail, partridge or grouse, in any one day; for section three of the ordinance provides: 'Every person, who in the county of Marin, shall take, kill or destroy more than twenty-five quail, partridge, or grouse in one day, and every person who in the county of Marin shall have in his possession in any one day more than twenty-five quail, partridge, or grouse, shall be guilty of a misdemeanor.' That end is just as effectively accomplished without the obnoxious section as with it. It is wholly immaterial to that object whether the sportsmen or hunter use a repeating or magazine gun, or a double or single-barreled gun. When the limit is reached he has to stop shooting or incur the penalty prescribed. And the opportunity of detection is just as great in one case as in the other. No valid reason is therefore perceived, and none has been suggested by counsel, why the owner of a repeating or magazine shot-gun should be prohibited from using it, and the owner of the equally, if not more effective, double-barreled, automatic-ejector shot-gun be free to use it in killing the twenty-five quail, partridge, or grouse, permitted to be killed by any one person in one day. The equal protection of the laws, to which every person is, by the provision of the Constitution of the United States above quoted, declared entitled, would indeed be a vain thing, if such discriminatory legislation was sustained by the courts. If section seven of the ordinance in question is valid, no reason is perceived why the process of elimination may not be extended by next prohibiting the use of the double-barreled, automatic-ejector shot-gun, next all but muzzle-loading guns, and so on until the pop-gun only is permitted to be used upon wild duck, geese, quail, partridge, grouse, doves, or other birds in Marin county."

On The Great Divide.

BY JAMES BREWSTER.

We left our camp, which was situated on the right hand bank of Goat River, early in the morning and followed up the stream in a northeasterly direction about one mile, to the foot of Goat Mountain, which we proceeded to climb in pursuit of goat.

After climbing about three hours, the party, which consisted of Mr. S. B. Hussey, of Pittsburgh, Mr. Moore, of New York, and myself, reached a point where we could see the valley below us to good advantage. After searching the surrounding country some time with our glasses, Mr. Moore spotted a large Billy, who was having a sleep in a small clump of juniper bushes, about one thousand feet below us.

It was impossible for us to get down off the ridge we were following without returning to the bottom of the mountain, and then following up the "draw" that led to the small basin, which the goat occupied. So we continued on up the ridge until we came directly above Mr. Billy. This brought us within a range of about seven hundred yards and a drop of between fifteen and two thousand feet, which would make very uncertain shooting; but after a short consultation we decided to chance a few shots; as goats will almost invariably climb when alarmed.

Moore fired first, the shot striking the rocks slightly below the animal as planned. The goat got up, shook himself, and looked around. Another shot and he started to climb directly toward us. The third shot quickened his pace and springing lightly from one ragged point to another, he was rapidly shortening the distance between us, but before the third shot had died out in the adjoining peaks, a second billy, much larger than the first, came in sight, and joined his comrade in his last climb up the mountain side.

We lay still on the brink of that rocky precipice and watched with interest through our glasses the movements of our now thoroughly deceived game.

As we waited the approach of our vic-

tims, we decided to let Mr. Moore have first shot, as he had been least fortunate during our trip. It being almost three months since we had seen any signs of civilization.

When the goat reached the foot of the cliff, about three hundred feet below us, Mr. Moore fired, breaking the hind leg of the foremost goat. Of course this entitled him to another shot, which he sent very quickly, but was not very effective, only taking a tuft of white wool off the goat's shoulder, and before he could get another shot at him he had disappeared around a corner of rock and was lost from view.

Mr. Hussey, who was an experienced hunter, in both Africa and India, as well as this country, brought his goat down first shot. As his double-barrel English Express barked forth its signal of death, the big goat doubled up as if stricken with a bad attack of colic, and began to roll back down over the steep cliffs he had taken so much trouble to ascend.

Mr. Moore ran along the ridge a few yards to a place where he could see his already wounded goat, and fired, breaking his back. Both goats started to roll down the mountain at almost the same time. They soon gained so much speed that they looked more like balls of white wool than anything else you could imagine.

Our next care was to get down to them, and in order to do this, we would have to return to the bottom of the mountain (as I said before) and follow up a small stream about a mile to the basin, where the goats had stopped rolling.

We started down the ridge at a good pace, as we knew it would then be pretty late before we could return to camp. Having almost reached the foot of the mountain, my attention was drawn to an old avalanche runaway, where I thought I saw something moving in the low brush. In a few seconds a large silver-tip grizzly stepped out into full view.

My companions fired four shots; a few

bounds and the grizzly had reached the heavy timber, and was lost to our view. We immediately went over to where he had been, but we could find no trace of blood, or any indication whatever that would lead us to believe that the bear had been wounded. Having decided that it was useless to follow. Mr. Grizzly, we directed our steps up through a narrow box canyon, about a mile and a half long, and in an hour's hard work, scrambling over slippery rock, and wading in ice cold water, we reached the place where our goats had stopped rolling. We found them very quickly, as we had marked the place where they were before we had left the ridge above. After careful examination we were surprised to see how little they were damaged in their desperate plunge down the mountain-side. Their heads and horns were almost perfect; a few patches of wool had been torn off their hides; the meat had been slightly bruised, but anyone who had seen them roll, would have expected them to look more like a sausage, than the almost perfect specimens they were. We started to prepare the heads for the taxidermist.

After we had finished, we rolled the skulls up in the scalps, and went back the way we had come.

When we were about half way through the canyon night overtook us; dark clouds gathered in the sky, and before long inky darkness presided.

Now our real troubles began. We spent the hardest three-quarters of an hour that I ever experienced in the descent of a mountain, groping our way along the dark corridor, stumbling over large boulders, slipping on slimy rocks, and dropping waist deep into pools of cold water. This exercise is the most fatiguing one can experience, especially after tramping around the mountains all day without anything to eat.

Everyone heaved a sigh of relief when we emerged from the canyon, and entered the tall spruce forest of the valley. Still our difficulties were not at an end. We had

about three miles of heavy woods to travel without a "blase" or any sign to help us.

After prospecting around for some time we discovered a clump of white birch. My companions set about stripping the trees of their outer bark, while I cut a green stick about four feet in length, and one-and-a-half inches in diameter. I split down one end about six or eight inches, so that I could force the two halves apart about an inch. Into this I stuffed a bunch of birch bark. Lighting the bark, we had as fine a torch as any one could wish. These last, as a rule, about two or three minutes. When we had gathered all the bark that we could conveniently carry for the purpose of replenishing our light, we again started for camp, enabled to make much better time by the aid of the light from the torch. When we had proceeded for about an hour in the direction of camp, it was decided that we would fire a couple of shots as signals, that we might locate the exact direction of the camp. The first shot had barely done echoing in the woods when we received an answer which appeared to be slightly to our right, and a half or three-quarters of a mile away. We fired another shot and received an answer from the same place. When we had gone about half way we met our three packers, Sabby, Bob and George, who were on their way out to meet us, bearing a similar torch to the one we had constructed. We fairly dragged ourselves the remainder of the distance into camp. We were wet, hungry and tired, with sore feet, and skinned shins. Our cook, "Big Sid," soon had a good meal before us, which it is unnecessary to say we did justice to. This, our last hunt before we returned to Banff, was the hardest we had during our long trip.

I will write again and relate more of the experiences we met with on this three months' trip after mountain sheep, goat, grizzly, and caribou, among the peaks and high summits of the Canadian Rocky mountains.



Settlement on Timber Lands.*

A deputation of leading holders of timber limits in the Province of Quebec waited upon the Government of that province recently and presented a memorial urging action to prevent the granting of location tickets for lands held under license which are unfitted for settlement and which are taken up by the locatees not for legitimate settlement but for the purpose of obtaining the timber without making any return to the Province. The memorial states that throughout the length and breadth of the Province persons are, singly or in numbers, robbing the limit holders of their property and the province of its dues by obtaining location tickets for lands notoriously and manifestly unfit for cultivation and settlement—lands upon which are to be found in most instances the best merchantable timber on the limit—timber for the preservation of which have been paid by the limit holder, in many cases for years, ground rent and fire tax, besides the original purchase price, and which the limit holder has been nursing and protecting for future use; that in most instances not even a pretense of fulfilling the settlement duties is made, and the timber is sold to speculators, or the patent is obtained after the least possible work upon which a patent can issue and the land and timber sold either to local mill owners or to land speculators, who, after cutting the timber, abandon the lot. It was pointed out that as licenses are renewed in May and any lots entered for would then be excluded, the custom of making entries in March and April is followed and the memorialists therefore asked that all location tickets issued since the first of March be disallowed.

In reply to this delegation the Premier, while agreeing to the importance of the subject and the desirability of fighting fraudulent settlement, pointed out the difficulty there was in distinguishing between the bogus and the bona fide settler. Later he agreed to withhold the granting of any lots within the confines of timber limits

during the month of April and also that the Government will hold back any and all permission to settlers for the four months previous to April on condition that the Limit Holders' Association will come forward and show cause why the Government should not allow these permits to take effect by offering proof that the parties who have been awarded the permits are not bona fide settlers.

The memorialists stated that they welcomed settlement on suitable lands and in localities adapted for the purpose and, although apparently the Premier was unwilling to accept this as conclusive that the settlement objected to was entirely unjustifiable, he had already referred to this illegitimate settlement in the Annual Report presented to the Legislature by him in his capacity as Commissioner of Lands and Forests, and stated that one of the main objects of the Commission on Forestry and Colonization is to give information on this subject.

The question raised is as old as the time when colonization and the lumbering industry came into contact, but it is still far from a satisfactory basis of settlement. It is well that there should be a clear understanding by the public of the position of affairs. That the plan of granting lands free to settlers, no matter how safe guarded, leaves openings for unscrupulous men to obtain control of timber without paying the just dues thereon is certain. The Quebec regulations do not permit a locatee to dispose of timber from his land until he has obtained a patent therefor, but only to cut for his own use, but when once the right to locate upon a piece of land has been obtained, it is difficult, unless an army of officials is employed, to ensure that the regulations are observed faithfully. It is a matter of history in Canada, and probably more so in the United States, that fraudulent use has been made of the free grant provisions to obtain control of timber lands, so that those who attempt to deny that such methods have been and

*Contributed by the Officers of the Canadian Forestry Association.

still will be employed are talking without a proper knowledge of the subject. As between the lumbermen who have purchased limits and contribute honestly to the revenue of the Province and those who attempt to get hold of timber lands and at the same time to escape paying their fair share of taxation, there can be no hesitation in choosing when the facts of the case are established.

There appears, however, to be a question in the minds of the Government as to whether the representations made by the lumbermen are entirely correct as to the settlement complained of being fraudulent. If, however, the lands so settled upon are, as stated by the memorialists, unfitted for agriculture, the fact of the colonization being bona fide does not make it either justifiable or desirable. If it is clear that the land will not support a population by agriculture, that, after having cut the timber, the colonists must live in penury or abandon the land, there is no good reason why futile attempts should be made to establish agriculture in such districts. That there are such tracts, and such the best lumber tracts, is admitted, but public opinion, not understanding the case and naturally taking the weaker side, frequently expresses itself in support of the settler without any understanding of the true situation. Germany has a population of one to each 2.2-3 acres but finds it profitable to hold 35,000,000 acres of twenty-six per cent. of its land surface in forest. These forests cover the poorer, sandy lands of the North German plains, the rough, hilly and steeper mountain lands of the numerous smaller mountain systems, and a small portion of the northern slopes of the Alps. Canada has a population of one to about 360 acres, and Quebec one to about 144 acres, so that surely the pressure of population has not reached such a pass that the effort must be made to gain a living on such lands as, even in a densely populated country like Germany, are found to be most profitably kept in forest. "But", the objector says, "why should the lumberman be permitted to hold public lands and make a fortune out of them?" Bearing in mind that the lands under discussion are those unfitted for agriculture and fitted only for timber production, that ques-

tion may well be met by another, "How then are such lands to be managed? Is it better that they should be settled upon, the timber removed and then have them abandoned or transferred by an absolute title to some other lumberman, or will the Province take hold and manage them itself?" To the last suggestion the Province of Quebec would undoubtedly at the present time give a decided negative, so that, whatever the development of the future may be, the Province is now shut up to the plan of allowing the lumbermen the management of such lands, and provided the continuation of the forest, the conservation and possible augmentation of the Provincial revenues, and the final control vested in the Government are made a condition, so that progress and improvement in administration may be assured, and future contingencies provided for, there does not appear to be any better method practical at the moment. Radical changes may come and, if so, they will be in the direction of larger Government control, but the practical question must be dealt with immediately.

The question still remains as to timber lands that are also good agricultural lands. On such lands the lumbermen say they wish to encourage rather than discourage settlement. This may be quite true, but the hesitation of the Government to accept absolutely the statements of the memorialists may be taken as an indication that objection has been made at times even to the settlement of good agricultural lands. Licensees do not like to lose the lumber they have bought or preserved, or to be compelled to cut it before they are ready to do so, and the danger from fire which has always followed the trail of settlement in Canada strengthens the objection. Where, however, there are areas of any great extent fitted for agriculture, they must be devoted to that purpose when the demand for them arises, and any attempt to prevent it would be not only useless but injurious by prohibiting the most profitable use of such lands and prejudicing the whole case for the proper management of timber lands.

The Province is, however, responsible for the management both of the timber and the agricultural lands. It owes it as a

duty to the colonists to know where the good agricultural lands are so that it may direct settlement to where its labors may be crowned with success. It owes it as a duty to the public that the timber lands, that great source of revenue, should not be utterly alienated and should not be destroyed, so as to become waste and unprofitable. It is a problem of no little practical difficulty, and if the Commission on Forestry and Colonization can assist the Government in dealing with it their labors will not be in vain. The situation demands a strong, representative and impartial

commission; a thorough investigation not only theoretically but practically, of the issues involved, and a clear and unprejudiced report. But whether commissions come or go, whether they report or not, Government responsibility still remains, and the question must be dealt with finally by the Government. Its solution requires courage and statesmanship and a vision which, while not overlooking the present needs, gives its full value to the future and counts the continued well being and prosperity of the Province as a whole its highest aim.

A few days ago a couple of moose heads were sent to England under somewhat unusual circumstances. The men of the 2nd Battalion, Royal Canadian Regiment fought side by side with the Gordon Highlanders at Paardeburg, and elsewhere, and a strong feeling of comradeship sprung up between them, and so when Major S. Maynard Rogers, of the 43rd Duke of Cornwall's Own Rifles, bagged a good head last fall, he at once bethought him of his old friends and resolved to send the trophy to the Gordons for their mess-room. In connection with this matter, Major Rogers has written:

Ottawa, Jan. 9, 1904.

My dear ———.

The history of the two moose heads is as follows: I killed the cow moose in a blinding snow storm, as my guide said it was an old bull that had shed its horns. This was in the Maganicippi country. She measured eighteen hands in height, and weighed over twelve hundred pounds.

The bull, which I consider one of the finest in Canada, though I have seen larger, has eighteen tines on each antler, and a spread of over fifty-one inches. He measured nineteen hands one inch, and weighed over fourteen hundred pounds. I killed him in the same country.

During the past fourteen years I have killed fourteen moose, thirteen bulls and

the cow above mentioned. My hunting ground has always been the Maganicippi, Kipawa, Timiskaming and the Quinze. This year I had in my party three gentlemen and two ladies. We went to the Lonely River country, via Mattawa, Timiskaming and the Quinze, and in thirty-six hours the party saw eleven moose and we got all the law allowed. This country is swarming with duck, partridge, and moose, and within twelve miles to the eastward of Lonely River and Lake Opasalika and Kekek Hills there are a very large number of caribou, of which we saw numbers of hacks, but as the portages are numerous, we did not like to take our ladies in. I might say that the scenery on this trip is quite the most interesting in our north country, combining the beautiful and the magnificent, and is easily worth the trip alone for an enthusiast with the camera. There is only one portage between Klock's depot on the Quinze, and the Height of Land, and that a very short and easy one. The Swinging Mountains near the Height of Land, with a very interesting Indian legend are magnificent, and the mountains near Abitibi are in plain view from the lake and from the top of the Swinging Mountains a vast stretch of country—more than half lakes.

The best and cheapest place to outfit for the Quinze country is North Timiskaming, where good guides can be secured.

The Finding of Lost Lake.

BY FRED C. ARMSTRONG.

(Continued from the January Issue)

"Here we were. Two men quite alone in a country strange to them, without any provisions, or gun; in fact, our whole outfit consisted of an axe, a few matches, and a compass, for we had left our blankets, thinking that they would have made our loads too heavy.

Stephen thought we ought to follow the tote road, as it would be certain to bring us out somewhere, but I made up my mind we would make a trail straight across country, spotting it as we went; upon which he said, "Then the Lord only knows where we will come out." I laughed and told him that we should come out all right, and, finally, after a lot of argument on each side, I took out a pencil and tore off a piece of birch bark, and made a rough map of the Burnt Hill and Beaver Lake country. By this I intended to travel. I knew, of course, that we had travelled in a southerly direction, and that if we travelled north now we should strike the Beaver Lake region without fail. Having made up our minds to this course, we threw ourselves on our bed of boughs with our feet to the bright fire of pine knots, thinking we should have a good night's rest, but we had scarcely slept a couple of hours when the rain came down in torrents, the lightning played, the thunder rolled, and very soon our lean-to of boughs began to leak badly, and our fire to give off more smoke than heat.

To make matters worse a large spruce fell with an awful crash only a few feet from us, and after this, trees fell on every side, much to our alarm, for we thought we should surely be killed.

We passed an awful night; rain fell in torrents and the wind now arisen to the fierceness of a gale, howled dismally through the trees. I, for one, wished myself safely out of it, and regretted ever having undertaken the trip.

When things get to their worst they mend, and shortly before dawn the rain ceased, and we started out on a hunt for dry wood, which we found only after prowling through the wet bushes for an hour. At length an old, dry pine that had been blown down years before gave us what we were looking for. When we got back to camp we soon whittled some dry shavings, but when I tried to strike a match, I found all mine wet. Stephen gave me a great going over for not having a match safe, but when he came to hunt for his, he could not find it, so here we were without matches and without fire.

Stephen once more wilted, and throwing up his arms, cried we were going to freeze to death. Moreover, he registered a vow that if ever he got back to camp he would never more go cruising with Fred Armstrong.

Well, we had to keep moving. Every little while we would take a walk around the camp, generally stubbing our toes against a root and falling, and Stephen to enliven matters sang snatches at intervals, the favorite being "Where is my wandering boy tonight?"; but after a time he grew so hoarse that he could not talk, let alone sing. After a light meal of corned beef, without fixings, we started on our homeward journey, one spotting, the other giving the direction by the compass.

We travelled over hills, across brooks, through beautiful hardwood groves, and although Stephen doubted it, I assured him that we should get to camp by dinner time. We travelled fast, but at eleven o'clock there was yet no sign of Beaver Lake, though from the way the land sloped I knew there must be a lake or stream ahead of us. At noon we came to an old tote road, and then I felt sure we were near the lake. After crossing the road we came to a stream, which we followed for

a half-mile, and here we got a glimpse of beautiful Beaver Lake through the spruces. Fifteen minutes later we were in camp, just in time to prevent a rescue party starting. They gave us a good dinner and we did justice to it, as we had not had a square meal since we left camp.

After dinner we had a sleep, and early next morning we guided Mr. Moore to the lake. He was only there one day, but he got his moose, and it was a big one in the bargain. He it was who named the lake "Lost Lake" in our honor.

Tree Planting on Sable Island.*

In the report of the Director of the Dominion Experimental Farm for 1901, an account was given of some experiments undertaken in May of that year in the planting of trees and shrubs on Sable Island, off the coast of Nova Scotia, and noticed at that time in Rod and Gun. There were included in this test 68,755 evergreens of twenty-five varieties, and 12,590 deciduous sorts of seventy-nine varieties, a total of 81,345. A list of these is given in the Annual Report of the Experimental Farms for 1901.

In that report some extracts were published from letters received from the superintendent of the island, showing that the planting, which was begun on May 18, was finished on June 17. In subsequent letters received in July and November, he speaks of the difficulties the trees had to contend with owing to an unfavorable season, and of their condition at its close.

In the report for 1902 just received further information is given as to the condition of the plantations, from which we quote the following:—

"I will give you the latest news of the trees. Our winter has been very mild; not much snow and not much frost. When a cold snap occurred it was followed by enough mild weather to take all the frost out of the ground. March was very mild; April was cold and windy, and that has continued up to a week ago. Many pines that seemed to stand the winter went red in March and April, and many that turned color have recovered and are putting out new buds. Survivors of Austrian, Mountain and Maritime pines are the most

promising, and those that are not doing well are the small specimens; nearly all the larger ones planted are killed. A few spruces of all kinds survive, but they are not promising. Of the arbor vitae only a few are living. Juniper of both kinds nearly all dead; perhaps four or five survivors."

"The Maritime pines raised from seed were killed wherever they were scattered on the bare ground, but where they came up among the grass they are growing finely in this shelter, and there are thousands now green and putting out new buds. When sowing these I put them in thick, and after they came up I thought that in spots they were too thick, but this was their salvation, as the winds subsequently killed those on the outside, while those in the middle of these bunches were protected and have remained green."

"The deciduous trees were killed down from the top, some to the ground, others killed outright, but they are no exceptions, all are killed at least half way down. Included in these are *Pyrus prunifolia*, *P. baccata*, *Caragana arborescens* and Silver Poplar. All these deciduous sorts put out leaves a month ago, but lately we have had very high winds and all the leaves are more or less blighted, and some of the gooseberry and currant bushes are striped. As I have mentioned before shelter is necessary here to success."

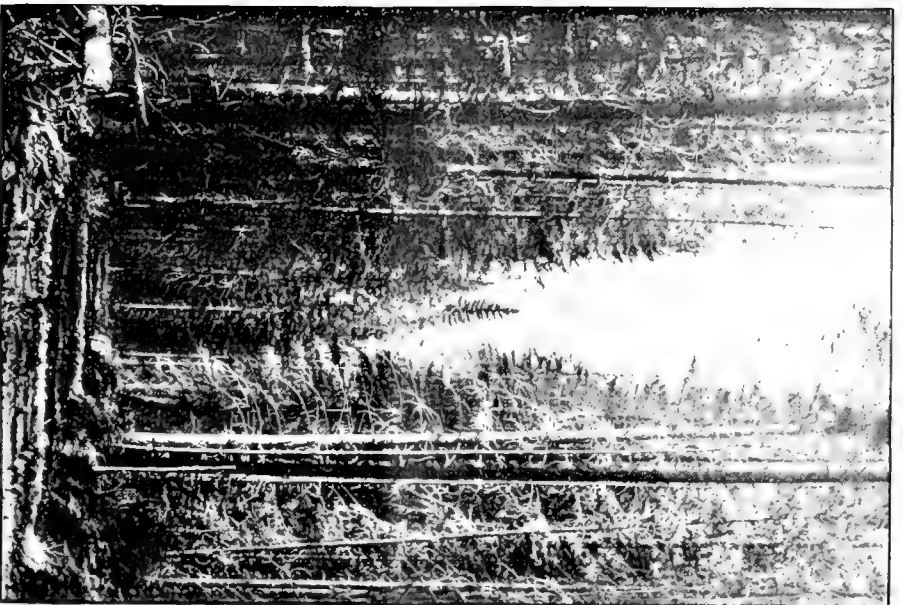
"I kept about ten pounds of the seed of the Maritime pine sent last year, and this I have planted this spring along with the seeds of other shrubs and trees you have sent me since, in rows in different places

*Contributed by the Officers of the Canadian Forestry Association.



MOUNT STEPHEN.

A glimpse of one of the finest peaks of the Rockies.



LOVERS' LANE.

(The Lane shows up with great distinctness—but the lovers, with the usual sensitiveness of their kind are keeping cut of sight).
Taken near Emerald Lake, B.C.



THE FIRST HOUSE.

This clearing on the Mattawin River, Quebec, is the extreme verge of civilization.



THE INDIAN'S GRAVE.

An old Indian burying ground near Lake Otaboning, Quebec. (Kepawa District.)

more or less sheltered. I also gave small lots to the three station-keepers in other parts of the island. From the experience gained last year I think I shall be able to protect these seedlings next winter as well as other specimens. Shelter from the winds is the main point here. Many Manitoba maple seedlings have leaved out and although they are killed from half to three-fourths down, they are putting up a vigorous growth."

"Speaking again of the need of shelter, you will remember that there were three patches planted inside the home field in which the house stands. Two of these were long narrow strips, which were ploughed before planting and subsequently cultivated. Of the trees planted on these plots, there is one survivor. In the front a plantation was made of about 1,000 trees, in almost pure sand in which the sand-binding grass was growing. When the grass grew up I had some of it cut out with a grass hook, and intended having it all cut, but more than half of it was left. Where the grass was left the trees are nearly all alive and thrifty; where the grass was cut ninety per cent. are dead. In this grass there are some nice specimens of white pine, *pinus strobus*, which did not stand exposure at all. About 300 trees are now growing in this plantation."

The next letter is dated September 18th, in which the superintendent says: "I wrote you in the spring about the trees, and I think on the whole it was encouraging. I am afraid that the facts I am to give you now will be less so. I mentioned that nearly all the deciduous trees had come through the winter, and although killed down somewhat, had leaved out again and were making a promising start. The winds in the latter part of May were cruel to the trees, sometimes running up to forty miles an hour. In June we had a succession of windy days. On the sixth and seventh of that month the wind averaged for the forty-eight hours over thirty-five miles an hour, and the maximum velocity was 52 miles, with the thermometer ranging from thirty-five degrees to thirty-eight degrees F. This storm stripped all the leaves

of the deciduous trees and killed a large proportion of them, the rest have been struggling along feebly, but at this time very few look promising. Pines have held on pretty well."

"During July about 1,200 of the seedlings of the Maritime pine were transplanted into one of the larger plantations. I dug small clumps, with one or two pines growing in each, with a hoe, and planted these irregularly about a foot apart, so that if they grow they will protect each other. This work was carefully done and about seventy-five per cent. are living. The seedlings in the bed look well, as do the pines planted last year that survived the winter. These are all protected by grass and may have grown hardier by the time they get above it. The remaining pines in the plantation in front of my house held their own during the summer. I left the grass around these also."

"With reference to the use of fertilizers on the young trees, no difference could be noticed in the ground treated and untreated; the difference where any existed was where there was some natural protection from the wind. I am continuing the experiments with the pines growing on the plantation in front of my house, where I shall be able to observe it, if there be any difference. No fertilizer has been applied to this lot, and although the soil is pure sand, or nearly so, the pines that survived there were quite equal in growth to any of those treated with fertilizers last year."

"In many cases where the tops of the seedlings of *Pinus Maritima* had turned red and were apparently dead, new shoots started just above the ground. It was a surprise to me to see conifers do this, and their roots are from six to nine inches long, straight down."

In a later communication, under date of November 5th, 1902, the superintendent says:—"Our autumn has been an improvement on the summer and last fall. Apple trees and shrubs protected with barrels are still growing as green as can be. The pines in Gourdeau park look fine and the fall rains have improved them very much. Our

summer drouth affects the trees very seriously. Of the deciduous sorts planted in the park, about fifty white birches have surprised me this fall, and they and the Scotch broom are about all that can be

found there. These birches are still green and where the leaves did not get above the tall grass, are yet on the trees. We have had frost, but not enough to do injury in that direction."

Snowshoes versus Ski.

By ST. CROIX.

It has been said that neither the violin nor Indian snowshoe can be improved upon, but this statement may be challenged, because the birch bark canoe is generally included among the things that have attained to perfection, whereas we know that the birchbark is by no means perfect, and, as a matter of fact, has been very much improved upon. All this is introductory to saying that the snowshoe is for very many purposes distinctly inferior to the Norwegian ski.

I had an opportunity to use the ski during a long winter that I passed in Norway when I was a lad, but in those days its use was confined to the peasants and Lapps, of the Scandanavian peninsula. It was not used by the town folk, nor had it spread to Central Europe. Since that the ski has become better known and, unless I am mistaken, we are about to have an epidemic of skiing, which may possibly cause the rinks and the tobaggan slides to be deserted, for this old Norwegian sport has a tremendous fascination, and will no doubt establish itself firmly in the affections of Canadians and of our cousins across the line.

The ski is nothing but a long, narrow board, turned up at the end and modified to suit different districts. For a flat country, nothing will beat a long, narrow ski, two and three-quarter inches in width and eight or nine feet in length—some I have seen measured twelve feet, but for all around work, a man of medium weight, will find a ski three inches in width and seven feet in length about the best. I am

using a pair eight feet in length, but they are not as good for ordinary work as a shorter ski.

The ski has several advantages over the snowshoe. In the first place one may use any ordinary foot gear. A pair of old boots or shoes covered by rubbers will do, though the best foot gear I have been able to discover is the Dolge. There are several fastenings; in principle they are much alike, with the exception of the alpine ski, which is used by about 8,000 skier in Switzerland and Germany; this has a metal foot-plate and a hinge, but all other I have seen consist essentially of a broad toe-strap and a heel-strap, either stiffened by an insertion of wood, or wire, or supported over the instep by a light strap.

Walking on the level is simplicity itself. The whole trick is the keeping of the ski near one another and sliding them alternately forward. No attempt should be made at pushing with the rear foot, as the slippery snow affords no fulcrum. The body is thrown forward, and the ski slipped a full stride ahead without being raised off the snow. This is one of the ski's great advantages over the Indian snowshoe; the weight of the ski never falls upon the muscles of the thigh and, consequently, after a long day's tramp you hardly feel tired. On the level the ski is a little faster than the snowshoe. Up hill there is little, if anything, to choose between them; down the slope the skier will sail away from the snowshoer as though the latter were standing still. Some of the best men among the Lapps have covered one-hundred and thirty odd miles in the twenty-four

hours, and if ever the ski is introduced among the prairie Indians, I think they will perform even more wonderful feats of speed and endurance. A pole is carried in skiing, but should be used as little as possible. This pole is from six to seven feet long, either of ash or bamboo, and has a disk a few inches above its steel-shod point, which prevents it sinking too deeply into the snow.

Our woods Indians and bushmen are persuaded that a very broad shoe is necessary for progression in the woods, but I think they will change their mind after they have tried the ski. I have given mine a thorough test in thick bush, and although they are too long for the work, I find no difficulty in making better time than I could have made with the Indian snowshoe. Their extreme narrowness is a great advantage; their baring surface is such a long one, that one does not break through in the soft snow under the bushes, as one does with the Indian snowshoe. I think that for forest work a ski about five feet long, and of five or five and one-half inches in width, will be found to work wonderfully well in thick bush, but the ski will only be useful when a man is travelling light, because it is quite impossible to haul a toboggan, the ski affording no grip of the snow. This, of course will limit its usefulness, yet it is such a simple contrivance and has so many advantages for certain

purposes that I consider its use must become general throughout Canada.

Then there is another side to skiing. On skis men have jumped, or rather allowed themselves to be carried, more than one hundred feet through the air. The so-called jump is made by sliding downhill at a tremendous pace, and taking off from a platform well down the slope. The inclination of the run, from the start to the jump, for the best results, should not be so steep as the inclination below the platform. In this sport the stick is not carried, as it has given rise to some terrible accidents, jumpers having been impaled upon their own staves. The body must be thrown well forward during the jump, and one foot should be somewhat in advance of the other upon alighting. These jumping competitions attract thousands in Norway, and are bound to become just as popular here in Canada. Some of our best athletes are very fairly proficient, and it is quite possible some European records may be broken before many seasons have elapsed.

To sum up: Ski are very low in price, easily taken care of, almost as easily replaced, and afford the most delightful exercise that it is possible to imagine. There is quite as much excitement in skiing down hill as in tobogganing; there is as much skill required in skiing as in skating,—and in skiing there is more variety than can be claimed by either of the sister sports.

The O. A. and E. U.*

At the last meeting of the Ontario Agricultural and Experimental Union, held at the Ontario Agricultural College, Guelph, on the eighth and ninth of December, considerable interest was shown in a discussion on the subject of forestry from the standpoint of the farmer. The Ontario

Agricultural and Experimental Union is composed of ex-students of the Agricultural College and was formed for the purpose of carrying on co-operative experiments in all parts of Canada, and in all the branches of agriculture. Two years ago a committee was appointed to look into the for-

*Contributed by the Officers of the Canadian Forestry Association.

estry question as affecting the Ontario farmer. No funds were supplied to the committee for carrying on any extensive investigation; so, in order to gain some idea of the general feeling among the farmers, and also to find out if possible the amount of woodlands still remaining in the agricultural districts, printed circulars were sent out to representative farmers throughout Ontario asking various questions, in all eighteen in number, such as: About what proportion of land in your locality is left under forest? Of what varieties of trees are the woodlots now composed? What is the value of your woodlot to you per year? What is the feeling in regard to forestry in your locality? etc.

From the answers to these questions it was found that in many localities only five per cent. of the land still remained in forest, and ranging from this small percentage up to fifty per cent. in the more recently occupied districts; the average for the agricultural lands of the Province being about eighteen per cent. In regard to the feeling with reference to the forestry question, the answers showed that at present very little thought was given to the subject, but indicated a general feeling that something ought to be done by somebody.

At the meeting in 1902 a resolution was passed urging the provincial government to do something to encourage the reforestation of certain portions where it might be thought advisable, either by practical assistance to the farmer, or else by actually undertaking the work on public lands. Nothing, however, has yet been done by the Government along these lines.

At the last meeting, after a good deal of discussion, a committee was appointed to draft another resolution to the Government. The resolution approved by the Association, urges upon the Government:—

First, the necessity of obtaining accurate information as to the comparative areas in the different districts of such non-agricultural land, at present lying idle, owing to the fact of the forests having been cut off and the land being too poor to support ordinary agricultural operations; second, the advisability of reforesting these areas as soon as possible; third, the necessity of establishing a school of forestry, where young men may be trained in such a way as to fit them to carry out such forestry work as the future of the Province demands; fourth, the advisability of readjusting the method of assessing real estate so that forest land may not be over taxed as at present, which tends to decrease the forest area.

The subject of the taxation of the farmers' wood lands was rather fully discussed, the general opinion being that the present method of assessment according to the value of the land, plus the value of the timber crop, was not only unfair but encouraged the cutting of the timber, which in most cases is worth considerably more than the land upon which it is growing. After the timber is cut, the land, being too poor for agriculture, reverts to the municipality, as the owner refuses to pay high taxes on unremunerative property.

The general subject of forestry, dealing with the preservation of the large public timber tracts, was not touched upon. It seems that at present little thought is given to this part of the question by the average person. It is encouraging, however, to find a representative association of farmers taking up the subject as affecting their own interests, and it will not be long before a general feeling will be established that forestry must go hand-in-hand with agriculture in order that the latter may be successful.



Ontario Timber Regulations.*

The recent sale of timber limits by the Government of Ontario brings forward somewhat prominently the importance of the forest interests of that Province, and it may well furnish the occasion for a review of the history of its administration of timber lands.

The Province of Ontario was finally established as a separate entity with legislative powers at the time of the Confederation of the Dominion of Canada in 1867, and the history of forest administration since that time has had a separate development. Previously, however, it was intermingled to a greater or less extent at different periods with the general administration of the Dominion, and to obtain a reasonably complete view it will be necessary to take a look backward, hasty though it may be, over the successive steps by which the present position has been reached. Ideas in regard to the management of forest lands have undergone many changes, but fortunately the public interest in the matter is a factor that has never been entirely overlooked, and therefore the Province of Ontario and some of the other Provinces of the Dominion, are at the present time in a position in which they may obtain large revenues from the timber crop on lands, which will still remain public property and under government control.

Under the French regime large tracts of lands were granted to seigniors, which were to be again allotted by them to tenants, the intent being to reproduce as fully as possible the feudal system of the old land. In these grants a reserve was made of the oak timber for the use of the navy, and in later grants reservations were also made of lands and timber required for fortifications. When the British assumed possession of the country in 1763, the requirements of the army and navy were still

uppermost in the minds of the administration. The instructions to the first governor commanded him to reserve a portion of each township to provide timber for military and naval purposes and also that a general reserve be made of the forests between Lake Champlain and the River St. Lawrence. Later, in 1775, instructions were given that no grant was to be made of lands on which there was any considerable growth of white pine fit for masts for the Royal navy. The only persons authorized to cut timber were contractors for the Royal Navy, or persons holding licenses from them. With or without authority, however, timber was cut for domestic use, and for export, and in 1818, the quantity of Canadian timber which reached the British market was 248,669 loads.

In 1791 Canada was divided into Upper Canada, corresponding to the present Province of Ontario, and Lower Canada, corresponding to the present Province of Quebec. The instructions received by the Governor-in-Chief of Upper Canada in the year 1818, were as follows:—

“Whereas, the reserving of such bodies of land within our Province of Upper Canada, where there are considerable growths of timber fit for the use of our Royal navy is a matter of the utmost importance to Our Service; it is Our Will and pleasure that no grant whatever be made of lands in any district or tract of Our said Province of Upper Canada until our surveyor-general, or his deputy, lawfully appointed, shall have surveyed the same and marked out as reservations to Us, Our heirs and successors, such parts thereof as shall be found to contain any considerable growth of masting or other timber fit for the use of our Royal Navy, and more especially on the rivers; and you are hereby instructed to direct Our Surveyor-General of Lands, in Our said Province, from time to time,

with all due diligence to complete the surveys and mark out the reservations as aforesaid, in the most convenient parts of Our said Province; and you are further directed to direct our Surveyor-General not to certify any plots of ground ordered and surveyed for any person or persons in order that grants may be made out for the same, until it shall appear to him by certificate under the hand of Our Surveyor-General of Woods, or his deputy, that the land so to be granted is not part of nor included in, any district marked out as a reservation for Us, Our heirs, and successors, as aforesaid, for the purpose hereinbefore mentioned."

In 1826 regulations were adopted permitting any Canadian citizen to enter upon unsurveyed Crown Lands and cut oak and pine timber, at a duty per thousand feet (white) pine, white pine being considered of £6 5s on oak timber, of £4 3s 4d on red pine, and of £2 1s 8d on yellow at that time of less value than the red pine. Double the amount of duty was to be charged on all timber that would not square eight inches. The first receipts by the Government from timber licenses were in 1827, the amount collected being \$360.

Although Upper Canada did not alienate the wild lands to the same extent as in Lower Canada, still the Governors disregarded their orders or used as a general power what was to be employed only for special cases, and between 1763 and 1825, when the population had increased to only 150,000, the lands granted or engaged to be granted, amounted to 13,000,000 acres, while in the next thirteen years when 250,000 were added to the population, the lands granted only reached the figure of 600,000 acres. The following statement was given in evidence in 1838, and published in an appendix to Lord Durham's report:—"It appears that the quantity of timber upon the waste lands of the Province is practically unlimited and that, independently of the consumption of the article in England, there exists at present a demand for pine timber in the Northern and Western States of the Union, which may be expected to experience a very rapid increase and which can only be sup-

plied from the British North American colonies. It appears that the revenue which, under a wise and careful system of management, might have been derived from this property, has been needlessly sacrificed by the practices adopted in the disposal of public lands. The value of the timber upon an acre of land at the price of government licenses is frequently more than ten times greater than the amount required to be paid in order to obtain possession of the land upon which the timber is growing. Payment of the first instalment of the purchase money is alone necessary for this purpose and before the second instalment is due, or any measures are adopted to enforce payment, the timber may be cut down or the land abandoned."

In 1840, by the Act of Union, the Provinces were united and the administration of the forests again placed under one authority, and in 1846 new regulations were issued, the principal provisions of which were that no new limits were to be granted exceeding five miles in front, by five miles in depth, or halfway to the next river, and that the quantity of timber inserted in the license, and which the licensees would bind themselves to take out was 1000 feet per square mile. Licenses were not transferable without the sanction of the Crown Lands Department, and when there was more than one application, the limit was to be disposed of by public auction.

In 1849 a select committee was appointed by the Legislature to enquire into and report upon the state of the lumber trade, the cause of its depression, the protection of the forests from unnecessary destruction, and upon all other matters connected with the lumbering interests of the Province. The Commission reported that it was clear that the depressed state of trade was due to over-production in 1846, and also to some extent to the order established by the government regulations to manufacture a certain large quantity of timber upon each limit, to the threatened subdivision of the limits and to the want of any equitable or decisive action on the part of the Department with respect to disputed boundaries, etc. As a result of

the report, the first Crown Timber Act was passed, which provided for yearly licenses and the prevention of unauthorized cutting, and by the regulations issued thereunder, the size of limits was fixed at 50 square miles in unsurveyed townships and at half that size in surveyed lands. All licenses were to expire on the 30th April in each year, and licensees who had duly occupied their limits and who had complied with the requirements of the Department were considered as having a claim to the renewal of their license in preference to all others. The dues on white pine logs twelve feet long were fixed at 5d per log, and on red pine at 7d, red pine still being considered the more valuable. In 1851 a provision was made that all sawlogs cut in future upon public lands, if exported from the Province, shall be paid for at double rates, and a ground rent of 2s 6d per square mile was established.

A new Commission was appointed in 1863 to enquire into the subject of forest administration, and in 1866 further changes in the regulations were made by which the practice of sale of timber limits by public auction at an upset price was fixed. White and red pine were placed on the same basis of dues. In that year the amount collected for timber dues and ground rent was \$338,302.

The accomplishment of the confederation of the Dominion of Canada in 1867 again and finally separated the Province of Ontario and gave it the control of the Crown lands. In 1868 ground rent was fixed at \$2 per square mile and dues at 15 cents per standard of two hundred feet for pine logs. The main features of the regulations were finally settled and the changes since that date may be briefly noted. In 1887 the dues on sawlogs were fixed at \$1.00 per thousand feet and the ground rent at \$3 per square mile. In 1892 new licenses were restricted to white and red pine and the dues on saw logs were increased to \$1.25. At the present time the dues have been raised to \$2.00 per thousand and the ground rent to \$5.00 per square mile, and a provision has been included that the right of renewal shall not be considered as extending beyond a period of fifteen years.

In 1885 the Fire Ranging System was adopted and in 1898 the Forest Reserves Act was passed in accordance with the recommendation of the Forestry Commission appointed in 1897. Both have already been fully explained in Rod and Gun.

In 1871 the first auction sale of timber limits by the Province of Ontario was held, the berths being in Muskoka and Parry Sound districts, and 487 square miles were disposed of for \$117,672, an average of \$242 per square mile. In 1872, 5301 miles North of Lake Huron were disposed of at \$592,601, an average of \$110.

In 1887 limits on the Muskoka and Peta-wawa Rivers aggregating 459 square miles were sold for \$1,313,755, an average of \$2,859 per mile. In 1892, 633 miles were put up for sale and brought in \$2,315,000, an average of \$3,657 per mile, the largest bonus being \$6,300 per mile.

The sale held on the ninth December, 1903, comprised an area of 826 square miles in the Lake of the Woods, Rainy River, Algoma and Nipissing Districts, and notwithstanding the increase in dues and restrictions of the term of holding, the price realized for bonus was \$3,667,337.50, an average of \$4,450 per square mile. The highest price paid was \$31,500 per mile for a berth of three and one-half miles in Nipissing District. This is about \$50 per acre and the average price for all the timber disposed of is \$7.00 per acre. It will thus be seen that these timber lands bring to the Province an immediate return of \$7.00 per acre for the pine alone, besides future payments of dues at the rate of \$2.00 per thousand, and ground rent of \$5.00 per square mile, that they will revert absolutely to the Province in fifteen years with all the timber other than pine, and that they may then, if fit for settlement, be granted to settlers as homesteads, or utilized in such manner as may be most advantageous. We venture to say that there is no other kind or class of property under Government control from which greater returns will be received, and there is surely the strongest justification for the efforts that are being put forth to interest the public in the administration of the great

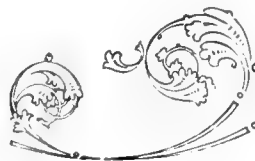
forest resources of the Province and the Dominion, and devise the best means for perpetuating and expanding the possibilities of such a source of national wealth.

To the Editor of Rod and Gun:

The highly successful result of the sale of timber held in Toronto in December by the Ontario government, and which totalled \$3,677,337, affords a strong indication of the growing importance of this branch of our natural resources. High prices were paid at this sale, notwithstanding that the timber dues had been raised from \$1.25 to \$2.00 per thousand feet, and the ground rentals from three to five dollars per mile. It has been predicted that the purchases, in some cases, were too costly to ensure a profitable result in working the limits, but those who have shown their confidence in the commercial activity that is in store for the Dominion, will, no doubt, be suitably rewarded for their faith in its development. The depletion of forests of other countries, upon which, heretofore the world's supply has been dependant, and the enhanced demand for wood of all kinds, and especially for that king of all woods, the noble pine, have increased for us the value of our own timber areas. This brings to the attention the subject of Forestry, a knowledge of the science of which is being gradually unfolded by those who are making it a study, and to which public interest is being more extensively

awakened. The value of the products of the forest, in the Dominion, in the year 1891, was eight million dollars; the exportations amounting to twenty-four millions, and our wooded area, including all kinds, amounts to eight hundred million acres. The possession of this vast resource, however, great as it is, should not engender the idea, that, therefore, we have no need to pay heed to the preservation and reproduction of our forest wealth. On the contrary, preservation and reforestation, must be the means adopted to protect from annihilation and sustain this valuable asset of our national wealth. Canada, in 1891, consumed in forest products 250 cubic feet per capita of population; Great Britain only fifteen cubic feet per capita. In England, as long ago as the reign of Queen Elizabeth, public opinion was so impressed with the value of the forests, and the fear of their permanent destruction, that the manufacturers were restrained by Parliamentary influence from using timber as a fuel. This enactment proved disastrous to the manufacturing interests, as there being then no other known fuel, a temporary cessation of manufacturing followed. Fire is the deadliest enemy of our forests, but this danger is, happily, kept in check by systems of forest ranging, that have been established by the Provinces, and to which is attributable an immense saving of our forest wealth from destruction.

E. C. Steele,
Sault Ste Marie, Ont.





THE WABESEEE RAPIDS.

On the Lievre River in the heart of one of the finest deer ranges of Quebec.



AN INTERNATIONAL PARTY.

Taken on Massanoga Lake, Ontario. Some of the passengers are Iroquois Indians.



OVIS FANNINII

The great white sheep of the Yukon country.

Our Medicine Bag.

A correspondent asks where "Ski Running," by Mr. E. C. Richardson, is to be obtained in Canada. We understand that Messrs. A. T. Chapman, 2673 St. Catherine Street, Montreal, and Mr. E. M. Renouf, 2238 St. Catherine Street, Montreal, intend carrying this book in stock.



The following extract from the address of President Roosevelt to the Congress of the United States is of great interest:—

"The study of the opportunities of reclamation of the vast extent of arid land shows that whether this reclamation is done by individuals, corporations, or the state, the sources of water supply must be effectively protected and the reservoirs guarded by the preservation of the forests at the headwaters of the streams. The engineers making the preliminary examinations continually emphasize this need and urge that the remaining public lands at the headwaters of the important streams of the

West be reserved to insure permanency of water supply for irrigation. Much progress in forestry has been made during the past year. The necessity for perpetuating our forest resources, whether in public or private hands, is recognized now as never before. The demand for forest reserves has become insistent in the West, because the West must use the water, wood, and summer range which only such reserves can supply. Progressive lumbermen are striving, through forestry, to give their business permanence. Other great business interests are awakening to the need of forest preservation as a business matter. The government's forest work should receive from the Congress hearty support, and especially support adequate for the protection of the forest reserves against fire. The forest-reserve policy of the government has passed beyond the experimental stage and has reached a condition where scientific methods are essential to its successful prosecution. The administrative features of forest reserves are at present unsatisfactory, being divided between three bureaus of two departments.

Much has been said and written for and against using cast or leaden alloy bullets in the modern quick twist rifles. The manufacturers of ammunition generally instruct their patrons that they cannot be used. Of course any one knows that if he is required to purchase a new cartridge every time he shoots, his sport must soon become very expensive. Many who desire to economize and at the same time convert their high power rifles into less dangerous weapons for short range armory work and small game shooting at distances of two hundred yards and under, will be interested in the new bullets here illustrated. They were designed by Mr. Barlow of the Ideal Mfg. Co. They have proved to be wonderfully accurate. With bullet No.

308,241 Lieut. W. C. Gannon of Co. "C," 4th Regiment of Infantry, New Jersey National Guard, made ten consecutive bulls-eyes at two hundred yards, Creedmoor target, at the regimental range at Marion, N. J., on Oct. 3rd, 1903. This shooting was done standing, off-hand, with regular military sights. Again on October 10th, 1903, at the regimental armory indoor range, eighty yards, he, in a standing position, off-hand, made five successive bulls-eyes. Afterwards in the prone position, off-hand, he made nineteen successive bulls-eyes, the other being a four, scoring ninety-nine out of a possible one hundred, which is believed to be the highest indoor score ever made with a military rifle (30-40 Krag-Jorgenson.) There was no cleaning and no leasing.

The information relative to this wonder-

It is therefore recommended that all matters pertaining to forest reserves, except those involving or pertaining to land titles, be consolidated in the Bureau of Forestry of the Department of Agriculture."

The Trade and Navigation returns for the fiscal year ending 30th June, 1903, show the imports into Canada of forest products, manufactured and otherwise, as having a value of \$6,166,834, the value of the free goods being \$5,015,121. Much the larger proportion of these goods were imported from the United States, some of the principal items being:—Oak, 38,055,060 feet valued at \$1,268,053; cherry, chestnut, gum, hickory and whitewood, 7,439,264 feet, valued at \$305,657; walnut, 1,182,710 feet, value \$55,600; white ash, 1,069,001 feet, value \$42,392; veneers \$132,747.

The exports of products of the forest amounted to \$36,386,015, to which must be added \$4,473,952, the value of manufactures of wood. The most important item among the manufactures is wood pulp, \$3,150,943, while the pulpwood exported is estimated at \$1,558,560. The quantity exported in the log was 51,803,000 feet val-

ued at \$434,128, and of planks and boards, 954,241,000 feet, valued at \$14,005,128, and of planks and boards 954,241,000 feet valued \$14,005,708, going mainly to the United States; the value of spruce and pine deals was \$11,967,921, and of square timber \$2,551,664, most of which was sent to Great Britain.

The merry little beagle has been the favorite with sportsmen since the days of good Queen Bess who, by the bye, was the owner, so history tells us, of a pack of "singing beagles" that could be carried in a man's gauntlet. Of course, there are different sized beagles and various sized men, and, consequently, all sorts of sizes in gauntlets, so that we need not be too sceptical. Of late years this breed has come into well-deserved prominence in the United States, so that we welcome a little treatise on this sporting breed that has just been issued from the Wheaton College press. Mr. Reno B. Cole is the editor, but the various chapters are contributed by Messrs. Pulley, McAleer, Steffen, Zimmer, Brooke, McAleer, Jones, Higginson and Lord, in addition to Mr. Cole, and these are names to conjure with in the beagle world.

ful shooting, Lieut. Gannon gives as follows: "For the two hundred yards range, sights were elevated for 600 yards, for the eighty yards, the elevation was four-hundred and fifteen yards. Shells used were U. M. C. primers U.M.C. 8½. For the two hundred yards the charge of powder was nine grains of Laflin & Rand's "Sharp-Shooter," and for the eighty yards eight grains of the same powder. The bullet was cast from Hudson's alloy; sized in Ideal Lubricator, and Sizer left .312 inch in diameter. It was seated in shell with Ideal No. 3 tool, forward band projecting beyond the muzzle of the shell; shell not crimped, but indented with Ideal Shell Indenter." This combination of bullet, powder, shells, primers, fire-arm and "man behind the gun" seems to demonstrate without a doubt that shells may be reloaded advantageously, with lead bullets and

smokeless powders for use in modern quick twist rifles.

We are informed by the Ideal Co. that bullets Nos. 308,211, and 311,243, will hereafter be cut in the moulds attached to No. 6 tool for all of the 30-30's and 3033 Savage rifles respectively, and that these bullets may be seated with the same chamber that seats the regular metal patched bullets for those arms. In that case, the chamber will crimp the same as it does with the metal-patched bullet, but there must be extra chambers with no crimp for seating the bullets same as Lieut. Gannon. For the 303 British and 30-40 Krag, there must be an extra chamber, as these bullets are shorter over all than the regular metal-covered bullets.

If our readers are interested, further information may be obtained by writing the Ideal Mfg. Co., New Haven, Conn., U.S.A.

The chapters deal with the history of the beagle in America; the beagle from an English standpoint; breeding; rearing; kennel management; formation of a pack; training; field trials; bench shows; drag-hunts; the pocket beagle; the English and American standards; list of bench show champions and list of field trial champions.

According to Mr. Jones, fifty per cent. more beagles are now shown on the bench than was the case five years ago. Of course, owing to this much greater competition, condition has become a more necessary study. In past years when a judge had fewer dogs to compare, one with the other, conformation was shown, almost the only factor taken into consideration; now-a-days a dog badly shown would have a poor chance, hence this knowledge must be obtained by the successful exhibitor, and we do not know where he will obtain it outside the practical school of experience, better than between the covers of this little book.

A new edition, completely revised, and highly extended, of Dr. G. Brown Goode's *American Fishes* has just been issued by Dana, Estes & Company, Boston. The work of revision and extension has been done by Dr. Theodore Gill, Professor of Zoology of Columbia University.

Fifteen years have passed since the publication of Dr. Goode's work on *American Fishes*. Its merits soon became appreciat-

ed, and it has been for some time out of print. Messrs. Dana, Estes & Company, being impelled thereto by a continued demand for the work, resolved to reissue it, but before doing so had it brought up to date, wisely, by Dr. Gill. The species in the original work have been considered mostly in an approximately systematic order. To supplement this, lists of the species of economic value, or esteemed as angle fishes, have been given under five geographical divisions. (1) The fresh waters east of the Rocky Mountains; (2) fresh waters west of the Rocky Mountains; (3) the Atlantic Coast; (4) the Florida and Gulf Coast; (5) the Pacific Coast. It is well known that Dr. Goode has supreme confidence in Dr. Gill, and there can be no doubt that he would have chosen this latter gentleman to revise his work had it been possible for him to do so. They collaborated in many cases and the methods of the one were the methods of the other.

The fifth annual meeting of the Canadian Forestry Association will be held at Toronto on the 10th and 11th March, 1904. The programme is now being arranged and will be completed shortly, when full announcement will be made by circular to the members of the Association. The papers already promised include "The Systems of Administration of Timber Lands in Canada" by Aubrey White, Assistant Commissioner of Crown Lands for Ontario; "The Laurentides National Park" by W. C. J. Hall, Department of Lands and Forests, Quebec; "Forestry in Relation to Irrigation" by J. S. Dennis, Irrig-

The most complete catalogue of power launches is that issued by the Matthews Boat Company of Bascom, Ohio. This catalogue, which will be sent upon request, contains not only a very full description of the Torpedo Launches manufactured by this Company, but in addition, much useful information regarding the barometer, buoys, and beacons, the compass, judging distance, navigation rules, estimation of power, and other things a sailorman should know. The launches vary in size

from a 17-foot with beam of a 4-foot 8-inch, and an extreme draft of fifteen inches, to a yacht 62 feet in length, and with a fifty horse power motor, having ample sleeping accommodation for twelve persons.

This is the range of XXX launches illustrated and described in this catalogue, but the Company is prepared to build still larger a craft if so requested.

The launches made by this company are known all over the country, and are the standard by which others are judged.

gation Commissioner for the Canadian Pacific Railway Company; "Forest Reproduction in Germany", A. Harold Unwin, of the Dominion Forestry Branch. Other aspects of forestry in relation to lumbering, agriculture and education, will be dealt with by practical men, who are prominent in these different branches. It is expected that this will be the most successful annual meeting yet held.

Forestry Exhibit of the Exposition, were appointed a committee to make arrangements for an International Forestry convention to be held at St. Louis during the World's Fair. No date was set for the convention, but it will probably be early in the fall of 1904.

At the annual meeting of the American Forestry Association held in Washington recently, Mr. Gifford Pinchot, Chief Forester for the United States; Mr. E. Stewart, Dominion Superintendent of Forestry, and Dr. Tarleton H. Bean, Director of the

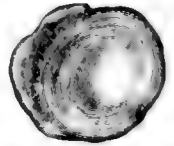
We very seldom make mistakes, and still more rarely do we acknowledge them when we do make them, but it is clearly up to the Editorial Department of this magazine to explain why in the sub-title of the cut of "Quebec Winter Sports" we were so careful to explain that his Excellency, the Governor-General and Lady Minto, were in the picture. The only explanation



A .35 Caliber (250 Grains) Soft Point Bullet Before Firing.



A .35 Caliber (Weight 247 3-10 Grains) Soft Point Bullet Which Killed a Moose.



The Same Bullet Showing Its Diameter After Firing.

The .35 caliber Winchester Soft Point Bullet reproduced above killed a bull moose at about 350 yards, the shooting being done by Mr. D. H. Mast of West Milton, Ohio. The moose was struck in the shoulder, the bullet passing clear through the body and stopping just under the skin on the opposite side from which it entered. From the cuts of the bullet, the tremendous smashing, shocking and killing power of the .35 Caliber Winchester Cartridge can be readily appreciated.

The original of the .33 Caliber Winchester Soft Point Bullet reproduced below was used by Edison Sylvester, a registered guide, of Eustis, Me., in shooting a deer. It struck the animal just behind the hip and passed lengthwise through the body, being found in the neck.

Circulars fully describing the Winchester .33 and .35 Caliber Rifles will be gladly sent to any one upon request.

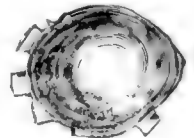
Winchester Repeating Arms Co., New Haven, Conn.



A .33 Caliber (200 grains) Soft Point Bullet Before Firing.



A .33 Caliber (Weight 189 2-10 grains) Soft Point Bullet Which Killed A Deer.



The Same Bullet Showing Its Diameter After Firing.

that we can offer is such a poor one that it is really in the nature of an apology, but such as it is we tender it with befitting humility. The photograph, from which this cut was made, does not represent the Regal party, but a lot of very worthy Quebec citizens, who were having a good time in a modest way, but as it was one of a series that came to Rod and Gun from the same source, and as some of the others represented his Excellency and Lady Minto in snowshoeing costume, we, unfortunately, took it for granted, that all the photographs were taken at the same time and in the same place.



Mr. Frank Chapman is well known as an ornithologist and as an author, and a new book from his pen will be welcomed by all bird lovers throughout the Dominion. His latest contribution is "Color Key to North American Birds." It consists of a short, but of course, technical, accurate description of each bird, together with copious illustrations in outline or color by Chester A. Reed. Both author and artist have succeeded admirably in their work, and we believe that the publishers, Messrs Doubleday, Page & Company will find that this book will have a large sale. Moreover, we think it deserves it.



W. G. C. Manson, the Lillooet guide, has recently been interviewed in Vancouver. He has strong views on the British Columbian Game Act. A thorough sportsman him-

self, he states that unless more stringent measures are taken to preserve mountain sheep they will all be destroyed. He advocates a license for everyone, whether a resident of the province or not, who hunts sheep. Under present conditions many heads are illegally shipped out of the province, he says, and this should be put a stop to in the interests of game preservation.



N. Y. Commercial, Dec. 9, 1903: An attempt on a large scale to introduce English song birds into British Columbia is being made. The Victoria Natural History Society is taking out from England about five hundred birds, consisting of one hundred pairs of goldfinches, one hundred pairs of larks, and fifty pairs of robins. They go by way of New York to Victoria. In accordance with the arrangements that have been made, half of the consignment will be placed in Vancouver and taken care of there until next Spring when they will be distributed throughout the woodlands of the lower mainland. The remainder will be placed in Beacon Hill Park aviary and kept until Spring, when they will be given their liberty at various points on Vancouver Island.



Rod and Gun has many valued contributors scattered throughout the great Dominion and in the United States. We have, however, comparatively few poets among them, so that it is with more than ordinary gratitude that we read contributions in verses from those that love us and wish us well. Only the other day we had the

The Savage Arms Company 1904 Calendar is a very beautiful specimen of highly artistic work. The artist is Mr. Carl Rungnes. The artist has depicted a scene familiar enough at one time in the American west, and not one entirely unknown even today. A frontiersman with his well-trained saddle horse standing nearby, is

bending over a form of a large bull elk that has just fallen to Savage. The scene is pitched in the Rockies and the artist has evidently worked up material for his subject on the ground. This most pleasing calendar will be forwarded on receipt of an application, accompanied by ten cents in stamps, addressed to the Savage Arms Company, Utica, N. Y., U.S.A.

pleasure of opening an envelope from the fertile Northwest, which contained a gem of poetic expression. The writer had sent but one stanza, but, nevertheless, we may venture without fear of contradiction, to state that genius is apparent in every line; the sacred fire is there, notwithstanding the frost of which the gentleman makes such feeling mention.

"Oh Manitoba is the place !
 "The wide, wide world for those
 "Who have no heart for laboring,
 "Who're afraid of getting froze.
 "When the frost is gone,
 "We'll start the plow,
 "We'll turn the prairie o'er ;
 "For six months' work we'll get a year's
 pay.
 "And eat and drink galore."



The fourth annual meeting of the North American Fish and Game Protective Association was held at Portland, Me., on January 20th and 21st. It was a most successful reunion, one hundred and fifty members being present. The officers for the ensuing year are: President, L. J. Tweedie, Chatham, N. B.; Vice Presidents, H. O. Stanley, Dixfield, Me., W. F. Hinman, Boston, Mass., R. E. Plumb, Detroit, Mich., A. T. Dunn, St. John, N.B.; C. H. Wilson, Glens Falls, N.Y., G. A. McCallum, London, Ont., J. T. Finnie, Montreal, F. G. Butterfield, Vermont, C. S. Harrington, Halifax, G. A. Megeath, Franklin, Pa.; Secretary - Treasurer, E. T. D. Chambers, Quebec.



The Government of the Province of Ontario is deserving of congratulation on the extensive addition which has been made to the Timagami Timber Reserve. The Reserve, as originally set apart, comprised an area of 2,200 square miles, and there has

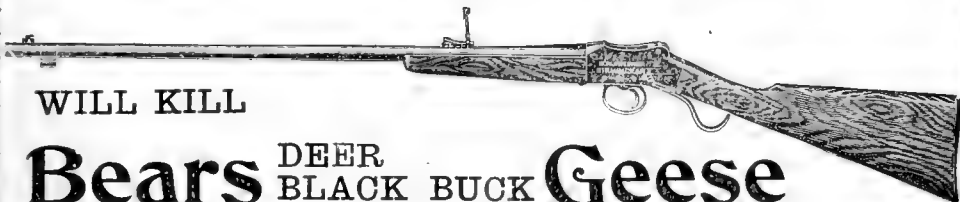
now been added a further tract of 3,700 square miles, making the total area 5,900 square miles, or 3,876,000 acres. The Reserve will not be bounded by rectangular lines. Following up from the northeast corner of the former reservation about opposite the head of Lake Timiskaming, the eastern boundary follows in a northwesterly direction along the Montreal River and Matatchewan Lake to Trout Lake where it follows on west and north lines the surveyed limits of townships which include what is mainly agricultural land. The northern boundary of the tract is Niven's base line, which is in latitude forty-eight degrees, 27 min., 54 sec. This is the apex of the irregular right angled triangle, which forms the reserve and from there the western boundary follows, the Kenogamisse, Metagami, Opickinimka, and other smaller lakes to Proudfoot's base line, a distance of about one hundred miles. It then follows surveyed lines easterly to join the old limits, making a base of over eighty miles. Although there are surveyed townships of good agricultural land in the vicinity of the reservation, no settlement has been made within its bounds and as the lands comprised within it are rocky and almost entirely unfit for cultivation, public opinion should support strongly the decision to hold them for growing timber. The reserve covers one of the largest and most valuable forests of pine and other timber in existence in Ontario, and the recent sale shows something of its value to the state. The withdrawal of the land from settlement will be in the interest of the settlers as successful cultivation of them is impossible, and thus also one of the great dangers of fire will be prevented. The small staff of fire rangers employed on the old reserve will have to be increased but the splendid work done by them at a small cost is reason sufficient that the numbers should be made adequate and the millions of dollars standing to the credit of the Province in this reserve should be preserved as carefully as if it were actually turned into money at the present time. For the forest stands there a guarantee of the credit of the province and an easily read prophecy of future prosperity.

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

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ROD AND GUN IN CANADA does not assume any responsibility for, or necessarily endorse, any views expressed by contributors to its columns.

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

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

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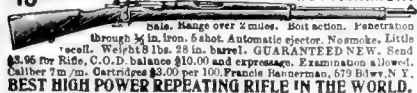


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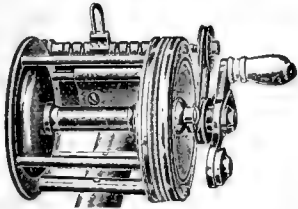
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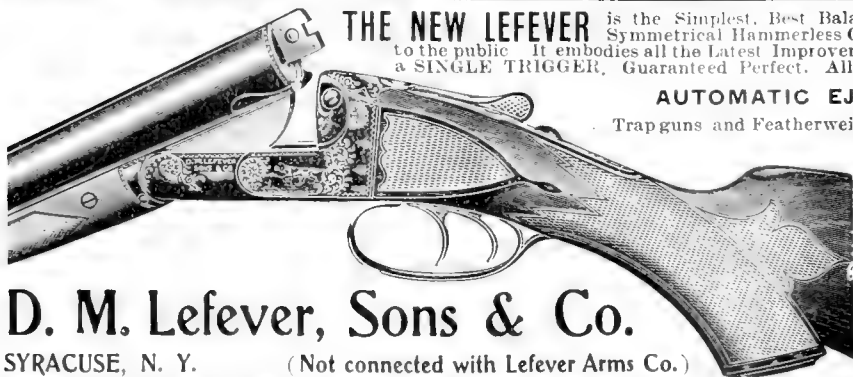


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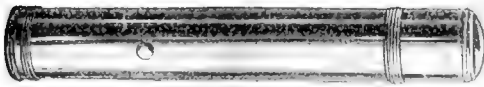
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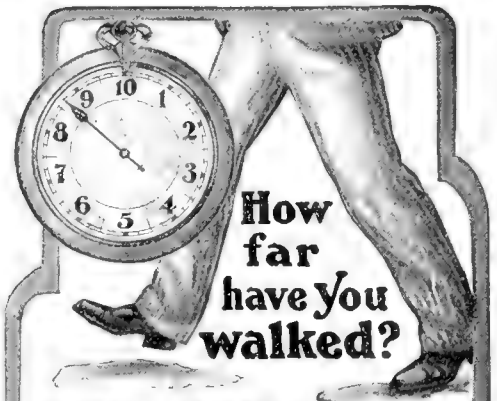
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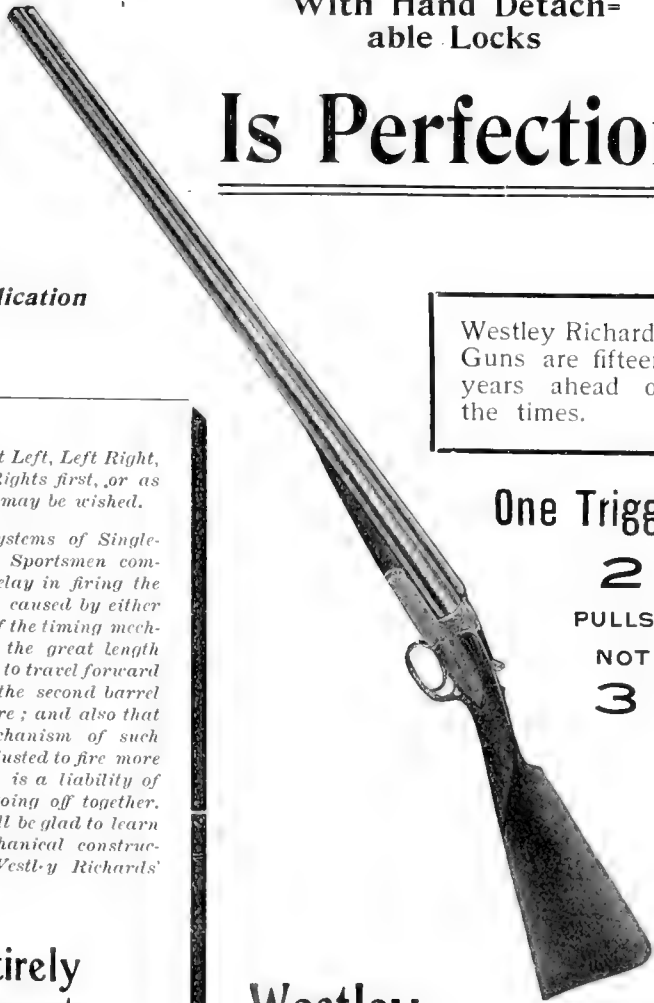
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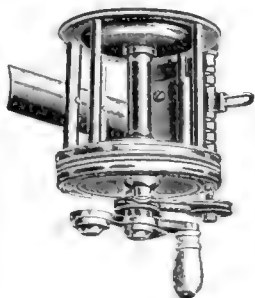
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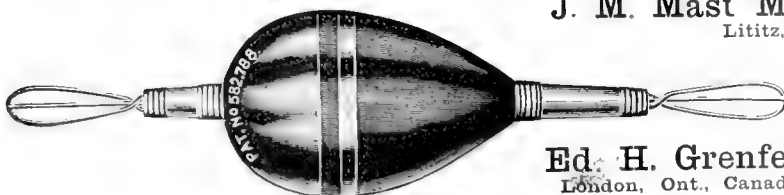


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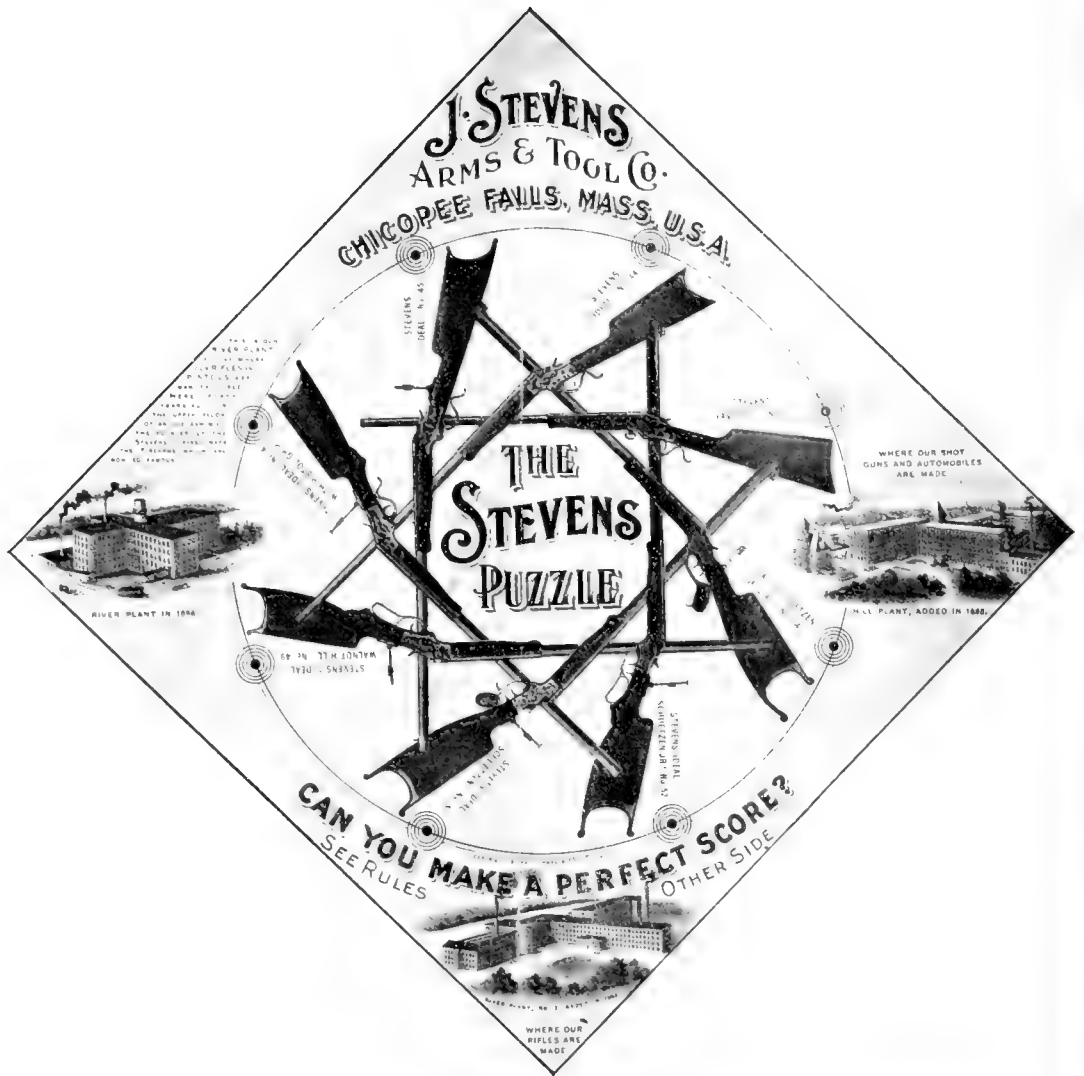
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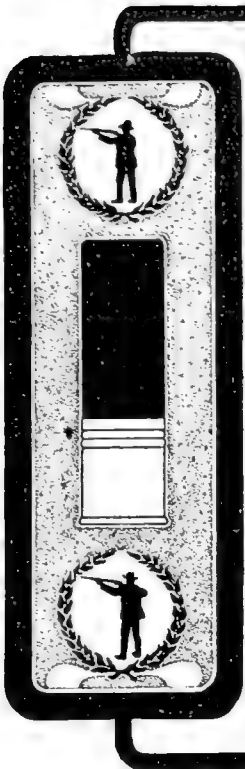
Winchester Factory Loaded "Leader" and "Repeater" smokeless powder shotgun shells carried off substantially all the honors at the trap in 1903, as is shown by *Sporting Life's* Trap Shooting Review for the year. Gilbert, Crosby, Elliott, Spencer, Hirschy, Trimble, Hawkins, Faurote, Boa and many others who helped make 1903 memorable in a shooting way all used exclusively

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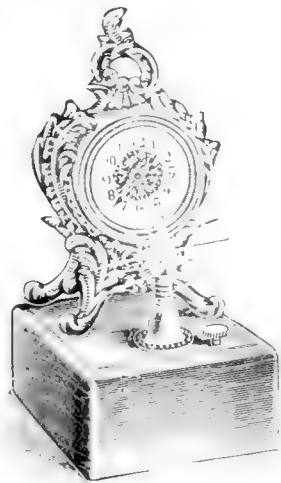
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PINACLE MOUNTAIN.

This view was taken from Paradise Valley by Mr. Arthur O. Wheeler, D. T. S.

ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, MARCH, 1904

No. 10

Lumbering Past and Present.*

By E. J. DARBY, Crown Timber Agent, Ottawa.

(Part of an Address before the Ottawa Board of Trade.)

There is no branch of Canadian enterprise that has facilitated more the opening up and settlement of Canada, than that of the lumberman; not only has he given employment to the early settler in the winter, whereby he was enabled to earn money for the purchase of necessaries for the next year, but he has given a market for the product of his farm, and the roads he has made for the conveyance of his timber or logs to the stream or lake have been the means of communication in early days between scattered settlements; and the shanties and clearances surrounding them, have in many cases, been the first homes of many a settler, for whose subsequent prosperity the lumberman might be given credit. The lumberman therefore in our wooded districts has, in a majority of cases, been the pioneer of settlement.

In these days when the railroad takes men and supplies in a great many instances to within a few miles of the works, and wagon roads do the rest, the hardships and privations of the lumberman of forty or fifty years ago have no existence, or very little, in the experience of today. The number of lumbermen living today, who remember the old train gangs that used to leave this city in the old Bytown days for the Upper Ottawa and Gatineau districts in the winter, loaded with provisions for the shanties, are very few, if any. Each man had charge of two trains,

driving one horse and the other following. The greater number of men were French-Canadians, dressed in capots, with red sash and tuque and, with the merry jingle of the bells on the sturdy Canadian ponies, that hauled the trains, sometimes twenty or thirty in a gang, this was one of the scenes now passed from view.

For illustration, we will follow one of these gangs to its destination and continue on through the winter and come down with them on the spring drive. Having arrived at the stream on which we are to proceed to our destination we find at a suitable place on it, a quantity of provisions, etc., that are to be taken with us, which are distributed among the respective flat-bottomed boats or canoes, and all being in readiness, away we start with the splash of the oars or the "tip", "tip," of the paddles against the gunwales of the canoes and the Canadian canoe song "En roulant ma boule roulant, en roulant ma boule" to enliven the journey. After perhaps an hour of rowing or paddling the roar of rushing waters is heard, and canoes and boats are brought to a stop, and a portage of half a mile from the foot of the rapids to the head has to be made. Boats and canoes are unloaded and they and their contents are carried over. Each man is provided with a tumpline, which is a band of cowhide about eighteen or twenty inches long and two and a half inches wide, to the

*Contributed by the Officers of the Canadian Forestry Association.

ends of which are sewn a long strip of the same material, some six feet in length and tapering from three-quarters to half an inch in width, for the purpose of tying around the article or pack to be portaged, the pack is swung on the back and the wide piece placed against the forehead and off we go. There is very little of this kind of work done nowadays. As it is near the end of the day, the foreman in charge says we had better camp for the night and make an early start in the morning. So a fire is lighted, tea made and hardtack and fried pork are soon ready, and in a short time the inner man is satisfied, pipes are lighted, the events of the day spoken of, a few stories told and a song sung, and then, as all are tired after a hard day's paddling and some are sore from the portaging, we turn into our cotton camps, roll ourselves in our blankets and sleep soon makes us oblivious, until the "leve, leve, gra' jour" of the foreman in the early morning makes us all turn out, and after a hasty breakfast similar to our supper of the previous evening, we again man our boats and canoes and the routine of the previous day is repeated until we arrive at our destination, which is generally a lumber depot and from whence we take our departure to the scene of our winter's operations. It sometimes happens that a journey of some few miles has to be made to reach the place, and as this is the case in the present instance and as there is a road a part of the way only, we have to cut a road for the remainder to where the shanty is to be located before we can take in a yoke of cattle which is wanted to draw the timber for the shanty and other buildings, and also to get in supplies.

After about a week's work all the buildings are up and the men are divided into different gangs of log or timber makers, as the case may be. There is a greater diversity amongst the timber makers, who are known as liners, scorers and hewers, where as with sawlog makers there are only the logmakers, but each have their road cutters and skidding or rollwaying teams. There is a handyman for repairing sleighs, making what is known as crotches and sloops, kinds of unshod sleighs, for hauling the timber and logs to the rollway, and as his name implies, doing the odd jobs of carpentering work around the

shanty, and last but not least, in fact I may say, the most important of all, the cook. In the days I am speaking of he had to be proficient in breadmaking, as the luxuries that constitute the menu of a present day lumber shanty were unknown and unthought of. Pork and bread and bread and pork were the only diet, and the first shanty I was ever in there was no other diet from the middle of November until the middle of the next April, except one bag of potatoes at Christmas time, which was brought from the depot packed in the middle of a load of hay, and some fish caught through the ice in an adjacent lake. Some lumber firms supplied their men with tea, but others did not and then it was a luxury paid for by the men themselves at the rate of one dollar per pound, and when such was the case the cook furnished the men with boiling water and two of them would generally go together and invest in a small tin pail and so have their tea together, while in some instances the cook would make the tea and the quantity would be charged up to the men using it. A number of men would drink cold water during the whole winter sooner than pay for the tea. This was cold comfort and now tea is as much considered a part of the board as bread or any article.

The liner (who should be a good judge of what a good pine tree is), after choosing his tree, proceeds to cut, with the assistance of the scorers, some small trees for what is called "bedding", so that the tree to be felled will not lie on the bare ground or be too deeply imbedded in the snow, thus facilitating the work of the hewer and also his own as you will see. After felling his tree he sees what size of a stick it will make and forthwith proceeds to take off a strip of bark on both sides of it, and, with a line blackened with a burnt stick of alder or reddened with a piece of chalk, strikes a line along the course stripped of bark for the guidance of the scorers and hewers. The scorers now mount the fallen tree and make notches on both sides whereby they are enabled to take off blocks or slabs as near as possible to the line already spoken of, and then chip or score the under surface so as to leave it in a condition for the hewer, who, with his broadaxe, hews to the line leaving a surface almost as smooth as if done with a

plane. The stick is then chopped off at the upper end to the length required, canted over on the bedding previously referred to, and the same process gone through as with the other two sides. It is now ready for skidding. A good sized tree is felled—a spruce, tamarac, or small pine is preferable—and is drawn to a convenient place and the stick is drawn across it in such a manner that it is left on or near a balance, so that when drawing to the stream or lake all that has to be done is to back the sleigh under the end of the stick, jump on the end to bear it down on the sleigh bunk, attach a chain around it and the sleigh beam to keep it in place and then start ahead, one end on the sleigh and the other dragging on the snow road.

The cutting up of a tree into sawlogs is a great deal simpler process than the former. All that remains to be done after the tree is felled is to measure off to the required length as many logs as the tree will make and saw off at the marks made on the bark and the logs are then ready to be rollwayed, which is a process something similar to that previously described for square timber, with this difference, that two skids are used instead of one and are placed on a head-block on the line of road, which forms the front of the rollway, the other ends being on the ground. The logs are drawn to this end and rolled towards the front where they are ready for the sleigh, by which they are drawn to the stream as soon as there is sufficient snow.

The timber and logs are then ready for the spring drive. If they are drawn to a lake a boom is generally placed around them and they are towed or kedged across to the creek leading to the main stream. The timber is then made up into cribs, of which a raft is constructed, and thus makes its way to Quebec or Montreal. Some of the logs are run into booms when they emerge from the river or creek into the main stream, and are then towed to the sorting booms where they are distributed to the different mills. A great deal of square timber is now taken by the railways to suitable points on the Ottawa and St. Lawrence, and there rafted instead of being taken by water the whole way as in former years.

I might here observe that of late years owing to the improvements made in the

manufacture of saws a great deal of the work formerly done with the axe is done with them, such as felling and butting and topping the two ends of the tree; in fact, the methods now in vogue in the woods for getting out stuff are far in advance of those employed forty years ago, more attention being given to making roads and keeping them in condition by the use of snowploughs and sprinklers, which amply repays the operators by the increased size of the loads drawn by a single pair of horses.

While improved methods for getting out logs and timber in the bush have taken place, a greater transformation has taken place in the housing and feeding of the men employed. The old camboose shanty, with its wooden chimney for allowing the smoke from the big fire to escape and also for affording a free source of ventilation, is fast disappearing, but while the present stove-heated building for sleeping and general purposes may conform to more modern ideas, I can only say this, that while the camboose shanty may often have been overcrowded, no such thing as any infectious or contagious disease was known to exist, and any effluvia from perspiring men, socks, and other paraphernalia that found their way within its precincts, had easy and effectual way of escape by the chimney, which cannot be said of the more modern building. The dining, shanty and reading rooms are certainly improvements both from sanitary and intellectual points of view and are a credit to the thoughtfulness of the lumber companies for the comfort and welfare of their employees. Then the change that has taken place in shanty fare since my first experience in 1857 almost confuses one, from bread and pork day after day during the whole winter, to a menu of fresh beef, mutton, pork, beans, butter, cheese, rice, peas, prunes, syrup and vegetables, is certainly a transformation bill of fare; and turning out to work in the early morning when the stars were twinkling in the sky and often perhaps after a two-mile walk to the scene of the day's work, to light a fire and wait for daylight, with the prospect of some frozen bread and pork for an out-of-door dinner, all this it will be admitted is in broad contrast to the present hours of labor when work is commenced at 7 a.m.

There is another matter to which I wish

to draw your attention, and that is : that while the prices of timber and sawn lumber have greatly increased, till at the present time you would think first quality lumber had reached a maximum figure, the increases in the value of standing pine, men's wages, provisions and distance of haul and a greater percentage of inferior quality in the material got out, are big offsets to the high prices now obtained by lumbermen. These circumstances are a tax on the economic forethoughts of the operator to keep down expenses in the woods, for while the cost of operating the other branches of the lumber business are calculated to a fine point, such as driving, sawing, piling and shipping, so many contingencies are liable to retard operations in the woods that an experienced, ready-witted and resourceful superintendent of such work is one of the greatest necessities for economic success. The amount of capital necessary for the successful carrying-on of a large lumber business today is in strong contrast to that required forty or fifty years ago, as I will endeavor to point out. But I will go a little further back, for prior to 1851 there was no charge for ground rent and then it was only fifty cents per square mile, whereas today it is three dollars per square mile per year, and on the limit sold on the 9th December last the amount is five dollars per year. Then, taking note of the increase in the bonus paid per square mile for the privilege of cutting the timber, in the earlier history of the trade no bonuses were exacted. The party applying for a license to cut timber furnished the agent with a description of the territory he wished to cut on and, if desired, a plan also, gave a statement of the estimated quantity he proposed to cut and deposited twenty-five per cent. of the amount of dues that would accrue on that quantity, which amount would be deducted from the accrued dues of the whole quantity when measured, at the rate of timber dues then in vogue.

My remarks referring more directly to the Province of Ontario, it will be interesting to see what the lumber trade has

contributed towards the revenue of the Province since Confederation. By the reports of the Commissioner of Crown Lands from Confederation up to the end of 1902 the amount is \$29,583,386.26, of which sum the Ottawa district has contributed \$7,804,769.67, or nearly \$216,800 per annum. Up to and inclusive of 1883 the Ottawa District contributed nearly one-half of the annual revenue received from timber dues, etc., but since that time the Huron and Georgian Bay Districts and also Rainy River have been operated upon so largely that a greater proportion of revenue has been contributed by them, both by timber dues and ground rent and bonus on limits sold, which has placed the Ottawa territory from that period, considerably in the background, especially in the item of bonus, for it must be borne in mind that the greater part of the Ottawa territory was placed under license when pine lands were not considered as valuable as they have proved to be of late years and passed from the Crown to the first licensees at the upset price of \$4 or \$5 per mile. And the quality and quantity of timber to the mile was far in excess of that sold in the Western territory in later years.

Before closing I wish to throw out a suggestion somewhat on the following lines: That in view of the increased value of standing pine and spread of settlement into townships under timber license, some different arrangement from that now existing should be adopted, whereby the licensee should be reimbursed by the Government for any pine trees that may be upon a lot located, such pine trees to become the actual property of the settler at such rate per tree as would compensate the licensee for his loss, which amount would be a charge against the lot, no patent to be issued until it was paid. An arrangement somewhat on this basis would give the settler an interest in preserving his pine trees from fire, while at the same time contributing to give assistance to the fire ranger. But territory now under timber license and not open for settlement, should be kept in that state until the pine is removed.



A Kipawa Moose Hunt.

By A. C. L.

We left Montreal on the evening of October 2nd, 1903, by the Canadian Pacific's Soo Line Express and arrived at Mattawa on the morning of the third. After a wait of one hour and a half in Mattawa, during which time we took breakfast, we boarded a Kipawa train. This little backwood village is the end of the iron; we arrived there in nice time for lunch. Here we procured our guide and outfit, which included two canoes, and embarked for a three hours' paddle, broken by a couple of portages; we reached our camping ground and had everything snug by supper time.

Next morning the weather was perfect—a beautiful warm day, and we carelessly strolled through the bush looking for tracks and finding many partridge, of which we shot several. After returning to the camp we trolled for a quarter of an hour and in that time got four large "pickereel" (pike-perch.)

We did not want to do too much the first day, so took things quite easily. The following morning, however, we were out by daylight, taking with us our guide and his birchbark horn. We made our way to a point that our Indian said was a good crossing place for moose, and he called at intervals for, perhaps, three hours. Alas, no welcoming answer was heard, though there were numerous tracks in the mud by the lake and our guide pointed out many that were fresh, consequently, we were by no means discouraged. We put in our time until four o'clock fishing and resting; then we returned to the crossing place and resumed our watch. Our Indian would not call, as the wind had risen and he thought it would do more harm than good; so we simply stood still, listening, watching and waiting until dusk. The breeze died with the sun and Louis took up his birch bark horn and gave an admirable imitation of the bull-moose's challenge and to our delight, this was shortly answered by a snort that seemed to come directly across the Lake. Louis said it was made by a young bull and that he was coming towards us. After a few coaxing calls, Lou-

is succeeded in enticing the moose into the lake.

Splash! We were rapidly becoming excited, and we jumped into the canoe in a hurry, yet we were careful to make as little noise as possible. We could now see the moose swimming towards a point fifty yards away. Louis paddled us down until we were within twenty yards of the moose, which now stopped and faced us, looking intently in our direction. By this time the moon had risen, but it shone dimly through a hazy sky and the wind out on the lake was blowing rather too strong for accurate shooting. I raised my rifle, and the moose swung round facing the further shore, yet he was not quite convinced that we were foes, as the wind was blowing from him to us, so he stood still.

Louis whispered "Don't shoot; see how close I go to him." He then paddled us ten yards nearer the moose, when I fired. The animal made a jump into deep water and swam back to the place at which he entered the lake. I took up a paddle and helped Louis in getting after him, but owing to the wind and rough water, we could not get up to him before he landed and disappeared in the swamp. We jumped ashore and examined his tracks by the aid of an electric flash light that I carry on hunting trips, and found blood stains on sticks and grass, which showed that my aim had not been altogether wide.

We decided it was useless to attempt tracking him at night through a cedar swamp, so we returned to our canoe and were about to start home when we heard another splash a few yards down the lake. We paddled in the direction of the sound as quickly as we could, but only arrived in time to hear a moose retreating through the brush. We then paddled across the lake and used the horn, as it was just possible there might be another one, and we ran the chance of recalling the moose that we had heard but not seen. Within half an hour our patience was rewarded by the answering snort from the bush some distance from our left. After the customary recall-

ing by our guide, a bull-moose emerged from the woods and started up the lake shore toward the point where our wounded moose had left the water.

The moon was now shining brightly, but owing to the fluky, shifting wind, my Indian did not care to go too close, so we laid resting on our paddles one hundred and fifty yards from the animal. As the moose drew nearer and was not more than perhaps fifty yards from where the wounded bull entered the bush, Louis remarked that if he got scent of the blood he would follow the trail. This proved a true prediction, for before we got within a safe range for a shot from the canoe in moonlight, he struck the first bull's trail and followed it into the bush. For an hour or more we paddled around, and heard the big fellow prowling through the swamp, giving an occasional snort and evidently prodded his unfortunate comrade. We verified this next morning when we tracked the wounded moose for miles and saw, plainly, where the larger moose had been following the smaller one, and every hundred yards or so we found a little pool of blood, and his tracks showed that he had started off in a hurry, no doubt having been prompted so to do by his wounded brother.

We struck camp that day and started for new hunting grounds. We pitched our tent, finally, on a small island in the big lake. Rain came on towards evening and continued all next day and the following night, and such a gale raged that we were unable to leave the island.

On Thursday the wind was still high, but it had fallen sufficiently to enable us to leave the island, so we pulled up our stakes and returned to our first camping ground, having decided to hunt again at the

crossing place where we had previously tried our luck.

Thursday evening we were out again, but were unsuccessful. On Friday morning we laid in camp until after daylight and then paddled down the lake half a mile to some narrows, which are about one hundred and fifty yards across. Louis's quick eye spied a fine big bull standing by the shore watching us, with erect head and his great ears thrown forward. The Indian turned the bow of the canoe toward the moose and paddled cautiously, bringing me within seventy-five yards of the beast. I had, in the meantime, got my rifle ready for action; then I aimed carefully for the animal's chest, and pressed the trigger. The moose jumped about ten feet forward, swung around and made for the bush. I fired again and the moose fell. On examination I found my first shot had been too low for a mortal wound, but my second had hit him in the head, behind the ear. The antlers were of a very fair size, although not as large as some I have secured, nevertheless, I had enjoyed rare sport.

Having thus secured a moose, we decided to take a trip through a chain of small lakes to White Lake. This we found very beautiful and we enjoyed the trip, that lasted three days, exceedingly. We saw three moose, besides those already mentioned, but once only were we enabled to get range. One night we slept in a desolate lumber camp that had a fire place made in the old fashion style of large flat stones. In it we had a glorious fire and next morning I was very glad to toast myself at it, for at four a. m. I went down to the shore of the lake to wash, slipped off a log into the icy water and had to return to camp and dry myself before going out to look for more moose.

The Atlin district of British Columbia is gaining notoriety, not only on account of the richness of its alluvial gravels, but also as an attraction to sportsmen. Last autumn several expeditions were made by English sportsmen, and from local accounts they found much variety of game.

Moose, cariboo, sheep (*ovis fanini*), goat, bear and lynx are all found in the neighborhood, and one sportsman is reported to have counted thirty-two big horn in one flock. The country has many attractions for camping parties, as there are innumerable trout in the lakes and wild fowl, grouse and ptarmigan are plentiful.

From Golden to Windermere.

By A. C. ST. JOHN.

One of the most beautiful, if not the most beautiful trip in British Columbia, is that from Golden to Lake Windermere, one of the Mother Lakes of the great Columbia River.

The River itself is seldom over a hundred feet in width, and winds about between the foot-hills of the Rockies on one side and those of the Selkirks on the other. The River bottom is really about one and a half miles in width, but it is cut up by numerous small channels bordered with tall Cottonwoods and an undergrowth of red willow, Saskatoons, high bush cranberries and wild rose bushes. During the months of June and July the river runs bank-full and these bushes and their blossoms appear to be growing out of the water. The background of rugged mountains makes a wonderful contrast.

For the first fifty miles above Golden, the benches on either hand are heavily wooded, but at Spillamachene the valley broadens and becomes a park country with bunch grass and scattering large Douglas firs.

A string of lakes lying at the foot of the Selkirks here offer magnificent sport to the fisherman. They are at a distance of four to eight miles from the River, but can be readily reached by good pack trails. They have never been fished except by miners and prospectors, and are as full of trout as they could well be.

The highest peak in sight of the Columbia, Mount Ethelbert, overshadows these fishing lakes, which have not yet received a name.

The journey as Lake Windermere is approached is intensely interesting. Perpendicular banks one and two hundred feet in height, formed of the sediment of ancient glacial streams, are now and again cut into the most fanciful shapes by the action of rains and melting snow, giving the appearance of ruined castles, grander than any that may be seen on the Rhine.

Two miles from the Lake, is passed the

last of the turbulent mountain streams which up to this have made the waters turbid, and the River becomes beautifully clear. Here are the salmon beds, the spawning ground of the persevering fish that have fought their way up from the distant Pacific. Twenty years ago the Indians from the surrounding country, and even from the Kootenay Valley in Montana, used to congregate here, and it was not unusual for them to spear one thousand fish in one night, but fish wheels on the Lower Columbia, and steamboat wheels churning up their carefully prepared spawning beds, have spoilt the locality even for all but the most venturesome salmon rovers. A few are still to be seen and the water which is here only three or four feet deep fairly teems with smaller fish.

The view on entering Lake Windermere is one never to be forgotten. A beautiful sheet of water one and a half miles wide and ten miles long, bordered by green rolling hills, and behind that the great ice-crested Rockies and Selkirks.

Windermere, half way up the Lake, possesses a very good hotel, which is well run and at moderate prices. The bathing and boating cannot be excelled. The weather during the summer months is dry and cloudless. A breeze generally starts after sunrise and lasts till afternoon, when the lake becomes perfectly calm. It is never squally. There are no meadow lands nor swamps in the vicinity and Windermere is free from mosquitoes.

The steamer "North Star", which during the months of June, July and August runs on the Columbia River, is a large sternwheel boat, newly fitted up, clean and comfortable. She makes two trips per week; one leaving Golden on Tuesday morning and returning Wednesday, and a longer trip leaving on Friday morning and returning on Sunday, giving a full day on Lake Windermere.

Fish and Game Near Ottawa.

By "EBOR.

Did you ever travel over the Gatineau Railway, which not many years ago, owing to its curves and windings, was locally known as the "Corkscrew", but now is proud of its designation as the "Ottawa, Northern and Western" branch of the C.P. R.? Did you ever make a journey on the cars of the Pontiac and Pacific Junction Railway? These cars used to be lettered "P.P. & J.R." and it was not long before the entire countryside was designating the railway as the "Push, Pull and Jerk" road." The two local names have passed into oblivion since both lines became branches of the great transcontinental road. The zeal and energy which characterizes the management of the C. P. R. top-notchers in railway organization, have been extended to these railways. Both lines have been improved; new cars have been procured; curves have been taken out; the corkscrewing has in large measure passed away, and practically new road beds have been constructed. This is a preliminary.

When a man goes fishing or hunting he wants to travel comfortably, and there is no country near to the busy haunts of men so easily accessible to the sportsman, as are the fishing and hunting resorts of the Gatineau and Pontiac districts. The city of Ottawa is the home of not less than thirty incorporated Fish and Game clubs, with memberships ranging from ten to sixty. A club may have either hunting or fishing privileges, or both. Latterly all the fishing clubs whose waters are in the counties of Pontiac or Wright have leased the hunting territories adjacent thereto.

These counties have been well named the "Counties of Ten Thousand Lakes." As a matter of fact the number of lakes, all of which literally teem with fish, is countless. Into hundreds of them has a line never dipped. These lakes abound with the gamey black bass, the grey trout, or the speckled trout, and when the fishing season is over and the sportsman desires more active exercise, he can range the glorious hills of the Gatineau or Pontiac after the red deer.

It is noteworthy that within the last three or four years deer have been very plentiful within thirty or forty miles of the Capital. The reason for this is said to be the increase in the number of wolves, with the attendant result that the deer are driven south, nearer to the settlements. The accompanying snap shots were taken on the hunting territory of The Coulonge Fish and Game Club, one of the most thriving sporting organizations which has its headquarters in Ottawa. The Club has a lease of a fine trout lake known as Moose Lake, three hours' drive from Fort Coulonge, and of fifteen miles of hunting territory surrounding it.

Probably one of the most remarkable sights ever witnessed by a hunter was that which fell to the lot of Mr. W. J. Code, a well-known Ottawa barrister, who is president of the Coulonge Club, and his guide, Billy Davis, last October. They were sitting on a point on the east shore of Moose Lake watching across the water to the west shore, along which the dogs were giving tongue. Suddenly to their left, in a little bay, a fine doe and two beautiful fawns took the water. Neither Mr. Code nor his guide stirred. The mother and her young frolicked around in the bay for some time, totally oblivious of the presence of man. After remaining in close proximity to the hunters for ten minutes the doe and her offspring headed out into deep water across the lake. The pretty sight was ample recompense for Mr. Code. He had not the heart to kill. Still straining their eyes across the lake to the other side whence the music of the dogs was coming, Mr. Code and Guide Davis were again startled by a noise in the little bay near by. Looking around they saw a magnificent buck, two does and two fawns taking the water within twenty-five yards of them. The herd had not got far from shore when the buck scented danger and the five deer immediately headed for the land. One shot from each of the hunters finished the buck and one doe; the others were allowed to go. To see eight deer so close to them was enough for the two men in one day, and it



YARDED LOGS.

A Scene in the Canadian Lumber Woods early in the Winter.



MOOSE CALLING.

A. C. L. and his guide on the waters of Kipawa Lake



IN MOOSELAND.

This is where A. C. L. saw one of the moose mentioned in the present issue.

may be a long time before they have such another unique experience. As Billy Davis remarked to an admiring crowd at the Jewell House at Fort Coulonge later:—"Swelp me, bhoys, I niver seed the like of it afore, and I niver expect to see the like of it agin."

While large areas have been leased for hunting and fishing purposes in this portion of the province of Quebec, it must not be supposed that the casual visitor who may not be a member of an organized club cannot get all the fishing and hunting he desires. Either at Fort Coulonge, on the

Pontiac line, or at Gracefield and Maniwaki on the Gatineau Railway, good guides can be procured. There is an excellent hotel at Fort Coulonge, but the Gatineau District is clamouring for decent hotel accommodation. The C.P.R. has just extended this line from Gracefield to Maniwaki, skirting en route a beautiful sheet of water, the Blue Sea Lake, and it is said to be the intention of the Company to erect on its shores a fine summer hotel. As an investment the impression is that a good hotel there would certainly pay.

British Columbia Game.

(From B. C. Bulletin No. 17)

It is difficult, in brief compass, to write about the game of British Columbia. The animals and birds which are hunted for sport are numerous and widely distributed over a vast extent of country presenting many opportunities of, as well as many obstacles to, success. The big game, such as grizzly bear, mountain sheep, caribou, are only found in the mountain fastnesses or the more inaccessible parts of the Province, and, therefore, their pursuit is not to be undertaken lightly. As, however, the difficulties and dangers incident to this life form the principal zest for true sport, British Columbia as a country is, and ought to be, a very attractive field for sportsmen. Accompanying this is a check list containing the more familiar birds and mammals. This has been prepared by Mr. John Fannin, Curator of the Provincial Museum, than whom no one is better qualified to deal with the subject. As this list gives the habitat of all the game animals, it is unnecessary to more than refer to some of the phases of sport in British Columbia.

Frequent inquiries are made by persons in Great Britain and elsewhere, who are looking to this country as a field in which to shoot and fish; and there are many disappointments upon the part of such per-

sons upon arrival in regard to the conditions which exist. Many of the big game sportsmen who come to the Province are extravagantly outfitted, and to many others the supposed cost acts as a deterrent.

In regard to big game—grizzly, caribou, and mountain sheep—it may be well to quote a letter written to a gentleman in quest of such information.

"First, as to the cost of outfitting, \$500 a month, which will include a cook, a guide, and five ponies, will take any person very comfortably. Complete outfits can be obtained here, and much cheaper and better than at home, and all that is really necessary to obtain is rifles and blankets. It is a great mistake to buy expensive outfits in England, and in writing to your friends you should advise them on this point. Guides vary from \$2.50 to \$3.50 per day and can be obtained on the ground. Manson, of Lillooet, a half-breed son of an old Hudson's Bay Company officer, is the best guide in the country, and consequently the most expensive. He lives at Ashcroft. Indian guides can be had for \$2.50 a day. Hunting parties can be outfitted at Lillooet or Hope. I would advise Manson because he knows every corner and nook of the country and is thoroughly reliable and well informed on every phase of big game

sport. However, in order to obtain his services it will be necessary to give him ample notice as he is constantly in demand.

"Now then, as to the game itself: For mountain sheep, perhaps the most attractive game of British Columbia, the best places are the Bridge River country in Lillooet District, French Bar Creek, Chilcote, and Ashnola in the Similkameen country. The last named place was the most famous for big horn in the country, but is now pretty well shot out. October and November are the best months for sheep.

"Mountain goats are found anywhere on the mountains of the Coast from the 49th parallel as far north as you can go. They inhabit the most inaccessible mountains and are not regarded as much sport as they are stupid animals and easily bagged when reached. The mountain goat can be hunted at any time in season.

"The wapiti (American elk) are found only in the centre of Vancouver Island, where they are fairly plentiful.

"The nearest place for the caribou is in the Okanagan District. They are plentiful throughout Kootenay, in the Cariboo District and away north in the Omineca, Cassiar and Peace River Districts, where they are exceedingly plentiful. The caribou are shot principally in September and October.

"The best place for grizzly is in the Bridge River country, and they are found throughout Kootenay, in the Hope Mountains and all up the Coast Range into Alaska. May and June are the months for shooting grizzly. Black and brown bear are found everywhere in the country.

"The common kind of deer are plentiful everywhere."

The charges of good guides, who are absolutely necessary, are as a rule \$2.50 and 50 cents for horses per day. Where special arrangements are made in regard to a cook, the consideration would be about \$1.50 a day. In a word, the requirements depend very largely upon a man's tastes, but \$500 a month is an ample allowance for two men, and it can be done very comfortably for \$300. Of course, men like Manson of Lillooet and McDougall of Vernon are more expensive, but in the opinion of sportsmen who know the country they are the best obtainable and well worth the

money. The following notes from Mr. W. F. Burton, from whom the information in this chapter is largely obtained, will give practically all that is necessary to be known on the subject.

For mountain sheep (*ovis montana*), mule deer, grizzly and mountain goat, Chilcote and Bridge River countries are specially recommended. In respect to mountain sheep, larger heads, but less plentiful, are to be found in the Rocky Mountains, Golden being the best starting place.

In respect to other varieties of sheep (*ovis fannini*, stonei and dalli) moose and caribou, the Atlin country is recommended.

On Vancouver Island, wapiti (elk), black bear, black tailed deer, wolf and panther are plentiful.

Caribou, mule deer, grizzly, brown and black bear and mountain goat are to be found in the Okanagan and Kettle River country, for which Vernon is the principal starting point. Here is a very wide extent of country to be exploited.

In Cassiar there are mostly caribou, grizzly, brown and black bear. In the far north, if the hunter had the time and would risk the expense, moose and caribou in great numbers would reward him.

In the northern interior, beaver are very plentiful, particularly in the Ootsa Lake country; very few foxes are to be found except in the extreme north land; otter are very plentiful on the Island and are found scattered on the Mainland; lynx are distributed all over the Mainland, also the wolverine. Panther are quite numerous on the Island of Vancouver. They are to be found also in the southern interior and are hunted with dogs.

In respect to feathered game and fishes it is still more difficult to specify without going into lengthy details, as they are very widely distributed.

Pheasants, which have been imported, are now very plentiful in the southern end of Vancouver Island, and on the Lower Mainland. All kinds of grouse are also plentiful in the same localities. Blue grouse are very abundant everywhere.

Snipe are found principally on Lulu Island, and this district for that particular sport is hard to beat. A good average day's shooting will give thirty brace to the man for a day, but larger bags can be had. There are also plover to be found

here in the spring, and the duck shooting is excellent. Wild fowl, such as geese and ducks, are to be found in great abundance over the whole Coast, in the proper season, but particularly on the bays and inlets of Vancouver Island. Sooke Harbour on the south, and Quatsino on the north, are perhaps the most favorable localities.

Attempts have been made to give a list of lakes and streams in the Province recommended for fishing, but this is quite hopeless as it is difficult to discriminate. As in everything else there are favorite localities, but in respect to trout nearly every part of the Province has its attractions. The best known resorts, however, on the Island are Shawnigan Lake and Cowichan River and Lake; on the Mainland the Coquitlam and Brunette Rivers, streams in Lillooet, the Shuswap and Okanagan lakes, and the Kootenay River.

Salmon in British Columbia, though not ready to rise to the fly, are considered good sport during the season. Spring salmon and steelheads are caught throughout the year. Cohoes and sockeyes during the runs in the latter part of August and September and during the early part of October, according to the run, afford good sport. They may be trolled for in nearly all the waters of the Coast. The best salmon fishing in British Columbia, and possibly in the world, is to be found in Campbell River, on Vancouver Island. Fish have been caught here with rod and line, weighing over seventy pounds, while the average is about fifty pounds.

The whole interior of the Province, Island and Mainland, possesses a wonderful system of water communication, lakes and rivers. These, as well as the lesser streams, are abundantly stocked with fish, principally salmon or trout, the several varieties of which have already been enumerated. There are also whitefish in the northern waters. While the best known and favorite resorts are on Vancouver Island, there is no locality where a fisherman may not prosecute with zest this time-honoured sport; and even on the seacoast, during the salmon run, with trolling line he will meet with gratifying success.

The waters of Kootenay and Southern Yale are already becoming locally noted as fishing resorts, and when lines of communication are opened up, the rivers and lakes of the whole interior will attract numerous fishermen, affording as they do fish of uncommon size and number.

Of the varieties of trout found in the rivers, streams and lakes of the province, the steelhead trout (*Salmo gairdneri*) is the best known and most highly considered, because of its abundance, great size, and "game" and commercial qualities. In our waters it averages about twelve pounds in weight, though specimens weighing from twenty to twenty-four pounds are not uncommon. As a "game fish" the steelhead is considered by many fishermen to have no equal in fresh water. It readily takes a fly or spoon-bait, and "puts up a stiff fight, taxing the skill of the angler and the strength of his tackle to bring it to net or gaff."

There are numerous forms of trout to be found in the Upper Fraser and Thompson Rivers, and in many of their tributary lakes, that cannot be distinguished by any technical character from the steelhead, but which, because of the many differences in habit, form and color, have been given many different names. Of these, perhaps the best known to anglers is the very game fish which abounds in the Kamloops, Shuswap, Okanagan and Kootenay Lake regions, to which Dr. Jordan gave the name of Kamloops trout (*Salmo kamloops*). The smaller specimens of this trout readily take a fly, but the largest specimens are seldom secured except by means of trolling.

In addition to the salmon and trout which abound in our waters, we have the Great Lake trout (*Christivomer namaycush*) and the Dolly Varden trout (*salvelinus parkei*), which are easily distinguished from the true trout by their red or orange spots. Both these fish attain a large size, the Great Lake trout not uncommonly weighing as high as thirty pounds, while the Dolly Varden not uncommonly attain a weight of from fifteen to twenty pounds.

B. C. Game Laws (Abridged)

Species of Birds, Animals, etc.	Unlawful to shoot or destroy during close season as shown below (dates both inclusive)	Unlawful to buy, sell or expose for sale, show or advertisement.	Unlawful to Kill or Take
Beaver	1st April to 1st November.	At any time.	
Birds living on non-forest lands	At any time.	At any time.	
Bittern	1st March to 31st August.	At any time.	
Burrowing Owl	At any time.	At any time.	
Caribou	1st January to 31st August.	Before October 1st.	More than five in one season.
Caribou (cow or calf)	At any time.	At any time.	
Chattinich	At any time.	At any time.	
Deer (fawn under 12 months)	At any time.	Before September 1st.	More than ten in one season, or hunt with dogs, or kill for hides alone.
Deer (buck)	15th December to 31st August.	At any time.	More than two hundred and fifty in one season.
Deer (doe)	15th December to 31st August.	At any time.	More than two in one season.
Duck (of all kinds)	1st January to 31st August.	During close season.	
Elk, Wapiti (bull)	1st January to 31st August.	At any time.	
Elk, Wapiti (cow)	At any time.	At any time.	
Elk, Wapiti, calf under two years.	At any time.	At any time.	
Grouse of all kinds including Prairie Chick-en.	1st January to 31st August.	At any time except Blue Grouse which may be sold during season.	
Gull	At any time.	At any time.	
Hare	1st January to 31st August.	Before October 1st.	
Heron	1st March to 31st August.	During close season.	
Land Otter	1st April to 1st November.	At any time.	
Linnnet	At any time.	At any time.	
Marten	1st April to 1st November.	At any time.	
Meadow Lark	1st March to 31st August.	At any time.	More than two in one season.
Moose (bull)	1st January to 31st August.	Before October 1st.	
Moose (cow or calf under twelve months)	At any time.	At any time.	
Mountain Goat	15th December to 31st August.	Before October 1st.	More than five in one season.
Mountain Sheep (ram)	At any time.	Before October 1st.	More than three in one season.
Mountain Sheep (ewe or lamb)	At any time.	At any time.	
Partridge (English)	At any time.	At any time.	
Pheasant (cock)	At any time.	At any time.	
Pheasant (hen)	At any time.	At any time.	
Plover	1st March to 31st August.	During close season.	
Quail (of all kinds)	At any time.	At any time.	
Robin	Farmers only may shoot in gardens bet. June 1 & Sept. 1	At any time.	
Sky Lark	At any time.	At any time.	
Thrush	At any time.	At any time.	
Eggs of protected birds	At any time.	At any time.	To take or destroy at any time.

A Manitoba Moose.

By A. R. DOUGLAS.

Every ardent sportsman keenly awaits that time of the year when the laws of his country permit him to take his rifle in hand and wend his way into the forest in search of big game, and, if he be lucky, return with one or even two good heads, as evidence of his prowess.

In order to be successful certain conditions are necessary, and among the most important are: a country wherein game abounds, a good guide, and, if the locality be thickly wooded, a good fall of snow accompanied by a light wind. As regards the former, Manitoba compares favorably with any of the other provinces of the Dominion. As regards a guide and companion none could be better versed in all things pertaining to sport than my esteemed friend, whom I shall here call the Colonel.

After days of weary waiting, light flurries of snow began to fall, gradually increasing towards evening, until the ground was covered in depth to about eight inches, after which the snow ceased falling, and the wind began to moan plaintively through the trees.

Our rifles are carefully oiled and examined, blankets, provisions and other necessities of life packed securely, until everything is in readiness for an early morning start.

Long ere the first faint streaks of dawn have touched the Eastern sky, we are urging our horses up the primitive trail which leads into the Riding Mountains, and after a rough, but nevertheless pleasant trip, we reach camp at noon. Our abode consists of a small cabin made from the rough hewn logs of the forest and surrounded by spruce trees, which afford an excellent protection from the wind. The Colonel soon has the kettle boiling and we partake of a plain but satisfying meal, after which we prepare for the chase.

Owing to the large number of accidents which occur during the shooting season, whereby hunters are shot down by fellow-hunters, through carelessness and perhaps what is particularly termed "buck-fever," which prompts them to shoot at any object that moves in the bush, without first

ascertaining whether it be a man or a deer, we decide to put on white sweaters and caps covered with white material, as a precautionary measure. Such a costume as this is not only minimizes the chances of being mistaken for a deer, but it also renders the hunter less conspicuous against the snow, so that he can occasionally approach quite close to a moose or elk before their inquisitive nature is satisfied.

The wind having dropped during the morning, we strike off into that section of the country known as the Bald Hills, so-called owing to their peculiar conformation, a series of abrupt, treeless elevations, separated by deep ravines and noted feeding ground for elk. A careful search throughout this section proved fruitless, although tracks of elk were numerous, a band evidently remained here during the night. The sun having disappeared over the western horizon, we set out in the direction of camp, as it is fast growing dark and snow is beginning to fall; we encounter numerous lynx tracks on the way back, and here a relic of the Red man's craftiness in the form of a bear trap of the dead-fall variety, yet unstrung. At last we reach camp, footsore and weary; the Colonel prepares a welcome meal, to which we do ample justice, and after a comforting pipe, we roll up in our blankets and are soon in the arms of Morpheus.

Long before daybreak we prepare breakfast, after which we lay out plans for the day. A brisk wind is blowing from the north, slightly stirring the trees, so that a snapping of a twig or rustling of a branch would scarcely be noticeable, whereas on a calm day the slightest noise such as this would immediately be distinguished by the delicate and wonderfully acute auditory apparatus of the deer tribe, and thus the presence of the hunter would be betrayed. Thus we decide to hunt in the heavy timber, and filling our pockets with bannock we start. After travelling for several miles we come across the tracks of a moose going in a southerly direction, and being fresh we decide to follow. Cautiously we creep along over fallen logs, through

underbrush and scrub well-nigh impassable, along the edge of a steep ravine, carefully picking our steps and walking one behind the other in lock-step fashion, so as to resemble the footsteps of one man, owing to the theory that a moose will listen intently to one man's approach, while two would cause a hasty retreat. At last the tracks turn abruptly east and to all appearance the animal is heading for a favorite stamping known as the "Big Lick", so we hasten on, the wind now slightly in our favor, so that he will be unable to scent us. Entering a section of timber more heavily wooded than the rest, we come across the fresh imprints of his massive body in the snow where he had lain not long before, and we knew he was not far from us. With extreme caution we move on, when, suddenly, the snapping of a branch caused us to look in the direction from whence the sound came, and there, under a clump of spruce trees stood a magnificent bull moose, his head elevated, nostrils dilated, sniffing the air as if scenting danger, his massive antlers and pendulant beard giving him a most formidable appearance.

As we threw up our rifles he turned with a snort of rage and was off at a terrific pace, but, alas, poor fellow, his mad rush suddenly ceased at the sharp crack of two 30-30's, for he suddenly swung around and came toward us, his eyes flashing fire. But

it was seen that he was hit in a vital part, as suddenly he stopped and his huge body trembled violently. Another shot through the lungs caused him to fall heavily, and he lay tearing up the snow and dirt with his front feet, in the vain endeavor to rise. With a determined effort he raised himself on his fore legs, but a bullet behind the ear caused him to roll on his side, and with a last spasmodic contraction of the muscles he ceased to move.

The head proved to be valuable. Although not extra large the antlers were exceptionally uniform, having ten points each, and the beard, or bell, was well developed. After removing the internal organs, and packing the carcass with snow, we struck out for camp, blazing a trail as we went with our hatchets, and that night, as we smoked our pipes and recalled the incidents of the day, we felt at peace with the world.

It is needless to recall the difficulty with which this cumbersome eight hundred pounds of moose was removed from the bush, as every hunter has a knowledge of the many obstacles to be surmounted in such an undertaking as this; suffice it to say that the fascination of a hunter's life with all its hardships clings to one, and my heart yearns for the day when, with rifle in hand, I shall again seek those pleasant hills and valleys "where romps the lordly moose."

In an interesting paper read recently by Mr. Kivas Tully, C. E., before the Canadian Institute at Toronto on the "Fluctuations of Lake Ontario" he ascribes the lowering of the level of the water of the lake to the reckless destruction of the forests in Ontario, also in Michigan and Wisconsin, by lumbering and consequent fires, in the drainage area of the great lakes, without a partial or corresponding substitution by planting. The Chicago drainage canal and the deepening of the outlet of Lake Ontario at the Galops Rapids have also contributed to this result, and it might be possible to regulate the level of the lakes by engineering works such as a dam across the Niagara River at Buffalo. The theory of the rise and fall of level during regular periods was not considered

as being supported by the facts of the case. The diminution of the rain and snowfall from 1858 to 1893 was given as 2.602 inches, and from 1893 to 1903 as 1.583 inches, while the Toronto harbor records show a lowering of the level of the water of Lake Ontario during the same period of 13.61 inches. Mr. Tully pointed out the setting apart of Forest Reserves in Ontario as a step in the right direction, but made objection to the cutting of the small timber which was being done so extensively on pulpwood limits. The suggestion was made that if a small percentage of the large amount derived from the recent sale of timber limits in Ontario was set apart for reforestation it would do much to mitigate the evil effects of the wholesale destruction of the forests.

Is The Indian Hardy?

By C. C. FARR.

The cold weather of this winter threatens to become historical. I remember one season like it, but it was about twenty-seven years ago; a season in which the thermometer got down to business below the zeroes at an early date, and stayed there for a long time. The reason why I remember it so well, was that I happened to be on a trip for furs, in the interests of the Hudson's Bay Company, and when furs are the objective point in that business, you question not the order or conditions of going, but you simply go, and if the thermometer is thirty degrees below zero, or thirty degrees above it, it is all the same. Your duty is to see that the fur list of the year compares favorably with that of the past, otherwise there is a good chance of receiving from the man who is toasting his shins at the stoves of the best hotels in the city that happens to be headquarters, a gentle reminder that your post is going behind, and that if you expect promotion you have got to do better. The whole of life can be summed up into the proposition of bread and butter, with occasional trimmings, for the man, his wife, and little ones. Hence the dictum of the man with the warm shins has to be accepted, and you simply cool your own. And this is how it is done.

The ordinary covering for a man with a "stripe" working for the Hudson's Bay Company, was, I will not say is, a four-point blanket. The ordinary working man had to keep himself warm with a three point, that is, two sizes smaller than the "Boss's", and he was lucky if he happened to be a small man, for a three point blanket will cover a small man as well as a four point will cover a large one. The question might naturally arise, why should the covering for the night be so light? The answer is simple, for every pound of covering, or comfort, loaded on to the flat sleigh would mean so much less tobacco, grease, twine, sugar, and other merchandize, which, in the trackless forest spell FURS!

On this particular occasion I took the regulation four point, and as my men, who

were Indians, had only their regulation three points, I was encouraged to think that I could live, if they could.

The wind went round to the north with a rush after we had started, and the Indians said to me: "Tah keesina", which means, "it is going to be cold." And it was cold, so that our mufflers froze to our embryonic mustaches. The mustache of a pure Indian remains embryonic all his life. I was not pure Indian, hence my muffler bothered me in this respect most. I was essentially green in the business and I wondered what they would do. It was a shivering kind of wonder, for the only Indian that I had seen face the cold weather, in the open, while I was sleeping in a stove-warmed tent, was old Jean Baptiste, a man who had made fifty trips to Moose Factory, and in those days, two trips a year were as much as a man could do. I had noticed that he would light a small fire on the top of the snow around which he would strew some balsam brush, in the collecting of which he would display a spirit of economy, that either betokened a constitutional laziness, or a constitutional hardihood, which one might expect to find in a moose, but not in a man. He would then wrap himself up in a single blanket—three point, of course—and sleep peacefully all night. In the morning I would see him trudging around in his bare feet, collecting the remnants of the wood that he had cut on the previous evening, stirring up the ashes of the fire, which would have sunk about two feet below the brush-covered platform whereon he had slept, and after warming up a little the rags that served him for socks, he would wrap his feet in them, put on his moccasins, and be ready for another's day's work. This man lived, they say, to the age of ninety, and goodness knows how many years he might have lived if he taken ordinary care of himself. Now, I did not care to submit myself to the same conditions of living, especially in winter, that this man considered only normal and natural, hence I watched with apprehension what they were going to do with me, for I confess

that I dreaded the prospect of a night's rest, or rather roost, on that kind of an elevated platform of brush, with the fire sizzling about two feet below me.

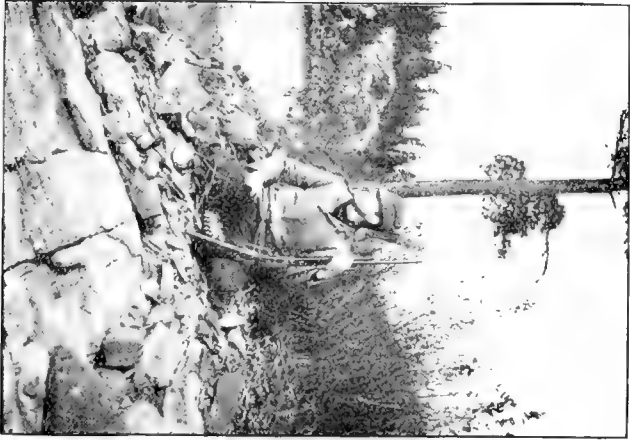
I need not have been apprehensive, for these men knew their business, and were to the manner born. This is what they did, and to me at the time it was a revelation, a lesson in the first book of woodcraft. They took off their snowshoes, used them as shovels, and soon had a pit dug out in the deep snow, which in itself would have afforded a certain amount of protection from "Kee-waydin"—the north wind—but that was not all. They stuck into the walls of the pit at an angle of about forty-five degrees, poles, upon which they stretched the "abuck-quan", a covering of cotton, and beneath this they spread any quantity of balsam brush, forming a bed fit for a King. Upon this brush they spread a spare covering, for a blanket could not be spared, and they made in the centre of the pit a roaring fire of dry poplar. To the uninitiated it was a revelation, indeed, for the result of all these preparations, the pit, the "abuck-quan," and the fire was to make such warmth and comfort that, compared to the outside conditions, with the thermometer about thirty degrees below zero, was as enjoyable as it was startling.

The tea pail was soon boiling and the bacon sizzling in the pan, so that by the time that I had disposed of all the precious freight, yet to be converted into furs, with which the flat sleigh was loaded, I was able to eat a meal with an appetite that is rarely granted to a man, unless he is a ship-wrecked sailor, or a Hudson's Bay Company employee engaged in the ordinary discharge of his duty. Then, wrapping myself in my four points of superiority, I laid me down to sleep, at peace with the world, and thoroughly comfortable. The Indians said to me: "Tah Keetchi keesina"—"it is going to be very cold." "Yes" I said sleepily, "I don't care" and I was soon into the arms of the drowsy god.

About three hours later I awoke with a shiver. There was just a glimmer of light from the fire, and there was the 'click,' 'click', made by the dying embers, a noise that those who sleep outside know so well. I hoped that the two sleeping In-

dians, who by the by, were sleeping in a far more exposed place than I was, would be disturbed by the cold, and thus induced to make up the fire, but they were sleeping too soundly, and snoring lustily, though their blankets were only three points, and very thread-bare at that. There was nothing left for me to do, but to get up, and attend to the fire myself, which I did, and groping my way in the sim, uncertain light to the wood-pile, I threw a few arm-fulls of our reserve stock upon the fire, so that soon the flames rose high into the dark night air, and again the whole atmosphere of the camp was quickly changed, and heat and comfort restored, so much so that the sleeping Indians turned over with a grunt of satisfaction, and passed again into the land of snores. I soon followed suit, taking care to make a target of my back for the rays of the briskly burning fire. Twice during the night was this process repeated, and in the early morning before daylight my guides arose, made up the fire, cooked the breakfast and awoke me just when I thought that life in sleep was worth living. "Wan-ish-kan" they shouted—"arise". "Ajaie kaygot waban"—"it is nearly daylight," and though I felt that I could, in that warmth, have slept two or three hours longer, I was fain to get up, washed my face and hands in the snow, and once more prepare for the day's work. When I reached for my moccasins, I found them frozen stiff, as hard as boards, and when I showed them to the Indians, they simply laughed, but took them over into their care, fearing no doubt that I, in my inexperience, might use methods too heroic for the occasion, and burn them into a state of uselessness. They applied the heat slowly, in small doses, making use of the warmth of the hand more than of the warmth of the fire. They rubbed, they pulled, and they squeezed the leather until they were as pliable as they had been when I put them on my feet brand new on the previous morning.

The snowshoes, they, knowing my inexperience, absolutely refused to let me have anything to do with, for a snowshoe scorched by too much heat, at a long distance from home, may lead to serious trouble, and it is astonishing how soon a blazing fire will burn out the filling of a snowshoe; I have seen the bare frames stand-



ON THE WATCH.
A well-known Ottawaan waiting for a shot.



TWO OF A KIND.
King Edward (of Ottawa) and his A. D. C.



A FORD ON THE KOOTENAY.
Mr. N. Cauchon's exploring expedition in the Sinclair Pass, Rocky Mountains.

ing, stuck in the snow, before a good blazing fire, before the owner was aware that the ice that had gathered on them had even been melted. The stars were still shining when we again started, but I did not feel the cold, for at that hour, though the coldest of the twenty-four, one does not feel the cold. It is about sunrise, just when the thermometer is actually beginning to rise, that one feels the cold most, and on this occasion my nose began to freeze. The Indians noticed it first, and began to laugh. They laugh at any catastrophe, short of death, and even when life has hung on the balance for moments, or minutes, provided that all danger has passed, they look at it all as a huge joke. They made me rub my afflicted point with snow, and though the process is not an enjoyable one, it had the desired effect, nor was I troubled with a recurrence of the same calamity during the rest of the journey.

Night after night we camped under the same conditions, for the weather remained

bitterly cold, even as it is doing this season, and though we occasionally struck an Indian hut, so porous are these structures that I preferred to sleep in the open bush, where wood was plentiful, and the atmosphere pure, to sleeping in a kind of rail fence, which would retain no caloric, but plenty of odor.

There is no doubt that Indians are extremely insensitive to cold. Conditions that would make a white man shiver and groan are to the Indian nothing abnormal, and he accepts them as a part of what you can't help. The difference between his winter and summer clothing is hardly distinguishable. He is more careful to keep his moccasins dry in the winter, he wears mitts, and if he is partly civilized, he will wear a muffler, while he will bind his rags around him with belt or string, instead of allowing them to flap about in the breeze, and yet he dies not, nor diminishes, except by intermarriage, which latter is going to be the real solution of the Indian question, provided the rotten system of "Reserves" can be relegated to the limbo of the past.

The Thaw.

By HELEN M. MERRILL.

I hear a whisper on the hills ;
 The upland fields are bare and brown,
 Only a gleam of drifted snow
 Along the fences grey and low,
 Tells where the white storm idly raged
 A month ago.

I hear a whisper in the wood
 Where pine and cedar scent the air,
 And lindens and blue beeches rise,
 And larches, to the glowing skies ;
 Nor any early leaf, nor flower,
 Yet meets mine eyes.

I hear a whisper in the stream
 Amid the purple osier beds,
 In meadows where the shorelarks sing.
 And warbling blue birds on the wing,
 Along the leafless hedges greet
 The joyous spring.

I hear a whisper by the shore
 Where lie the idle water-craft,
 And ice-fields glimmer dull, and grey,
 Down the long reaches of the bay ;
 The sun and wind have wonders wrought
 Since yesterday.

I hear a whisper, cheerily
 It echoes on the shining air—
 From stream, and field, and busy street,
 When earth and spring in joy once greet,
 The silver whisper of the Thaw
 Uprises sweet.

A Modern Gun.

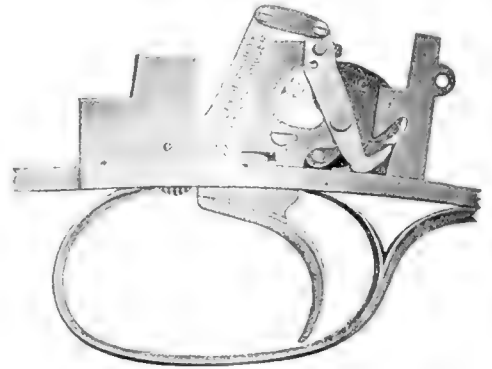
By C. A. B.

Sportsmen of middle age will remember how their first breach loader seemed to be an absolutely perfect weapon. It was not, so they then thought, possible to go farther in gun-making. The summit of the gun makers' art had been attained. Yet the piece in question was probably a double grip, breach-loader, with clumsy up-standing hammers, cylinder bored and without a top connection. It was, in truth, a long way from that ultimate perfection to which we have doubtless not yet attained. But we have certainly travelled far since these early days, and it must be admitted that the double twelve bore seems hardly capable of improvement.

Up to a short time ago the hammerless ejector marked the limit of progress : today we have the single trigger and detachable lock ; improvements removing the apparently only objections against the older weapon. The Anson and Deeley action had few defects, but it could not be stripped without special knowledge and special tools. The modern hand detachable lock, as invented by Westley Richards, may be removed without the use of any tool for cleaning or repair, though it is hardly likely to need removing for the latter reason, seeing it consists of but four main parts, namely, a cocking lifter, hammer, main-spring and sear.

These detachable locks constitute a radical departure in gun construction, and when to them is added in the same gun a thoroughly trustworthy single trigger mechanism, we have a weapon apparently several years in advance of the ordinary hammerless ejector. The great battle in single triggers has been between the advocates of the two-pull and three-pull movements, but the two-pull has won first position. The editor of the London Field, an authority whose judgment is accepted without cavil by British sportsmen, carried out a careful series of investigations with all the single trigger mechanisms at present available, and he found in the Westley Richards single trigger action a perfect

piece of mechanism. Without a very careful investigation it would be difficult sometimes to say whether a lock works by a two-pull or a three-pull movement, and if dummy cartridges be used the movement will evidently be confined to the two pulls by which the locks are successfully released. If again the weapon should be shot with loaded cartridges, the parts have an intermediate movement : but even so, an involuntary pull is not necessary to free the parts so as to make it possible to fire



Westley Richards Single Trigger.

A.—Lifting plate. B.—Safety spur. C.—Weight moving under recoil.

the second barrel. Hence, it is undoubtedly correct to describe the Westley Richards single trigger as a pure two-pull mechanism, as it evidently does not require an intermediate pull as the necessary part of the double discharge. On opening the gun the hammers are cocked and the parts set in such a position that the trigger may be pulled to a certain distance. In going so far, the sear is released and the first barrel fired. Assuming recoil, a vibrating weight is brought into play by which the quiver of the finger on the trigger is prevented from firing the second barrel. All movement of recoil having ceased, the shooter involuntarily releases the trigger slightly, just sufficient to free

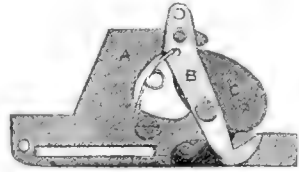
the locking detachment, then the second pull fires the other barrel.

Accounts from the sporting fields of England, and Scotland, show that this single trigger mechanism has made tremendous strides in public favor, and in all the big shoots, where nothing but the best in the way of guns is good enough, the single trigger is steadily crowding the older mechanism out of the running.

Personally, I am always deeply interested in an improvement in either shot gun or rifle, so I wrote to an old friend in England and asked him to examine one of these new Westley Richards guns and report to me. He replied:

"You will see from the enclosed that the hand detachable locks mark a great advance in the development of hammerless guns. The original hammerless gun, cocking by the fall of the barrels, was introduced by Westley Richards over twenty-five years ago and this weapon had a success which has never been equalled by any other system; it practically revolutionized the double shot gun. It reduced the original gun lock by about fifteen parts, and the principle of cocking by the fall of the barrels, which it initiated, is now adopted in all modern breech-loading guns. If there were any objection to this system, the only one discoverable was, that you could not strip the lock mechanism without first taking off the stock from the action and completely stripping the mechanism. Further, special tools were needed to take out the lock work; a vice was needed and also considerable skill on the part of the user was necessary. It will therefore be seen that by making the locks detachable entirely by hand without the removal of a single pin, it does away with this objection and simplifies detachment and attachment of the lock to the last degree. This system of detachability is obtained without any sacrifice in the principle or efficiency of the original hammerless lock, which is acknowledged by expert opinion, to be the strongest and simplest ever invented. It further introduced the principle of interchangeability, i.e., the easy method of attachment gives the sportsmen the opportunity of having duplicate locks if required. Every one knows, that despite all the claims that may be made to the contrary, there is bound to be a certain per-

centage of mishaps, even though they are of a trivial character, which may deprive a sportsman of the use of his gun when he most needs it, and if he should have to send his gun away to the gunsmith for a repair while in the midst of his shooting, it is impossible to gauge the extent of his disappointment. Sometimes this may be caused by the pull-off varying a shade, but sufficient to baffle him and render shooting difficult. Under any of these circumstances, consider the enormous advantage of being able, in a few seconds, to substitute one of the duplicate locks and continue shooting as before in full confidence and comfort; the gunsmith is dispensed with. This advantage does not add greatly to the cost, for an extra sum of £4-10-0 duplicate interchangeable locks may be had on any quality of gun.



The working Parts detached.

"This simple detachable system of lock tends in other ways to the sportsman's advantage; think of shooting in a heavy downpour of rain when all parts of the gun are exposed. What pleasure it must give to the sportsman to know that when he gets home he can with a minimum of trouble, take out his locks, oil them and prevent them from becoming damaged by the rust, which would be certain to accrue under the same conditions with other systems of guns.

"We have all known people of a meddling mind who never pick up a gun without snapping off the locks, or otherwise tampering with the weapon. Such treatment may sometimes cause a breakage which would be most annoying to a sportsman when out on a trip far away from a gunsmith. This annoyance, due from this meddling handling of weapons, is now removed, if the sportsman only likes to avail himself of the opportunity afforded and take out the locks from his gun when not in use.

"I believe that in Canada you experience your share of wet weather and that in ducking, mud, wet and a damp atmosphere are met with. The detachable lock, therefore, as it seems to me, appeals in a special degree to the Canadian sportsman."

It seems pretty clear from the foregoing that, at length, we have a wonderfully perfect double barrel gun. Personally, I hardly know whether to pay the greater tribute to the detachable locks or to the single trigger. I think that for Canadian shooting the detachable lock will be the most valuable feature, as one finds it so hard to keep an action such as the Anson and Deeley clean after a long spell of wet weather in the bush, but I can conceive that the pigeon shooter, and the sportsman who goes in for "driving" game, as they do in England, will find the extra rapidity gained by having only one trigger to manipulate of paramount importance. There can be no doubt that rapidity is gained, and men who have been shooting for twenty years with the double trigger gun can take up this new weapon and do better work with it than they ever did. There is nothing

to learn. You may fire one barrel or the two as quickly, or as slowly as you wish, and you need not move the hand or finger for the second shot. Moreover, and this is important, we Canadian sportsmen, are likely, shortly, to insist upon this mechanism, as in cold weather the sportsmen may wear thick gloves, something he cannot do when firing the ordinary double barrel. Of course, the system is now being applied to all the Westley Richards rifles, as well as to one-trigger guns. This firm manufactures a full line of long range single rifles, and double barrel rifles for large and small game, and all these may be had with a single trigger if preferred.

It is true a good gun costs money, and a Westley Richards single trigger "hammerless" may cost as high as \$385 delivered in the United States or in Canada, but then on the other hand, one of the very best quality, without elaborate ornamentations, but in every respect a "best gun", need not cost more than \$250, a price well within the reach of most men who do much shooting. Such a gun will last a lifetime, as all the metal used in it is hard, and the fitting of the different parts is done by the most skillful workmen in the world.

Editor Rod and Gun in Canada:—

Sir.—In the interests of Rod and Gun and its readers, I would like to give you a brief report regarding the quail (Bob White) of Essex and Kent Counties. The season of 1903 was not a favorable one, the forepart being too wet and cold for incubation. The season's crop of birds, therefore, unfortunately, was limited to a small quantity. Thanks to our local sportsmen, they saw the situation of the scarcity and the days afield were somewhat shortened. The present cold winter of 1904 with heavy snow falls and crusted snow has diminished our birds to only a limited few, and should the balance of the winter finish in sleet and severe cold our quail will be extinct. I am strongly of the opinion there should be some protection in

the way of a quail industry, a breeding farm—some locality adapted suitably for fostering and hatching and wintering these birds. Importing quail is not satisfactory for reasons experienced; it is expensive and some three or four years are required in producing a sufficient number for the public—even for field trial purposes.

There are in Essex county suitable places and openings and grassy sections, protected from the sweep of prevailing storms, where a small section, say one hundred acres or more, could be properly fenced and the birds cared for and fed during the winter season, and maintained throughout the year and stock the surrounding vicinity.

Yours very truly,

F. H. CONOVER.

Leamington, Ont.

Forestry and Science.*

Dr. C. A. Schenck, Principal of the Biltmore Forest School, has issued a synopsis of the lectures delivered at the School during the fall term of 1903. After defining forestry and considering the related sciences, Dr. Schenck goes on to deal with the subject under the following general divisions: Characteristic Features of Forestry, the Useful Functions of the Forest, Forest Statistics, History and Facts of Forest Policy, Government and Private Forestry, Forestry in Government Forests, Forest Political Miscellany, each of which is considered in its several different bearings, making in the whole a full and comprehensive survey of the subject. The student who passes through such a course should certainly have a clear and enlarged grasp of what forestry means and of the history and principles upon which its development must be based. A few notes may serve to give some ideas of the general bearing of the contents:

"Doctor Schenck wants to give as broad a definition as possible when saying: 'Forestry is any treatment, the object of which is woodland.' This definition covers prairie planting, lumbering, park forestry, governmental forestry, good and bad forestry."

"Every foot of national soil should be devoted to that production under which it pays best; hence forests should never disappear from land on which conservative forestry is the most remunerative use to which soil may be put. A national platform ought to invariably contain this plank. Land as described is called 'absolute forest land.'"

"In Saxony, records have been kept

*Contributed by the Officers of the Canadian Forestry Association

since 1816, showing that the forest has paid on the average three per cent. per annum of interest and that, in addition, the value of the forest has increased, on the annual average, by two per cent. (compound interest.)"

"In Germany, the increment production falls short, by about three and one-half billion feet, b.m., from covering the home requirements for commercial production. Germany could easily supply all her commercial demands, without timber imports, for a large number of years, if she would reduce her forest capital as unscrupulously as the United States."

"To supply the present consumption of the United States, now about forty-fifty billion feet, b. m., could never exceed, in times to come, the possible increment production of the forest area at hand."

"A knowledge of the financial possibilities of forestry is necessary for the owner of woodlands. Then, only, can he arrange his investments so as to make them most productive of revenue. The knowledge must be based on investigation and statistics gathered by the government, since the private individual is usually unable to make them. He will never publish the result of investigations which he may chance to make. Most desirable are statistics on the following points: Growing stock of timber in the U. S.; reproduction of timber; influence of fires; yield tables and volume tables; log analysis as to quality and quantity of output; timber consumption; timber export and import; study of foreign markets; influence of forests on water supply for irrigation and navigation; influence of the forest on rainfall, etc."

Last fall Prince Alexander of Thurn and Taxis organized a party for sport amid the big game of British Columbia. He left Ashcroft, in that Province, on September 16th, by special stage to Soda Creek, on the Fraser, driving by easy stages and halting at dusk and reaching Soda Creek in

four days. As soon as Clinton was reached, the party met with small game in abundance on either side of the road. Willow grouse, prairie chicken, snipe and thousands of duck and geese were met with. The party enjoyed superb sport with the shotgun. All the way along the Cariboo

road there are numbers of small lakelets, that were found swarming with duck.

At Soda Creek a small steamer was boarded, which took the party as far as Quesnelle, higher up the Fraser. From this point the sportsmen went by canoe. The flotilla made quite an imposing scene as it left Quesnelle, there being four canoes manned by six Indians and two white men. An almond-eyed celestial was taken as cook. The head guide of the party was the famous Rocky Mountain hunter, Tom Martin, of Field, who made all arrangements weeks beforehand, having planned everything to go without hitch or error. The Hudson's Bay Company supplied tents and provisions through their agent, Mr. Louis Dickson, in charge of the post at Quesnelle.

After ten days steady travelling against a stiff current, the party reached Fort George, a Hudson's Bay trading post, one hundred miles to the northward. Mule deer were seen in numbers, and the party also

got shots at bear and wing game. At Fort George the Quesnelle Indians were discharged and six local Indians hired in their stead. These men proved to be highly intelligent and magnificent canoe men.

For yet another one hundred miles the party travelled, reaching the foot of the Grand Canon of the Fraser. This extreme headwater had a gentler current than the lower part of the river. By this time the party was in the heart of one of the best big game countries of the world. Moose, bear, caribou, goat and small game abounded on every side, and a very few days' hunting sufficed, as the party was not out for slaughter. The Prince shot two caribou in one day, each having a magnificent head.

Descending the river rapidly, the party reached Quesnelle after four days, having been thirty days away from civilization.

The Prince returns to this country next year and expects to hunt in the Valley of the Peace River.

Now that a noisy but uninfluential minority are clamoring against the introduction of automatic weapons, it is interesting to read that in Great Britain the National Rifle Association is fully alive to the inevitable advent of a weapon superior for sport and war to the best repeating breechloader of today. In its issue of January 30th, the *London Field* says:

Evidently realising the possibility that automatic rifles will be a feature of future military armament, the N.R.A. council has decided to offer a prize of 100gs. for competition with automatic rifles suitable for military purposes during the next Bisley meeting, which runs from July 11 to July 23. The following are the chief requirements and conditions:

The calibre to be between .255 and .303.
Minimum weight of bullet to be 24grs. per millimetre of bore.

Weight must not exceed 9½ lb.

The rifle must be capable of alternative use as a hand-operated arm.

The bolt supporting the base of the car-

tridge must, at the moment of firing, be positively locked.

The magazine must contain not less than five cartridges, and must be loaded from clips or their equivalent.

The rifle must, in the opinion of the special committee, be generally serviceable as a military weapon. The committee may require any further tests which they think necessary to enable them to form a judgment upon this or any other point.

The "desirable requirements" are laid down as follows:

The rifle should be as simple, strong, and compact as possible, and the mechanism should be well protected from the entrance of sand, rain, or dirt.

All parts that may require to be cleaned or oiled by the soldier should be accessible without the use of tools.

The rifle should fire rimless cartridges for preference.

After the last round in the magazine has been fired, the fact should be indicated by the bolt remaining open, or by some other conspicuous arrangement.

The direction in which the fired cases are

ejected should not be such as to incommode the firer or men at his side.

The rifle should handle and balance well, and the recoil should be moderate.

An efficient safety device should be carried by the rifle, but the absence of such will not be held to disqualify.

The following rules are also laid down:

No component will be allowed to be repaired or replaced during the competition. A competitor may enter two rifles of a similar type if he so wishes.

Competitors are to bring their own ammunition and bayonets for their rifles.

Each rifle will be tested by the committee as a magazine rifle.

The following tests for accuracy and rapidity will be repeated on four days during the Bisley meeting (July 11 to 23, 1904), the rifles being fired by the exhibitors or their representatives: The rifles will be fired as automatic rifles for accuracy, ten shots at two hundred yards, the same to be repeated with the bayonet fixed. They will also be fired as automatic rifles for accuracy and rapidity at two hundred yards, as many shots as possible in one minute; the score only will be counted, and not the number of shots fired. The rifles in the above tests will be fired at third-class targets (four feet square), and sighting shots will be allowed. Rests, such as "table rests," will be allowed. Each day directly after firing, the competitors will clean their rifles, and hand them to the committee for safe-keeping. A rifle failing on any two occasions to work correctly

automatically during the four day tests for accuracy or rapidity will be disqualified, except when in the opinion of the committee the failure is due to a missfire caused by a defective cap. The rifles which have passed the above tests will be stripped by the exhibitors after the conclusion of the tests on the fourth day, and the parts will be examined for wear or clogging by the committee. On the fifth day each rifle with the magazine charged will be placed in a box, and half a pint of mixed sand, varying from medium to very fine, will be blown into the box; after which the rifle will be taken out and as much sand as possible will be shaken off and wiped away with the hand. Fifty rounds will then be fired automatically from each rifle at two hundred yards range. The number of rounds that fail to load automatically, or to fire, will be noted.

The judging will be carried out by a special committee of three members, appointed by the National Rifle Association, from whose decision no appeal will be allowed.

Rifles will be disqualified if, when used as a magazine rifle, they require excessive force to operate the bolt by hand, or if they otherwise fail to satisfy the tests laid down. Those which have not been disqualified will be placed in order of merit. If, in the opinion of the committee, none of the rifles or ammunition are considered to be "of sufficient merit" the prize will be retained until another year. Should two rifles be of equal merit, the committee may divide the award.

Our Medicine Bag.

Go where you may, into the glare of the tropics or the silent wastes of the tundras, you will surely find some species of snipe—hence the volume of the Fur, Fin and Feather series, dealing with this admirable sporting bird is as interesting to Canadian sportsmen as to English readers. Mr. De Visme Shaw, a well-known shot, is the author, and Messrs Longman, Green

& Co. are the publishers. The English snipe differs in a few unimportant details from our American bird, but the ordinary gunner would hardly notice a difference, and in habit they are identical. After a careful description of the natural history of the snipe, the author discusses the gun and charge best suited to the sport, and finally, the haunts and habits of the bird.

Of the gun he says: "As the result of considerable experience in snipe shooting, I am strongly in favor of having the right barrel an improved cylinder, pattern about 140 (i.e. $1\frac{1}{8}$ oz. No. 6 English, in the 30-inch circle at forty yards range) and the left barrel a full choke." This entirely accords with our own experience, as does the author's choice of a 12-bore in preference to a weapon of smaller caliber.

In addition to the snipe this little book describes the woodcock—but as the bird dealt with is the European cock it will not be of particular value to those who pursue *Philohela minor*. The price of the book is \$1.25 in England.

A correspondent asks: "Where can I get coaching in long range shooting? I live in the backwoods and have a magnificent natural range of 1200 yards or more long to shoot over and plenty of time, but I am a complete novice, and, alas, there is none here to teach." We advise him, and others in like case to procure a Lee-Enfield rifle, a good supply of cartridges, and one of the many trustworthy manuals dealing with the subject of long range shooting. For a beginner we know of none more highly recommendable than "The Theory and Practice of Target Shooting" by A. G. Foulkes, published by The Field, Windsor House, Bream's Building, London, England. This book is so thoroughly illustrated that even a tyro should find little difficulty in following the author's meaning, and acquiring a capital style, either standing, kneeling, or extended on Mother Earth.

Travellers on the Gimli trail on Tuesday afternoon of last week saw a very pretty sight when some seventeen dog trains, laden with furs, passed towards Winnipeg on their way from Norway House, says a correspondent of the Winnipeg Tribune. Each toboggan was pulled by from four to six well-framed and apparently well-fed dogs. The chief trader's team was made up of five good-sized dogs of almost a fox color, and even in color and size. The whole caravan camped for the night a couple of miles south of Gimli.

The death is announced of Herr Ferdinand Mannlicher, the inventor of the maga-

zine rifle which bears his name. The deceased, who had for many years devoted himself to the improvement of fire arms, was not only a recognized authority in gunnery and an expert mechanician, but devoted much of his time to the discharge of his parliamentary duties in the Austrian Upper House. He died at Vienna, on January 20, in his fifty-sixth year.

Mr. Frederic M. Halford, the well-known authority on Dry-fly Fishing and all that pertains to that scientific form of angling, is the subject of the portrait and biographical sketch in the February Baily. "Borderer" follows with a pleasant, chatty paper on the varying dispositions of foxhounds. Captain E. D. Miller writes on "Aids in Horsemanship", as he very truly says, few, even of the best horsemen in England, know how to properly use the legs and hands in controlling the movements and actions of the horse. Under "The Stable—The Bush—The Hunting Field," we have some horse reminiscences, very readable and often amusing, by Glastonbury. Mr. Leonard West writes with knowledge and sympathy on Foxhunting in the Lake District. An appropriate sequel to the biography of Mr. Halford is the appreciative review of his latest work "An Angler's Autobiography." A suggestive paper on "Horse Dealing for Amateurs" contains hints well worth laying to heart. "Sport at the Universities" deals with past events and discusses the prospects of the future. A very difficult task is set in treating of the "Twelve Best Gentlemen Riders to Hounds"; it is pointed out, and very justly, that a rider may be a first flight man in the country to which he is accustomed, and perform but indifferently over country of a totally different character. Several names are mentioned, and everyone who reads this well-considered article will doubtless add many names to the long list compiled from readers' votes, at the head of which stands those of Lords Southampton and Annaly. Mr. Hugh Henry writes gracefully concerning "The Poetry of the Chase," and the quotations he introduces are well chosen. It is to be hoped that the anglers who behave as do some of those condemned by Mr. Carter Platts in "The Abuse of Angling Privileges" are few. The "Revised Polo Rules", with a



AN OFF DAY.
A Group at the Club House.



A FOREGATHERING.
Sportsmen from Moose Lake and Bell's Lake meeting in the forest.



THEIR FIRST DEER.

The result of a long, difficult shot.



PATIENCE REWARDED.

"K. E." Thompson, Captain Hutchinson and Dr. Armstrong, all of Ottawa.

short introduction, will be of great interest to players of the finest game in the world. "Stray Notes on Breeding" contains much of great interest to students of running form and lines of blood. The sport of the past month is reviewed as usual in "Our Van."



The present exceedingly severe winter has made the wolves more than usually daring. The daily press has been filled with terrible accounts of lonely trappers and lumbermen being devoured by the ferocious, famished beasts, but we must confess to its being utterly incredulous.

For the past twenty years we have endeavored to substantiate one single instance in which a North American wolf devoured a man, and, so far, we have not succeeded. All these wolf stories, when tracked to their source, prove to be fabricated out of whole cloth. The North American wolf is savage, and he is also chronically hungry, but he is such an arrant coward that he will not attack even a deer while it remains in the shade of the bush. Two or three wolves will chase a deer to a frozen lake and kill it in the open, but if the deer had sense to stay in the bush, they would never summon up courage to attack it. Moreover, the wolf will not willingly venture on glare ice; it prefers to wait until a sprinkle of snow has hidden the treacherous depths.

According to the Manitoba papers, a certain Alexander Morrissey, of Turtle River, near Dauphin, had an exciting adventure while trying to escape from a pack of wolves on Round Lake, an arm of Lake Manitoba, but the story is hardly credible, because he is said to have had two hounds with him, and although one of the hounds was killed, the other escaped after a desperate battle. It is almost certain that had a pack of wolves attacked two dogs, they would have made very short work of them.



A farmer named Thomas Wells, who lives ten miles northwest of Teulon, Manitoba, has three tame moose. The largest is now nearly two years old, having been captured in May, 1902. The farmer was driving to his meadow for a load of hay when, to his astonishment, a cow moose jumped up from

the lee of the hay stack and trotted off. The team he was driving snorted and refused to go forward, so he sprang down to find the cause of their excitement, and saw a young calf hidden in the hay. The animal soon became tame, but when thirteen months old, strayed away and was found after an absence of five weeks, fifty miles from home. She had been shot at and carried some pellets of shot in one of her shoulders. She recognized Mr. Wells' son at once, and followed him home through the bush. The other two animals in the herd have been acquired by purchase.

The annual report of the Botanical Club of Canada from the Transactions of the Royal Society gives a number of interesting tables of phenological observations made at different points all over Canada. These observations of natural phenomena such as the dates of the first flowering of plants, of the appearances of birds and animals, made by teachers, pupils and others have brought together a series of facts that will form the basis for scientific deductions of a most interesting and useful character, and have also served to quicken the observing powers of the young people and others who have undertaken them and to add much to the pleasure of life. Blank schedules for the recording and reporting of phenological observations will be sent free to anyone making application to the secretary of the Club, Dr. A. H. MacKay, Halifax, N. S.



The Seventh Report of the Forest, Fish and Game Commission of the State of New York has been issued. The Forest, Fish and Game Commission of the State of New York consists of Mr. Timothy L. Woodruff, president, and Messrs. Dewitt C. Middleton and Charles H. Babcock, these gentlemen being assisted by standing committees on Forestry, Fish-culture, and Shell-Fisheries, by an assistant secretary, a

The Northwestern School of Taxidermy, Omaha, Neb., has just issued a new illustrated catalogue that every sportsman should see. This school teaches the correct mounting of birds, animals, heads, etc., by mail. This catalogue is free to readers of Rod and Gun.

superintendent of forests, a chief game protector and a superintendent of shell fisheries. The whole volume merits nothing but praise, the report of the Superintendent of Forests being especially interesting, containing as it does a mass of most valuable information bearing upon the more important problems of forestry. A valued correspondent of *Rod and Gun in Canada*, Mr. A. Knechtel, F. E., a graduate of New York State College of Forestry, assisted materially in the preparation of the valuable chapter on tree planting by the assistant superintendent, Mr. J. Y. McClintock.

The Report of Chief Game Protector Pond is short but full of interest to the wielder of gun and rod and is, moreover, well illustrated with sketches in black and white of rail bird shooting, duck shooting, bass fishing and salmon fishing.

Mr. Richard Cotcheier, general foreman of hatcheries, makes a very encouraging report upon the raising of pheasants at the Pleasant Valley Hatchery. He writes:

"Very gratifying reports of results have been received from those to whom the birds have been sent during the past season, and it is suggested that when applications are granted, notice be sent to the persons receiving the birds, that they must be liberated at once and not kept in confinement. The birds are strong and hearty, will stand all kinds of weather, and do very much better free than when kept confined.

"Many instances could be cited where large broods have been raised by birds that were liberated, and other cases where

few, if any, birds were raised when they were kept in confinement." If pheasants have been able to stand the winter of 1903-'04 in New York State they are indeed hardy, and should prove a valuable addition to our Canadian forests.

Owing to the changes in the Manitoba Game Laws, sportsmen shooting in Manitoba will hereafter only be able to take out of the Province the heads, and hides of two bulls or stags, fifty geese, and twenty-five duck, and before they can take out even this limited bag, they must procure a special license from the Department of Agriculture.

The most astonishing work on travel in Canada that we have read is one by "Paul Fountain" (we take it for granted this is a *nom de guerre*) entitled "The Great Northwest and the Great Lake Region of North America." According to the author he first saw Canada in 1865 as a lad of sixteen; he passed a winter among the "Cree" Indians of the Ottawa, went by canoe to Manitoba and Hudson's Bay, and, finally, growing tired of the north, turned south and became a peddler, travelling thousands of miles by wagon in the western and south-western states of the Union.

Mr. Fountain is interesting but is singularly incorrect in many of his statements, which inaccuracies are, we fancy, largely attributable to a treacherous memory and the lapse of years since he left the Dominion. The Indians living near Timiskaming are Ojibways, not Crees; pickerel,

The U. S. government has again been giving some attention to the English sparrow and, while at this writing no definite statistics are obtainable, it is roughly estimated that there are upwards of a hundred million of the little feathered creatures in this country. The sparrows have long ago been voted a pest, but it was not until recently that strenuous efforts have been made toward their extermination.

"Equip the boys with the Stevens rifle," says a well-known Washington official, "and the sparrow question won't be a matter of doubt very long."

This thought is right in line with the

ideas that the J. Stevens Arms & Tool Co., of Chicopee Falls, Mass., the well-known firearm makers, have been advocating for some time. The Stevens people have been urging the use of the small-caliber rifle on farms where not only the sparrow but woodchucks, squirrels, crows, hawks are also sources of nuisance.

As a general proposition it does seem reasonable to believe that a man or boy, armed with a "Stevens" and instructed in its use, could soon rid the neighborhood of the living crop destroyers at a small outlay and have a lot of fun himself while doing the work.

i. e., pike-perch, are very good on the table; winter in his day seems to have begun almost a month earlier than it does today in the Ottawa Valley; how the author managed to build his hut of beech timber, which he says will last thirty years in a district where that tree is almost unknown, requires explanation; there are no mascolonge (muskinorgi) in the Timiskaming region; white fish are found in small lakes, and they do not take a baited hook except on rare occasions—and, lastly, if Mr. Fountain actually weighed a "muskinongis" of seventy-four pounds weight in the Red River he had a unique experience. Such a fish would be almost worth its weight in silver to any of the great museums of the world.

Notwithstanding its many inaccuracies,

the book is well worth reading, as it appears to be an honestly-intended account of doings in days that belonged to a generation now passing away. The publishers are Longman's, Green & Co.; the price in London is half a guinea.

English sport and Canadian sport differ widely. We have inferior fox hunting, no "wild stag" hunting—for which we are thankful—but little polo as yet, hardly any motoring, and no falconry; but we have grizzly, sheep, moose, caribou, deer, and half a score other beasties upon which to use the rifle; we have about the best salmon and trout fishing in the world, and our wing shooting we would not change for the grouse butts and battues of our bro-

The J. Stevens Arms & Tool Company of Chicopee Falls, Mass., have brought out two new single barrel shot guns, to which they have given the numbers 180 and 195. The No. 180 will take the place of the 140, which was so popular last year. This new gun has a top snap, special "pyro-electro" steel barrel, choke bored for nitro powder, walnut stock, rubber butt plate, case hard-

throughout. This will be an ejector gun only, and will take a \$12.00 list; will be furnished in 12, 16 and 20 gauge, regular length barrels. They say:

"The No. 195, we believe, to be the best and handsomest single barrel, hammerless gun on the market. It is a distinctive trap gun, made of high-grade material throughout, with a fancy stock, fancy checking and



ened frame, pistol grip, checked and capped, with a patent forearm, checked. The cocking device in this gun is similar to the old Anson & Deeley, only much more simple and with fewer parts. This gun has a barrel cocking-device, and the shell cannot be inserted until the gun is cocked, hence is perfectly safe, and the entire parts including the frame, are drop forged

engraved frame, with a matted top rib and ivory bead sight, weighing 7½ pounds. This gun will list at \$45. We can furnish this same gun in a plainer finish at \$35, with no engraving, plain checking, plain finish, but with the same action and special matted rib, same weight, at \$25.00 list. These we believe will fill a place in the single gun field not heretofore taken care of."

ther sportsmen across the Western Ocean. Moreover, as an Australian poet says:—

“We are English!
Centuries will find us,
Living in homes with
Old familiar names.”

And we take an especial pleasure in reading about British sports and pastimes, and many of us run over occasionally to enjoy a taste of the same. Hence English Sport by Alfred E. T. Watson, with contributions by the best exponents of their respective arts will be a welcome addition to many a Canadian library.

By far the most interesting paper is, however, one by the Countess of Minto on Skating. As is well-known “the first lady in Canada” is a graceful and finished performer on skates, and one who has done much to encourage this grand pastime. The following from this admirable chapter should give the readers an appetite for more:

“For the true enjoyment of skating it must be practised in the open air, and for this no country furnishes better opportunities than Canada, where for weeks together clear, frosty weather prevails, and the skater need feel no anxiety lest an untimely thaw should come and mar his pleasure. Nothing can surpass the beauty of a typical Canadian winter’s day. The tall, dark fir trees stand up grandly against the intense blue of the sky, the sun turns the snowy landscape into myriads of sparkling diamonds, and the clear still atmosphere is almost awe-inspiring, so pure and spotless does nature seem. Surely no prettier scene can be imagined—the ice alive with skaters in their bright and picturesque costumes, swaying in perfect unison to the seductive music of the waltz, or with their partners following an intrepid couple who lead them round through the fantastic and bewildering mazes of a march, skated on much the same tunes as a musical ride, while many shouts of merriment rend the air, and the falling away of the less experienced skaters betrays the difficulty of tracking the serpentine course of the leaders. Imagine the same scene, but instead of the brilliant rays of the sun the silvery light of the moon throwing dark mysterious shadows on all around, as the skaters, each holding a blazing torch, dash to and fro over the

glassy surface, sending a weird fantastic glow as they flit through the dim, uncertain light. With these surroundings, who can help being an enthusiast?”

English Sport is published by MacMillan & Co., Ltd., of London and New York, the cost in London being twelve shillings and six pence.

Mr. Arthur O. Wheeler, one of the best known topographers of the Dominion Geological Survey, is endeavoring to raise a fund to place a monument over Sir Jas. Hector’s son’s grave, and we bespeak the contributions of the public for this worthy object.

Sir Jas. Hector is the man who discovered the Bow River Pass, through which the Canadian Pacific Railway now reaches the Pacific. In the fifties he was a member of the Palliser Expedition and did magnificent work in opening up a country, second to none in its glorious future.

Then he went to New Zealand and became a Director of the New Zealand Geographical Survey. Last summer he returned to England by way of British Columbia in order to visit the scene of his former adventures, and while at Revelstoke, on the Columbia, his son sickened, died, and was buried, not many miles from where they had thought to lay his father when he had been kicked by a mustang.

All contributions should be sent to Mr. A. O. Wheeler, Calgary, N. W. T.

As almost all our readers probably take cold at least once during the winter, the following from the pen of an Indian who is now editing a paper, may be of interest:

“To cure a cold the Indian went to a mountain to camp, and hunted and ate wild meat for forty-eight hours, which is now the easiest way to cure a cold on earth. You never contract a cold in a camp. It is curious, but is nevertheless true. Try it and be convinced. No one ever saw a tepee Indian with a cold or cough. Nature will cure you if you are not such a coward, and will go into camp and give nature a chance.”

The foregoing agrees with our own ideas upon this subject: The danger of catching cold is greatest when you return to a

warm house after having lived in the open for weeks or months, as the case may be. All our Government surveyors will tell you that so long as they are in camp they are perfectly free from colds, but upon their return to civilization, one night in a warm bedroom will often give them a severe inflammation of the mucus membrane of the air passages.

It is said that men on Arctic expeditions never suffer from colds while their ships are in the ice. Unfortunately, ordinary work-a-day people cannot go to the ice to escape colds. But the moral is, go to the woods whenever you can, because, as the Arabs say truthfully, days passed in the chase are not counted in the length of a man's life.

Some recent reports of the Bureau of Forestry of the United States are on that characteristic and important tree of the forests of California, The Redwood (*Sequoia Sempervirens*); Conservative Lumbering at Sewanee, Tennessee; The Diminished Flow of the Rock River in Wisconsin and Illinois.

The first Canadian Ski Club has been formed and the first jumping competition ever held in the Dominion took place on Fletcher's Field, near Montreal, on the afternoon of Saturday, February 13th. The distances covered by the jumpers were only about half as great as those covered by the "cracks" in Norway, but, nevertheless, we have made a beginning and already there are some five hundred enthusiastic skiers in the City of Montreal alone. We predict that five years hence there will be twenty thousand in the Dominion, for of all the winter sports, this is the king. It needs all the skill of the skater, and all the courage of the tobogganer, and, in addition, it has the charm of variety. Sometimes on the flat, sometimes on the steep, sometimes on his feet and sometimes on his head—the skier has to take the rough with the smooth, and gets enjoyment out of it all.

The programme of the Fifth Annual Meeting of the Canadian Forestry Association is now complete, the following being a list of the papers to be presented:—

"Forest Management," by Mr. John Bertram, president of the Dominion Transportation Commission.

"Forestry Education," John Loudon, M. A., L.L.D., President of Toronto University.

"Forest Reproduction in Germany," A. Harold Unwin, D. Oec. Publ. of the Dominion Forestry Branch, and a graduate of the Royal Saxonian Forest Academy, Tharandt, Germany.

"The Laurentides National Park," W. C. J. Hall, of the Department of Lands and Forests, Quebec.

"Crown Timber Regulations of the Provinces of Canada," Aubrey White, Assistant Commissioner of Crown Lands for Ontario.

"Forestry in Relation to Irrigation," J. S. Dennis, Irrigation Commissioner of the Canadian Pacific Railway Company, Calgary, Alberta.

"The Use of Our Native Forest Trees in Ornamental Planting," F. G. Todd, Landscape Architect, Montreal, P. Q.

"Some Ontario Forestry Problems," Professor H. L. Hutt, Ontario Agricultural College, Guelph.

The meeting will be held at Toronto on the tenth and eleventh of March, and on the evening of the tenth a banquet will be held at the King Edward Hotel.

The Canadian Pacific, Grand Trunk, Canada Atlantic, Ottawa and New York and Intercolonial Railway Companies have kindly agreed as in previous years to allow members of the Association and their wives, when accompanying them, attending the Annual Meeting, return passage at single fare, provided a certificate is obtained from the agent at the point where the ticket for Toronto is purchased. This privilege has been allowed only for Manitoba, the Northwest Territories and the Eastern Provinces, but members from points further west may obtain single fare from the nearest point in the Territories. A single fare ticket to Toronto should be purchased from the ticket agent, and the certificate, after being signed by the Secretary of the Association, will, on presentation to the ticket agent at Toronto, entitle the holder to free return. This privilege will only be allowed commencing three days before the meeting, except from points west of Port

Arthur, from which delegates can leave so as to arrive at Toronto three days prior to the meeting; and three days will be granted after the meeting to take advantage of the free return.

The Secretary should be notified regarding any papers, resolutions or other matters of importance requiring discussion which any member may wish to bring before the meeting in order that arrangements may be made for giving them consideration.

The work of the Forestry Association is of great national importance. The preservation and reproduction of the forests and the growth of trees for useful and ornamental purposes have such a direct influence on the public well-being that the Association should receive the hearty support of its members and the public generally to make the annual meeting a success. The subjects covered by the programme are practical and of general interest, and a full discussion of them by a representative meeting of the members of the Association will add much to the value of the proceedings and of the published report. It is hoped that every member will make a special effort to be present and endeavor also to get others interested in the subject and to become members and attend the meeting.

In cases where members may not be able to attend the meeting on account of distance from Toronto or otherwise, it is suggested that steps might be taken to have their districts represented by persons who will be able to attend.

A series of meetings under the auspices of the Canadian Forestry Association were held at different points throughout the Eastern Provinces during the month of February at which addresses were given by Mr. E. Stewart, the Dominion Superintendent of Forestry, and by the Assistant Secretary of the Forestry Association.

The first meeting was held at Halifax on the tenth of February, and the arrangements were in the hands of Dr. A. H. Mackay and the Nova Scotia Institute of Science, and through the kindness of the Legislative Council, the historic old Chamber of the Upper House of the Legislature was placed at the disposal of the

Association for this purpose. Mr. Stewart outlined the necessity for the preservation of the timber for its influence on the water supply, and on agriculture, and in its economic aspect pointed out that it had this advantage over mineral products that it was continually reproducing itself and would do so perpetually with proper care. He laid special emphasis on the fact that Canada was being looked to as one of the great sources of supply for the world's timber, and the necessity for providing that this demand might be met. Mr. Campbell gave a sketch of the objects and work of the Forestry Association and urged its claims for support. Hon. J. W. Longley expressed on behalf of the Government of Nova Scotia and of himself, as Commissioner of Crown Lands, their great interest in the subject of forest management, and announced that a bill to provide for a fire ranging service had been introduced into the Legislature. Hon. Mr. Chisholm urged the supreme importance of protection of the forests from fire, and Mr. Michael stated that in his work as engineer he found increasing difficulty in getting the timber required, while the price had increased very largely.

In the afternoon, through the kind arrangement of Hon. J. W. Longley and the courtesy of the Legislative Assembly, the representatives of the Forestry Association were given the opportunity of addressing the Assembly on forestry and the work of the Forestry Association.

On the twelfth a meeting was held in the Assembly Hall of Mount Allison University, Sackville, New Brunswick. The College is under the control of the Conference of the Methodist Church for the Maritime Provinces, and the opportunity of calling the attention of the students to the subject of forestry was felt to be one of special importance. The results for the work of the Forestry Association were also made satisfactory. It is the intention to have a course of lectures on this subject by Mr. Geo. J. Trueman, a member of the College staff, who has had the advantage of studying German methods in that country.

On the following Monday St. John was visited, where a meeting in the hall of the Natural Science Club, was presided over

by Hon. J. V. Ellis. The discussion was taken part in by Dr. G. U. Hay, Dr. Matthews, Mr. W. W. Hubbard, and Mr. Howe. Mr. Hubbard mentioned, as an example of the necessity of care in handling fire, that after the twenty-fourth of May of last year it was found that numerous fires had been started, which required a great deal of hard work to get them under control. Mr. Howe mentioned the difficulty there was in obtaining timber compared with even a few years ago, the butternut being instanced as a tree which had almost entirely disappeared. A visit was also made to Fredericton, where a very cordial reception was given by His Honour, the Lieutenant-Governor, and the officials of the Crown Lands Department. No public meeting was held at this point, however.

At Montreal, on the return journey, a session of the Canada Club of the Young Men's Christian Association, was addressed and this Club, which are making a special study of Canadian resources, are manifesting an intelligent and practical interest in the subject of forestry.

Nothing could have been kinder than the reception given to the representatives of the Forestry Association on all these occasions, and their thanks are due to those from whom they received such courtesies.



The Editor Rod and Gun in Canada:—

Sir.—We have been instructed by the Board of Directors of the Columbus Fish and Game Club to communicate with you in reference to an article which appeared in the December issue of your journal, headed "Laurentian Lakes." The portion to which this Club takes exception is und-

er the sub-head "Montigny Region." Your correspondent must have gone to considerable trouble and research in compiling the information he intended to convey, but he certainly did not examine nor consult the records of the Provincial Government of Quebec (where the most authentic information may be obtained), or he would have discovered that "The Columbus Fish and Game Club" is incorporated under the laws of the Province of Quebec, and holds, under lease from the Provincial Government, the fishing, hunting, and other privileges over twenty square miles of territory in the "Montigny Region"; that four of the lakes mentioned, viz., Des Isles, Pie IX., Leo XIII., and Maille are included in said territory. Further that the "Poste Maille Hotel", which your correspondent would have the general public patronize, is nothing less than our headquarters, solely and exclusively the property of this Club.

Now, Mr. Editor, in view of the large circulation of your very interesting publication, and the disappointment awaiting the public, who might be lured to this territory in search of sport (fishing, etc.), on the strength of your correspondent's misrepresentations, might we ask that you will be good enough, in your next issue of "Rod and Gun in Canada", to make the necessary correction, giving it as much prominence as the article complained of.

We append hereto a list of the officers and Board of Directors of the "Columbus Fish and Game Club."

Thanking you in anticipation, we are, sir,

Yours truly,

Jos. P. Dunne, Secretary.

M. C. MacCormac, President.

Ottawa, Jan. 29, 1904.



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

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ROD AND GUN IN CANADA does not assume any responsibility for, or necessarily endorse, any views expressed by contributors to its columns.

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

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

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

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

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

Applications for membership should be addressed to the Treasurer,

R. H. CAMPBELL,

OTTAWA, ONT.

Department of the Interior.

THE TRAP

ROD AND GUN IN CANADA is the Official Organ of the Dominion Trap-shooters and Game Protective Association of Canada. All communications for this department should be addressed to Editor "The Trap," Rod and Gun in Canada, 414 Huron Street, Toronto, Ont.

"Rod and Gun in Canada" has been asked by many of its subscribers to add a trap shooting department, and in response to these requests, the publishers have decided to issue the magazine here after in two editions; one for the American subscribers, without the Canadian trap shooting supplement, and the other a Canadian edition, for home circulation. Subscribers

Shooting and Game Protective Association and its affiliated clubs.

Officers and members of our Canadian gun clubs are invited to send accounts of their tournaments, with the scores and any other items likely to interest their fellow trap shooters.

This department will be open for the discussion of subjects of interest to trap shooters, and will contain, from time to time, articles on kindred topics, and in-



A. W. THROOP, Sec. Treasurer Dominion of Canada Trap Shooters and Game Protective Association.



FRED WESTBROOK, President Dominion of Canada Trap Shooters and Game Protective Association.

will be offered the choice of which ever edition they prefer.

With the present issue the Department begins. Interest in trap shooting has been of steady, though rather slow growth in the Dominion, and "Rod and Gun" hopes to stimulate enthusiasm for this admirable pastime.

The trap shooters of the Dominion have had no official organ, but we are pleased to announce that this magazine will hereafter be the mouthpiece of the Dominion Trap

criptions of the better known Canadian gun clubs, together with photographs of the officers and club grounds.

All communications for this department should be addressed to Editor "The Trap," Rod and Gun in Canada, 414 Huron St., Toronto.

Contributors will bear in mind that to insure publication in the succeeding number, their communications should be received not later than the fifteenth of the previous month:

The Stanley Gun Club of Toronto.

Of the many gun clubs in Toronto, the Stanley Gun Club stands pre-eminently first. Its inception starts from the disbanding of the old Toronto Club, and had a very successful run for a few years. During 1896-7, a lack of interest caused somewhat of a disbanding.

In November of 1898, the club was thoroughly reorganized, new bylaws and constitution drawn up, a system of weekly shoots and three annual shoots were arranged to enthuse new life into the members, which met with the most gratifying success.

The annual match at live pigeons is the principal affair in connection with the club, and is held the third Friday and Saturdays in November in each year. The annual blue rock match, held on Good Friday, and the annual sparrow match, held about Christmas, also adds greatly to the successful record of the Club. It is acknowledged by shooters in general that the

tion, held on August 12, 13, 14 and 15th, the most successful and largest target tournament ever held in Canada, and was the largest amateur tournament ever held on the continent of America.

During this four-day shoot 50,240 targets were shot at in competition, and were thrown from three sets of expert traps—three traps to a set in each pit. Over one hundred and sixty-five members of the various clubs belonging to the Association participated in the tournament, and one and all were loud in their praise of the Stanley Gun Club for the way in which the tournament was brought to a successful finish.

An important matter that the Stanley Gun Club is taking up at the present time is the formation of a local "Trapshooters' League," which it is hoped will meet with the success it deserves.

At the present time the trustees are negotiating for a new location on the lake front—for a term of years—upon which it is the intention to erect a handsome and substantial club house, and for which considerable funds are already in the treasury.

Each and every member has the welfare of his club at heart, and one and all enter heartily into any enterprise decided upon and upon this hinges the secret of the success of The Stanley Gun Club of Toronto.

Following is a list of the officers and members of the Stanley Gun Club:—Ald. R. Fleming, President; Thos. A. Duff, vice President; C. T. Logan, sec.-treas.; Alexander Dey, Field Secretary; Fred Martin, Jr., Asst. Field Secretary; J. Townson (chairman), J. Massingham, R. Buchanan, A. E. Edkins, S. Pearsall, Executive committee. The other members are: W. Arkondale, Chas. Ayre, Geo. H. Briggs, C. Burgess, A. Bond, D. Chapman, C. Chapman, H. Blaylock, John Chambers, Jas. Douglas, Jas. Forman, S. Fairbairn, R. Fletcher, A. Hulme, H. Hiron, F. Hogarth, E. Kerr, W. Kingdon, Geo. Gooch, Wm. Lewis, F. Martin, Sr., Geo. Mason, T. D. McGaw, E. Sanderson, Ald. W. T. Stewart, T. Sawden, Jr., T. Sawden, Sr., W. Swan, J. H. Thompson, H. Townson, J. A. Williamson, C. Wilson, Hy. Thompson.



R. FLEMING, President Stanley Gun Club

prizes given by the Club to its members in competition at these matches are unexcelled, both as to quality and quantity.

Various members of the Club have from time to time given valuable prizes for competition, and with such men as these interested in its welfare, the Club is sure to prosper.

In March, 1900, the Club applied for and received from the late Justice MacDougall, letters of incorporation. This added protection has been the means of procuring many new members.

During the past year the Club, under the auspices of the Dominion of Canada Trap Shooting and Game Protective Associa-

The St. Hubert Gun Club of Ottawa.

By A. W. THROOP.

This Club was originally founded in the year 1884 as a purely French Club, that is to say, its membership was only open to French-Canadians, with Mr. T. G. Coursolles as President; but in the year 1888 this restriction was withdrawn and the Club re-organized.

The Club has always been an aggressive one as regards competition with foreign clubs, and since its foundation has won a number of valuable team trophies, amongst them being the Lansdowne Trophy, given by Lord Lansdowne, formerly Governor-General of Canada, and the Stanley Cup, a team trophy offered by the Stanley Gun Club of Toronto at its tournament on the fifth of July, 1889.

The Club also held the Montreal Challenge Cup for a number of years against all comers, but lost it to the Westmount Gun Club in April, 1903.

In winning the famous "Mail Trophy" on the seventh of June, 1893, however, the Club may justly claim to have held the team championship of Canada as they then defeated all of the prominent Western gun clubs. This cup, then called for teams of five men, forty birds each—a total of two hundred birds, and the St. Huberts won with a score of 183—more than 91 per cent. One of the team, Mr. W. J. Johnstone, making the splendid score of forty straight. This cup the Club held until 1902—since which time it had been handed over to the Dominion of Canada Trap Shooting and Game Protective Association upon the formation of that Association in April, 1901. Before that, however, the St. Huberts were challenged by the Oshawa Gun Club and defended the Cup successfully on the twenty-fourth September, 1894—the score being: St. Huberts 168, Oshawa 137, out of a possible 200.

Since the formation of the Association the Mail Trophy has been won as follows:

In 1901—St. Hubert Gun Club, Ottawa.

1902—Ridgetown Gun Club, Ridgetown, Ontario.

In 1903—Pastime Gun Club, Brantford, Ontario.

To the St. Huberts belong the honor also

of being the means of first bringing together teams from the prominent gun clubs of Montreal and Toronto in friendly competition at artificial targets, and many of the older members of the Montreal and Toronto gun clubs will still remember the exciting tie which took place for the Lansdowne Cup, at the tournament given by the St. Hubert Gun Club at Ottawa on the twenty-fifth of May, 1888, between the Toronto Gun Club and the Dominion Gun Club of Montreal, resulting in a final win for the Dominion Gun Club.

It may be said, without fear of contradiction, that it is to the energetic efforts of the St. Hubert Gun Club that the successful formation of the Dominion of Canada Trap Shooting and Game Protective Association is mainly due—for it was at



F. A. HENEY,

President St. Hubert Gun Club.



G. RASDALE,

Secretary St. Hubert Gun Club.

the instigation of the St. Huberts that the different gun clubs in Ontario and Quebec sent delegates to Ottawa in April, 1901, to discuss the organization of the Association—as well as to consider the terms upon which the St. Hubert Gun Club offered to place the Mail Trophy (then virtually the property of the St. Huberts) once more in competition as a team trophy.

The Club has likewise during its existence been a power for good, as regards the upholding and carrying out the game and fish laws of the Dominion, and a considerable portion of the funds at its command have from time to time been devoted to this end.

The Club has been fortunate in having had for Presidents in the past such men as Messrs. T. G. Coursolles, Philip N. Thomp-

son, R. J. Shaw, George R. White, and Colonel John Tilton, and it now bids fair under the presidency of Mr. F. A. Heney to continue its successful career.

In reviewing the history of the St. Hubert Gun Club, it would be entirely out of place not to mention the name of one who has since the date of its foundation been most energetic in promoting its welfare. We refer to the veteran sportsman, Mr. J. N. Deslauriers. "John," as he is familiarly known to most of the shooting men in Eastern Canada, as well as to many in the West, has held almost every office in the executive of the St. Hubert Club, and to his indefatigable labours it can truly be said the Club owes much of its success. For his services though as field captain, from the days of the old Ligowsky clay pigeon down to the present blue-rock, and through all the changes in traps and different methods of shooting, the Club has to thank John the most.

He has been in touch with them all, but perhaps the worst job he has had to tackle was the advent of the Magautrap. He conquered it, however, though the struggle was fierce.

It is fitting, too, that mention should be made of the late Alex. Jacques, who for many years prior to his death in July, 1890, took a prominent part in the affairs of the Club. Mr. Jacques was a well-known pressman, and under the non de plume of "The Old Man" was ever vigorous on behalf of the Club. His "boys" he called them, and up to the year of his death he accompanied them in all their journeys in search of honors.

Some of the best known members and of-

ficers of the club both past and present are J. C. Tache, E. Gauvreau, A. Leclerc, P. Trudeau, E. G. Smith, J. Mantha, L. J. Coursolles, U. Valiquette, L. Champagne, P. Boulay, E. E. Lemieux, C. Bordeleau, J. N. Deslauriers, A. Tache, T. G. Coursolles, A. Bureau, L. H. Filteau, L. N. Fortier, L. A. DesRosiers, Philip N. Thompson, George R. White, Dr. Alex Martin, A. W. Throop, W. J. Johnstone, R. G. Dalton, Edward F. G. White, Dr. S. A. K. White, C. L. Panet, J. Locke, B. Rothwell, J. E. W. Currier, Colonel John Tilton, R. G. Shaw, W. P. Lett, J. P. Nutting, J. de St. D. LeMoine, John Stewart, F. A. Lett, Alex. Stewart, H. D. L. Lane, John Manuel, Crawford Ross, Edward King, Fred Merritt, J. F. Higginson, F. A. Heney, Alex. Jacques, W. L. Cameron, W. Slaney, T. C. Boville, W. H. Hayes, W. McMahon, J. Marshall, Z. Ketchum, G. Easdale, W. J. Henry, C. H. Genslinger, J. E. Brown, J. H. Ferguson, C. J. Booth.

The Club has always held an annual tournament since the date of its organization, and it has today, perhaps, one of the best equipped shooting grounds in Canada, situated at Westboro, one of the most beautiful of the suburbs of Ottawa, on the line of the Ottawa Electric Railway to Britannia

The officers of the Club for 1904 are:— President, F. A. Heney; first vice president, T. C. Boville; treasurer, W. H. Hayes; secretary, G. Rasdale; field captain, J. N. Deslauriers; committee, C. J. Booth, W. Slaney, W. L. Cameron, J. O. Culbert and J. E. Brown.

Ottawa, March, 1904.

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The Hamilton Gun Club.

By H. BARNARD.

Taking a retrospective glance at sporting matters, so far as it relates to the Rod and Gun in this locality, I purpose in the present article to give what particulars I can regarding the same as far back as my memory takes me, to speak of individuals, and such influence as they may have had, bearing on the organization now existing, or which may possibly have some indirect and known as the Hamilton Gun Club, and at the same time to furnish some reminiscences, which may, perhaps, be of interest to the present generation.

The waters were alive with fish, pike, bass and other species, and in November, when the herrings came into the Bay to spawn, great sport was had spearing at night, with the aid of a "Light Jack," as many as forty or fifty boats being out, illuminating that part near the Desjardines Canal, and it was no uncommon occurrence for one boat with two spearsmen to take as many as two thousand herrings in a night.

In the Spring-time, the spawning season for pike, immense numbers were speared in



THE HOME OF THE HAMILTON GUN CLUB.

Away back in the latter part of the fifties, and in the sixties, Burlington Bay, Coote's Paradise (now the Dundas Marsh), the surrounding hills and ravines, numerous swales and the mountain supplied the best feeding ground and cover for small game. Ducks, of both marsh and deep water varieties; partridges, woodcock and snipe, were comparatively abundant. Deer were sometimes seen and the sportsman could always be sure of a good "bag."

the shallows of the marsh, and it is a wonder that the pike has stood it so well, for there are quite good sized fish still caught, but the fine big fellows are all gone, and the glory of the whole place for sport has departed.

Coote's Paradise has lost all its wild beauty, and has suffered the depravity of being turned into a sink hole for sewage. The woods have all been cleared away, the sylvan retreat of the wood duck, and the

woodcock, has been desecrated by the march of civilization, and given place to the railroad, commerce and agriculture, which have swept away all that was dear to the sportsman, who must now take his way to other parts of beautiful Canada, through-out which there is no lack of game, large and small, for both rod and gun.

On the left side of the road as you near the High Level Bridge going from the city, stands an old frame building tottering to its fall, looking like a decrepit old man in a state of senile decay, untenanted and shorn of all its brightness, this was the hostelry of Isaac Skuce. It was a grand stopping place in its time, and was headquarters for hunters in those days. Skuce was a one-armed man. I think he had lost his right arm, but he was a great wing shot, nevertheless. He and the late Captain Baghott, who was a fine specimen of the English gentleman, were noted as being crack shots, and much game fell to their guns. Both have long since passed away, and let us hope they have been translated to a congenial place in the "Happy Hunting Grounds" beyond.

Following up the line of succession, came George Morrison, who was a hunter and trapper. Ferdi Morrison, his brother, still lives in the city, and still does some shooting.

Sam. Forsythe, the Bambergers, Ralph Cresswell, Tom Dalton, Geo. Bible, James Forsythe, John Hall, John Smoke, and John Barnard, then if we could get around to the Beach, Dave Fitch, and the king of all hunters, the lamented dear old John Dynes, all of whom were good shots, and enthusiastic sportsmen. I might give a host of other names, but I have mentioned enough to emphasize the fact that the environments of this section of the country have been calculated to produce a love for the rod and gun, to be handed down to future generations.

About thirty-five years ago a gun club was organized in Hamilton, and Mr. John Hall, the sweet and fluent speaker, was its president. At that time the clay target had not been invented, and live birds thrown from a plunger trap, twenty-one yards rise, and muzzle loading guns were used, the breech-loader not having made

its appearance. But good sport was had, and after the "shoot" a raffle for turkeys was usually held, and all had a good time. Good scores were made, too, and I have a vivid recollection of winning a pig (first prize) on a cold Christmas day, with a score of seventeen straight, against all the crack shots of the time. We did not forget the larder, this porker went to replenish that of some deserving charitable institution.

It was a hard matter, however, to keep up interest in a club at a time when one could go off and have a day's shooting at any time when in season, with good results, so that interest gradually dwindled away, the club eventually dying a natural death.

But the spirit of the shooting man was not dead, the fire was only smouldering, and in the year 1885 it broke out afresh, and this time with increased vigor, when about twenty enthusiasts got together and formed the "Wildfowlers" Gun Club. In July of that year they had a "shoot" at a large number of targets, as well as live birds. Periodical "shoots" were also given thenceforward, and the Club continued under this name for five years, at which time it seems that it had outgrown the name of "Wildfowlers", which was scarcely appropriate for what had merged into a trap-shooting club. It was therefore decided to change the name to the "Hamilton Gun Club," and that is the name under which it exists today.

It was decided at this time to institute an annual tournament for targets and live birds, and in January, 1892, its first tournament, using 10,000 targets and 2,000 live birds, was successfully held.

On Jan. 13th, 14th, 15th and 16th last, the thirteenth annual tournament was given, \$1200 in cash being offered for prizes, and 10,000 targets and 2,000 live birds were used. Some of the best shots from all over Canada and the United States taking part, with a most successful result.

The accompanying cut is an excellent representation of the Club house at Hamilton. Portraits of the officers, and a continuation of the history of the Club will be given in the April issue.

(To be Continued.)

Trap Shooting In Canada.

By T. BIRDSALL, EX-PRESIDENT OF THE HAMILTON GUN CLUB

During the past few years trap-shooting in Canada has become one of the leading sports, and particularly since the adoption of modern methods for throwing targets and trapping live birds.

The introduction of the Magau trap and other modern traps has resulted in the expense of throwing targets being cut in two, thereby offering greater inducements to young men and old, business men and all who participate in the fascinating sport. Some of the leading gun clubs, such as St. Huberts (Ottawa), Hamilton, Pastime and Brantfords, throw as many as forty to fifty thousand annually, and for enterprising marksmen, no better practice can be had; also young men whose duties necessitate their being indoors most of the time are greatly benefited by trap shooting.

Trap-shooting involves three points: skill, health and sociability, and no more fascinating sport was ever participated in. It is a sport, if the rules of the present day are carried out, that associates with it very little danger, and the friendly rivalry between our clubs, both Canadian and American, add very materially to the sport.

There is one thing, and not least, which adds to the benefit of all clubs, and that is the method of division of prize money, known as the "Rose System," which gives the competitor full value for his shooting on points gained. This method renders it impossible to drop or miss birds purposely, thereby winning a bigger amount of the money than he otherwise would, had he shot to kill, which can never be called true sportsmanship. After having used the Rose system for over four years in the Hamil-

ton Gun Club, having put it to practical tests, resulting in complete satisfaction, not only to the competitors, but to our club in general, I would strongly recommend all gun clubs here and abroad to adopt the Rose system to be used where cash prizes are to be competed for, and where unanimous satisfaction is desired. I shall be pleased to supply the secretary of any gun club with the system above mentioned on application.

Just a word about live bird shooting. Wherever a live bird tournament is in progress, cruelty to animals is at once discussed, but by people who are entirely ignorant as to how such tournaments are carried on, never giving it a thought how efficient and skillful those men are who are contestants in such matches, and seldom allowing a single bird to escape or to be wounded.

If more attention were paid to our small boys with air guns, catapults, and sometimes firearms, who take delight in killing and more often wounding small birds, which help to make our parks and avenues beautiful, it would certainly give such people less time to discuss a harmless and skillful pastime, which, to a true sportsman, has no parallel and enables him when in pursuit of game or at the trap to kill rather than wound and leave to die of prolonged suffering, for without practice no man can be a successful shot, or hunt with good results. It has been my opinion for years that there should be a close season for pigeons, as for other game birds, say from March to September, thereby not interfering with their hatching, also providing against the danger of birds being offered for sale in extreme hot weather, and very often being unfit for food.

To Trap-shooters:

If you know of any trap-shooter who has not received a copy of this issue, please let us have his name and address and we will gladly send him a copy.

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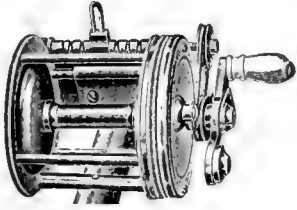
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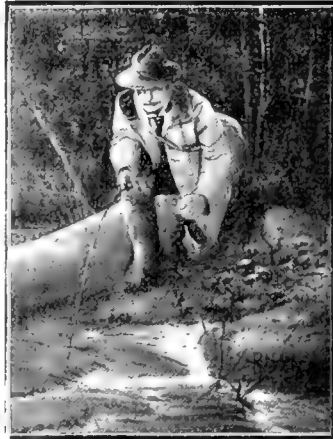


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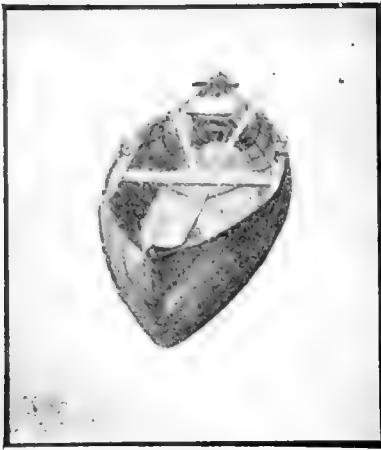


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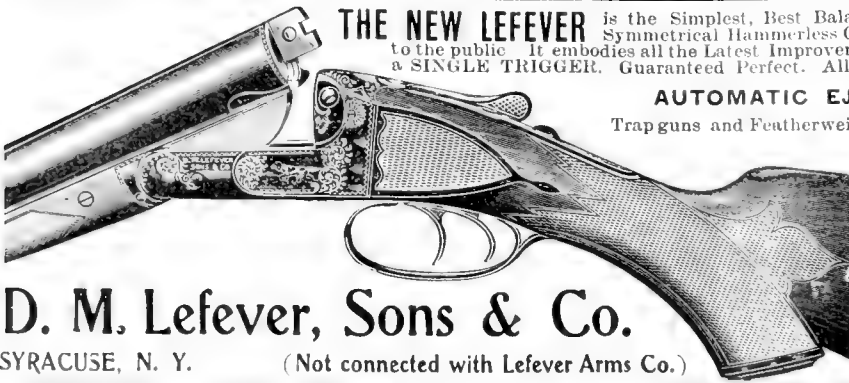


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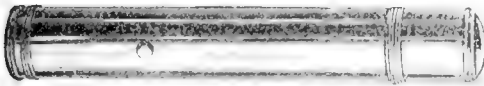
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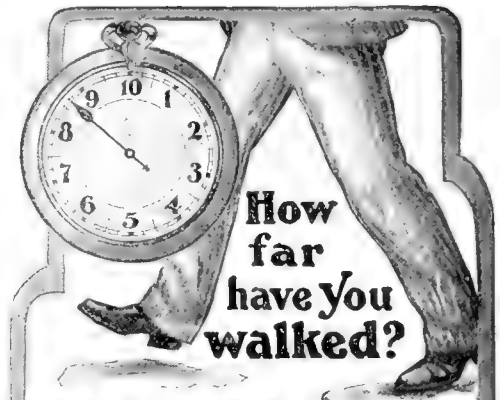
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Minacoughan Quettashoo	1	50
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Napissipi	1	25 40
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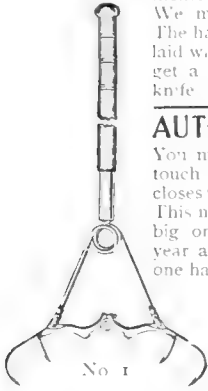
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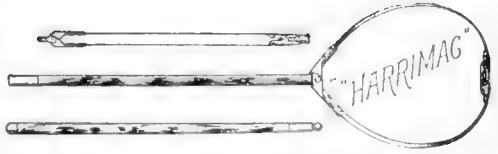
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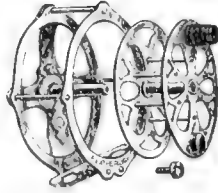
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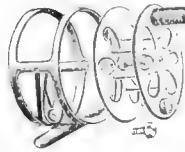
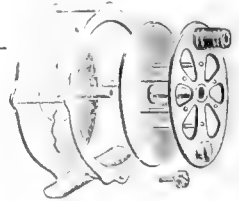


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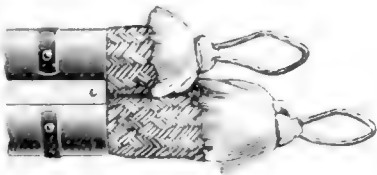
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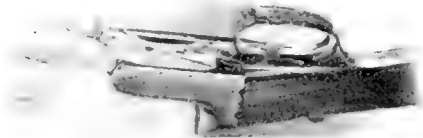


Fig. 1.

Note the absence of **SCREW** or pin-heads on the side of the gun.

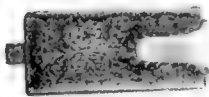


Fig. 2.



Fig. 3.

Fig. 1 shows the simple manner in which the lock is detached or replaced. Fig. 2 shows the bottom cover plate with spring catch at end to secure it in position. Fig. 3 shows the detachable lock, containing hammer, mainspring spring, sear, sear spring and cocking lever.

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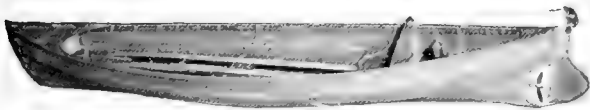
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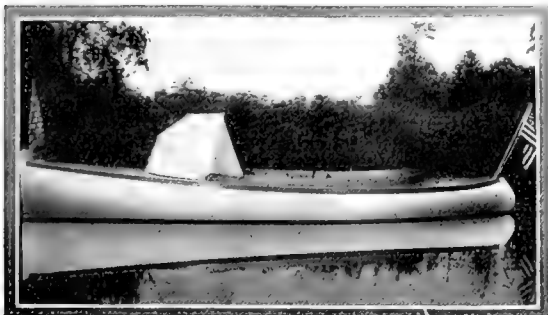
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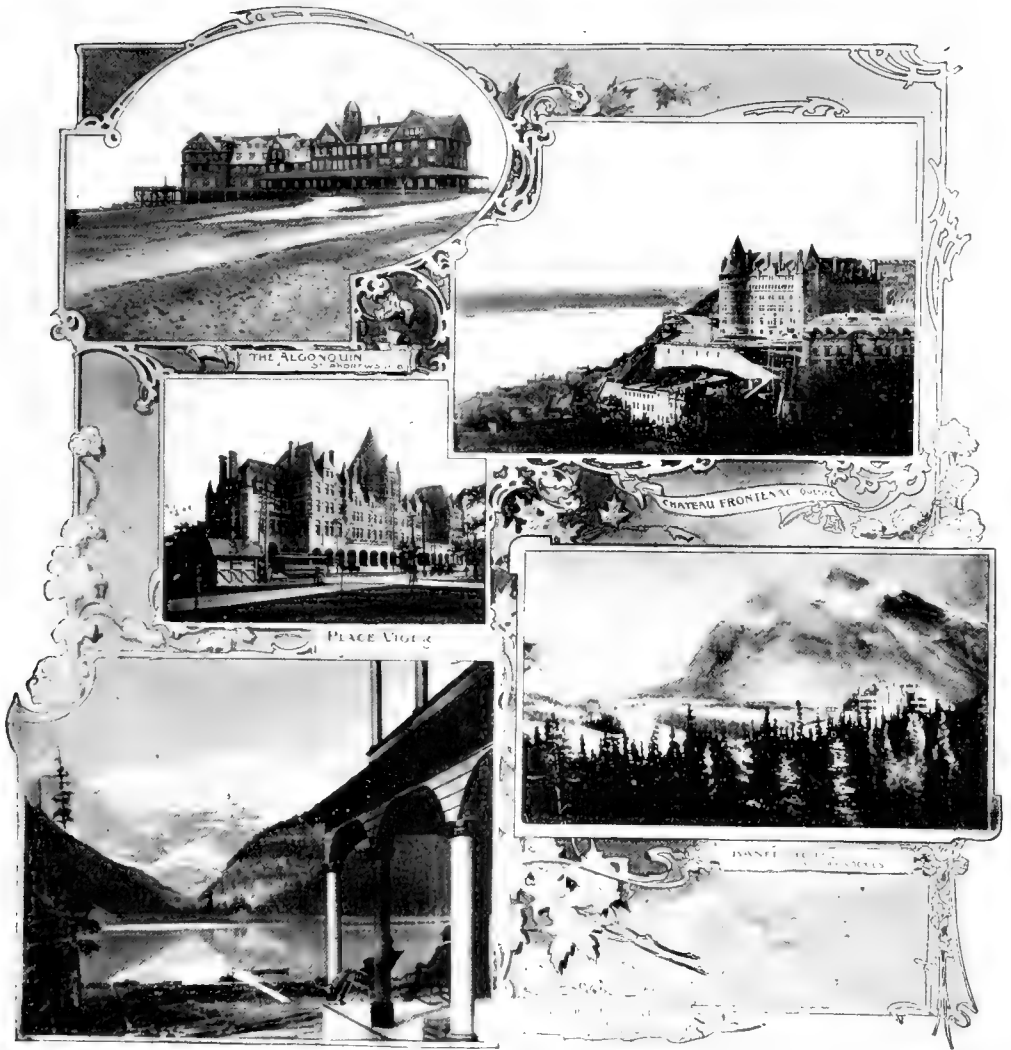
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ROD AND GUN IN CANADA



The Great Preserve.

By THE LATE SIR J. G. BOURINOT.

Although the purchase of the great company's rights by the Canadian government has removed the monopoly which it once possessed as fur traders, and has opened up all the territories of Canada to individual enterprises, it still remains the richest and largest corporation in the world for the purchase and sale of peltry. Its forts or posts are still found on the shores of Hudson's Bay, and on the banks of those numerous lakes and rivers which stretch like a chain from the valley of the St. Lawrence and Great Lakes, as far as the mouth of the mighty river discovered by Mackenzie.

As we stand on the rugged height of land which divides the Winnipeg from the Laurentian basin, we are within easy reach of rivers that flow some to the Arctic seas, some to the Atlantic, and some to the Gulf of Mexico. If we ascend the Saskatchewan River to the Rocky Mountains, we shall find ourselves within measurable distance of the headwaters of the Mackenzie, the Columbia, the Fraser, and the Missouri.

This natural system of inter-communication has necessarily always given remarkable facilities for the prosecution of the fur trade by the great company, whose chief northern post is still York Factory, by the bay, to which its ships have regularly come every summer for two hundred and thirty years with supplies for the northern posts, and returned with cargoes of

furs. Year by year, as settlement advances, the fur animals disappear, and the company's business is now, for the most part, confined to the immense region stretching to the north of the fifty-fifth parallel of latitude, and westward from Hudson's Bay to the Rocky Mountains and eastward as far as Labrador—in other words, to the unsettled districts of Canada provisionally named Athabasca, Keewatin, Ungava and Mackenzie.

Some of the old forts, once so famous in the history of the Northwest, have been dismantled. Of Upper Fort Garry, named in honor of a prominent director when it was built in 1835, within the limits of the present city of Winnipeg, there now remains only the main gate. Near where it stood we see now a splendid stone structure—an immense department store—erected by the company to suit modern requirements.

Like the Prince of Wales fort on Hudson's Bay, which was taken by Admiral de la Peroues in 1772, and of which there are now only a few piles of stones, the walls and bastions of Fort Garry were built of solid masonry and were defended by artillery. The old fort, which once stood in Victoria, British Columbia, was a good specimen of the plan, generally followed in the construction of the generality of the four posts, in the times when the company was monarch. Palisades of pickets from ten to twenty feet high surrounded half a dozen

solid timber buildings of a square or oblong form, one of which was used as a residence of the factor, another as a shop for the sale of the guns, ammunition, gay cloths and blankets, and other goods coveted by the Indians, another as a storehouse for the peltry, and others for the accommodation of the lower class of employes.

When sailed that little bark which bore the hopes of the illustrious adventurers around the cold and barren promotories of Hudson's Bay, the prospects of empire and commerce were very slim, shrouded in the gloom of impenetrable forests and darkened by the perils of savage hostility. Long ago these obstacles were swept away by the heroic endurance and persistent push of the hardy factors and their followers.

Modern conditions of competition now demand from the company's officials a shrewd knowledge of the public mind, and a degree of tact and energy which is more necessary in the present than were the flint-lock musket and heavy side-arms in the buckskin period, when the company to the bleak shores of the Labrador coast from the mountainous shores of the Pacific was sovereign.

The fur-trading posts stretch from the bleak shores of the Labrador coast to the boundary line between Alaska and British Columbia, and from the forty-ninth parallel to the Arctic seas.

The company's steamboats ply upon the Saskatchewan, Athabasca, Slave, Mackenzie, Skeena, and Stikine rivers, and the canoes and dog teams are now chiefly seen in the inaccessible districts. The company, with its experience of over two centuries, can supply all the wants of sportsmen, and also issue circular letters of credit on all its inland posts.

The catalogue of the large fur sales held annually in London, still the world's principal mart of the trade, show what a variety of Canadian animals are necessary for the comfort, health and luxurious habits of modern humanity.

The skin now most prized and highest priced is the silver or black fox, noted for its rich and glossy black fur and its exterior hairs of a silver white. In 1900 an exceptionally beautiful skin brought nearly three thousand dollars—the highest ever paid; but the average value of good skins

varies from three hundred and fifty dollars to one hundred dollars.

The fur next in value is that of the sea-otter, for which twelve hundred dollars was paid in 1900. The fur is soft and fine, and varies in color from dark chestnut to a deep brown, according to the age of the animal. It is now very rare, and only one skin was offered by the Hudson's Bay Company in March, 1901, and brought only five hundred and forty dollars, as prices of nearly all furs have been of late exceedingly low. The common otter, of which large quantities are sold every year, only brings at the highest, six dollars, and even as low as two dollars for a common skin. The skins of the blue fox—the favorite fur of Catherine de Medici—are much in demand, and bring as high as thirty dollars each. Cross, gray, white and red foxes bring from forty dollars for the first to five dollars for a good specimen of the common red.

The marten, of which a large number are taken in the north of Canada, is much prized, and one superior quality—a dark, glossy fur—is called the American sable, and can hardly be distinguished from the choice Russian skin. Canadian skins range from twenty dollars to five dollars, according to quality.

The fur of the mink, very numerous still, is shorter and more flossy than the marten and varies in value from six dollars to as low as fifty cents. The choice ermine, which is akin to the weasel, and much in demand, is pure white, with a black-tipped tail when caught in good condition in the winter. Chillon's famous picture of her late Majesty Queen Victoria at her coronation represents her in a splendid robe, trimmed with this royal fur, which also forms the border of the crown, and is conspicuous in the adornment of the state robes and coronets of the English nobility.

The black bear, which finds a congenial habitat from Cape Breton to the Mackenzie, brings from fifty dollars to fifteen dollars. The skin of the musk-ox, which is a denizen of the "Barren Grounds" and the Arctic region of Canada, has taken the place of that of the extinct buffalo for sleigh robes. It varies in price from fifty dollars to as low as five dollars for a poor article. Even the skunk of unsavory fame is now much in demand on account of its

soft, thick fur, to which has even been given the name of "black marten." The beaver, the staple fur of the French regime, is now becoming scarce and its price varies greatly according to fashion. Even the skin of the inoffensive rabbit has now a positive market value, as it is dressed, clipped and dyed a deep brown, almost black, and then becomes what is called "electric seal" much in vogue for ladies' jackets.

The variety and quantity of the furs offered by the great company at its annual sales in London can be best understood by reference to the following list for 1901:—Beaver, 42,582 skins; musquash, 917,944; rabbits, 6,593; common otter, 9,160; sea otter, 1; fisher, 3,437; silver fox, 317; cross fox, 1,851; blue fox, 24; red fox, 5,831; white fox, 2,960; marten, 55,329; mink, 47,560; lynx, 4,446; wolf, 2,589; wolverine, 772; skunk, 6,027; raccoon, 9,058; badger, 565; ermine, 11,664 black bear, 7,829; brown bear, 773; gray bear, 196; white bear, 58; musk-ox, 559; hair seal, 3,593; deer, 100; besides many caribou and moose skins not enumerated.

The sales of Hudson's Bay company's furs have realized at this year's sales in London only \$1,150,000, or nearly \$400,000 less than in 1900, on account of low prices and decreased quantity—silver fox having fallen sixty per cent., blue foxes fifty-three, red foxes forty, cross and white foxes thirty-five, and so on. The company's furs are all exported from Victoria, Vancouver, Hudson's Bay, Winnipeg—the principal distributing and collecting centre—and Montreal to London, where they are sold by the great house of C. M. Sampson & Company.

In this article I have given special attention to the operations of the Hudson's Bay Company, for the very obvious reason that it is easy in its case to obtain full and accurate information not available with respect to the many free traders, who have gone into the business for the past thirty years.

An authority on furs informs me that the annual output of all the small competitors amounts to a total equalling, if not exceeding, that of the great company itself. The principal traders live in Winnipeg, Edmonton—always an important

point of connection with the northern fur region—Montreal and Quebec.

One large firm in the ancient capital, after supplying the demands of its Canadian customers, shipped furs last year to London to the value of nearly \$100,000. The trade returns to the Dominion show that at the present time the total value of the Canadian export of furs reaches about \$2,400,000, of which only \$100,000 represents manufactured goods, chiefly sold in the United States. These figures include the output of the Hudson's Bay Company, and represent the value of the total quantity of Canadian raw skins sold yearly in London by Sampson & Company.

We may fairly assume that upwards of a million dollars' worth of skins remain in Canada for the purpose of domestic consumption, and consequently do not appear in the trade returns. Canada is also obliged to buy a large quantity of furs not produced in Canada—coon and opossum from the United States, Persian lamb and Russian Astrakhan, Indian tiger and leopards, South American chinchilla, and even Australian rabbit, wombat and wallaby.

With the progress of settlement in the northwest of Canada, the fur-bearing animals must be limited ere long entirely to the great unorganized districts already mentioned, but here—especially in the Mackenzie region—for many years to come the great company and free traders will continue to find the skins they seek.

The fur trade of Canada, however, has long since sunk into insignificance, compared with its proportions half a century ago. The country, decried by a French philosopher as a region of ice and snow which France could well spare, is now famous as a large exporter of the best of wheat and apples, and other products which attest the richness of the soil and the favorable climatic conditions for the sustenance of human life.

The fur trade has now lost the picturesque aspect it sometimes assumed during the French domination and in the palmy days, when the factors of the great company were lords of the north.

The songs of the traders and voyageurs are now rarely heard in these prosaic times, when the canoe and the bateau have given place to the propeller. As a conspicuous

figure of the fur trade the Metis or Canadian half-breeds of the Red, Assiniboin, and Saskatchewan rivers are disappearing fast. These people are now settling down to a regular agricultural life, and the hunters and trappers of a once restless race will soon fade into romance and history,

like their more famous ancestors, the *courcurs de bois*, whose memory is now only recalled as we pass by a storm-vexed cape or landlocked bay, or rapid river, to which may still cling the names they gave, as they swept along with song and jest in the days of the French regime.

The Burial of Cher-on-kee.

By MARY S. S. SCHAFFER.

The people of the Northland, cut off for months from any semblance of civilization, living in the great white silence, become a different race, with different thoughts from the men of cities and rush of life. We grow skeptical, in the practical living, that forces may exist, which we cannot feel or see, and doubt the weird tales they tell us. Who is right? and dare we smile? Maybe we grow less acute in our noisy lives, and they who live in and love the vast confines of solitude have ears attuned to sounds too delicate for our grosser senses to define. The little story told below was an actual occurrence so far as he (the Master) believed, but you seldom hear him tell it, and I dare not even use his words. I can but give the facts.

Old Cher-on-kee lay dying. In suffering silence the great black eyes stared out from their cavernous depths, looking for Death to come and carry him to the flowering hunting grounds. He had known for long that it must be, but with the stolidity of his race, he meant to fight the fight bravely, and not till death's hand was laid upon his shoulder would he show the white feather. Even in his last fur-gathering trip in the north he had felt the summons coming. But the spirit of the Northland called him, the howling of the dog-train was music in his ears, and the wild, dreary steppes were his friends, beckoning him on with invisible hands. The fever of illness and longing consumed him. "I come! I come! and if I die, I die near little Pix-ix-ena's grave and that would be good." He went. The fineness and the quantity of his furs was large. As he went from post

to post he felt it was for the last time. At little Pix-ix-ena's grave he halted, halted and bowed his head as he had done so many, many summers before, but this time the parched lips whispered: "I am coming soon."

Those who have lived among the Indians and searched beneath the stolidity of their character with patience, kindness and perseverance, know that the Indian heart is warm and true and faithful. Old Cher-on-kee had never forgotten or ceased to mourn for the dainty brown bride, who had left him after two years of happy wandering in the summer months, which had counterbalanced the starving and suffering of the two long, bleak winters. Pix-ix-ena was from the Southland, and even her warm love for Cher-on-kee could not drive out the biting cold of the terrible winters from her dainty physique. And when the spring was bursting and the Northland flowers opening their eyes, little Pix-ix-ena's one dainty blossom opened its bright eyes for a few short hours and then with its mother's closed forever. The heart-broken husband and father laid his treasures beneath the gay northern poppies, then turned his heavy footsteps southward, to work for the rest of his life for the Hudson's Bay trappers, journeying each year to the north for skins, and taking a short time to go to the one spot in all the world he could claim as his own, and none but his faithful train of dogs saw or guessed the bitter grief which never left him. And now he had brought in his last load; he had looked for the last time on his faithful

team. He had patted each servitor on the head,—a farewell caress—and a dismal whine had gone up from their hoarse throats, as though through the unaccustomed gentleness, they realized their friend was leaving them.

Two old squaws squatted near the flap of the tepee, doing what they could for the sick man in a kind, ignorant way. Their minds, however, were much more engaged on the tobacco, which the old man had given them for their services to himself; the tepee was blue with the rank material. "Kow-ee-chee go for the Master, tell him I have much to say and little time," the weak voice called from a pile of furs in the darkening corner. "Why should Cher-on-kee wish for the Master, he will not come for such as we?" But Cher-on-kee knew better. He and the Master had tramped in the Northland together and knew the heart of each, and the Master had not failed him yet. Old Kow-ee-chee grumblingly arose and gathering her tattered garments about her, trudged off in the deep snow. Silently entering the fort, and as silently the door of the Master's office, she stood before a kindly face; apathetic in the extreme. She gave no hint of bearing a message from the dying.

"Well, Kow-ee-chee, what is it now? More tobac?"

Silence. Then delivering herself of a guttural sound or two with calm deliberation, equalled by no other race on the surface of the globe, she said: "Cher-on-kee dying—say 'bring Master.' Go."

Then gathering up the old blanket about her, and turning on her moccasined heels, with the curious gliding amble of the plains' Indian, she went forth into the cold as silently as she came.

Hastily donning his heavy furs, the Master hurried forth. Cher-on-kee had been too long his faithful friend for such a summons to go unanswered. Hastening to the tepee, but a short distance from the fort, raising the ragged flap, which all too poorly kept out the bitter winds, he saw the message was true, and Cher-on-kee very, very near the hunting grounds.

Grasping the Master's hand in his own, eager and feverish, and gazing intently into the Master's eyes, he said:—"When the Spirit comes, promise me!—promise me! to take me home to the

Northland, and lay me in Pix-ix-ena's grave. I cannot sleep, I cannot rest till you promise."

The intense eyes, brilliant with suffering, gazed for their answer into the eyes of his friend, those eyes which had never lied to him in all their years of wanderings together. The friend was still his friend and the answer came, "I promise."

With all vitality spent, and as though living for those words alone, he slowly turned the weary head to the canvas, and in a few moments old Cher-on-kee was no more.

The Master retraced his way into the icy winds, then to his cozy office, where huge logs sputtered and crackled, and his mind dreamed back into the old days when he as a boy had packed furs with Cher-on-kee. Then the promise came before him; how?—for the problem was a heavy one. Little Pix-ix-ena's grave lay one hundred and fifty miles to the north, a barren waste of snow stretched between and the dead of winter was upon the land. Over and over in his mind he turned the question of that long journey. Who among his men were brave enough to carry such a load and face three such days of hardship?

In the teeth of a bitter north-easter he went forth the next morning to search for volunteers. All shook their heads. The trip was a long, hard and exposing one, but it was not the exposure that deterred them. The burden they must carry was what they dared not face. Cher-on-kee was loved and respected by all in life,—but the lonely companionship of his dead body, out in the great drear wilderness, was more than even their phlegmatic nerves could endure. All shook their heads and the Master realized that to fulfil his promise he himself must go. With his own example and bravery as a leader, he was at last able to secure one porter—O-see-ka, a man of great endurance and ability.

Together they wrapped the body in its own blankets, then bound it in tenting canvas and lashed it securely to a sledge with thongs of reindeer; packed with wraps, food and tent the second sledge, then with their two teams of dogs set forth in the blue twilight of the morning, accompanied for a short distance by

the dead man's friends, and finally left, to advance alone into the vast wildness, with only the dimming stars snapping and twinkling in the intense, quiet cold. In silence the two men moved forward; no sound save the screaming of the sledge runners over the frozen snow, the occasional call of the driver to his dogs and the crack of the long whip. All day long they trudged in snow shoes over the vast waste. As the more intense darkness settled down upon their way, the Master called a halt near a frozen stream and close to a group of low pine trees. The body in its heavy wrappings was left on the far side of the stream, and camp was made for the night.

The dogs released from their harness, the little bacon and pemmican thawed and eaten over the tiny fire, master and servant prepared for a few hours needed rest, when suddenly there rang forth on the cold, keen air the Indian's cry to his dog—"Marsh—! Marsh-h-!" The two men gazed into each other's eyes in startled silence. They had thought themselves alone in the wilds, but here was another voice coming to them from out the darkness, attracted probably by the little camp fire. Stepping forth from the light, they hallowed a response—no answer; again,—not a sound.

With a shiver of awe both men were impelled toward Cher-on-kee's sledge. Two of the dogs had become unloosed and were gnawing at the reindeer thongs. Retieing the dogs, they returned to the little tent, haunted with a feeling of something strange and unaccountable.

Again in the early dawn they ate, harnessed their dogs, repacked the sledge, then pushed forward briskly, hoping to make the upper fort that night, and avoid another night out in the bitterly cold waste. But a cruel wind was setting in from the north, which cut their breathing, exhausting men and dogs alike, and again they were forced to make camp as the deeper darkness fell, feed the now

footsore animals, and rest a few hours themselves.

Again they stopped by a frozen stream, and near brush that would provide them fuel. While the Master prepared camp, O-see-ka took the axe to cut wood a couple of hundred yards away. Both men busily employed at their work, were suddenly startled to hear the long, clear call of the Indian to dogs—"Marsh!—Marsh!" and each rushed toward the other, thinking each in trouble.

"Did you call?" said the Master.

"No; and you?"

Each stared at the other in astonishment, then turned to see a stranger appear from out the darkness.

No sound of moving object except the low whine of the dogs, till to their strained nerves there came again the long musical, but dreary, call "Marsh! Marsh!"

"It is Cher-on-kee's voice, Master. Come." And together they hurried to the sledge of their dead companion.

Bounding across the frozen river and reaching the spot where they had left all secure so short a time before, what was their horror to see a band of wolves, tearing loose the stout wrappings and at that moment reaching the body itself. A pistol shot or two drove them off, and the sledge was then hauled up by the camp fire and tent.

No sleep came to the watchers that night, and the two men, whose whole lives had been spent in hardship and danger, trembled at the remembrance of that call—unaccountable, unreal and unexplainable.

As soon as the dogs were rested, the sledges were packed for the last run, and the weary, spent men were glad to leave the eerie spot. At noon they reached the fort, chilled, exhausted, unnerved.

Other hands laid old Cher-on-kee beside the waiting little Pix-ix-ena, and the weary white man rested, feeling he had kept his promise.



The Coming of the Shore Birds.

By ST. CROIX.

Some young fellows I know think they are great travellers, because they are taken to Europe in a comfortable, floating palace nearly every summer by their fathers. But what are such holiday jaunts beside the semi-annual journeys of the shore-birds? Fancy a little feathered mite of a creature, weighing but a few ounces, laying its eggs each summer in the Arctic regions, and passing the winter in South America! Thousands of the great plover or snipe family do this year after year, and so regular are their wanderings that folk that live along shore marvel if the feathered hosts are more than a few days overdue, when they appear on our coasts.

A lad with a taste for natural history will find endless amusement during August and September along the sandy bays of the St. Lawrence and of the Maritime provinces. No other stations will show him more variety in the matter of bird-life. His equipment may be extremely simple. A field glass, note book, and a sandwich are all that he will need in the field, though at home he must have a well-thumbed copy of one of the many admirable manuals that treat of the distinguishing characteristics of the order Limicæ, or shore-birds.

The great plover-snipe family are mostly of small size; they live on the ground, usually by the water's edge; and their food consists of insects, worms and other small, soft crawling things. Above all they are extremely well-represented on this continent, and are therefore an eminently proper study for a patriotic young Canadian.

On the way shoreward, a glance through the glass may reveal a flock of small pigeon-like birds, pecking about some old pasture. They are golden plover and if they permit a near enough approach, the fitness of the name will be acknowledged, for the beautiful, though extremely modest coloration of the plumage has a distinctly golden sheen. The book at home says: 'North America at large, breeds in the Arctic regions, passes in great waves during spring and autumn; highly esteemed.' Too highly, alas! for the golden plover is decreasing rapidly in numbers in the Eastern

States. Spring shooting has had much to do with it, and I hope no boy that loves true sport will ever permit himself to kill birds that are on their way to these distant regions, where alone they can raise their broods in safety. No, let the gun remain in its case until the flocks come back from the north, five times as numerous as when they asked our hospitality in the spring.

The largest birds the young naturalist is likely to fall in with are the Curlews. There are three species,—the sickle-bill, the Jack curlew, and the Eskimo or dough bird. The first named is much the largest, while the last is the most abundant; it breeds in Labrador and may be found in enormous flocks near Belle Isle Strait, at the mouth of the St. Lawrence, about August 1st. All the curlews winter in the extreme southern States of the Union, or in Central or South America.

A queer little bird, that is always repeating the cry from which it takes its name, is the Kildeer. Kil-deer! Kil-deer! it whistles, hovering over an intruder's head and giving the alarm to every bird within hearing. It is beautifully marked with semi-rings of black and white around the throat. The semipalmated plover is another bird that is exceedingly abundant on the beaches during late summer and early autumn. Above ash grey, and underneath pure white, with a black encircling ring about its neck, it may be easily recognized, especially at near range, as there is a bright orange ring around the eye.

The American oyster catcher is a big bird, as shore birds go, with a long, strong, vermilion bill with yellow tip. Its plumage is somber. It breeds further south than most of our shore birds, extensive nesting colonies being found each spring on the Virginia coast. Should the glass reveal a delicate slender bird, of strikingly beautiful black and white plumage, with long legs and upturned bill, it is probably an avocet, a bird now somewhat rare in the east, though common on the plains of the west. It feeds by immersing the head and neck, meanwhile stirring up the mud

with its long bill. It swims well.

Sportsmen speak of summer and winter yellow legs. The first is a bird ten or eleven inches in length over all, while the last is two or three inches longer. They have the usual plover-like barred plumage, and long yellow legs. Restless, noisy birds they are seldom still, and seem unhappy. Foremost among the "large birds" of the shore-gunners' list is the willet, a big, stout fellow of the Tattless family. Its legs are a slate glue color, and it has a shrill unpleasant cry. It would be quite impossible to give a sufficiently accurate description in mere words of most of these shore birds, but by the aid of a reliable text book recognition is comparatively easy in the case of adult birds, but

youngsters of the year are very hard to name with unfailing accuracy.

The important Scolopacidae family includes the Godwits, large birds, much like the Curlews, but having straight bills, and the sandpipers, an extensive group of small shorter billed birds, always keeping in flocks, and although the least in size, perhaps the greatest wanderers of them all. One species, the pectoral sandpiper, goes so far north to nest that its eggs are as yet unknown, though the bird itself is found on our coasts in myriads.

Many a pleasant hour may be passed half buried in the sand, field glass and note book in hand, as any bright-eyed boy will discover if he makes the trial. There is a perpetual free show given by Dame Nature along-shore on a summer's afternoon.

The Brownie Ring.

By MARTIN HUNTER.

Only once, during a residence of over thirty-six years in the wilds of Canada, was it my good fortune to witness the drumming of the spruce partridge.

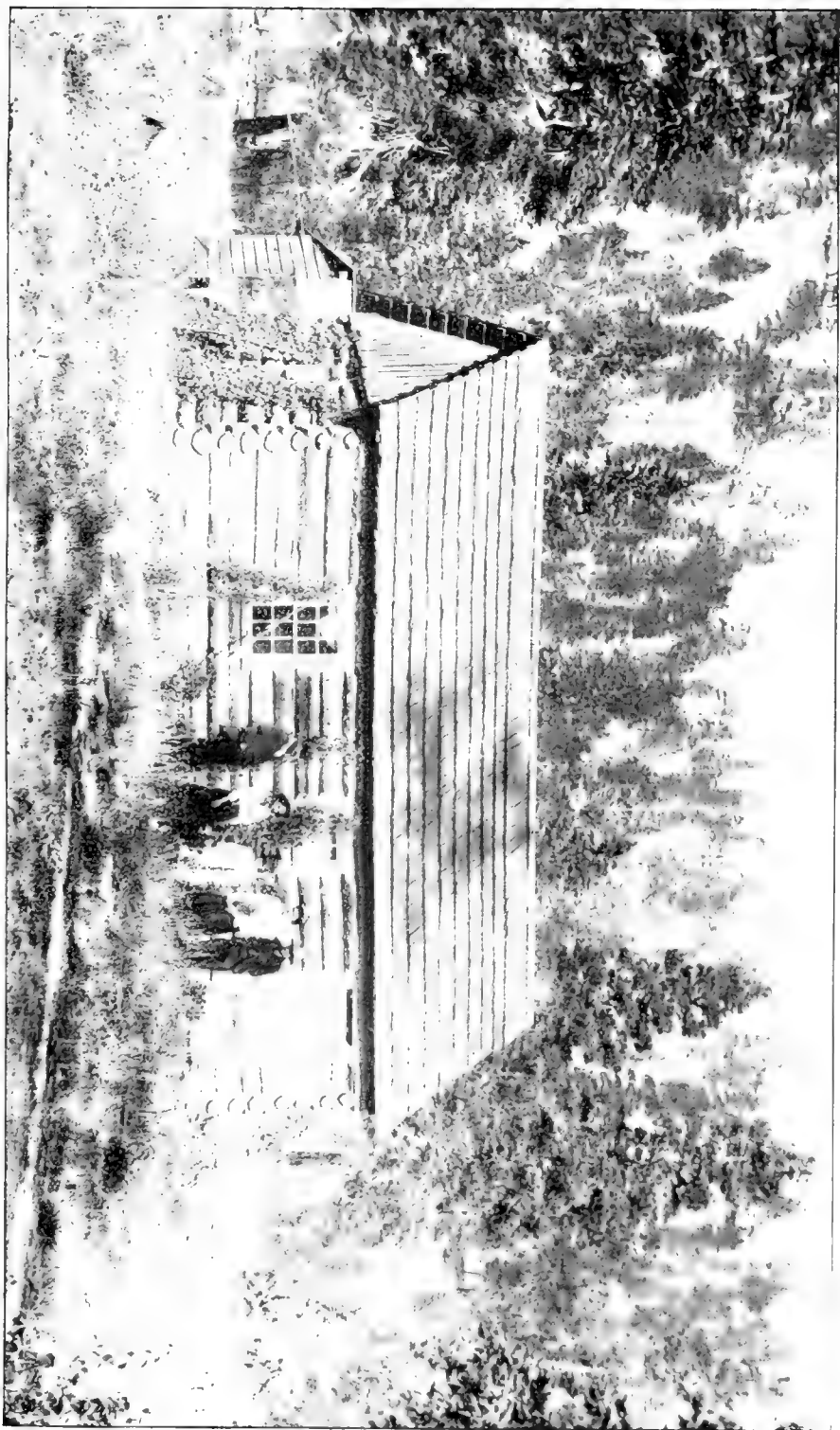
Indians have several times described the procedure of the cock bird on these occasions, but as I have said, it was only once I saw it actually taking place. The day was a very calm, hot one in spring. I was on my way between the big lake and a small one about a mile through the bush for the purpose of visiting a bear trap set at the discharge of the smaller body of water. About mid-way over the portage the trail passed through a white, mossy plain, with clumps of pitch pine dotting it here and there. Just before emerging into this glade-like park, a sound was borne to my ear by the still, calm atmosphere, a sound so strange that I stood quite still and waited for it to be repeated. After a certain interval I heard it again. This time I coupled it with what the Indians had described the sound of the spruce partridge drumming to be like. Being also informed that they were very wary at such times, (the slightest noise causing them to desist for that day), with the utmost caution I continued my way after each cessa-

tion of drumming, and finally was so close that I actually felt the waves of air from the birds' wings against my cheek.

Then I made a lengthened halt, lying prone upon the earth with only my head above the ferns and awaited the next move. I could hear the cackle of several birds just beyond where I was in hiding, but dared not, for the moment, move.

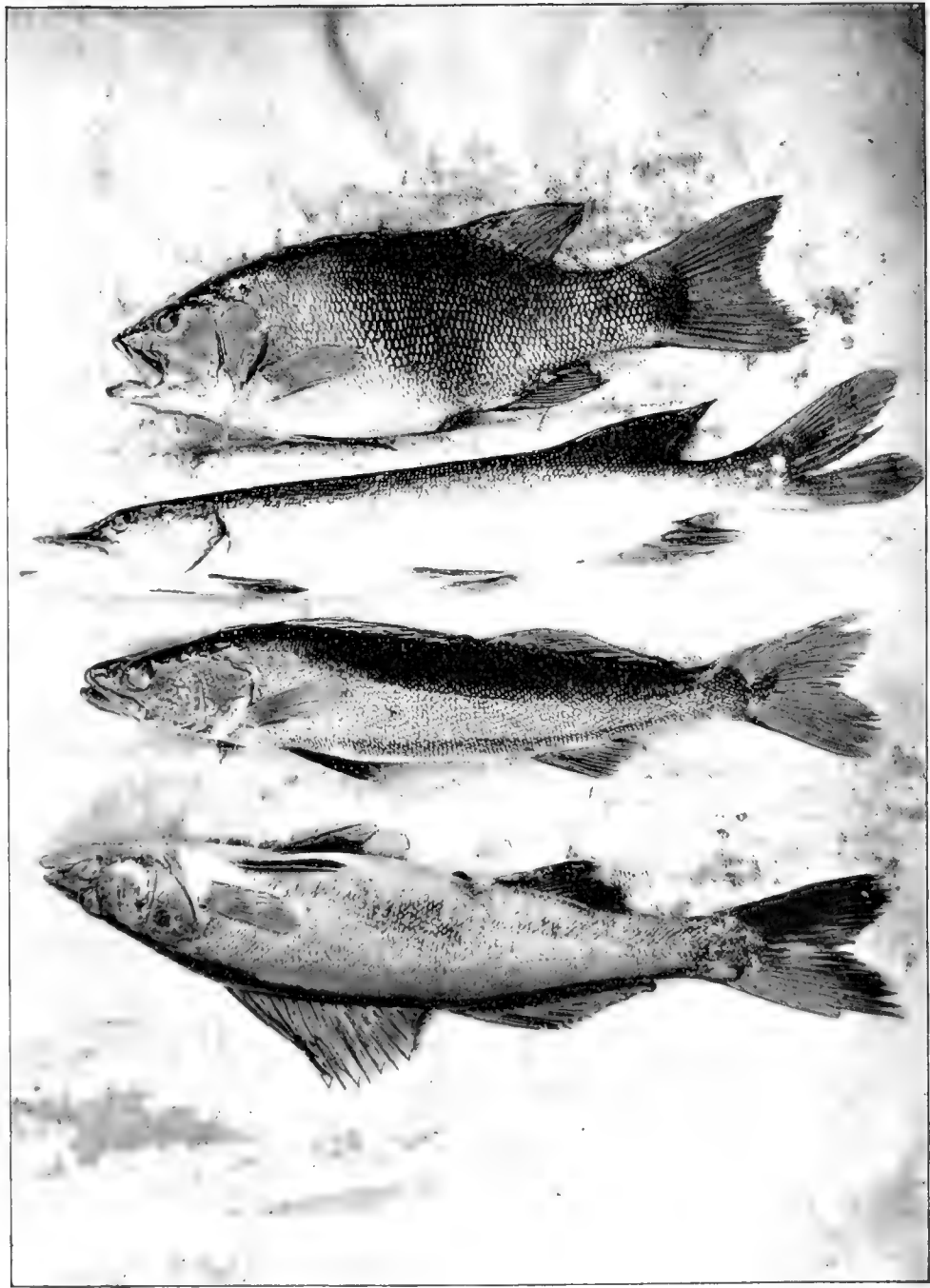
All at once a beautiful cock-bird, doubly beautiful just then, by his flaming red comb and wattles, shot up into a tall tree not twenty yards off, and there plumed his feathers for some moments, cooing and talking down all the while. I kept my eyes steadfastly fixed on his every movement, so as to see what would follow.

All at once the ruffled feathers closed down on his body and launching himself off and away from the tree, he beat the air with his wings in rapid succession till he reached the earth. This then was the cause of the unfamiliar sound I had heard, and was the spruce partridge mode of drumming. I crawled further through the moss and Indian tea towards the place where the cock partridge had disappeared, and by stretching my hand in front I cleared a space to see, and there at the foot



A RANCH IN B. C.

Home of a settler in the fertile Okanagan Valley, teeming with game and fish.



A MIXED BASKET.
Pike-perch (*dore*), pike and small-mouthed black bass from Timiskaming Lake.

of the tree was a diminutive circus ring, worn away to the earth by the action of twelve or fourteen partridge marching around in a circle.

Four of their numbers were cock birds. Their excessive vanity had inflated them up to veritable little gobblers. The females were demurely walking around, as if quite ignorant that all the fine pluming and gallant talk from the opposite sex was for their benefit. Every now and then a different cock would fly to the tree-top and go through the same performance.

I lay there for, I should say, a couple of hours, watching this uncommon sight, and, although it was difficult to distinguish one cock from another, still I fancy they took

to drumming in rotation.

Be it as it may, the sun was getting near the tree tops and all at once, as if from a word of command, the bunch flew up and away to remote trees. I waited for a short while, but as they did not return, I concluded the parade for that day was over.

From the deep patted ring and the amount of their droppings, they had evidently been resorting to this spot for days.

I visited this spot for two or three years following at about the same season, but no partridge were to be found. The melting of the first winter's snow and the early spring rains had quite obliterated "The Brownie Ring."

The Art of Forestry.—Forestry Protection.*

In discussing Forestry, though young in this country, it is perhaps not out of place to give a clear account of its various parts as it has been didactically divided in Europe. At the present time we cannot use European Forestry practice to any extent, but it is the principles underlying that practice which we must understand and realize the value of, in dealing properly with the forests here. In two previous papers a very imperfect sketch has been given of what is understood by forest management and sylviculture. Now it is the writer's task to give an idea of what is included in the care and tending of the forest from the seedling stage to that of the big hundred feet high tree. Contrary to any other crop, in standing such a length of time the external dangers are much increased, as the years go on and the value of the forest increases. As an example of this, a sixty-year-old spruce stand in Germany was completely killed by hail. True, a good price was got for the timber, but not nearly as good as if left until its proper time of cutting,—another twenty-five years, when the timber would have realized the highest price per cubic foot of any size (sixteen inches diameter).

A factor which plays a great part in forests of most lands is the right of other persons in that forest besides the owner.

At present we have none here, and we have to be very thankful for that, as a greater hindrance to forestry cannot be conceived. One only has to imagine one man owning the land and another the timber, a case of actual fact in Southern Bavaria, to see the importance of not allowing any customs or usages to grow into rights which might interfere with the rational utilization and management of the forests. Once these rights have grown it is very difficult, and sometimes impossible, to buy them out and get rid of them in any way.

It is only necessary to mention the great danger from fire for the sake of completeness. This is so patent to all that it does not require any further explanation.

The wind plays really a very important part in the forest, and by careful cutting the risk of getting an extra quantity of timber blown down can be avoided. About 1870 such an enormous number of trees were blown down by the wind in the Falkenburg in Eastern Germany that it took fifteen years to clear them up and sell the timber. It would not be so bad if the trees so blown down remained free from the ravages of insects, but this is seldom the case. Usually if the trees are worked up into lumber at once the market is glutted and poor prices result. If the trees

*Contributed by the Officers of the Canadian Forestry Association

are left the insects get into them and they are spoilt for timber and a greater loss is sustained.

The useful effect of the wind is seen in the spreading of tree seeds when the cuttings are laid in the direction of the prevalent winds, so that these can be self-sown on the last lumbered over area.

Having mentioned insects, it may be as well to take a view of their influence on the forest. Next to fire they are the most destructive agents. The trees on areas of twenty and fifty square miles en bloc have been stripped of their leaves, and protective measures have cost \$375,000 in one year in a small state like Bavaria. In destroying insects in Prussia \$180,000 were spent in 1876-7, and only \$85,000 in 1879-80, showing that the injurious insects were gradually decreasing. In earlier days the areas of destruction were much larger. For instance, Prussia, 600 square miles and Russia, 6,400; meaning the killing of 76,000,000,000 feet, b.m. A few years ago the sawflies killed the tamarac or larch in the north. Last year a caterpillar destroyed the leaves of the burr oak over hundreds of acres in Manitoba and killed practically all the trees. This year a green caterpillar destroyed the needles of large numbers of spruce all over the province, though the damage did not appear to kill the trees. This may of course come later, as the spruce when once stripped very rarely produce fresh needles until the following spring. From the above examples, as well as from the reports from the United States, it is evident we have our insect pests in this country as in others, though the damage has not been so apparent, and hence not so great.

The snow which is a source of considerable danger to even aged cultivated supply forests has little or no bad effect on the forest in its primeval state. Of course in mountainous districts the formation of avalanches can sometimes be hindered by a forest growth, though often these are formed above the timber line. A tree growth, though, at that altitude hinders the rushing of water down these slopes in spring and also of loose stones and earth so common in mountainous districts, and lower down prevents floods.

The animals, red deer, elk, etc., besides domestic ones, such as oxen, sheep, goats,

do a certain amount of damage in peeling the bark and browsing on seedling trees, but in large forests this is nothing compared to the "general" very harmful influence of the farmers' cattle on the wooded portion of his farm. Whenever the area is small and a large number of animals are put on to it, the trees die almost at once. The cattle trample all the surface earth hard, and as it is at first usually soft they kill all the smaller fibrous roots near the surface. If the area is larger the damage is less from this cause, and if spread over a very large area this working of the surface soil may at times be beneficial. Besides this, large numbers of seedling trees are not only trampled upon, but also eaten off short, and if they survive this treatment never make good trees. One has only to go into a spruce forest in the Alps, where grazing was previously practised, to see the results in the shape of many-stemmed trees with large limbs low down. Once the leader of a conifer is taken, even though a side branch may soon form another, the tree never has the same value for lumber later. In certain forests where seeds have fallen and the soil requires little working to make it a good seed bed, driving cattle through will give the desired result. As a general practice though, using a forest as pasture will be detrimental; in fact, forestry and pasturage must be kept separate to give the best results to both. Pigs on the whole do little or no damage, if not in large numbers on a small area. They eat besides a very large number of the larvae of injurious insects, many of which hibernate in the ground. Of course in case of re-seeding oak, beech, etc., they would eat most of the seed itself, and so driving them through is the only way of allowing them in the woods at all.

Plants in their lower form exercise quite a powerful influence on the trees, both individually and collectively, the climbers, such as the vines and honeysuckle, often completely strangling the trees. In the woods specific weeds have to be kept in check and in some parts, as in the West, this is essential to the success of tree growth. In natural reproduction if these are kept down, one soon sees a fine young growth.

The fungus (*phytophthora omnivora*) of

small seedlings often destroys the labor of the best sown drills in the shortest time. In the forest, though not quite so apparent, it does a great deal of harm on small areas of seedlings when they have come up thick. Others such as the golden rust (*melampsora tremulae*) on the Cottonwood have been quite frequent in Manitoba, though few, if any, trees have actually been killed. Luckily some, as that causing the vermilion colored spots on maple branches, only attack dead wood.

Frost, another agent of destruction, has a variety of influences. The early and late frost, which especially spoil exotic trees can be largely avoided by planting these latter, when possible, in the half shade of others. Frost cracks, sometimes called canker, cannot be prevented, as they are caused by the very hard frosts in midwinter freezing the moisture in the cells near the surface of the tree. These expand and burst, whereas the inner part of the tree is unaffected. Such cracks are also due to the contraction of the wood from the cold. Hardwood appears to be liable to this mode of injury, whereas conifers do not, no doubt due to the resinous nature

of the sap in conifers, which would not easily freeze.

Bark scorching is common in many parts and can be avoided by a due mixture of trees or with judicious cutting, avoiding exposure of the stems of such trees as beech and spruce to the rays of the sun. This is sometimes termed sun scald, but conveys the meaning that water had something to do with it, whereas it is the sun which gradually dries up and burns the bark and cambium layer of the tree, hence scorching seems the better term.

Seaside and inland sand dunes sometimes shift continually, and cover not only good forest land but also better agricultural land. A similar process on a smaller scale than most in Europe is going on at the present time near Lachute, on the St. Lawrence. These can always be retarded and gradually planted, first with certain grasses and shrubs, and finally pines introduced.

From all the above is seen the various agencies which are at work destroying or endangering the forest, and it is the forester's business to know the individual importance of these in each locality and counteract them when possible.

The Old and The New.

By C. C. FARR.

I am writing this on the cars, and they are very comfortable. I have shown my ticket to the conductor, and he, apparently, is satisfied. I am on the C.P.R., on the extension from Mattawa, North, to Timiskaming, or rather Kippewa, for in the winter months Timiskaming Station is, practically, closed. As we smoothly glide along I cannot help comparing the comforts of the present with the discomfort of the past.

Thirty years ago last November I made my first journey up this river. I was paid for my daily services, and consequently, in those days, I was expected to do as I was bid. We had two Indians, from Mattawa, hired as guides, Indians with Scotch and French names, and before I go further I

must digress in order to illustrate the anomalies of the Indian question. There was amongst us on that occasion a very innocent young man. He was a member of the staff, and hence was not expected to know much. He had never met an Indian in his life before, except in fiction, of the Fennimore Cooper type, and it was from the Fennimore Cooper point of view that he approached the subject.

I was rowing on the stern oar, to be technical 'stroke' oar, and he, 'ex-officio', sat in cold, but idle comfort, in the stern. It was a surveying party, the object being to define the boundary between the two Provinces of Ontario and Quebec.

Johnny McDonald was the name of the Indian who was steering, and my young

friend gazed at him in wrapt admiration, for here, at last, was before his very eyes, a dusky denizen of the forest, a modern Osceola, in baggy pants.

Then he asked, "Can you speak English?" "Of course," answered Johnny.

"Are you happy doing this kind of work?"

"What you mean?" asked Johnny.

"I mean work like this, steering boats for the pale-faces."

Johnny grinned and said that he guessed that he was all right.

"Would you not sooner be hunting the wild deer with your people?" asked the innocent.

"What you mean?" again asked Johnny.

"I mean, would you not sooner be dwelling with your own tribe?"

Johnny became somewhat mystified at this, and knew not how to answer. Then the young man again came to the charge, and asked:

"What tribe do you belong to?"

"What?" asked Johnny, still more mystified.

"What nation do you belong to; what are you?"

Johnny looked at him with ineffable scorn, and answered with a ring of national pride in his tone.

"D—n it man, I'm a Scotchman," and then the young man collapsed.

After all, Johnny was only giving a lesson on the Indian question, and it's anomalies, for, today, such is the absurdity of it all, that if, in spite of the game laws, an Indian wants to kill a moose, his defence is: "Indian me." But if on the other hand he wants to drink a glass of whiskey, Me Scotchman, Englishman, Irishman, or anything else, and from what I have known of Indians, it would be pretty hard to disprove this latter assertion.

The fact remains that valuable tracts of land in Canada are tied up and rendered commercially valueless, in the form of Reserves, when there may not be a single pure-blooded Indian residing upon them, and the times are ripe for a change.

But to return to my original subject. Already the train has passed the 'Cave' and the 'Les Erables', rapids named after their own peculiarities. The first is, being interpreted, the 'pot' rapid, or more literally, 'the hole in the rock' rapid.

The Indian name, which, as a rule, more literally describes the conditions is "Ak-ek-end-atch", meaning "the place where there are pots." The barrier of rock, that causes this rapid, is of a very soft nature, and if a few pebbles of granite or any other hard rock, gather together in an eddy and day after day, or year after year, are whirled around they wear out for themselves a circular depression, which, in the course of time assumes the form of a pot, sometimes a few inches in diameter, at others, a few feet, the depth of which is determined by the number of years that these innocent looking pebbles are whirled around, conditioned by the depth reaching effects of the eddy.

The 'Les Erables' is simply the French name for the Indian 'Nec-nah-tic-on-i-gum', 'Maple portage,' probably on account of a plentiful growth of maple which today are conspicuous by their absence, and the only thing that makes the portage memorable in my eyes is the fact that in after years I was bringing up a load of flour for the Hudson's Bay Company, and we happened to camp for the night on this particular portage, piling our flour up neatly at the head. When we went to load up in the morning, we found that a bear had been doing business, and had scattered the flour, which was precious in those days, all over the ground, just as if it had been common sand. We gathered up the remnants as best we could, and even if there was a little gravel attached to it, I never heard a murmur from the purchasers, as I sold it out at the moderate prices in vogue at the time.

But we are now at the 'Mountain Rapids.'—The train seems to travel faster than I can write.—The Indian name for these rapids is "Pee-koo-ti-na-pow-tick"—"Hill, or Mountain Rapid." There is nothing peculiar about this rapid, unless it might be the number of men who have been drowned in it; for it is a mass of treacherous eddys, and lethal to the solitary canoeeman.

About a mile and a half above it, at the first pretence of a 'narrows' sits the "Koko-mis-i-wabik"—"The Old Woman Rock," which has been from time immemorial, the fetish peculiar to the voyageur. Many a plug of tobacco have I seen offered up to the old lady for fair winds, and strange to

say, I have seen coincidental corroboration of the superstition, sufficient to convince men far more sceptical than Indians, that there was something in it. I fear that now the old lady goes without her tobacco, since the cars have supplanted the canoes, for few pass her in canoes in these degenerate days, and those few who do, probably are ignorant of the respect that is due her. By-the-by, it is only when the water is low that she is visible in her entirety.

We are now nearing the "Devil's Garden," that rocky escarpment where the wild onions grew, and for all I know to the contrary, may still grow. Few brigades of voyageurs in the old time would pass this place without going ashore to procure some of these nature-planted relishes, for a three-weeks' steady diet on fried pork, and 'deadly dodger' creates a craving for some other sensation about the gustatorial regions, that even the humble onion can satisfy.

"The Devil's Garden" is a misnomer, for
(To be continued.)

the Indian did not know of the existence of a devil, until we taught him. He is essentially a monotheist, and the Great Spirit, the "Geetchi-Manitou", is his God, a God who, indeed, allows other inferior spirits to exist, but on sufferance only. Hence the real name for this freak of nature is "The Garden of the Great Spirit," which fact should afford food for reflection, as we sinuously skirt along the shores of this interesting, historical waterway. But we have passed the 'Obaushene Portage', which in former years used to be the great highway for the Kippewa, and Gran Lac Indians. I have witnessed many strange things here. From out of the sand, through which the railway runs, I have dug up a man, slain in a family feud, and yet it was not murder; it was simply a life instead of a life. I have filled myself with moose-meat here and found the balance of the quarter hanging behind the stable with a horseshoe on its foot. Yes; these were the good old days, and they say that the world went well then, for youth is but a rose-colored pair of glasses.

A Magic Key.

By ST. CROIX.

The fifth edition of Coues "Key to North American Birds" has been published by Dana Estes and Company, Boston. This is one of those hundred per cent. books, the appearance of which atones for the hosts of trash and twaddle let loose upon the world since the coming of the typewriting machine and the Coues has always been to the ornithologist as Chauvenet to the astronomer, Dana to the mineralogist, and Gray to the botanist—absolutely indispensable. Although Elliott Coues has been in his grave four years this lasting monument to his patience and genius has only now been completed—but the work has been done well and for many a day the collector and the student of general ornithology will read no other text book.

The publishers say in the preface to this fifth revised edition: "The present work

constitutes the completion of Dr. Coues' life-long labors on behalf of the science of ornithology, too widely known and appreciated to require further mention here. In preparing it for publication the publishers have suffered extraordinary expense, difficulty and delay by the loss of Dr. Coues' assistance in the proof-reading and illustrating of the book. The manuscript was finished, but shortly before his death, and though fortunately complete in this form, was left in such shape as to present almost insuperable difficulties to the compositor or proof-reader, who lacked the author's direction and supervision.

The publishers have had the good fortune to secure the services of Mr. J. A. Farley, who has read the manuscript of the Systematic Synopsis, constituting Part Three, or the body of the work with the

most painstaking care. * * * * The result, though a posthumous book, is one which Dr. Coues would unquestionably have been proud to own as the crowning work of his life. As a scientific work it is without doubt authoritative and definite."

Since the fourth edition of the key the science of ornithology has made vast strides and the present work is more than twice as voluminous as its predecessor. We have enlarged descriptions of species, fuller accounts of the breeding habits of many birds, and much additional egg-description. Then, in the present edition, the nomenclature of species has been incorporated in the text and not placed in an appendix as in former editions — a decided improvement. Students will find full synonyms and biographical references in the case of very many species and to the preparation of the important part of the work Dr. Coues brought all his rare gifts as a bibliographer and nomenclator.

Louis Agassiz Fierst has contributed more than two hundred new drawings of rare species, many of which are equal to his best work in other books—in fact, taken all-in-all the fifth edition of Coues' "Key" is an epoch-making event. The following eminently sensible sentences from the preface to the third edition will show the sound common sense of the writer —

though, unfortunately, his warning seems in a fair way of being forgotten.

"Nevertheless he must here record an earnest protest, futile though it may be against the fatal facility with which the system of trinomials lends itself to sad consequences in the hands of immature or inexperienced specialists. No allusion is here intended to anything that has been done, but he must reiterate what may be done hereafter if more judicious conservatism than we have enjoyed of late be not brought to bear down hard upon the trilling incompetents. The "trinomial tool" is too sharp to be made a toy; and even if we do not cut our own fingers with it, we are likely to cut the throat of the whole system of naming we have reared with such care. Better throw the instrument away than use it to slice species so thin that it takes a microscope to perceive them. It may be assumed as a safe rule of procedure that it is useless to divide and subdivide beyond the fair average ability of ornithologists to recognize and verify the result. Named varieties of buds that require to be compared with types by holding them up slantwise in a good strong light—just as the ladies match crewels in the milliner's shop—such often exist in the cabinets or in the books of their describers, but seldom in the woods and fields."

Lake Fly Fishing.

By WALTER GREAVES.

The time will soon be here when anglers will again be wending their way to the lakes for the purpose of enjoying that most delightful sport, fly-fishing for speckled trout. I refer to fly fishing because I cannot imagine anyone deriving one-quarter of the sport from bait fishing, even if he catches twice the number of fish. I may be, and no doubt am, strongly prejudiced in favor of the fly, and perhaps for that reason, and because I do not often use bait, I am inclined to consider bait fishing inferior sport. Even when one is not catching fish, the pleasure of casting

the fly and the expectation of getting a rise occasionally, is quite sufficient to an enthusiastic fly fisherman to keep his mind occupied and to cause him to take a keen interest in the sport, for, even casting alone without catching fish is, I think, interesting on water where there are even very few trout and where they seldom take. I cannot imagine anything more enjoyable than to be on a nice sheet of water, with an equally enthusiastic angler, (I, of course, mean fly fisherman), slowly drifting along and occasionally picking up a trout of from say one pound

to about two or three pounds. I do not require many fish to make the time pass pleasantly; it, indeed, passes all too rapidly. When you come to count up your fish at the end of the day you may find that you have not very many to show, but that does not matter, nor does it worry you, as you are not after numbers, but real sport, and if I have half a dozen fish I am quite content. I am sure one cannot feel the same satisfaction after spending a day with the bait, especially if the fly fisherman makes his own tackle,—rods, flies, casting-lines, etc. I experiment to a large extent every season with flies of various patterns, (chiefly my own) and it is amusing and instructive to note the peculiarities of trout taken from the same water and at the same time of the year. A fly that proved killing the previous season will perhaps not tempt a single trout the following year. Sometimes they show a marked preference for a certain gaudy fly, or for several patterns of gaudy flies, and, at other times, they will not look at them, but take the sombre colors,—greys, duns, olive, greens, etc., with remarkable greediness. I am referring to fishing at the very same season of each year, say 24th of May. You will notice, also, a marked change during the same day. I have sometimes changed flies till I have got tired of experimenting, and, after going back to one discarded an hour previously, have found it to be the very one the trout were looking for. I always carry a large assortment, dressed on different sizes of hooks (from about size 10 to 3, old scale), and never consider that I have too many. If I have, it is a fault in the right direction, at any rate.

For lake fishing I think one should have a couple of the following standard patterns, on hooks 7 to 3, old scale, and as many of his own fancy flies as he desires: Parmacheene Belle, Grizzly King, Professor, Zulu, Silver Doctor, March Brown, Claret and Dark Mallard, Dark Montreal, Canada, Queen of the Water, Brown Hackle, Scarlet Hackle, Split ibis, Claret hackle, Holland's fancy, Governor, Fiery Brown and Alexandra.

It is not, I think, necessary to increase this list, as some of these flies are pretty certain to kill, if the trout are inclined to take a fly at all. I often find, in fishing

for both trout and black bass, that a very good method is to troll slowly with a long line, using large flies,—hook No. 1, old scale, being about the right size for trout. I use this size when casting and trolling for bass. Sometimes the large fish will take the fly if presented to them in this manner, when they would not look at it if it were cast over them. It is difficult to understand the reason for this, but it is a fact, nevertheless. Of course I prefer to take them with the cast fly, but this sport is, by no means, to be despised, and sometimes it is a question of taking them this way or not at all, unless one resorts to bait fishing, which I seldom do—never, in fact, if I can get them to look at the fly, or even expect to induce them to do so. For this kind of sport, that is lake fishing from a boat or canoe, I prefer a rod of 10½ feet, with which one can reach any spot desired, and it is not too long to be in the way or to be unwieldy. I prefer it of split bamboo, lance-wood or hickory and lance-wood combined, about seven or eight ounces in weight, without dowels. I have one or two of my own make, spliced, but do not think they are better than those with ferrules, and they are a little more trouble to put together, but not much, if one uses rubber tape. An enamelled line, size F, suits well for this purpose (say fifty yards). The casts should be made of good round gut, with double loops to open and shut, that is slide, for the purpose of inserting gut to attach to the flies. Take my advice in regard to the reel and do not use anything but a good revolving plate reel of ebonite, gun metal or aluminum. Multiplying reels are out of place on a fly rod as the line is always catching in the handle. There is no necessity, anyway, to use a multiplying reel for fly fishing. You can always reel up quickly enough with a plain click reel, even in salmon fishing, if you understand your business.

An excellent method of fishing for the large trout is to keep the boat still and watch for a rise and then follow it up; when within casting distance, drop your fly about a foot from where you saw the rise and he is very liable to make a rush for it. On a calm evening you may sometimes see these large trout put up their mouths and suck down a fly. One not ac-

customed to fishing very much might think it was a small fish, because it makes very little disturbance, but he will often find that these large trout do not jump or splash about. Sometimes they come up and show their back fin or tail and go down again. Cast near them and you will see a commotion in the water.

I will add just a few words about hooks, and that is that the Pennell turned down eyed hooks, to my thinking, are about the best for hooking and holding the fish.

Flies made on the eyed hooks are easily carried and changed, and they last much longer than if made with gut attached; besides this, your fly-book is not filled up with a lot of strands of gut. When you require to change flies the gut is soft and pliable and the change can be instantly made without the trouble of untying knots, etc.

I may later on give you a short paper on the trout fishing in May, if I can get out for a day or two about the 24th.

The C. F. A. Meeting.*

The Fifth Annual Meeting of the Canadian Forestry Association was held in the Reception Room, Legislative Building, Toronto, on Thursday and Friday, March 10 and 11, 1904.

Among those present during the proceedings were: Hiram Robinson, Ottawa; John Bertram, Toronto; E. Stewart, Superintendent of Forestry, Ottawa; T. S. Young, Toronto; Rev. A. E. Burke, Alberton, P. E. I.; President James Loudon, University of Toronto; Aubrey White, Assistant Commissioner of Crown Lands, Toronto; Professor W. L. Goodwin, Kingston; Thomas Southworth, Director of Forestry, Toronto; William Little, Westmount, Que.; Professor Filibert Roth, College of Forestry, University of Michigan, Ann Arbor, Mich.; J. W. Wardrope, Ottawa; F. G. Todd, Montreal; W. C. J. Hall, Montreal; E. G. Joly de Lotbiniere, Quebec; D. James, Thornhill, Ont.; James Gillies, Carleton Place, Ont.; N. Silverthorne, Summerville, Ont.; Norman M. Ross, Ottawa; E. J. Zavitz, New Haven, Conn.; Hon. F. E. A. Evanturel, Alfred, Ont., ex-Speaker Ontario Legislature; J. M. Macoun, Ottawa; George Y. Chown, Kingston; J. J. Bell, Editor Paper and Pulp, Toronto; Thomas Conant, Oshawa, Ont.; Marcel Hoehn, Berlin, Ont.; D. J. Cooper, Collingwood, Ont.; Professor H. L. Hutt, Guelph; Professor Reynolds, Guelph; Samuel S. Cann, Toronto; E. B. Biggar, Toronto; H. S. Peart, Guelph; Anson Groh, Preston, Ont.; J. H. Fauld, Toronto;

Arch. Hislop, M.P.P., Walton, Ont.; W. C. Caldwell, M. P. P., Lanark; Professor Creelman, President Agricultural College, Guelph; Samuel Russell, M. P. P., Deseronto; W. A. Charlton, M. P. P., Speaker Ontario Legislature; Professor Ramsay Wright, Toronto; Hon. E. J. Davis, Commissioner of Crown Lands, Toronto; William Houston, The Globe, Toronto; D. James, Toronto, G. B. Kirkpatrick, Chief of Surveys, Toronto; Professor Squair, University of Toronto; J. C. Shook, Dickson Lumber Co., Peterborough; Albert B. Leake, Inspector of Technical Education, Toronto; Professor Galbraith, Toronto; W. G. Keddie, Montreal; W. Ryan, Toronto; E. W. Rathbun, Deseronto; T. W. Gibson, Director of the Bureau of Mines, Toronto; A. Mahaffy, M.P. P., Bracebridge; Valentine Stock, M.P.P., Tavistock, Ont.; W. Anderson, M.P., Peterborough; Mr. Nash, — Macpherson, Longford Mills; R. H. Campbell, Ottawa.

The President, Mr. Hiram Robinson, spoke briefly of the importance of the work of the Forestry Association and expressed his great personal interest in it as a lumberman engaged practically in the business of cutting timber. He urged the necessity for the protection of the forests from fire.

The report of the Board of Directors showed an increase in the membership of the Association from 400 to 479, and in the life membership from nine to thirty-three. The receipts for the year, including

*Contributed by the Officers of the Canadian Forestry Association.



AN IDEAL SPOT,
A sportsman's winter camp on Okanagon Lake, B. C.



A GOOD "STRING"

These fine trout were taken in Okanagan Lake, B. C.

a grant of \$300 from the Ontario Government and of \$200 from the British Columbia government, were \$1,117.96, and the expenditure \$395.80, leaving a balance on the 31st of December last of \$722.16. Additional expenditure had reduced the balance to \$544.44, but this had been again augmented by a grant of \$200 from the government of the Province of Quebec. The kindness of these governments in supporting the work of the Association has placed it in such a position that it will be able to extend its work and carry it out more effectively.

The report referred to the loss that was occasioned by the fires which occurred during the dry part of the spring and the early summer of 1903, and, in view of the proposed construction of a transcontinental railway through the forested districts of the northern part of Canada and the projection of other lines, urged that the Association should give an expression of its views as to the necessary precautions to be taken to prevent danger to the timber.

The chief advances in governmental action during the year have been the extension of the Temagami Timber Reserve in Ontario by an area of 3,700 square miles, making the total area of the tract 5,900 square miles, or 3,771,000 acres, and the establishment of a new reservation to be known as the Mississauga Reserve, lying to the north of Lake Huron and estimated to comprise an area of 3,000 square miles, or 1,920,000 acres; and the establishment of a fire ranging system in the Province of Nova Scotia. As in the latter province the forest lands have largely passed into private hands, the system is to be based on the appointment of fire wardens for the counties, the larger forest areas in such divisions to assist in the payment of the service by means of a special tax.

The expansion of the co-operative tree planting scheme inaugurated by the Dominion Forestry Branch is shown by the fact that in 1901, the first year of operation, eighteen settlers were supplied with 63,780 trees, and for the present year, 1904, 1,030 settlers will be supplied, 1,700,000 trees having been provided for this purpose. The area of the Timber Reserves under control of the Dominion Government has been placed by a recent estimate at 9,686,880 acres, 3,449,600 acres

being in Manitoba, 5,612,800 in the North West Territories, and 621,480 acres in British Columbia. The Foothills Timber Reserve on the eastern slope of the Rocky Mountains has been opened for disposal under timber license, and as this watershed is of the highest value on account of the extensive irrigation works dependent upon its supply, the cutting, if allowed at all, should be under the most careful supervision.

Reference was also made to the necessity for a more scientific study of the conditions of forest growth and to the desirability of cooperation with other societies having for their object the beautifying of parks and streets by the planting of trees. The appointment of Forest Commissions by the Provinces of Quebec and Prince Edward Island was commended.

A discussion on the official organ of the Association resulted in the matter being referred to a committee, which later brought in a recommendation, which was concurred in by the meeting, that the Association establish an official organ devoted to forestry, and that the Executive Committee be empowered to bring this about as early as possible, such publication to be as practical and universal as circumstances will permit.

The first paper on the programme was by Mr. F. G. Todd, Landscape Architect, of Montreal, on "Our Native Forest Trees and Their Use in Ornamental Planting." The object of this paper was to urge the use of the native trees of Canada in the ornamental planting of our large parks.

The general effect and character of the park is too often lost sight of in a continual striving after striking details. Instead of considering broad effects and extended landscape views and dealing with broad masses of woods, wide meadows and groups of trees placed so that their form and shadow produce a pleasant landscape, our parks are too often turned into a museum for different kinds of foreign trees and shrubs. Parks generally have a character of their own, some special feature, which, if properly treated, may be accentuated and give us a park which will express its dignity and character in such a manner that we will feel at once that here is a park, not simply a repetition, but which was designed to suit its

peculiar location. Whether the special character of the park is due to some magnificent wood or whether it is due to extended views and broken topography, the future character of the park depends very largely upon the treatment which the existing woods receive and upon the trees which are planted from time to time to form new woods and replace the old and decaying ones. We are so accustomed to associating certain trees with particular scenes that when we find them under different conditions, or with different surroundings which do not seem appropriate, they do not give us the same degree of pleasure. The American elm, one of the grandest of our native trees, is almost always associated with pastoral scenes, standing singly or in stately groups in a meadow or overarching some farm house. To plant these elms as a forest, or on a steep and rocky hillside, will be to destroy their beauty and mar the whole character of the park.

The oak is one of the best trees for park planting; the red, the scarlet and the pin oak being the best. The white oak is slow of growth and difficult to transplant. The maples, beech, the American linden, and the black walnut are all beautiful in characteristic ways. The white willow is an artistic tree along water courses. Coniferous trees should be used only in masses. Street trees should be able to stand smoke and gas. The elm, the maple, the linden, and the oak, are useful for this purpose.

"Forest Reproduction in Germany," is the title of a paper by Dr. A. Harold Unwin, formerly of the Dominion Forestry Branch, now of the Imperial Forest Service. The forests of Germany occupy twenty-five per cent. of the total land area, sixty-six per cent. of the forest being coniferous, mainly Scotch pine and Norway spruce, and the remainder being beech and oak. The rise in prices from 1745 to 1890 was as follows; taking 1875 as 100: Beech, maple and oak from 14.67 to 120.00; birch to 116.67, and spruce from 7.14 to 135.71. In the eighteenth century cutting had been quite haphazard, but for the period above mentioned definite plans were made showing exactly what could be cut on certain areas permanently without endangering the existence of the forest. Calling the

growing trees in a forest the forest capital what they took and take is only the interest or what actually grows each year in wood, and with increased care and better management that capital has been increased from 26,040 feet b. m. to 31,800 feet b.m. per acre and the interest taken still greater in proportion. At the present time spruce pays at about four per cent on the capital represented when grown pure under a rotation of ninety years.

The forests of Germany are mainly situated in the mountains of that country, where 70 per cent. to 80 per cent. of the land is under forest. Besides this the largest areas are the sandy heaths in Hanover and East and West Prussia, so that really only about ten per cent. of the forests are growing on good agricultural land, generally in river valleys where the land is subject to floods. The Prussian State is buying up poor sandy land, that is going out of cultivation and planting it with pine. During the last twenty years \$500,000 have been spent annually for this purpose. On the other hand certain tracts of really good land have been sold and denuded of trees. The white pine is growing on small areas aggregating about 5,000 acres, but the results show that it can be profitably grown or reproduced either by self-sown seeds or planting with three-year old trees. In the former method the old and original crop is gradually removed, leaving spaces as much as half an acre where the young trees come up in large numbers, the needles and twigs on the soil decaying rapidly when exposed to atmospheric agencies and thus forming a good seed bed. When the area is seemingly well-stocked more of the old trees are taken, still, however, leaving a few so as to insure all spaces being filled in. The spruce is largely reproduced by planting on, or about ninety per cent. of all areas. In a few localities it is left to reseed itself, this being done by cutting the forest in strips transverse to the prevailing winds, gradually widening from a first cut of three-quarters to a tree's length in width. A rotation of eighty-five to ninety years is adopted and yields timber of sixteen or eighteen inches square, on medium soil.

Mr. John Bertram, chairman of the Dominion Transportation Commission, read a paper on "Forest Management." First

commending the recent extension of the forest reserves in Ontario, he called attention to the fact that there is still a very large area of country extending along both sides of the watershed between Georgian Bay and James Bay waters, quite unfit in a general way for grain growing, but well suited for the growth of conifers, by which it is at present generally covered. The land is in possession of the Government and only a small portion of it is under license. Within this area stands a large proportion of the white and red pine not yet sold and how to deal with this remnant of what was once a mighty forest is the present question. The policy pursued by the Department of Crown Lands in selling only red and white pine is open to question. It is desirable to encourage the growth of the most valuable woods but only the less valuable species such as spruce, balsam, and hemlock, are left when the pine is cut. At the end of fifteen years the berth will go back into the hands of the Government covered only with inferior trees.

The extending of the reserves to cover lands under license to lumbermen is also important. The idea of pine not succeeding pine is passing away. Because a license has been sold covering a district, which is more fit for forest growth than for farming, is an additional reason why it should be retained for that purpose and placed in the forest reserve permanently. No question can then come up between lumbermen and settler, such as has caused so much bad feeling.

What is to be done for the large area of land suitable both for farming and forestry, such as the Muskoka district? Muskoka is a beautiful and healthful country with a bracing and invigorating climate, mostly hilly, with innumerable streams and lakes of clear water abounding with fish and game, an excellent example of the country found within the Laurentian range, the hills as a rule not rising more than a few hundred feet and covered with trees. In such a district, instead of trying to make a living as a farmer only, the proprietor should be encouraged to acquire a large area and become a forester. The ideal condition for the district would be for the proprietor to own say one thousand to twelve hundred acres, cultivating

the good part and keeping the rest in forest. The occupation of forester and farmer would appeal to the people. Closer attention to the management of the forest would mean a greater return. There are many farms in the old settlements that could well be planted out. All uneven and hilly ground should be utilized for this purpose. It would be well also to give the township power to acquire abandoned as denuded lands to be held as a municipal property. In time they would become valuable and a source of income.

Professor James Loudon, principal of the University of Toronto, read a paper on "Forestry Education." He explained the necessity for education in forestry, and outlined the course in the Yale Forest School, which covers a period of two years, and includes thorough training in the sciences on which forestry is based, including botany, geology, mineralogy, meteorology, engineering and zoology. Twelve weeks are given to practical forestry in the woods. It is not to be understood that a young man having completed this course is a fully trained forester. It might not be expedient to put these young men at once in charge of large forest interests, but the scientific basis has been laid, although like all other professional men, such as doctors and others, he lacks experience and the development of his powers to face new problems.

But what opening will there be for graduates? The improvement in lumbering methods, especially on the reserves, will provide this. The United States have begun to use the forest in a profitable way by getting expert assistance to help in the arrangement of plans of management of wooded properties. Scientific investigations are being made, such as that into the cause of rot in timber. The spheres of usefulness for the forester will be: (1) as superintendent of Crown forest lands; (2) as an adviser to the lumbermen; (3) as a guide to the farmer.

A paper on "The Systems of Administration of Timber Lands in Canada" was read by Mr. Aubrey White, Assistant Commissioner of Crown Lands for Ontario. Mr. White traced out the evolution of the regulations in Ontario and Quebec from the time of the French regime, when in grants of Crown lands to the Seigneurs, the oak

timber, and later on the pine, were reserved to the King, and did not pass with the soil. When the British took possession the Governor's attention was directed to the timber question. Pine was reserved to the King for naval purposes, but the Governor went a step further and issued instructions that areas containing quantities of pine were to be reserved absolutely, no settlers were to be allowed in them and no saw mills were to be erected anywhere near pine reserves, except by his express permission. Early in 1800 licenses to naval contractors to cut timber were granted, and in 1826, by proclamation of the Governor, permission was given to anyone to go into the forests along the Ottawa River and its tributaries and cut timber, subject to dues, this being the first provision for a reserve to the Crown. After the union of Upper and Lower Canada new regulations were promulgated, licenses being granted for fixed periods. As a result of the report of a Commission appointed in 1819, the Crown Timber Act was passed, which gave authority to the Lieutenant-Governor to fix the regulations. No license was to be granted for a longer period than twelve months, and **all the licenses** expired on the 30th of April in each year. Settlers or squatters cutting without authority, if they cut any timber except for building, fencing, clearing, etc., were to be treated as trespassers. Actual settlers were not to be interfered with in the clearing of the land.

In Ontario the Commissioner of Crown Lands may issue licenses after sale by public auction, a reserve bid being fixed, but not made public. Ground rent runs from \$3 to \$5 per mile, and dues on pine timber from \$1 to \$2 per thousand feet. Pine logs, pulpwood and hemlock bark are required to be manufactured in Canada. Fire rangers are placed on all licensed lands, one-half of the cost being paid by the licensee and the other half by the Government.

In Quebec limits are also disposed of by public auction at an upset price made public at the date of sale. Ground rent is \$3 per mile and dues on pine from 80 cents to \$1.30. Pulpwood must pay 25 cents additional per cord if exported. Fire rangers are appointed by the Government upon the

recommendation of the licensees, and are paid by a fire tax upon the limits.

In New Brunswick limits are put up to public auction. The area is not to exceed ten miles, and the ground rent is \$8 per mile.

In Nova Scotia the Governor-in-Council may issue leases to cut timber for a period of twenty years. The price is to be forty cents an acre, if timber below the diameter of ten inches is not cut. If timber is cut to five inches, the price is fifty cents per acre. Non-agricultural land may be leased for pulp purposes.

In British Columbia limits may be sold by public tender. The annual ground rent is \$160 per mile, and the dues fifty cents per thousand feet. The lease is for a period of twenty-one years. Special licenses for 640 acres, and for a period not exceeding five years, may be issued by the Commissioner. "Hand licenses" are granted for one year for small quantities. **Timber** must be manufactured in the province.

Under the Dominion regulations limits are granted by public competition. The ground rent is \$5 per square mile, except west of Yale, where it is \$32, and the dues are fifty cents per thousand. No examination of the land is made or upset price fixed.

A paper on "The Laurentides National Park" was read by Mr. W. C. J. Hall, of the Department of Lands, Forests and Fisheries of the Province of Quebec. This extensive reservation consists of the territory situated to the north of the City of Quebec, comprising 2,650 square miles, or nearly 1,700,000 acres, and was created a park by act of the Legislature on the 12th day January, 1895. About 1,000,000 acres is timbered territory, bearing probably 3,000 feet b.m. to the acre. The cutting of timber is not prohibited. Large areas are under license and some are being operated. So far the limit-holders have removed only the mature growth, which system of cutting, when properly controlled, eventually improves the forest and induces a faster and healthier growth of the residue. Should at any time the nucleus of forest growth in the park be threatened with extinction, legislation of a special nature could be enacted, modifying the rights of licensees, and thus preserving the territory for all time in forest. The cutting of

timber may interfere with fish and game, but there is not sufficient weight in this objection. The protection of the forest from fire has been provided for. No forest fires of a serious nature have occurred within the Park since its creation. No burn has started within its boundaries.

The importance of this reservation, for its effect on the water supply, is shown by the fact that in 1903 the log drives on the north of the St. Lawrence, where the head waters of the streams are wooded, came out, while to the south, where many of the rivers take their rise in settled districts or very near thereto, and are to a greater or less extent settled along their banks, the drives were in many cases only partially successful or even less, except in the Gaspé peninsula on the southern watershed. It would be well to have some wood left along the rivers. Where the earth slide occurred on the Ste. Anne River there was no forest growth. The rain has permeated the surface, lubricating the sub-stratum and thus released and set in motion the whole mass, causing devastation and loss. A network of roots in the soil would probably have helped to prevent this. At any rate no landslides have occurred in the Park, while landslides have occurred outside of it on the same river.

Trout are numerous in the Park and the major portion of it is free from coarse fish, they being unable to ascend the falls. Namaycush is found in Snow Lake. In several lakes and rivers the brook trout attains a size of seven to ten pounds. Moose are plentiful and the barrens in Charlevoix County are famous for caribou. On these barrens there is no forest growth, but they are covered by reindeer moss. The feathered game include willow grouse, ruffed grouse, ducks, geese, plover. The fur-bearing animals are beaver, black bear, otter, mink, marten, fisher. The increasing value of timber and the increasing ranks of sportsmen makes more and more necessary the setting apart of reserves.

A paper on "Forestry in Relation to Irrigation", prepared by Mr. J. S. Dennis, Irrigation Commissioner for the Canadian Pacific Railway Company, was read.

Forestry in Southern Alberta and Western Assiniboia has an aspect not met with elsewhere in Canada. The districts refer-

ed to contain vast areas of prairie, now recognized as being semi-arid in the sense that during recurring long cycles of years the rainfall is insufficient for the successful production of grain or fodder crops, and irrigation has to be adopted to correct nature's shortcomings. During these dry years many of the smaller drainage channels, and most of the surface supplies of water in swamps and small lakes dry up, and stock watering on the open range becomes a serious matter.

Water, it will therefore be seen, plays a more than usually important part in the development of this part of the "Great West", and its conservation is a matter of vital interest. In that conservation forestry takes first place.

The eastern slopes of the Rocky Mountains and the foothills adjoining, which bound on the West the district under discussion, constitute the great water shed of the region, and all the large streams and main drainage channels of the district head in, or obtain their water from this great run-off area. This watershed is useless for agricultural or grazing purposes, and aside from a small amount of second-class merchantable timber, its great value is as a catchment area to furnish water to the thirsty plains lying to the east. It would, therefore, seem unnecessary to have to advance arguments to support the claim that this watershed should be preserved in a condition best calculated to maintain and improve its usefulness as a catchment area. Unfortunately, however, both official and public opinion and knowledge on the subject are very much in need of education, and the Forestry Association is certainly the proper medium for instilling this required knowledge.

The watershed in question was originally well covered with timber, and in spite of devastating fires and lumbering operations, is still fairly well forested. However, each year sees its timber disappearing, and the restraining influence of the reservation of the area as a forest reserve, instituted some years ago, has fortunately now also been removed. That the removal of the timber means diminished water supply for irrigation and the allied industry of stock raising should be self-evident. Timber on any watershed is the most satisfactory method of storage of

water supply. Its removal is always followed by violent freshets followed by periods of extreme low water in the drainage channels.

With the completion of the large undertaking, which the Canadian Pacific Railway Company now have in hand, the mileage of irrigation canals will be increased to at least seven hundred miles; the irrigable area to two million acres, and the capital invested in irrigation undertakings will reach the large total of at least seven million dollars.

Certainly there is no phase of the subject of forestry which at the present time is of greater interest to the people of Southern Alberta and Western Assiniboia, and realizing its importance it is to be hoped that this Association will place itself upon record regarding the desirability of preserving the timber on the watersheds from which the supply of water for irrigation must come.

Professor H. L. Hutt, of the Ontario Agricultural College, Guelph, dealt, in an interesting paper, with "Some Ontario Forest Problems." In the older settled districts the proportion of woodland in some counties is down as low as eight to nine per cent. The disastrous results of this denudation are shown in the spring floods and the effects on climate are more noticeable year after year. One of the first problems to deal with is to arouse a more or less indifferent public to the necessity of taking immediate action to check any further removal of the forests and to encourage them to reforest those areas which should never have been cleared of trees. Organization, education and cooperation have been the watchwords of the Department of Agriculture in developing the agricultural resources of the province, and these will be the watchwords in promoting farm forestry. As the Minister of Agriculture has already announced, an educational campaign will be commenced among the farmers to place the matter before them in its proper light. The Farmers' Institutes have been the schools through which the farming public has been effectually reached in the past and they will be utilized in this case. Some of the prominent points to be emphasized in the

campaign will be the economic value of the woodlot as the source of supply for fuel and for manufacturing purposes, and the proper management of it so as to get the greatest possible growth of the most valuable species, adapted to the ground and surrounding conditions, the rational harvesting of the wood crop in the same way as any other crop, when it has reached maturity, the best methods of securing natural regeneration and continuous cropping, and in this connection the reckless waste caused by allowing cattle to browse at will in the woodlots, which is indeed more wasteful than allowing them to pasture at will in the cornfield.

A forest nursery is to be established at the College this spring, from which it is hoped it will soon be possible to send out thousands of young forest trees to assist the farmers in tree planting and reforestation. Complete details for the management of this work are being worked out, but in brief they will be based on the same plan of education and cooperation which has already proved so successful in the cooperative experiments in agriculture and horticulture carried on by the Experimental Union. Farmers who wish to improve their woodlots, establish shelter belts, or to start forest plantations, will be given an opportunity to cooperate with the College, and young trees suitable for the purpose will be furnished from the College nursery. This material will not be given away indiscriminately, but will be furnished on condition that the recipient agrees to follow the printed directions furnished with it, will properly care for it and will report the results at the end of each season as long as may be required. The trees selected for this purpose will be some of the most valuable forest species of the coniferous and deciduous trees.

The discussion of the subjects was very much assisted by the presence of Professor Filibert Roth, of the School of Forestry, Ann Arbor, Michigan. Professor Roth gave an interesting sketch of the development of the German forest system from the beginning, in the hands of the huntsmen foresters to the perfected system of the present day, and also outlined the present position of the forests of Michigan. This State is now obtaining control of denuded

lands disposed of for taxes, with the purpose of holding them for forest purposes.

Resolutions were passed urging the protection of watersheds, the establishment of a School of Forestry in Ontario, the changing of the period of the setting of fires for clearing land in the Province of Quebec, and the protection of the forests on the route of the new transcontinental railway.

On Thursday evening a dinner was held at the King Edward Hotel, which was very much enjoyed. In reply to the toasts, speeches were made by Mr. St. John, M. P.P., Hon. John Dryden, Valentine Stock, M.P.P., Professor Filibert Roth, Professor Ramsay Wright, Mr. G. Y. Chown, and others.

The election of officers resulted as follows:—

Patron—His Excellency, the Governor-General.

Hon. President—William Little, Westmount, Montreal, P. Q.

President—Aubrey White, Toronto, Ont.

Vice-President—E. G. Joly de Lotbiniere, Quebec, P. Q.

Secretary—R. H. Campbell, Ottawa, Ontario.

Treasurer—Norman M. Ross, Ottawa, Ontario.

Board of Directors—J. R. Booth, Ottawa, Ont.; Prof. John Macoun, Ottawa, Ont.; Thos. Southworth, Toronto, Ont.; Wm. Saunders, L.L.D., Ottawa, Ontario; John Bertram, Toronto, Ont.; Hiram Robinson, Ottawa, Ont.; E. Stewart, Ottawa, Ont.; H. M. Price, Quebec, P.Q.

Vice-Presidents for the Provinces—Hon. J. W. Longley, Halifax, N.S.; His Honor J. B. Snowball, Fredericton, N.B.; Hon. S. N. Parent, Quebec, P. Q.; Hon. E. J. Davis, Toronto, Ont.; Lieutenant-Governor of Manitoba, Winnipeg, Manitoba; His Honor Lieut.-Governor A. E. Forget, Regina, Assa.; Wm. Pearce, Calgary, Alberta; F. D. Wilson, Ft. Vermilion, Atha.; H. Bostock, Ducks, B. C.; Rev. A. E. Burke, Alberton, P.E.I.

A Pleasant Vacation.

By "WESTMOUNT."

Having been troubled with ill-health for some time and being successful in obtaining leave of absence for four months I decided to make the best of my time and build myself up by living as much as possible an outdoor life.

I left Montreal on July 1st, and lived in a tent for ten weeks at Lac Tremblant, in the Laurentians, where I enjoyed the best fly fishing any one could wish for. The trout in this lake were exceedingly large, and hardly a day passed without the capture of a dozen or so, weighing from one pound to three and three-quarters pounds, and the streams running into the lake afforded us great sport in pulling out the little fellows—brook trout. The game in this particular region was scarcer than in former years, owing to the forest fires; partridge here especially seemed to be very hard to find, although after the season opened we succeeded in bagging a few, and shooting a deer, which change of bill of

fare was very acceptable to those in camp.

Being quite restored by this open-air life, I started for the west on a shooting trip, accompanied by a friend from Vermont, who is recognized, among his shooting friends by the name of "Stubb", as being one of the best wing shots in that state. We left Montreal on September the 15th, taking two pointers with us, neither of them having hunted prairie chicken, but "Clip", Stubb's dog, was thoroughly broken to woodcock and grouse. "Olive", who, by the way, is a daughter of Champion Bessie Bang II., had never been shot over, but the writer had her under splendid control.

The trip to Winnipeg, our first stopping place, was uneventful, but luxurious. We amused ourselves playing cards, and Stubb tried to purchase articles from Indians, who got on and off stations west of North Bay. One old buck especially rigged up in all his toggery took our fancy, and Stubb

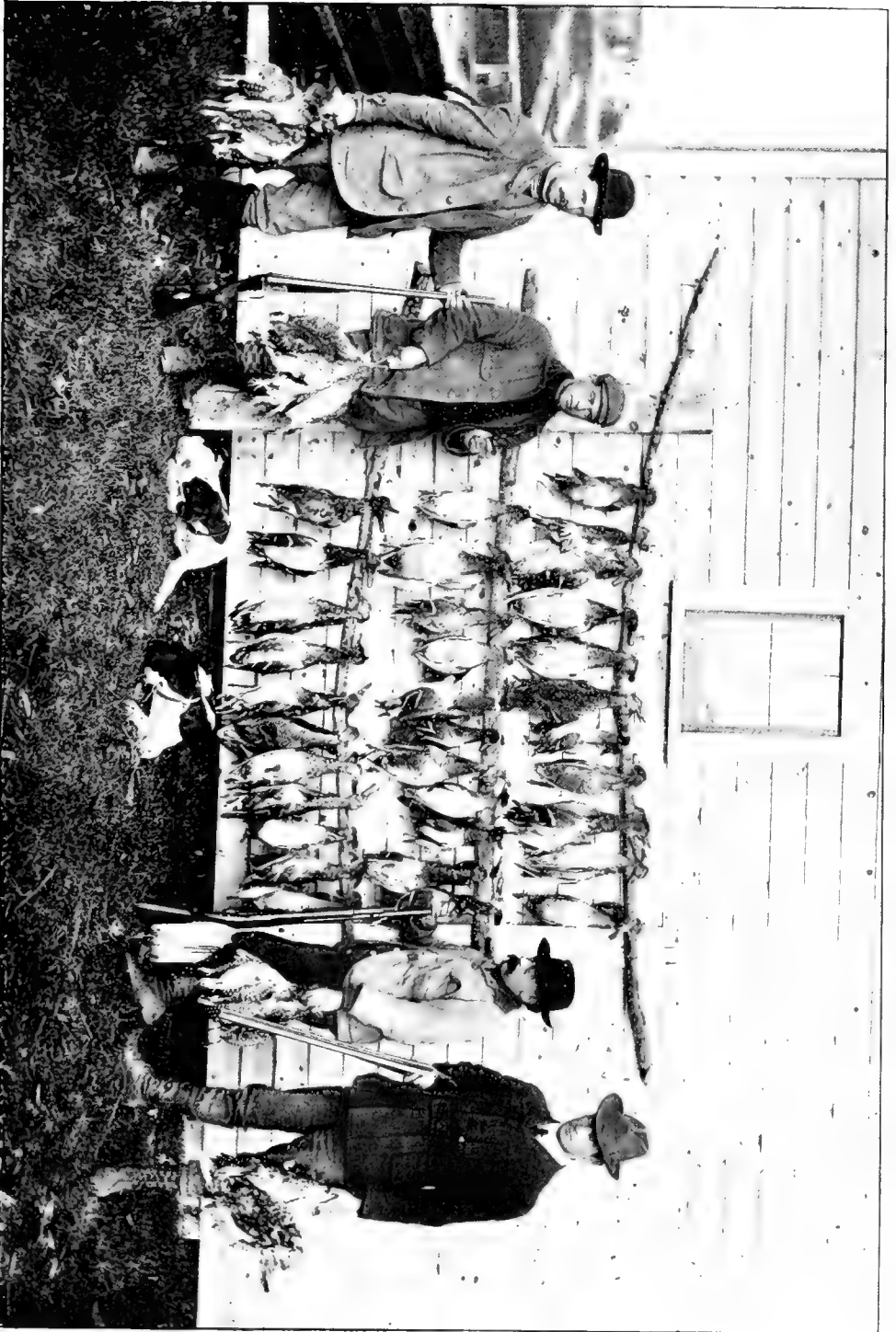
did his best to get up a conversation with him, but without success, for he could neither speak English nor French, and the only answer we could get from him was "Waugh," or a grunt. We tried to make him understand that Stubb wanted to buy his mooccasins, or belt, but he didn't seem to know what money was (lucky man!). Arriving in Winnipeg on Thursday, the 17th, we took in the sights of the town, which is one of the finest cities of the Dominion, and the people gave us a good time; but, then, they are noted for their hospitality. Whilst walking down Main street we went into Hingston Smith's to buy ammunition, and there met a Mr. T., who, after hearing we were fellow sportsmen, from the East, kindly offered to initiate us into chicken shooting. As our time was our own, we of course jumped at this offer, and thought it a splendid opportunity to take the stiffness out of the dogs after their three days' confinement in a baggage car.

That afternoon we reached St. Agathe, a small station twenty miles from Winnipeg, and a choice spot for chickens. There we were met by a guide with his team, and as we still had an hour before sunset we immediately took our guns out of their cases, filled our shooting coat pockets with shells, and decided to walk to our guide's house, leaving our extra luggage in the buggy. Our first field was a wheat stubble, which we were told was a likely place for chicken at this hour. Stubb started down the right with "Clip"; T. in the centre, and I, with "Olive," on the left. As soon as the dogs were let loose, Olive, as I expected, tried to break a record and see how fast and how far she could run without stopping, while good old Clip, or as Stubb sometimes called him, the Mud Turtle, was quartering slowly, as if he were in a wood-cock cover in Vermont. Birds were flushing right and left in front of Olive, and as she was chasing them, we held a council of war to decide what we should do to keep her within bounds.

T. proposed to weight her with a heavy horseshoe attached to her collar, but I thought it better to take her off by myself and give her another trial first. This I did, and after a little chastisement, she settled down and worked beautifully, for we had not gone over a hundred yards

when she scented game; such a sight, there she stood as staunch as a rock, her right fore foot raised, tail straight, and every muscle showing up like whip cord. All lovers of sporting dogs can readily understand what pleasure this gave me. After watching her for a few minutes, I commanded her to mark, and walked past her, when up rose a single chicken, and as usual I missed it with my first, but got it with my second barrel. This being my first chicken, I examined it thoroughly—so did Olive—and she, I think, was more pleased than I. From this out she gave me no more trouble, but found birds and stood them until we got up to her. All this time, away over to our right, Clip was doing his duty nobly, so Stubb and T. were bagging game. Before going any further, I will hear say that Stubb used a Winchester 26 inch barrel all through our trip, and I never once saw him miss a bird within range with his first shot, while he was invariably calling me down for shooting hastily and missing with my first. My gun is a Parker—but it is was not the gun's fault that this happened. Upon reaching the guide's house we emptied our pockets and found that the pop gun had beaten us out, Stubb having got seven birds, whilst T. and I shot four apiece.

After a good supper and a smoke, we enjoyed a comfortable night's rest, and next morning started bright and early for an all-day's shoot, the details of which I need not go into, with one exception. When returning home that night, and only a short distance from the village, we passed a likely wheat stubble, and I said, "that looks to me to be a good spot for chicken," but T., who was driving, and is well acquainted with the country, remarked that it was too close to houses, and as he was saying this, Stubb shouted out, "I see one as big as a turkey, right close to the road." We jumped out of the wagon, dogs and all, and secured eight birds in as many minutes. While crossing the field back to the buggy, a very large covey rose, and we marked the spot where we thought they had dropped, T. and I going after them, Stubb returning to the horse. As it was now dusk, we found that our eyes had deceived us, but Olive, whose scent was better than our sight, had found them over to the left and was pointing at



NORTHWESTERN SPORT.
Result of one day's sport at Black Mud Lake, Edmontan, N. W. T.



WHERE ICE IS KING.

A scene amid the glaciers and peaks of the Selkirk Range.

a small patch of scrub. T. went one way around and I the other. He shot six and I five without either of us moving an inch after our first shot, for the birds had settled for the night and were very reluctant to move away, only rising in ones and twos, giving us time to reload. Poor Stubb in the distance thought a battle was being fought, from the number of shots fired. Here, again, Olive worked perfectly, for she stood until every bird had risen. That night we had fifty-five chicken, and next morning having two hours before train time at our disposal, the guide took us to a marsh, where we enjoyed first-class snipe shooting, and Stubb managed to bag one duck. This finished our shooting in Manitoba. When we arrived in Winnipeg we distributed the game to the few friends we had made, and after bidding good-bye to T., that night saw us on our way to Calgary.

For a long time I had wished to see the prairie, to be able to gaze as far as the eye could see over miles of open country, without even a single human habitation in sight, and at times the next day this desire was gratified. Occasionally we saw a lonely ranch far off in the distance, a herd of cattle grazing, a coyote loping along in search of grub, and the little gophers sitting on their mounds.

We spent hardly any time in Calgary, arriving there at 2 a. m., and leaving for Edmonton at 8.30 a.m. The scenery was now entirely different from that of the Rockies, Calgary being eighty miles from them, but the atmosphere is so clear we were able to discern them quite plainly. It is very hilly all the way to Edmonton, also lots of scrub. The train passed by hundreds of sloughs just filled with myriads of ducks of all kinds, which made our trigger fingers very itchy.

We reached Edmonton that evening at six o'clock, and found our friend, J. I. M., waiting at the station for us. A little bird must have whispered we were coming, for I meant to take him by surprise. We had intended stopping at the hotel, but J. I. M. insisted on taking us to his own home, even though Stubb was a perfect stranger to him, where his wife and sister-in-law gave us a hearty welcome. For the two weeks we stayed there nothing was too good for us. In Edmonton we met an old

friend from Montreal, who is now one of the leading lawyers there. Jack is a capital shot, and a good fellow all round. We saw Edmonton at a great disadvantage, for the weather had been wet, hence the roads were very bad, but the town itself is a pretty place, situated as it is on a hill, overlooking the Saskatchewan, and one of the interesting sights is the old Hudson's Bay fort, which is used by the company to this day. After looking around the town for a day we thought it time to have a go at the ducks, which we heard were very plentiful, so J. I. M. made arrangements to call for us the next morning and take us to a small lake (I have forgotten the name), about thirteen miles from Edmonton, on the Athabaska trail. On the way we met several large loads of fur, principally musk-ox and black marten, these having travelled over a thousand miles, and which were being taken to Edmonton to be sorted before shipping.

About two miles this side of the lake we passed a wheat stubble, and as J.I.M. was very anxious to see how the dogs worked, Stubb, he and I got out with our guns and walked across the field, picking up about a dozen birds. In this locality the hunting was very different from that of Manitoba, for the country is wooded and suited good old Clip to a "T". We ate our lunch, driving along the road, and arriving at the lake left Walter to hobble the horses, and pitch camp, while we three took different directions through the marsh. That night we returned to the camp laden with as great an assortment of ducks as any one could desire. Canvasbacks, mallards, red heads, black duck, blue bills, grey ducks, pintails and green and blue wing teal. We shot until 11 a.m. the next morning, and after lunch drove back to Edmonton, with the bottom of our large box wagon so full of game that we had no place to put our feet. We kept enough for our own use, and gave our friends the rest. Our bill of fare for the next few days was fried prairie chicken for breakfast, canvas back or mallard for dinner, and teal for supper, and as we all had real hunters' appetites, you may be sure we relished our meals.

We rested for a day, and then started for another two days' trip, when Jack and J. I. M. took us to Black Mud Lake (the

name is very suitable). This time we stayed in a breed's house, but took our own grub, which one of the squaws cooked for us. There is one little incident I would like to relate about Stubb's wonderful shooting on chicken. Just before starting for the lake one of the little breeds told him he had seen some chicken on the other side of the hill, so J. I. M. and Stubb went after them. They had not gone far when Clip found game, and that little pop gun brought down four birds with as many shells, and it would surely have got the fifth had there been another cartridge in the gun, but Stubb shouted: "Shoot, shoot, I have no more shells," and J. I. M. scored a hit at a good seventy yards.

The breed said the best shooting on the lake was flight shooting, which did not start till 5 p.m., and the chicken seeming to be plentiful around here, we thought it better to spend most of the day with the dogs, and had good sport. About 4 p. m. we returned to the breed's house, and after some refreshment, which was not out of a ginger ale bottle, we went to the lake, and stationed ourselves at different points. The water in most places was quite deep and often came within half an inch of the top of our waders; and as Stubb and I are considerably under six feet high, and our waders came almost up to our necks, it must of been very comical to the others to see us struggling through the water, holding aloft our guns in one hand, and a hundred shells in the other. There were lots of muskrat houses, so we found it convenient to keep our shells on them, and sometimes our guns, if we wanted to warm our hands before the flight commenced; then the ducks came so fast it took no time to use up seventy-five to one hundred shells. As we did not pick up our dead ducks till we had finished shooting, we had great difficulty in finding and taking them to shore.

I certainly prefer the duck shooting in the East; for in the West they are so plentiful one does not need to be a good shot to bring down a dozen in an evening's flight. We stayed another night in the breed's house, and drove back to Edmonton the next morning, the dogs hunting all along the trail; so we picked up

quite a number of chicken and partridge, as well as a couple of plover.

We made two more trips to Black Mud during the next week, both being very successful; but the last time the ice was half an inch thick along the shore, and we found it hard work getting out to the centre. This ended our duck hunting, for our time was now limited, and we wanted to take in three or four days' goose shooting at Moose Jaw on our way home.

J. I. M. had taken such a fancy to both Clip and Olive that we made a present of them to him, and I hear they are thriving well in their new home out West. We spent one more day in Edmonton, and then parted very reluctantly from our friends, as well as from our faithful dogs.

At Calgary, where we had to wait about five hours to make connections, we fell in with a stranger, who was also pleasure-seeking, and now on his way home after spending a month in the Rockies, hunting big horn and goat, and many an exciting story he told us about big game. He had been hunting in company with a German Count, so we christened him Count for the short time we were together. When we proposed to him to accompany us on our trip to Buffalo Lake, twenty-seven miles from Moose Jaw, he said he would be only too glad to embrace the opportunity, provided he could get the loan of a shot gun. We easily overcame that difficulty, for Stubb carried an extra gun with him. Arriving at Moose Jaw, it took us some time to procure grub and ammunition, also hunting licenses. We received very contradictory advice as to what shot we should use. Some old hunters claimed they always used No. 4 shot for geese, while others said that was altogether too small and advised us to get B. B., so we compromised and bought Nos. 1 and 2. The drive to Buffalo Lake was very uninteresting, and we amused ourselves by using the Count's rifle, plugging away at gophers and coyotes. About half way there we met Mr. Black, who was on his way to town with a load of grain, and once more Western hospitality was extended to us, for he said that when we reached his house—which happened to be in the goose region—we were to teil his wife he had given us the use of the stable, as the house was too small to accommodate so many

more. Mrs. Black and her daughter gave us a hearty welcome and insisted on doing all the cooking for us.

We went out to the line of flight that evening, but the Count was the only one lucky enough to get any geese. That night we slept in the stable, which was also occupied by fourteen horses and a litter of pigs, about two months old. We made our bed four feet high of nice clean straw, then placing a blanket on the top of that, we had a bed fit for a king. The stables out there are very different to those in the East, lumber being so scarce they only have a pole between every two horses. The Count and I were lucky enough to sleep in the middle, and Stubb and the liveryman, (who, by the way, was in South Africa with the Strathcona Horse) on the outside. Next to Stubb was an old grey mare, that was also lying down and seemed to enjoy pounding him with her feet—he didn't enjoy it a bit. Every now and then we would hear him abusing the poor, old thing, and telling her to move over. On the other side of us the liveryman was having almost the same fun with a little bronco, for the critter's chief desire was to eat the straw from under the veteran's head. Stubb and his old mare, the liveryman and his bronco, and the little pigs grunting around our feet, were altogether too much for the Count's gravity and mine also, for we laughed until we were tired, but at the same time congratulated ourselves that we were in the middle of the bed. Naturally we were out very early the next morning.

It was just daybreak when we were in the field waiting for the first flight. We could hear the geese hawking a long time before they came in sight. Stubb and the Count got good sport, but I was too far to the right to be in it, so had to wait for my turn. Just when I thought all the geese had passed, and was about pulling up the decoys to go back for breakfast, I saw four birds coming my way, but could not make out exactly what they were, as I knew they were not geese. I kept very low in the blind until they were about fifty yards from me, and then they swerved off to the right, so I jumped up and got doubles; one of these had just a broken wing, and it called, and the other two circled back, and I got doubles again. Then I

started after the broken-winged fellow and he gave me a lively run across the prairie. I wanted to catch him alive, but when he saw he could not get away, he stood at bay and defied me. He was very savage and I had to shoot him in self defence. Imagine my astonishment and pleasure when the Count informed me that I was "the luckiest man on earth", for I had shot four specimens of the scarcest game in the Northwest, viz., sand-hill cranes.

On returning to the house we enjoyed a real New England breakfast, as we had home-made sausages and heaps of griddle cakes. We kept track of the number the Count got away with, and when he had eaten his fourteenth, we refused to let Mrs. Black cook any more. That forenoon we plucked and dressed one of the cranes, as well as a goose, and our kind hostess had them cooked for dinner. We all pronounced the sand-hill crane fine, for none of us had ever eaten any before. So far I was the only one that had got no geese, and as this was our last afternoon, I was afraid I should have to return East without getting one. That morning I had noticed that there were long lines of geese leaving the lake about a mile east of the house, so I left the others, saying I was going off by myself, and I started for that point. As it was quite a long walk, I did not take any decoys. It was now about half past one, and there were lots of geese flying around looking for feeding grounds, and when I had reached the wheat field, I at once commenced building a blind out of stooks, and had hardly got it finished when I saw a large flock coming my way, flying low in a V shape. They flew three times over this feeding ground looking for a place to alight before they came within range. I waited until they were thirty yards off, then jumping up quickly I pulled on the leader, who happened to be an 11-pound gander, and he fell, as well as the tail-ender, which I got with the left barrel. After placing these two as decoys, I had splendid luck for the rest of the afternoon, and did not reach the house till long after dark, and the rest of the boys were getting very anxious, but were quite pleased to see me laden down with geese.

Next day was Sunday and we amused ourselves by hunting for good specimens of

Buffalo bones, which were very plentiful there, for this must have been one of their best grazing grounds, and their trails and wallows can still be seen distinctly to this day. On the way back to Moose Jaw the Count showed us what a splendid marksman he was with his rifle, by shooting a badger at about a hundred yards, clean through the head, it being the only part discernible, its body being down in the hole. It must have weighed at least forty pounds, and I could safely say there is not a fox terrier that could have drawn this fellow. The claws on his front feet varied from one to one and a half inches in length

and I should judge he would have made short work of a dog.

The Count travelled with us as far as Winnipeg, going south from there, while we proceeded east.

We arrived in Montreal October 14th, after having spent the most pleasant and most successful hunting trip we have ever had, which was in a great measure due to the hearty welcome given to us wherever we went. Stubb left the next morning for his home in Vermont, and the last thing he said as the train pulled out was:—"Well Ed, I have had a grand, good time, and shall look forward to a similar trip with you in the near future."

Our Medicine Bag.

The past winter has been the hardest on record in Eastern North America—even as far south as the Potomac there has been ice two and a half feet in thickness, and fully a third more snow has fallen than usual. Hence, if the newly imported pheasants placed in the Adirondacks and the Government parks of Ontario have come through it safely—wintered well—we need have no further misgivings as to the eventual results of the experiments. In Great Britain and on the Continent game-preserving—which means chiefly pheasant rearing and protection—is carried to greater lengths than ever and the birds are brought to the gun by the hundred thousand, so that it is not surprising that a fourth edition of "Tegetmeier on Pheasants"—the standard work—has been called for. The present volume is much enlarged and contains colored plates of several spe-

cies. The author says: "The progress of scientific exploration is continually bringing to light species of pheasant hitherto unknown; some of these are well suited to our coverts, whilst others are regarded as ornamental birds. A few years since the only pheasant breeding wild in England was the common species (*Phasianus colchicus*). Our coverts now possess the Chinese (*P. torquatus*), the Mongolian (*P. monogolicus*), the Japanese (*P. versicolor*), and the Prince of Wales (*P. principalis*) species, whilst the Reeves's pheasant (*P. reevesii*), well adapted both for sporting and culinary purposes, has been bred in the forests of Scotland." The present edition, as well as former ones, has been printed by Horace Cox, The Field Office, Bream's Buildings, London, E. C.

One of the famous big horn sheep of the

The Winchester Repeating Arms Company of New Haven, Connecticut, has issued a most interesting pamphlet—excellently illustrated—on the testing of arms and ammunition. In considering the different cartridges now on the market, it will be found that all the more important ones

were devised for Winchester guns by the Winchester Repeating Arms Company, and no other manufacturing establishment or government arsenal is so well prepared as this company to test these matters, either in point of personnel or appliances. Every Canadian rifleman will find it well worth while to send for this pamphlet.

interior of Alaska was killed this year by Alfred B. Iles, a mining engineer, of Valdez, while on an exploring expedition to the head of the Tanana and White Rivers. The horns measured seven inches through at the butt and forty-three inches in length. The spread is fifty-one inches. This is, without doubt, the finest specimen of big horn in the United States, the contour and symmetry being perfect. The carcass weighed about 280 pounds. Its fleece was snow white, as is that of all of the big horns in that region. The sheep appeared to be the sire of the flock, which numbered 85, and when shot he was doing guard duty on a point or rock overlooking the valley of the White River, surrounded by his ewes and lambs.

Mr. John Hargreaves, Master of the Blackmore Vale Hounds, furnishes the subject for portrait and biographical sketch in the March number of "Baily's Magazine of Sports and Pastimes," and a good all-round sportsman he is shown to be, as witness his achievement on Killilan forest in 1899, when he killed two stags and three salmon on the same day. Mr. Baillie Grohman contributes the first part of an essay on "Ancient Hunting Horns and Hunting Music." An old friend, in the per-

son of Borderer, writes with feeling on "The Wettest Season on Record"; and Mr. Paul Taylor's remarks on "Trout in Spring" are followed by a stirring account of Sport in very different scenes, to wit, "Pig Sticking in India." There are some curious and entertaining sidelights on the sports of our grandfathers in "Two Old Sporting Books." Captain E. D. Miller contributes a most sensible article on "Horsemanship." We fear there is only too much ground for his assertion that very few Englishmen are properly taught to ride. The sporting literature of the past month is considered in the "Sportsman's Library." "Homeless" writes graphically on Wild Fowl Shooting on mud flats, and Mr. N. W. Apperley, grandson of the famous "Nimrod," contributes a very interesting and amusing reminiscence of "Sport in Wales Thirty Years Ago." A very good number of the magazine.

The Forest, Fish and Game Commission of New York has issued a bulletin on the forest fires of 1903, which should be in the hands of all interested in the protection of the Canadian forests.

Our valued correspondent, Mr. Arthur O. Wheeler, D.T.S., writes to us from Cal-

The Canada Launch Works, Limited, of Toronto, are bringing out a power skiff, which should fill a long felt want of sportsmen, as it is light in weight, weighing less than two-hundred pounds, and will be especially useful to hunters in the back lakes.

This little power boat is built on regular skiff lines, sixteen feet over all, will seat four and has fuel capacity sufficient for thirty hours' continuous running, and its weight complete is not so great as to prevent portaging.

It is built in the best possible manner, with oak frames, gunwales, etc., and three-eighth inch cypress planking, which is heavy enough to stand hard knocks. It has one of the new one horse-power "Brownie" motors, manufactured by the Dominion Motor & Machine Co., installed

in the extreme stern, out of the way, with a two-blade bronze propeller and steel shaft. This motor has all the latest features, such as jump spark, spun copper waterjacket, and can be run either fast or slow. It only weighs sixty pounds, is three feet in diameter by three feet stroke, and gives ample power to a speed of about five and a half miles per hour. The equipment includes motor, shaft, propeller, spark coil, batteries, tank, piping, oil and grease cups, vaporizer, rudder and yoke, brass oar locks, and one pair seven feet six inch spruce spoon oars.

The Canada Launch Works shipped the first one of these skiffs to London, Eng., several weeks ago, where it will be shown at the Crystal Palace Automobile Show, and where it is expected it will be very popular.

gary, as follows:—"Have your letter of the 1st instant. In connection with a fund to erect a suitable monument over the grave of Douglas Hector, son of Sir James Hector, of the Palliser Expedition, 1857-1860, who died at Revelstoke of appendicitis, in August, 1903, I may say that the facts are as set forth in Mrs. Schaffer's article in the January number of Rod and Gun. In addition, however, I may mention that a collection for this purpose is being made in England by Mr. Edward Whympier, and in America by Prof. Chas. E. Fay, President of the American Alpine Club. In Canada, I have undertaken to see what may be done in the same direction. It is proposed to bring the stone for the monument from a suitable rock in the vicinity of Lake Louise. I shall be very greatly obliged for reference to it in the April number. Contributions are not expected to be large amounts. Mr. T. Kilpatrick, Superintendent of the Mountain Division of the Canadian Pacific Railway, Revelstoke, B.C., has kindly consented to act as treasurer of the fund. Subscriptions may be sent direct to him, or to me, and if Rod and Gun will kindly receive and forward to Mr. Kilpatrick any that might come in, it would be an assistance to a very worthy object."

It will afford us very great pleasure to learn that Mr. Wheeler has been successful in his endeavor to collect sufficient money to build a monument that may not be un-

worthy of a son of one of Canada's most daring explorers.

Dr. J. C. Van Spiegel, Utica, N. Y., writes:—"Tell your readers that a cheap, but perfectly waterproof match-box may be had by getting a pulp mailing case (size that suits them) and dipping it in melted parafine once or twice. They have tin screw tops, and a rubber washer inside will make a water tight joint. Almost any drugstore will have one or more mailing cases that some small bottle of liquid has been shipped in. A case large enough to hold a four-ounce bottle will hold matches enough to last a camp for six or eight weeks.

In our report of the paper by Mr. E. J. Darby on Lumbering, Past and Present, which appeared in our March number an error occurred in the third paragraph by which it would appear that the gang whose course to the bush was followed was a train gang, when it was in reality a river gang that left earlier in the season. The article was considerably condensed and the error resulted through an oversight of the loss of connection.

Crank legislation seems to be the rage just at present on either side of the boundary line. Rumor has it that the Manitobians, not content with making it al-

A most important question to every person who at any time sleeps out of doors or in a tent is that of sufficient and suitable covering at night. Every experienced hunter, fisherman, prospector, rancher and military man knows that square blankets fail in many ways to meet the requirements. Blankets are heavy and bulky, it is difficult to wrap up comfortably in them, and they are sure to slip off, exposing the sleeper to cold and dampness.

A Sleeping Bag cannot be thrown off or kicked off, turn and twist as you will, and it gives direct warmth to the sleeper with every inch of its surface.

The Alaska Sleeping Bag consists of

three parts. (1) A waterproof canvas cover; (2) a thick cambrie bag, filled with two layers of pure eiderdown, and (3) a soft, warm inside bag of pure woollen cloth.

The Alaska Eiderdown Cap is especially made for use in the Arctic Regions. It is made of strong canvas duck, has two interlinings of choice eiderdown and an inside lining of grey natural wool or (if preferred) satteen. It protects the neck and the face; it weighs only 15 ounces!

Both the Alaska Sleeping Bag and the Alaska Cap have been supplied to the Dominion Government, to the Mastigouche Club, and to numerous lumber camps.

most impossible for a law-abiding sportsman to shoot big game within the Province, have now introduced an act that prohibits the use of automatic and other improved shot guns. On the American side Senator Elkins has introduced a bill into the United States Senate, which, should it become law, will do much to ruin the magnificent trade built up by our American cousins, in sporting ammunition. The Elkins bill provides that all gun, rifle and pistol ammunition must be shipped under the restrictions relating to the transportation of high explosives. That is to say, that all the extraordinary precautions insisted upon, and rightly insisted upon, in the case of a car of dynamite must be conformed to in the case of one tiny box of .22 ammunition! Can absurdity be carried to greater lengths than this?

The report issued by the New York State Forest, Fish and Game Commission on Tree Planting on Streets and Highways may now be obtained from the J. B. Lyon Company, Albany, N. Y.

One of our well-known sportsmen, Mr. Ed. Outhet, of the Westmount Gun Club,

For Spring shooting no arm appeals to the sportsman more than the 22-calibre rifle. Among arms of this type the Savage 22-calibre Repeater is different from any other rifle of its kind. It is a clean cut little gun, using the best of the 22 calibre ammunition, the short, long and long rifle cartridges all in the same arm. Its beauty of outline and finish will always be a source of pleasure to the owner. Perhaps the two strong points of the Savage rifles, the 22 in particular, are well exemplified in the phrase used by the makers. "Savage Quality", is a commonplace term but it means everything to a shooter. Being honestly made, Savage products are sold by the manufacturer under the strongest guarantee. Mention Rod and Gun and write the Savage Arms Company, P. O. Utica, N.Y., today for catalogue.

is adding new blood to his kennels by importing the high-class pointer, "Devonshire Maxim." A strong feature of this dog's superiority is his work in the field, although he has on numerous occasions won on the bench. His breeding is of the very best Devonshire blood, this country being recognized as the home of England's best pointers.

Mr. Norish, that famous breeder and exhibitor, bred him, and the photo of his litter brother, Ch. Sanford Dum Dum (whom he greatly resembles) was shown in the "Living Animals of the World" as the most typical pointer living.

"Devonshire Maxim" is now in his prime, being only four years old, and as he was purchased principally for stud purposes, he should be the means of improving the breed here.

The Fourth Annual Meeting of the North American Fish and Game Protective Association was held on January 20th and 21st in Portland, Me. The proceedings have been placed on record in a very neat report of the transactions of the Association just issued. The report is handsomely illustrated, and contains verbatim reports of the addresses made during the meeting.

Several new strikes are reported from northern British Columbia and the Yukon, and there can be little doubt that we have many Klondikes in the far Northwest.

However desirable the close-shooting gun may be when used over water or plain, it is generally conceded that it is not suitable for covert shooting. It is a satisfaction when afield to know that with the gun in hand one is equipped for such chances as may be presented. By having a supply of cartridges, in which "Hummer" spreaders have been placed, the performance of a choke-bore is at will transformed to that of a cylinder-bore, whenever it is considered to be an advantage. The gun to which the shooter has become accustomed may by such means be used with better success than would be likely to attend the use of a gun of different style.

These rushes assist the country materially, but they have an unfortunate effect upon the game. In the early days carcasses of moose, caribou and sheep hung side by side with frozen mutton and beef in the butcher shops at Dawson. The Stewart was a great game preserve, and even yet there is said to be a good stock in the lonely region about its head waters, but along the great Yukon river one may journey for days without seeing anything in the way of big game excepting, perchance, some stray bear. And those who would see the Upper Liard in a state of nature should not delay their visit, as a strike would appear to have been made in the very heart of one of the best big game districts in the Northwest.

The peace of the Peace River district, that is to say the brooding silence of the north, is about to be disturbed, and the country of the woods buffalo must shortly resound to the clang of the hammer and the buzz of the saw. The Dominion Government has dispatched a topographical survey party under the leadership of Mr. A. St. Cyr, D.T.S., to explore, run lines and report upon that part of the territory between the sixth principle meridian and the British Columbian border. This is preparatory to throwing open the country to settlement, and as the soil is thought to be rich, a few years will see it under the plough.

Mr. Charles Bradford is the author of a dainty little volume just published by G. P. Putnam's Sons called "The Angler's Secret." This is just the book to take in hand when the spring fret is coming o'er you, and it should clinch your determination to start as soon as the season opens for your favorite water—whether that favorite water be in thickly settled New England, the more thinly inhabited Lower Provinces or Quebec, or in the almost virgin country of Northern Ontario. The "secret" is revealed in the following lines:

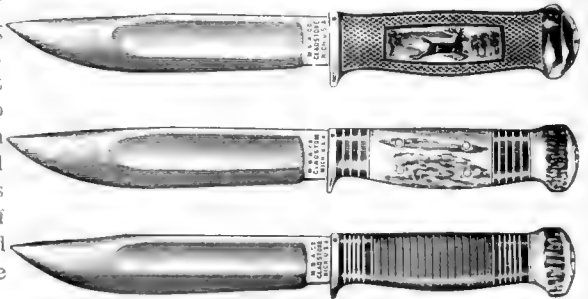
A homeward trudge through mist-wrapped night ;

A heart and reel, in common, light ;
Complete content—the day has brought it,
He fished for pleasure—and he caught it.

Mr. Bradford says: The angler does not seek the streams solely for the fishes he may capture, but rather in search of peace and quiet, and Frank Forrester said they "feel like gentlemen and act like sportsmen"—from which it is very evident the angler is a pretty good fellow and one whose species should be multiplied in the land.

There is perhaps little that is absolutely new in this latest addition to angling literature, but it is a welcome one, nevertheless, and one that will afford satisfaction and pleasure to members of the craft.

The illustrations herewith show Marble's six-inch Ideal Hunting Knife, with three styles handle, Nos. 1, 2 and 3. The blade, as at present made, is a modification of the two shapes of blades formerly made, known as sticking and skinning points, and is claimed by many expert hunters and woodsmen to combine more of the essential qualities for all around use than are usually found in one style of the knife.



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

The Official Organ of the Canadian Forestry Association.

ROD AND GUN IN CANADA does not assume any responsibility for, or necessarily endorse, any views expressed by contributors to its columns.

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THE TRAP

ROD AND GUN IN CANADA is the Official Organ of the Dominion Trap-shooters and Game Protective Association of Canada. All communications for this department should be addressed to Editor "The Trap," Rod and Gun in Canada, 314 Huron Street, Toronto Ont.

Editor Rod and Gun in Canada:—

Dear Sir.—Thousands of your readers, particularly those interested in shooting, will, I am sure, be grateful to know that you have made your neat little magazine still more complete and interesting by adding a "Trap" department. This should result in your increasing your subscription list very materially, as there are now gun clubs being formed in every section of the country. Toronto has some eight clubs. The blue-rock is certainly here to stay, and why not; two out of every three boys are fond of shooting, and the flying target gives them practice that cannot be surpassed. It teaches them to handle their

gun properly, and trains their eye for quick and deliberate shooting at moving objects, being essential for field shooting, and might be added, for military work also. The soldier of today must know his rifle and be able to use it quickly. Every gun man should encourage ROD AND GUN IN CANADA, and show his appreciation by subscribing and arrange for the sending in scores of their weekly or monthly shoots.

Wishing ROD AND GUN and the new department every success it deserves, I am,
Yours truly,

WM. McDOWELL.

Toronto, April 1, 1901.

The Guelph Trap and Game Club.

By W. G. MITCHELL.

The Guelph Trap and Game Club was organized in the year 1888, with H. H. Cull as President. A few years later F. Hall, Esq., became its president, and donated a

trophy worth \$50.00, to be competed for by the Club. The conditions were that the members who made the six best scores of

the season and that for three seasons would become the bona fide owner. The trophy passed around from one member to another for several years, but finally C. Quain, by complying with the conditions, became the bona fide owner.

Later still R. Cunningham, Esq., became president and presented the Club with a "Maggu" trap, which they used for five years, after which they replaced it by a "Bowron" quick-set trap, which is still giving satisfaction.

Our present President, Mr. R. S. Cull, presented the Club this past year with a medal, which is known as the "Challenge." The conditions on which it was presented were that the competitors shoot in a twenty-five bird race, and it would then be possessed by the one making the highest score, until any other member or members, challenge him, giving him one week's no-



ROBERT S. CULL

President Guelph Trap and Game Club, Guelph, Ont.



W. G. MITCHELL

Secy. Treas. Guelph Trap and Game Club, Guelph, Ont.

trophy worth \$50.00, to be competed for by the Club. The conditions were that the members who made the six best scores of

tice, and shoot for it again, it going to the one making the highest score, and so on. When the past season closed it was won by W. Singular, who is now the happy possessor, and will be until the season opens, which will be on Good Friday.

The membership numbers eighty and upwards, and they hold weekly shoots from beginning on Good Friday and ending on the last Friday in August. Also friendly matches and returns with the "Rosedaes" of Toronto and the Waterloos annually.

Our Club is specially interested in the protection of fish and game and have a standing reward for any person violating the game laws in our district.

(On Good Friday the Guelph Trap and Gun Club held a shoot which was participated in with much enthusiasm and interest by a large number of gun men. A number of the members of the Waterloo Gun Club were also present. The Guelph boys are good sportsmen and not only take an interest in trap shooting, but hunting and fishing also demands a good share of their attention. Mr. Ed. C. O'Brien is the newly appointed secretary and Mr. Johnston the new president, and the Editor of the "Trap" extends his congratulations to these gentlemen and their members upon the success of their large club.—Ed.)

Guelph, March, 1904.

The Maple City Gun Club of Chatham.

By JAMES W. AITKEN.

Chatham has had a very representative gun club for years, in fact dating back a period of twenty-five years or more. The Chatham Gun Club lived and flourished in the West for fifteen years or more with an eloquent record of victories to its credit. On its disbanding there followed a period with no organization. However, with interest forced to the boiling point through the heroic efforts of our ardent sportsmen, an aggregation of some ninety-two members, formed the nucleus of the present Maple City Gun Club. The kernel planted in favorable soil has reached maturity and the result is a club rivalling in every respect the reputation of our former organization, the Chatham Gun Club.

The material of the club is practically unlimited and expert marksmanship is gradually coming to the front. The Club have a club-house somewhat crude, yet comfortable, and a very pretty grounds, situated at the limits of the city, known as Riverside Park.

The annual tournament is held the first week of June, likely June 2 and 3. It is looked upon as the largest target event in the Western Peninsula, usually having a large number of competitors and good average money held out on both days.

It is to be hoped that our Club will be represented at the Dominion Trap Shoot-

ers Association with a strong team in August at Brantford. The Association deserves the patronage of every shooter in Canada. It is at these large meets that men of sporting proclivities get together and make life-long friendships, exchange ideas and advance generally the cause of true sportsmanship. It is, therefore, to be hoped that everyone will endeavor to strain



W. S. RICHARDS,
President Maple City Gun Club



JAS. W. AITKEN,
Secretary Maple City Gun Club

a point and be present at the "Big Meet at Brantford."

The officers of the Club are as follows

Honorary President—T. Nichol.

President—W. S. Richards ("Sour Bread")

1st Vice President—Dr. W. H. Tye ("Uncle Tom")

2nd Vice-President—J. McCoig ("Johnnie")

Secretary—J. W. Aitken ("Chum")

Treasurer—Wm. Bennett (Injun' Chief)

Executive Committee—J. J. Moore, J. Oldershaw ("Heap Big Talk"), W. H. Tye, W. Paulucci, Jas. Kerr.

It may be said without fear of contradiction that Mr. T. Nichol, Hon.-President, enjoys the proud distinction of being the

oldest trapshooter in Canada. He is nearing eighty and rarely misses a practice, and on more than one occasion has made the "experts" look like the change out of thirty cents.

The members of the Chatham Gun Club wish your paper continued success and greater strength to its Trap Shooting Department in Canada.

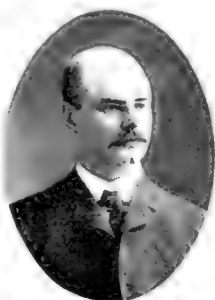
Chatham, Ont., March, 1904.

The Brantford Gun Club.

The Brantford Gun Club is one of the oldest clubs in Canada, having been organized in 1872. In the early days glass balls were the only form of inanimate targets used and live bird traps were of very



C. J. MITCHELL.
President Brantford Gun Club



DR. A. B. CUTCLIFFE.
Secretary Brantford Gun Club

primitive construction. Several of the original Club are active members today. Back in the seventies they were up among

the best of them and are still in the game, and if you want to know how good they are just match them for a live bird or target race—and you will know.

This Club was the means of forming the present Dominion of Canada Trap Shooting and Game Protective Association, by challenging the Ottawa Club for a team shoot for "The Mail Trophy", which had been held by them for some years. After this meeting and contest the Association was formed and the Mail Trophy is now the main feature in the annual tournament.

The Brantford Club will entertain the members of the Dominion Association at the fourth annual meet to be held on their new club grounds—the finest in Canada—August 10th, 11th and 12th, 1904.

Fred. Westbrook, President Dominion Association; Dr. A. B. Cutcliffe, Secretary Brantford Gun Club; C. J. Mitchell, President Brantford Gun Club.

The Brampton Gun Club.

By FRED PEAKER.

Brampton Gun Club has upwards of fifty members, but as they are scattered all over Peel County it is difficult to get more than eight or ten together at once and then only on a holiday, as only about fifteen per cent. are shooters. The present shooters are juniors and have only been hooting artificials for a couple of years. Way back in the seventies a team of ten

men used to vent their spite on the Guelph team and many a hot return annual match was shot. Only one of that team is left to shoot with the present Club, viz., Mr. D. Ellison, who has been shooting live birds for nearly thirty years. Mr. Ellison always made a good score, but says he never made ten straight but once, and he only shot at eight that time. In the

eighties the feeling between Orangeville



W. J. CAMPBELL.
President Brampton Gun Club



F. PEAKER.
Secretary Brampton Gun Club

and Brampton Clubs was similar to that of Japan and Russia. "Just wait till we come down"; "Have a place ready to crawl into when we come up," were some of the warnings before each annual match. But they always ended with an invitation to load with No. 6 and come prepared to stay all night. Dr. Quinn, R. Wilson and D. Ellison are the only three members of that team to shoot with the present club. The club will hold their annual shoot on Good Friday. Visitors always welcome.

Fred Peaker, Secretary, Brampton.

The Ridgetown Gun Club.

By C. H. EASTLAKE.

Probably the Ridgetown Gun Club and Game Protective Association is the most widely known organization in this vicinity, members of which have acquired fame, both national and international, and since its inception we could always point with pride to members who could not only distinguish themselves at the trap, but on the upland, marsh, or the waters of the Rond Eau, bring to bag game in sufficient quantities to satisfy the most ardent sportsmen.

What is today known as the Ridgetown Gun Club was organized on June 13, 1882, under the caption of the Howard Gun Club and Game Protective Association, the officers elected for that year being: Thos. Brown, president; W. H. Boughner, vice president; James B. Brown, treasurer, and Jas. Grant, secretary. Joseph Laing, L. Carpenter, J. T. Catton and W. Scane being elected as a board of directors. Those were the days of the glass ball. Probably the balmy days in the history of the club date from the election of H. A. Mallory in 1887 to the position of secretary and treasurer, he being at that time accountant in the Traders Bank here, but now manager at Drayton. Although members of the Club had won considerable local distinction, it was not until the big tournament held here on April 9 and 10, 1891, did some of the crack shots of the

United States and Canada realize that there lived here men who would win distinction. At this event H. Catton won the silver trophy and the Canadian championship by breaking 46 out of a possible 50. On May 23 of the same year, D. Leitch, H. Catton and H. Scane won the three-man team race at Windsor and a handsome tankard. Score 69 out of a possible 75.

In the same year, at Toronto, on July 11 and 12, H. Catton won the diamond



D. McMACKON.
President Ridgetown Gun Club



C. H. EASTLAKE.
Secretary Ridgetown Gun Club

medal and the individual championship of the Dominion of Canada by breaking a straight 50 targets, and on the following day, in a team race of two, he scored another 50 straight. This team event was a national affair, and the conditions were five men per team, fifty birds each, medals and moneys to go to winners. This is the score: C. V. Catton 50, D. Leitch 49, H.

O'Loane 18, H. Scane 47 and C. Scane 45. At the present time we have several members who can do themselves glory at the trap in live bird contest, among whom I might take the liberty of mentioning the names of D. McMackon, James McLane, A. McRitchie, Fred Galbraith, Dan Bates, W. D. Bates, H. D. Bates, Sim Coll, George Laing, James Scane, Harry Scane, Charles Scane, J. F. Carr, William and Charles Thorald and H. Catton and others. However, the first to distinguish himself at live birds at any important event was H. D. Bates, who today is recognized among the scattered game experts from the Atlantic to the Pacific as an antagonist of no mean skill. The event to which I refer was the winning of the Gilman Barus trophy at St. Thomas in 1898 with a straight score of 25 birds. Three years preceding this he tied with Fulford and Elliott at Hamilton, with a straight score of 20 in the Canadian Handicap event. In 1899 he again won the Gilman and Barus trophy in Detroit, with a straight score. In 1900, at Coney Island, he won the Grand American, with a straight score of 59 dead birds, and in the same year defeated John Stroud of Hamilton in a 100-bird race for \$100 a side, by killing 83 birds to Stroud's 75. The following year he defeated Stroud for the championship of Canada by killing 49 to 44. Probably the greatest event in his shooting career was that shot at Detroit in September, 1902, for the Gilman and Barus International Trophy. Bates stood at the 31-yard mark and made a clean score of 15 birds with five others. He finished this race "miss and out" with Gilbert of Spirit Lake, who killed his 95th bird. This, with the preceding work, gave Bates a run of 101 straight at 31-yard mark. In a special event in the same year, at same place, at targets, he won the Bell Organ Special,

breaking 47 out of 50. His principal winnings in 1902 were the Canadian handicap, with 20 straight, at Hamilton, and the high average in the Dominion of Canada trap shooting event at the same place, also being one of the team who won the D.T.S. and G.P.A. trophy at targets, the team in this event being composed of D. McMackon, Harry Scane, Geo. Dent, T. Reid and H. D. Bates, score 221. The winnings of the different members of the Club present at this shoot would give a jewelry store or a gun retail establishment a fair stock to set up business with. One of the best prizes captured at this shoot was that given by the ladies and captured by D. McMackon, valued at \$100, being a set of cutlery.

Up to the present H. D. Bates has won the Canadian Handicap three times. It might be interesting to pursue the various winnings of members of the Club, either as individuals or in team shoots further, some of which I cannot furnish. None of them require flattery to make them good fellows or true sports.

We cannot close this short sketch without stating that the present membership of the R. G. C. and G. P. A. is 162, and that the officers are: President, D. McMackon; captain, H. D. Bates; secretary and treasurer, C. H. Eastlake; directors, Geo. Laing, H. Scane, Jas. McLaren, A. McRitchie and S. Call. It is scarcely necessary to state that the members of the club not only take pride in the fame acquired at the traps by its members, but also in the interest they have always shown in assisting in the protection and propagation of the natural game of this part of the province, which, we trust, is the object of all other organizations worthy of having G. P. A. appended to it.

Ridgetown, Feb. 4th, 1901.

At the Caterer Gun Club's Amateur Championship shot at Westfield, N. J., on the grounds of the Cateret Club, Feb. 22-23, Mr. D. E. Bradley and Mr. G. S. McAlpin tied on scores of 92 out of 100, first-class pigeons. In the shoot-off at twenty-five birds each, Mr. Bradley scored his first

twenty-five straight, and as Mr. McAlpin had then lost three birds, the race was over and Mr. Bradley was the winner for the second time, he having won the title and trophy last year. There were twelve competitors. Mr. Bradley shot "New Schultze."

The Hamilton Gun Club.

By H. BARNARD.

(Continued from March Issue.)

I have skipped over the period intervening between the first tournament in 1892 and the last in 1903, because the detail of which would only be a repetition, but that the annual tournaments have been kept up is a guarantee of the stability of the organization apart from its increased membership, which is now over sixty, comprising a number of leading business men, who are lovers of the rod and gun, and who are not slow to recognize the advantages of the recreation derived from periodical visits to the traps. It is certain that the Hamilton Gun Club will always set a good example to others who may aspire to become exponents of true sport, recreative

holt, Vice-President; J. Hunter, Treasurer, and H. Graham, Secretary. We are fortunate in having such a strong executive. The President is in his third term, and is likely to retain the post of honor indefinitely, or as long as he is willing. He is the goodlooking man of the Club, a first-class, whole-souled, all-round good fellow, and when he represents the Club at a shoot, or in any other capacity, he never fails to do so with credit to himself and the approval of all. We are immensely proud of our President, who has the particular knack of making himself liked by everybody with whom he may come in contact.



THOS. UPTON,
President Hamilton Gun Club



T. BIRDSALL,
Ex-President Hamilton Gun Club



H. BARNARD,
Hamilton Gun Club



JOHN HUNTER
Hamilton Gun Club

sport unhampered by mercenary motives, or the pursuit of the same for what there is in it from a money standpoint.

The formation of the Dominion of Canada Trap Shooting and Game Protective Association, which took place at Ottawa in April, 1901, was a grand move in the right direction. The Hamilton Gun Club took an active part in it, having sent three representatives at the time, two of whom were placed on the executive committee, Dr. Overholt having been elected second vice-president. Such choice was a very wise one, for his ability, enthusiasm, genial and kindly disposition doubtless proved a factor in the successful outcome of the deliberations of the executive at that sitting.

The officers of the Hamilton Gun Club at present are: T. Upton, President; Dr. Over-

holt, Vice-President; J. Hunter, Treasurer, and H. Graham, Secretary. We are fortunate in having such a strong executive. The President is in his third term, and is likely to retain the post of honor indefinitely, or as long as he is willing. He is the goodlooking man of the Club, a first-class, whole-souled, all-round good fellow, and when he represents the Club at a shoot, or in any other capacity, he never fails to do so with credit to himself and the approval of all. We are immensely proud of our President, who has the particular knack of making himself liked by everybody with whom he may come in contact.

The accompanying portraits will be familiar to many, and I hope interesting to readers of Rod and Gun. Special mention should be made of ex-President Birdsall, who has always been a hustler when a tournament was in preparation and the success of the Club is in a measure largely due to his energy in securing prizes for competition and inspiring enthusiasm into the merchants and manufacturers, directing their attention to the advertising of our city, by the efforts of the Gun Club, to get an attractive list of prizes contributed.

Mr. Birdsall, like our President, possesses considerable personal attractiveness, and it is nip and tuck for which is the best looking. You can judge for yourself. I am sorry I could not send the portrait of the secretary, but have included the vice-pres-

ident and treasurer, and by request, have so far overcome my modesty—that of myself.

I have noticed with very much pleasure the nice account of the St. Hubert Gun Club of Ottawa, in the March number, and it strikes me as being composed of the right kind of material to uphold and advance the exhilarating sport of trap shooting, to further the protection of game and fish, and to inspire a true spirit of the sportsman into those who take to the rod and gun for the love of it.

They claim to be "aggressive", and



DR. J. E. OVERHOLT, "Daddy"
Hamilton Gun Club

such a quality cannot be too strongly commended, for it prompts rivalry, and good friendly rivalry amongst the different clubs is that which will lend zest and promote an appetite for keen enjoyment when any important event is to be settled at the tribunal of the traps. Reference to the Mail Trophy has been made, and I understand it is now held by the Brantford Gun Club, which seems to have been of late not on very solid footing, but having been lately organized, I am assured is now as good as new, and ready to defend possession of the Mail Trophy against all

comers. What the America's Cup is to yachtsmen, the Mail Trophy should be to gun clubs, but localized and for home competition only. Yet the possession of it should be as greatly coveted, and when it comes to Hamilton, as it is sure to, I am much mistaken if the lifting of it will not be an interesting ceremony to existing gun clubs in Canada who are qualified to compete for it.



HAMILTON SHOOTERS WON.

By H. Barnard.

The Hamilton Gun Club team won the match with the Toronto Stanleys Saturday afternoon, March 19th, by 39 birds. The match was at 25 birds per man, and the Hamilton Gun Club scored 315 out of a possible 425. The weather was very unfavorable, as the rain fell in the faces of the shooters during the whole match. The two clubs come together annually, and this is the second time Hamilton has been successful. President Upton and President Alderman Fleming always have a good-natured dispute as to their superiority over each other, but as President Upton was unfortunate enough to break an arm about a week ago, they had to indulge in a one-handed contest, in which Ald. Fleming was fortunate enough to win out by one bird—9 to 8.

After the match the local shooters entertained the visitors in their handsome quarters, and after much jollification, and the usual amount of speech-making, the visitors returned at eight o'clock. Owing to lack of space and the report coming late, we are this month unable to publish scores in detail.

BALMY BEACH GUNNERS WON.

The Balmy Beach Gun Club of Toronto defeated the Parkdale Gun Club of Toronto by 35 points in a 25-bird shoot at Balmy Beach on Saturday, March 19. The scores were:—

Balmy Beach—Pearsall 21, Ross 21, Dra-

per 18, J. G. Shaw 17, Hunter 17, Casci 16, J. A. Shaw 15, Adams 14, Smith 14, Booth 13, Pearce 10. Total 176.

Parkdale—Kent 18, Wolfe 16, E. Williams 15, Carlyle 14, Patterson 14, H. Williams 14, Bongard 13, Birch 11, Jewell 11, Sibbald 9, Wheeler 6. Total 141.



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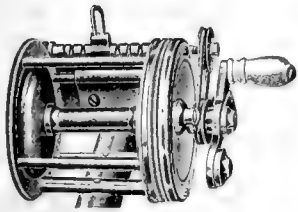
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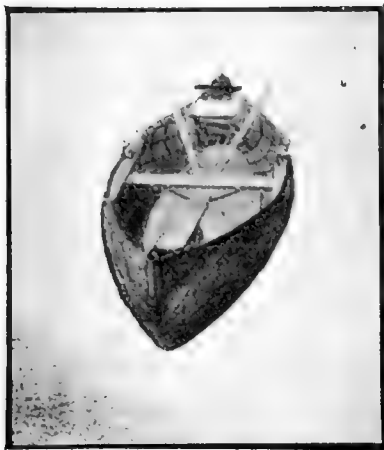
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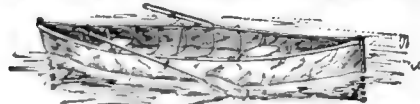
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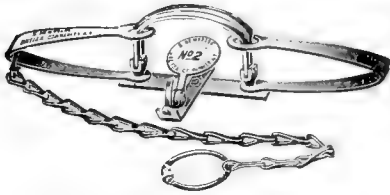
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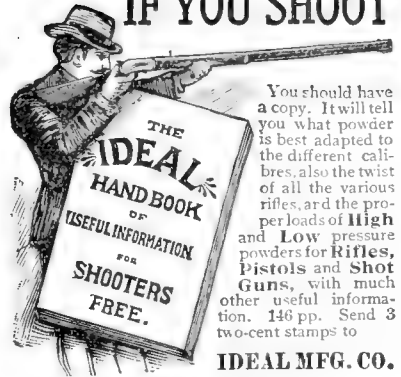
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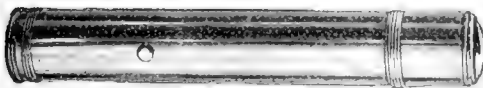
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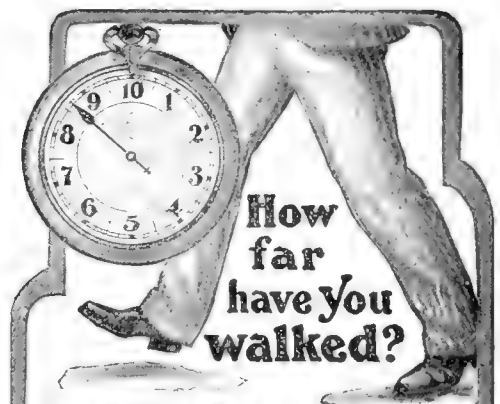
Name of River	No. of Rods	Probable No. Salmon
Birch	1	40
Manitou	1	25
Sheldrake or Sawbill	1	40
Thunder River (trout only)		
Magpie	1	60
Bear or Victor	1	30
Corneille	2	100
Pishteabee	1	50
Minacoughan Quettashoo	1	50
Little Watischoo	2	60
Napissipi	1	25-40
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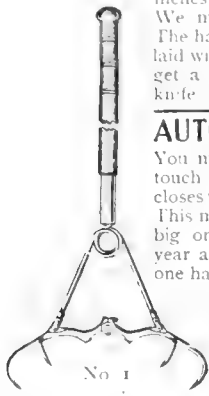
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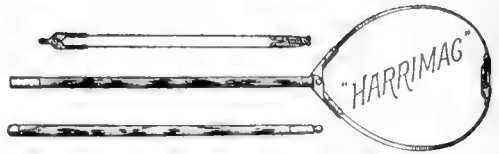
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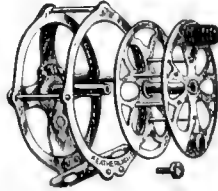
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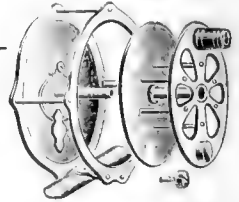


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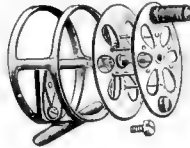
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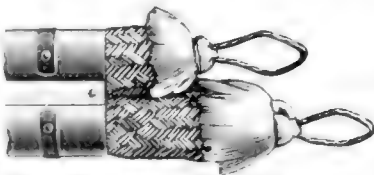
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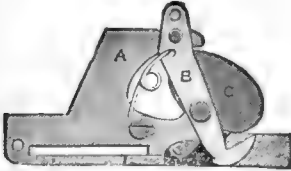
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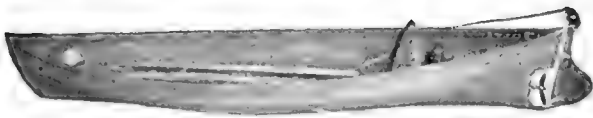
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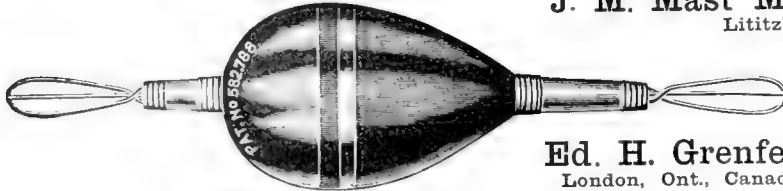
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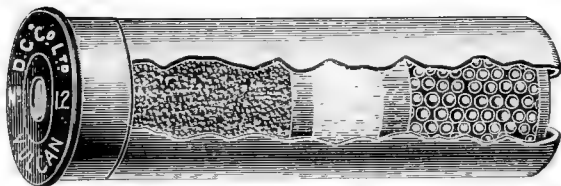


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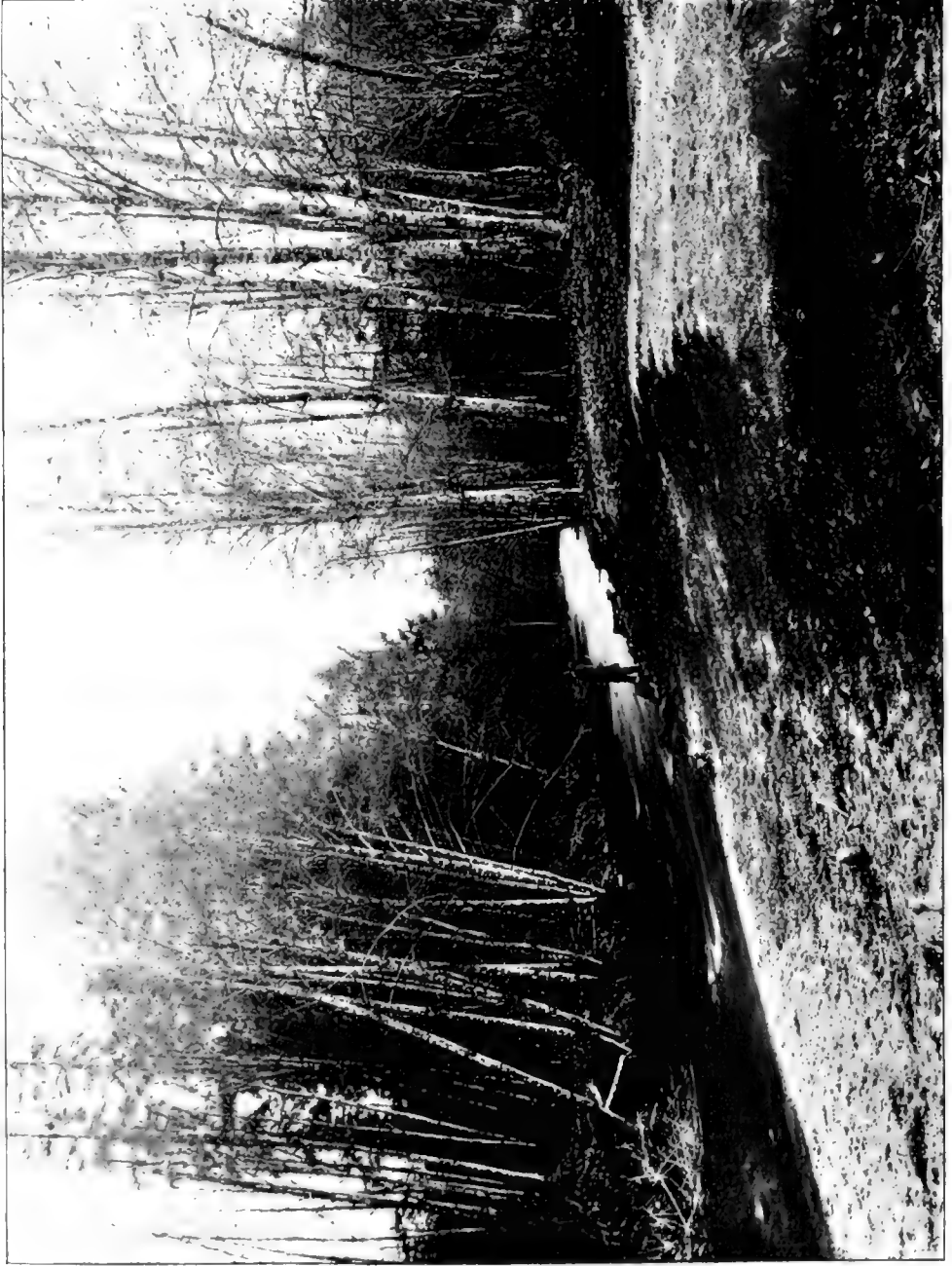
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ROD AND GUN
IN CANADA 

VOL. V.

MONTREAL AND TORONTO, MAY, 1904

No. 12

Shooting a Chute.

By MARTIN HUNTER.

When I look back over the many years I have passed in the wilds of Canada and realize the numerous narrow escapes I have passed through, I call to mind, with vividness, the running of the log slide at the High Falls of the Du Moine, and consider we had a most providential escape from a fearful death.

To reach the frontier of civilization from the head waters of the Ottawa, we came down the river Du Moine. Besides myself, there was a youth of seventeen and a big, burly Iroquois. The Indian was the guide, having in previous years worked in shanties on the Du Moine and boated up supplies in the fall as far as the Big Lake, but the young half-breed and myself had never gone down this river.

The Iroquois, being the guide, was in the bow of the canoe and I steered for him, the boy paddling in the middle.

The canoe (a bark one) was really large enough to require a crew of four, but as we expected to have two extra men on the return trip we undertook to do down short-handed.

The day before we got to High Falls we had run numerous rapids in passing through some of which we shipped considerable water. We would go ashore occasionally and bale out the canoe, but being wet so continuously made the canoe heavy. We camped that night at the head of the Falls near an old abandoned mill, that had been erected in the first place to saw the deals whereof the slide was built.

The Iroquois, although a big man and very strong if he liked to exert himself, was, if circumstances would permit, very lazy, and that night about the camp fire already anticipated the trouble and hard work we would have on the morrow to carry our heavy canoe across the portage which, he said, was three-quarters of a mile long, with the trail along the side of a burnt mountain all the way.

He said if I was not afraid we would send the boy over the portage and we would run the slide. Somehow from the way he spoke I gathered there was considerable danger and I asked him if he had ever run. "Oh! yes," he said, "I run a boat here once with a barrel of pork in her and I was alone."

In those days I considered what another man had done I could do, and his saying, if I was not afraid, nettled me to the point of taking almost any chances, so before we turned into our blankets it was settled we should go by the slide, instead of carrying the canoe over the portage.

At the head of the slide was a gate, as it is called, with grooved sides, and the depth of water was regulated by taking out so many plank of nine inches high each. The Indian took out two of these and while water was running out and into the slide we carried our canoe to the edge outside the mill and started the boy on the portage.

The slide was built of three-inch deals throughout, bottom about six feet wide

with two planks high on each side. For the first couple of hundred yards we were running almost on the level of the ground, and we went along splendidly. I was just thinking what fools people must be to carry over a long, tiresome portage, when they had such an easy route as the slide; but in the same minute as these thoughts were passing through my mind the Indian turned a scared face as we shot out around the spur of the hill and said, "The water is jumping the side of the slide, hang on to the upper side with your paddle for your life." We were in a moment running down a steep at lightning speed and that across a chasm on the level of the pine tops.

The water had forced off a plank at the most dangerous part of the slide, where there was a very decided crook and exactly in the middle of the gorge, and here the water was foaming over with force enough to carry the canoe and us with it. The Indian called back to me in the stern to hang on with all my might to the upper side of the slide with my paddle. It was a frightful moment, the taking of that turn. I actually felt the stern of the canoe lift towards the break as we swept around the bend, but the weight of the Indian and three parts of the canoe, prevented it from going over, but for one single moment from the crest of that wave of water I looked down with a sickening feeling to the rocks over one hundred feet below.

We breathed a deep sigh of thankfulness for the danger we had passed, but neither the slide, nor all the excitement, was yet passed. Clear of this high trestle work we shot around the spur of another mountain, always at railroad speed, across another gully, and then a straight length ahead of us. We lost the contour of the slide by a foam of water ahead of us and the Indian, whose nerves were strung to the highest tension, called out, "A log across the slide, keep her straight."

There was nothing else to do, to stop the canoe was impossible, to jump over the

side was death and ahead of us looked like death, still there is always a chance in the unseen and besides there was no time for further thought, we were on it. As we rushed to the inevitable, we saw the water was passing over, not only the obstruction in the slide, but over both sides also.

The canoe jumped the log safely and we were running now in slower water and almost on a level again with the earth. Ahead I could see the river and knew the end of the slide must be near.

The river at that season being low, the lip of the slide was fully seven feet from the water. We shot out into the air for a few moments and struck the river with a sound that echoed on the surrounding hills like a cannon shot.

The force with which the canoe struck the water was so great that the bark split from side to side in the middle and she began rapidly to fill. Luckily the beach was close and we managed to paddle ashore before she sank.

Here we lost the rest of the day, having to go back into the green country for a bark patch, gum and roots, to sew the canoe. It was late at night before we had her fit to voyage again, and again I had it brought forcibly before my mind that sometimes the "longest way round is the shortest way there."

Yes, we had indeed shot the chute, but what fool-hardy risk had we not run. They told us at the mouth of the river (the oldest inhabitant) that it had never been done before in a bark canoe, and I have never heard of anyone emulating our exploit.

By questioning Mr. Sweezy, the boom master, I found the slide is one and a half miles long and where the break occurred in the chasm, the trestle work from the rocks below is one hundred and ten feet high.

I am yet pretty "nervy", but no money would induce me to again "Shoot the Chute."



A Four-Year-Old in Camp.

By M. W. P.

Loring was four years old when his father and mother decided to take him into the real woods in Canada. Much anxiety was expressed by his friends and relatives. They asked all sorts of questions. What can you get for him to wear? How do you think he will get along with the food? How can you make him comfortable at night? What if it should rain? What if he should be sick? How will he get over the long portages? How will you keep him quiet in the canoe? What pleasure will he get out of it anyway? But Loring's grandfather loved the woods and was one of the proprietors of a hunting and fishing preserve, far away in the Canadian wilderness, and he knew that it would be all right. So they started. And I am going to tell you how all these problems, suggested by the people who did not believe in taking children into the woods were solved, just to show you that it was not so difficult after all. And perhaps some other little boy or girl would like to do just the same thing, and perhaps Loring's experience would suggest how easily it could be done.

With his father and mother and three Indian guides from Indian Lorette, the small sportsman left the Laurentide House at Lake Edward on a cloudless afternoon at the close of August. He was filled with wonder at all the sights and sounds of lake and woodland life and the world was fair and Loring was happy.

He wore flannels and heavy stockings, a "rough rider" suit, a soft visor cap, and "boots savage." "Boots savage" were very nice in the woods even for a civilized little boy, but they seemed to be the only pair in the whole city of Quebec that were anything like small enough for a four-year-old. With rubber coat and hat, a change of clothing, plenty of stockings, a warm, heavy coat, two eiderdown wrappers for night, warm slippers, a flannel night cap, and a pillow case, all packed together in a brown canvas portage bag, Loring's wardrobe was quite complete.

The food problem was easiest of all, be-

cause that solved itself even as soon as the first whiff of mountain air came through the windows as the train steamed along beside the swift flowing Batiscan. But when the dining room was the out-of-doors, the table a mossy knoll or a rock that tried to be flat or even a portage bag, and the orchestra the sighing of the wind in the branches above and the singing of the rapids at our very feet, then the trout just from the water, the cakes with real maple sugar, the berries fresh from the lake shore, the partridges and the ducks had just the right flavor and Loring enjoyed everything.

The nights were always welcome. The cozy tent was pitched on high ground with the opening away from the lake, so that the smoke from the big fire in front might blow away from the tent, not into it. Loring always watched the guides clear the ground and put up the tent, and cut down the trees and cut and bring in the big armful of balsam boughs to make the fragrant bed. They laid the branches just like shingles on a roof only many, many layers deep and beginning at the back of the tent, instead of at the lower edge of the roof, so that the bed was always soft and had no sharp sticks to make the night miserable. Then came the rubber blankets, then lots of woollen blankets pinned together with the largest safety pins that could be found. With a warm wrapper and a night cap like a monk's cowl, Loring, tucked between the blankets, stayed awake hardly long enough to close his eyes, and all the while the fire was crackling and the looms were calling from the lake, and the birches were rustling and the balsams were swaying and the stars were keeping silent watch above them all. And, when the morning came, the little fellow woke with the daylight, ready for the trout that the guides were cooking over the fire by their tent, ready for the breaking of camp and for the long day's journey. If it rained, there were plenty of rubber blankets and the rubber coat and hat, and, if the day must be spent in camp, Loring

could always find an ingenious Indian who could make all kinds of wonderful things from birch bark, or he could amuse himself with pencil and paper, or watch the pictures in the fire, or the mouse who smelled a crumb, or the mink who wanted some dinner, and the day was quickly gone. And he was not sick except one day when he ate unlimited quantities of blueberries and that illness was neither alarming nor long continued.

No one had thought that portages had been cut for grown-ups and that the brakes and small underbrush would be as impassable for a four-year-old as the tangled branches of a laurel thicket were for his elders. Still the little fellow pushed on bravely, making more sturdy his small legs and saying "this is a hard place for me," and getting pig-backed by some devoted Indian, or by his father. The portages were full of excitement. Frequently Loring saw a partridge shot for the next day's dinner, and for some time he thought that the noise of the gun had made the partridge fall; and he wondered, after he knew, that a bullet could go so far and that he could not see it. The rod and the line and the hook and the captured trout were easy to understand, but there seemed to be some missing links between the gun and the flash and the big bang and the falling partridge. The long stretch over the springy cranberry swamp was far more entertaining than a city pavement, that could not be moved one bit by small feet. Then he was constantly looking out for the cold spring and watching the tree blazes, because, you see, part of this country had really never been seen by people before except by the Indians, who had gone over it to cut the path for us, and their only way of showing these woodland routes is by chopping with their axes little chips from the trees on either side, so that the white wood shows plainly against the dark bark even from a long distance, and these are the guide posts that tell the traveler where to go.

In the canoes there were many interests, the shadows on the lake, the best place to find the echo, the Indians drinking from the rims of their hats, the crazy laugh of the loon, that was not a "choo-choo car," the new rod that really caught trout, the

chase for ducks and most wonderful of all two bear hunts. One day, when we were far away from the world where men were living, we were paddling across a lake that had no name and Achille said "sche" and pointed. Everybody looked and away on the other side of the lake, walking along the sandy shore, were "the mother bear and two baby bears." There was only a shot gun and we were too far to shoot. So we paddled noiselessly across the lake and the brave hunters of the party went on shore and searched all over the big blueberry patch into which the bears had all disappeared behind the trees. But it was September and the underbrush was thick and the trail was soon lost, and Loring felt very sorry about the bears and he named that lake "The Lake of the Three Bears." The next day, on another nameless lake, as we came round a point of land, Achille again said "sche", and from the wooded shore two hundred yards away down walked a big "father bear" into the water. It was very warm and the flies were troublesome, so he sat down in the water and seemed to be enjoying his bath. After a few minutes he turned his face with curiosity and watched the two canoes coming nearer and nearer. He had never seen a man before and he was plainly interested. As we slowly and quietly came closer, we could see more and more plainly the white streak down the middle of his face. "He's a big one," Felix said, and Felix knew. Loring was in the canoe with the gun, his father and Adelard, and he sat as still as a mouse, only said, "Don't shoot me, papa." The canoes were seventy-five yards away and Adelard said "now," and the shot rang out. The bear, startled by the noise and thinking a hailstorm had struck his head, jumped and started for the "bush." Felix said "Shoot again, quick, quick, too bard, too bard." Another shot in the flank and the old bear stopped two or three minutes on the brow of the bank, then disappeared. "We've got him after all," Felix said, "but I thought Adelard knew better than to let him shoot at a bear's head." We paddled quickly to the shore and three excited Indians and one jubilant sportsman jumped from the canoes, sure of their prey, and disappeared in the woods and all was still. And Loring

and his mother patiently waited until, after a long time, four disappointed men came back with sorrowful faces, bringing leaves stained with blood. They had followed the trail for a quarter of a mile and then lost it in the underbrush. And a gloom fell over the party. And Felix kept saying, "Too bard, too bard, I wouldn't have felt so bard if I didn't know he would die in an hour. He must have been hurt bard, or he would never have stopped like that. Too bard, too bard." And Loring said, "I didn't frighten the bear, did I?" And he had no bear steaks for the next day's dinner, and no bear rug to carry home as a trophy, and in his play hunts ever since he has always lost the bear. And he called that lake "The Lake of the Lost Bear."

Saturday afternoon Loring had left the station on the shore of Lake Edward, and he had not seen another house until a week from the next Wednesday, when he came out at Lake Kiskisink. He had travelled over a hundred miles by canoe and

portage. And over part of this trip no white man had ever been. He had seen on one lake the Castle of Jack and the Beanstalk's Giant, and of the Queen of the Golden Mines, but he had been sorry not to see anywhere about the Giant, or Jack, or the Queen, or the Dragon, or even the Beanstock. He had shot many rapids, which he had expected to do with a gun. He had seen the beautiful Falls of Saint Agnes on the Bostonnais River, and had thought it "just that same Niagara!" He had named lakes and rivers and waterfalls, and had thought everything was "nice." The vacation holiday had passed all too quickly, and Loring with the others felt sorry to leave all that had made their journeying so pleasant, but he carried away with him five pounds more of himself, and added strength and self reliance, and a new love for nature as she is in "No Man's Land," and many happy memories of those few happy days among the woods and waters of the Canadian wilderness. Surely it was worth while.

Papegouche's Ghost.

By C. C. FARR.

Papegouche lay a-dying, and the women were gathered together to see him die. None knew what had befallen him, for he had been brought home to his wigwam, speechless. It was whispered that he had been done to death by a *Wendigo, and the people were sore afraid, for each man was filled with dread lest he should be the next victim, well knowing, as all Indians do, that when once the Wendigo begins his deadly work, one life serves but to whet his appetite for more. Kinabikomis (The old snake woman) had seen dread tokens of evil to the band. She had seen a huge black arm protruded from the water in the narrows, where the black current gurgled ceaselessly, and as the arm slowly sank beneath the surface, she heard a cry so awful, and so full of agony, that she had buried her face in her agoneewin (covering, shawl) and groped her way along the well known path to her assohagan (winter

camp), where she lay, trembling in every limb, unable for a space to frame into words the awful portents that she had witnessed.

Then only the bravest dared the solitude of the bush; the more timid gathering together about the doors of their tents, and whispering in awestruck tones. Papegouche had been too brave; he had dared to laugh at those who spake of these things, and the Wendigo in his wrath had slain him.

That night he died, and Winiwaya, daughter of Kickendatch, affianced bride of the dead man, was sorely stricken, for she had loved Papegouche, and now that he had been taken from her, she wept with inconsolable abandon in her father's wigwam. Now these things took place many years ago; when the coming of the Wabaskeewatch (the white man) from out of the East was but a vague, indefinite rumor; when the fierce, predatory, Nahtaway

* The Wendigo is the Indian's giant, half man and half spirit, both cruel and malicious, a terrible personification of his superstitious fears.

(Iroquois), patrolled the lower stretches of the Ottawa River, so that few men dared to journey many days towards the rising sun, and fewer still returned; and when the Indians of Matachuan worshipped their own gods, even as their fathers had done before them. Therefore was Papegouche buried according to the rites of the tribe. His body was laid within a huge birch bark coffin, and by his side were placed, within easy reach, his tomahawk, his pipe, his hunting knife, and sufficient provisions to last him some days; nor were the necessary cooking utensils forgotten, for it is a long journey to the Happy Hunting Grounds.

Then the young men lifted him up, and slowly bore him to the grave, which had been dug in the soft sand, beneath a monster pine. The grave was not deep, for it is not well that the spirit should suffer too much in the struggle of extricating itself. In front of the procession walked Kikendatch, the chief, and after him, at a respectful distance, his Chimahgans, (spears, lieutenants). The dead man's faithful little dog lay in the coffin, upon his breast, ever and anon, raising its poor little head and giving vent to its feelings in a prolonged howl of misery. Immediately behind the corpse walked Geetchinodin (Big Wind) Papegouche's brother, with bowed shoulders, and stern-set face, for he was thinking deeply; next came the men of the band, walking in Indian file, with Wahgouch (The Fox), at their head; after them, and last, came the women, wailing forth the death chant, at times so soft and low, as to scarcely be distinguishable from the sighing of the wind through the pine tops, and with which it harmonized; at other times rising to a sweet toned wail that rent the air and which was echoed back in many tones by the dogs left behind in the camps. Even thus they buried Papegouche, and when the last rite had been performed, when his faithful little dog had been slain, and laid at its dead master's feet, ready to accompany him on his long journey, and when the last word had been spoken, in the same order, but in silence, the Indians wended their sorrowful way back to their camps.

The dread caused by this mysterious death lay heavy upon them all, and Kiken-

datch, the aged chief, gathering the people together, spake to them as follows:—

"My children. The evil thing has laid its hand upon us, and though I would speak words of comfort and of consolation to you, I cannot, and I dare not. He that is dead will not lack for company upon his journey, for we know that a Wendigo hath done this thing. Long, long ago, when I was just a little fellow, I saw the work of a Wendigo, and three of our best warriors lay, even as the dead one now lies beneath the pine, before he stayed his hand, therefore, my children, watch, for death follows death, until his appetite is glutted. I have spoken."

A murmur almost amounting to a groan followed this pessimistic speech of the aged chief, and the people appeared paralyzed with fear, but at length Wahgouche, son of Kinabikokomis, arose, and holding up his hand, in token that he would speak, thus addressed them:—

"The words of my father are true. A Wendigo hath indeed done this. He that was alive and is now dead, despised my mother's warnings, and the Wendigo killed him, as he will yet kill others, unless they obey his words. I could tell many strange things if I were pleased to do so, but much talk is for nothing, therefore am I silent."

With which enigmatic speech he sat down, burying his face in his hands; but the people's curiosity was aroused, and they shouted with one accord: "Speak Wahgouche, and tell us the things that you have seen."

Wahgouche again rose, but for many moments he stood with head sunk upon his breast, plunged in deep thought; then suddenly flinging up his arms, as one who, after deep deliberation, has resolved upon a course, he spake as follows:—

"I saw not the Wendigo, but I saw his tracks that he had made in the snow which fell during the night, and which the sun licked up in the morning; they were like unto those that are made by the snowshoe of a man, and they were wide apart, fully the length of two men. I also saw a tree, which the Wendigo in his rage, had torn up by the roots, and cast by the side of the path. These things I saw, and whilst I stood uncertain, and minded to turn back,

suddenly a voice like unto thunder, only more deep and awful, called me by name; then was I altogether afraid, but I answered: 'Ohomah (here am I); 'Ondass' (come here), cried the voice, and yet I saw nothing. 'I know not where to go' I said, and my knees trembled, while the sweat of fear poured off my face. 'Here on this rock', said the voice, and then I knew where to go, for I saw, close by me, a large bald head, protruding through the moss, and what a man might cross in thirty steps, therefore I stood upon the rock, in the centre, and waited for the voice to speak again. At length it spoke, and the sound thereof seemed to come from beneath my feet, right from the very bowels of the earth, and it said. "I have slain him that is dead, the unbeliever, but to Winiwaya, his affianced bride, I would do no harm; rather would I befriend him, and for that reason have I taken from him his breath. Do thou, therefore, Wahgouche, take her to thy wigwam, to be thy wife. Now go and tell her these things, and if any man withstand thee, I will slay him even as I have slain ——" * (Here Wahgouche hesitated, then bracing himself with an effort, he shouted more than said: "Papegouche!")

Hardly had the name left his lips, when a shriek of concentrated agony arose among the pines where the dead man had just been laid. Again and again it rent the air, each time, if possible, more awful, and more piercing than before. When at length, those fearful sounds had ceased, and the panic amongst the people had somewhat subsided, a few of the bravest amongst them cautiously approached the newly made grave. The sight that met their gaze was enough to cause the stoutest hearts to quake, for the grave had given up its dead. The coffin remained in the grave, but the body was sitting with its back against the trunk of the big pine tree, with eyes staring vacantly, and with hanging jaw. The little dog lay curled up at the corpse's feet, and there were some who averred that it growled audibly at their approach. There was nothing to be done but to replace the body in the coffin, and rearrange everything into proper order, which was hastily done, for they

were all sore afraid, and did not tarry amongst those uncanny surroundings longer than was absolutely necessary.

Again they gathered together around the camp fires, discussing in awestruck whispers this last supernatural manifestation, at times looking askance at Wahgouche, to whose reckless naming of the dead man, the shocking catastrophe was by some attributed, but he heeded them not, for his mind was intent upon securing the weeping Winiwaya for his lodge, and with this object in view he again stood forth to speak.

"My father," he said, addressing Kikendatch, the chief, "perhaps I erred in speaking of the dead by name, but those were the exact words spoken by the Wendigo, and if I have erred, it is because I have spoken the truth. But there is something more that is in my heart to say, which should put strength into the hearts of the fearful. The Wendigo is still enraged with the dead one, and will not let him rest, even in his grave, unless his commands are obeyed, and those commands are that I, Wahgouche, shall wed thy daughter; for by that alone will the band have peace, and escape the wrath of the Wendigo."

Thus spake Wahgouche, the fox, and the people applauded his words, for they craved for safety, and for immunity from the wrath of the offended Wendigo, which Wahgouche had promised them.

Kikendatch therefore arose and spake as follows:—"My children. Wahgouche has spoken good words. It is not well to disobey the voice of a spirit, therefore (turning to his daughter) go to the lodge of Wahgouche, Winiwaya, and be to him a dutiful and faithful wife. I have spoken."

With which Kikendatch, well satisfied with his own wisdom, sat down amidst murmurs of applause, but Winiwaya wept the more bitterly, crying out in her misery. "Kahwin, Kahwin." (No, no.), and when she saw that her protests were in vain, she wailed forth the word of woe, which is "Aio," so that there were many whose hearts were filled with pity.

Now while all these things were being said and done, Geetchinodin, the twin brother of Papegouche, had said nothing, for he was still thinking deeply, but when the voice of the girl wailed forth the word

of woe, he started to his feet, and in a voice of thunder cried.

"Kish. Kish." (Stop, stop) Have you all gone crazy, or have you the brains of rabbits? You Kikendatch, chief that you are, should be able to think, and should not be trapped like a simple muskrat by the lying words of a fox. A Wendigo has not done this thing, but it is the work of a Manioch (a grub, an evil, contemptible thing). Bad Indians are abroad, and as my father has indeed truly said, it behoves us to watch. If Wahgouche finds my words too hard, let him stand forth, and we will soon supply his Wendigo with another victim, but I waste words; look at his face, gone grey with fear. Foxes will not fight. They run, steal, cheat, and lie, but for all that, men trap them, and this one shall be trapped. Now my father, I have somewhat to say unto you regarding your daughter; I, Geetchinodin, would take Winiwaya for my wife, but it is not

seemly that a maiden should transfer her affections from one man to another in the time that a Wahwashkisie (red deer) would jump over a log, therefore let her stay in her father's lodge for the space of three moons, and at the end of that time give her to which ever of us is alive, for Wahgouche's Wendigo must not be disappointed." Thus spake Geetchinodin, and his words brought comfort to the heart of Winiwaya, who ceased her sobbing and gazed upon the young man with kindly eyes, but Wahgouche snarled until his teeth gleamed white in the gathering gloom. Then the old man arose, and though more agitated than is the habit of an Indian, put an end to the discussion with these words:—

"So be it, as Geetchinodin desires. My daughter remains with me for the space of three moons. May the Geetchimaibou befriend the right.

(To be Continued.)

The Big Bass of Springwater.

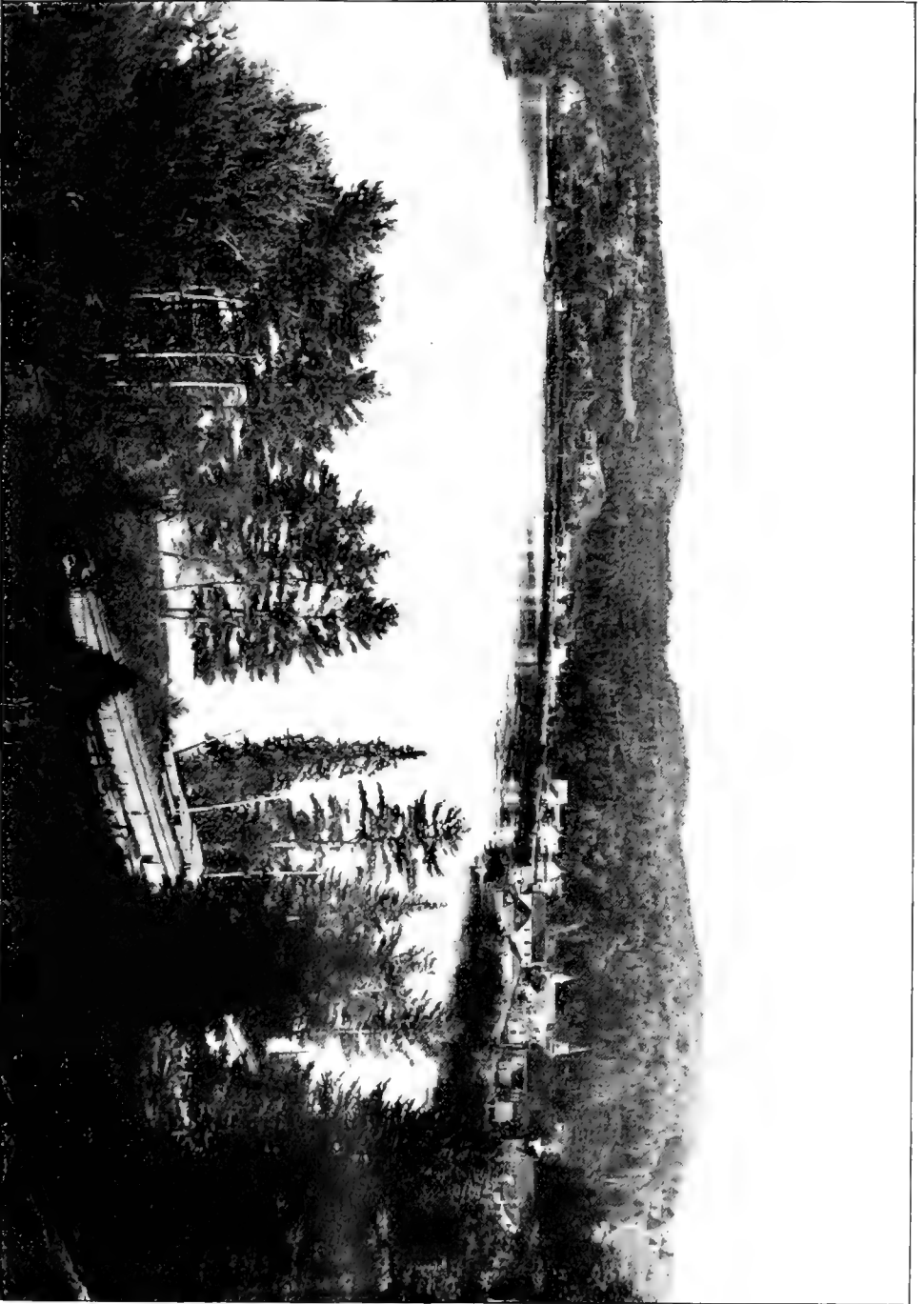
By J. A. MacKENZIE.

Springwater is the name given to a collection of little mill-ponds in Southwest Ontario. As the name implies they are fed by cold spring creeks, and as they lie in a large wood with plenty of overhanging pine and maple, and submerged roots and logs they form ideal bass grounds. Some twenty-five years ago they were stocked with small-mouthed bass, from Lake Erie, and today the ponds are fairly well supplied. But abundance of food and constant fishing has so educated the bronze backers that a good knowledge of their hiding places and critical tastes is necessary to ensure success to the angler.

That the deeper pools contain some monster fish is admitted by all local fishermen. Indeed, most of them can tell of exciting experiences and great damage done to tackle by large, broad fish, whose vague shadowy forms can occasionally be seen in the deep depths of the brown waters.

During my first two seasons at angling I used the fly and minnows, rarely getting

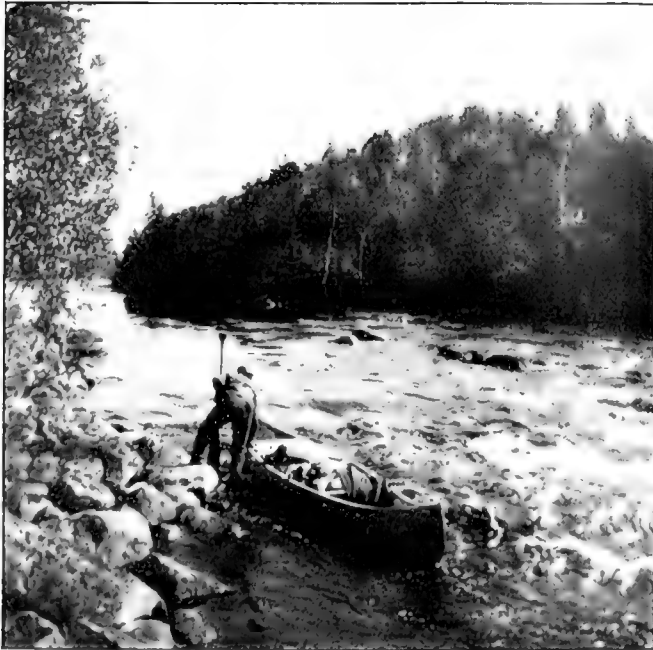
any fish larger than two pounds. But one lovely August day the awakening came. I was paddling a friend up the larger pond, when we were startled by the frantic shouts of another fisherman, who had evidently connected to something, large and lively, in the bottom of the pond. The angler was very much in earnest and alternately danced and shouted, played out line and reeled it in. A swallowed hook and stout tackle secured the prize—a three pounder. My companion and I were most interested in the bait, which was a green frog. This bait was very scarce near the ponds, the bass evidently having gobbled up every luckless batrachian. My companion went ashore, and after much chasing, secured a rather large green back, which was taken with a boil by a big bass almost before it struck the surface, and not more than twenty feet from the boat. But his cast was faulty and before the slack line was recovered the bass bore down and tied up to a convenient log, and a disap-



ON THE GATINEAU,
Wakefield, near which is fine fishing and good shooting.



LORING'S HUNT.
A four-year-old in Camp.



RAPIDS ON THE BOSTONNAIS.
A scene typical of the great Quebec wilderness.

pointed angler had to console himself for the loss of a big fish and many feet of line.

Since that day I have taken many of these large fish, and I will now endeavor to give fellow-anglers some idea of the methods employed in their capture. It is useless to fish on a clear, calm day, when the bass can see all that goes on above the surface. A fresh breeze and merry ripple is an absolute necessity in these dark, clear waters, where the bottom can be seen at six or eight feet, and where, owing to much fishing, the game is very shy. For similar reasons the angler should sit low in the boat, or keep well down along the shore. As a rule cloudy days are better than bright, and the fish bite most freely from four o'clock until dark. A change in the weather also seems to favor biting.

The method of presenting the bait is an all-important condition. Long casts from a free running reel, in which the bait alights with a splash, seem only to frighten these keen-sensed fish, and even when hooked fifty or sixty feet from the boat he is sure to wind the line round a stump or log before he is checked in his first mad rush. In these ponds each bass has his own lair under a stump, log or bunch of weeds, where he lies in wait for a passing prey, except when out feeding in the evening, when they are sometimes taken in open spaces away from such obstructions.

The most successful anglers are the most cautious in approach and have the best knowledge of their likely hiding places. As you fish the ponds, season after season, each stump, submerged log, or overhanging tree acquires a history of its own, recalling to your memory a brave fight hardily won, or an opportunity carelessly lost. For such casting we have found no method so accurate, delicate or easy on the bait as casting as you would a fly from a stiff fly or Henshall rod. After each cast the bait is allowed to swim about for a few minutes before being slowly worked towards the boat. The slack is taken up in loose coils in the left hand ready to go out as the frog is cast to the opposite side. This is known in fly fishing as shooting the line. It enables you to fish over more water,

the bait is lifted carefully from the surface on a short line, and can be placed exactly where desired. The boat is punted slowly and quietly along, or allowed to drift with the wind. The angler casts underneath the overhanging bushes, or beside the roots that line the shore, and out into the pond, among the weed beds, or over submerged stumps and logs. When a fish is hooked, the boat is paddled out into deep water away from obstructions, the use of which the bass knows so well. Many fish are lost to the novice by not letting them have the bait sufficiently long before striking. This game fish has a vicious habit of following its prey and seizing it by the tail or crosswise in its mouth, thus holding it for some time before swallowing. Give him line on the first intimation of a bite, and wait a few seconds before reeling up and striking. Of course if the bait is taken with a rush strike at once. Occasionally a bass will take a frog with a boil, and hook himself when you have two or three coils of slack in your left hand. Then you must play him from your hand, without making use of the reel, a foot or two of slack line will enable him to throw out the hook, unless it is well set, and get away. Always, however, kill your fish on the rod by keeping it well bent and only check him hard when too near a stump or log. Give him a chance and he will display the wonderful fighting powers that makes him one of the gamiest fish that swims, peer even to the beautiful trout.

On these ponds the landing net is rarely used. The large fish are completely exhausted and lifted in by hand, the smaller ones on the line, not, however, by the rod. To keep up the supply, all fish under $1\frac{1}{4}$ to $1\frac{1}{2}$ pounds are carefully returned to the water.

In the matter of rods, the long, heavy typical bass rod of a few years ago, is a thing of the past, thanks to the writings of Dr. Henshall. A short, light rod will deliver a bait much farther by modern methods of casting, besides being much handier in playing the fish. It should be limber and yet have sufficient back-bone to tire a big bass, and check his wild rushes for freedom. Elasticity, lightness and balance are the principal qualities, and ash and lancewood rods possess these in a marked

degree. But for elasticity and quick steel-like spring, no wood can surpass bethabara. My rod is home-made, of the Henshall pattern, 8 feet, 3 inches long, non-dowel joints, ferrules good honest brass, $\frac{3}{8}$ and 15-16ths, weight nearly 8 oz., ash butt, bethabara second joint and lancewood tip; bethabara would be better in the tip also. When first made the second joint was ash, which was broken by a two-pound bass exerting every muscle to get under a stump, from which he had been lured by a green frog, cast right in the mouth of his den. He no sooner felt the hook than he turned straight for his secure retreat, with the line over his shoulder. One desperate plunge as I gave the butt and checked the reel snapped the joint close above the first ferrule. Seizing the line, a No. 6, hard-braided silk, the smallest size made, I pulled him from that dangerous spot and played him out on a six-foot tether. Vainly he objected to such rude handling, but the frog had been swallowed deep and the hook was well set in his throat. Shortening the line as his plunges grew weaker, after two or three attempts, I succeeded in grasping him behind the head and lifting him into the boat.

The lighter the line, the less likely to be seen by the fish. Even the lightest are much stronger than is necessary when using a light, pliant rod, the spring of which neutralizes every sudden jerk and gives the game nothing solid to pull against. The strain is remarkably small, although from the leverage of the rod on the hand it seems great. The angler can readily test this for himself, by lifting weights of one-quarter to one-half pounds attached to the line on the rod.

A good click reel, narrow between plates, with a deep barrel, will, when nearly full, take up line nearly as fast as a multiplier, without requiring such careful attention to prevent bunching. Its first cost is not great, and it is not liable to get out of order when the repair shops are out of reach. With an adjustable click and steel spindle, very fair casting may be done. My Featherlight will make twenty-two to twenty-five revolutions with one twitch of the handle. If some maker would place on the market such a single acting reel, with steel conical, compensating bearings, so

that they would run just as smoothly and wear just as long as the high priced multiplier, it would be a great boon to anglers, who, like myself, cannot afford to put \$20 or \$25 into a reel. Such a reel is not necessary for the style of casting described above, and most in vogue here. But there is one pond where casting from a free running reel has many advantages, the water being deep, clear and nearly free from obstructions, and the wooded shores shutting out the breeze necessitating long casts, which enable the angler to keep out of sight of the fish.

One hot day last July, the fleecy, white clouds and southwest wind, lured me away from business cares and the close gallery to beautiful spring water. To my wheel was strapped the rod and box of frogs, and the five or six miles o'er the hot, dusty road sped quickly by, not without some discomfort, but once there the merry ripple on its dark waters, dispelled all thought of heat and dust, with the promise of spring sport. Several small spring creeks flowing among the pine-clad hills have been damned back into a series of ponds, which supply power to grist, saw, and oatmeal mills. Some of the more secluded are stocked with trout, in the fry of which the owner does a large business.

The two largest ponds, the saw mill and the old pond behind the farm, are the homes of the hard-fighting bass. Brought twenty-five years ago from Lake Erie. Placed in the old pond, they multiplied and became fairly numerous. From here they were transplanted into the larger saw-mill pond, where they afford the best sport today. These were the light green bass of the lake, but under the influence of the dark spring water they soon changed their coat to black. This change of color to match their environments is another evidence of protective Nature's care for her children. It enables them more readily to secure their prey and elude their enemies.

The saw-mill pond is the largest, if not the prettiest, of the watery gems that comprise spring water. Stretching out before your view, in a succession of wooded points and pretty bays, it reminds one of a northern lake, and this resemblance is increased by its dark spring waters and sombre pines, which stand like sentinels on

the outstretching points and in the dense forest at its head, lifting their dark spreading tops above the smooth beeches and the rugged maples. Jump into the canoe and paddle around yon point, and what is there to indicate the near abode of man. On the south it is densely wooded to the water's edge, with many beautiful flowering shrubs, peeping out from among the surrounding green foliage. Little creeks and narrow bays stretch away into the heart of the big woods. On the lower northern shore stretches of green sward, shaded by clumps of small pines and maples, make an ideal spot for a summer picnic. In the late summer, when the water is low, beds of weeds and large stumps just coming to the surface may be seen here and there in the pond. When the tops of the pines glow in the setting sun, and all the air is still, how perfect are the reflections from its glassy surface. Points, trees and flowering shrubs, appear in its cool depths, another world rivalling ours, with its calm sky and twinkling stars, its fleecy clouds and rising moon, and fire-fly lamps around the verge. Nor does it only appeal to the eye. The "bob-white" of the quail and the drum of the partridge, have given place, as the shades of evening settle down, to the deep bass of the frog and the mournful "whip-poor-will." From the depths of the forest hoots the owl, while the tinkling of distant cow bells comes up from the meadow. The quavering whistle of the small cat-owl fills you with thoughts of the dreary winter, of sighing winds and moaning pines. But all this world of sound vanishes before the heavy splash of the leaping bass. Sweetest of all sounds to the angler's ear it makes him eager for exciting sport with his favorite game fish feeding near. If he deftly drop a big, white miller over the swirl of the rising fish, skipping it across the surface, quick and sharp will be the response. And then look out for hidden log or tangled growth, keep a tight line and play him hard, or the tinselled fraud will be rejected, and with a saucy flap, the fish will depart to his dark lair under the stumps, or in the depths of the deepest pool. Not always in vain are the leaping summer-saults of the bass. Many a hook has been thrown out with a vicious jerk, as he

cleaves the air, and many a minnow or frog has been sent skipping across the surface in these desperate efforts to regain liberty.

On this July afternoon, a skillful paddler was not to be had, and I had to make use of a young boy, who had never been in a boat before. He needed explicit directions as to which side and in which direction to stroke to keep the boat broadside to the wind, as we drifted up the pond. I sat on the forward thwart of the flat bottomed punt and cast to right and left, dropping the frog alongside the weed beds, or over submerged stumps and logs. The bait, hooked through the lips, is given plenty of time to swim about and hunt up a fish, before being worked toward the boat, ready for the next cast. In this manner we fished near the dam, and passed the boom, which, doubled back in the shape of a V, holds in the logs for the saw mill. Out in the middle of the pond we were drifting, urged on by a steady breeze, which raised a little sea, that concealed our movements from the sharp sighted bass. In the dark waters about twenty feet to my right front was a large fungus or sponge-like growth, just discernible beneath the surface, and looking very much like a large straw-colored rock. Softly the little frog dropped a foot or two beyond this likely spot, and began to swim about in frantic efforts to get free. In a few seconds, however, he settled down out of sight beside the growth and we looked anxiously for a strike. Soon the line ran out a few inches and then stopped, and then ran out again with a jerky motion. I freely played it off the reel, and at the same time instructed the boy to keep the boat in a long lane of free water that ran up the pond, and by no means to let it get too near any stumps or logs. Judging that the fish had had plenty of time to swallow the bait, or get it well into his mouth, I reeled up the slack, gently felt him, and with a firm, but slight upward movement, set the sharp sproat hook in his tough jaw. It reminded me of getting snagged when trolling from a canoe, in fairly rapid motion. There was absolutely no give and this snag became very animated, going straight up the lane for some thirty feet or more, in spite of the drag of both click and thumb on the

spool, and the little rod arched in a semi-circle. The shrill scream of the reel and hissing of the line through the water made fit music for such a fight. The boy, though greatly excited and eager as myself, did his best to carry out my commands. Turned in his first mad rush, the fish made across the channel for the dense weed beds, but not having the line over his shoulder we managed to turn him from the tangled growth and again he crossed our bows, keeping deep down in his native element. The rapidly moving line and a faint, dark shadow in the black depths alone serving to indicate the direction of his flight. Foiled in several such attempts he sulked at the bottom of the channel, and it took several serious pulls on the rod to start him out. But away he went again, taking out many feet, though gradually being forced nearer to the surface. In vain we checked him all we dared; he made a desperate effort and reached the weeds, here altogether too plentiful for comfort, when your light tackle and a big bass is at stake. He got a turn or two around a small birch, but soon shook himself loose, and the little rod was bent in a dangerous curve as we forced him nearer to the surface. Back and forth on the shortened line he darted, lashing the water into foam at each turn, and occasionally giving us a glimpse of his broad, gleaming side and bronzed back. Eager before, we were now doubly anxious to save our prize. Slowly the boy worked the boat away from the weeds, and nearly exhausted, the bass lay panting upon the surface. With raised rod I towed him up to the boat, but the sight of his captor lent new life

to those tired muscles, and the reel purred softly a short note. This rush was his last, and we soon had him in the boat. There he lay, too tired to flap, displaying his broad, muscular body, which could take such a hold of the water and keep up such a hard struggle for so many minutes. He just went three pounds, but by the way he fought, we would have sworn before seeing him that a five-pounder was attached to our line. The boat had drifted one hundred yards or more up the pond, and my arm was thoroughly tired. We fished until the gathering shades warned me that it would soon be too dark for wheeling, but caught none that would equal the first in fight or weight. One two-pound fish fought long and deep, in a large pocket among the weeds. It was a case of check your fish constantly or lose him, and often was the tackle tried to the utmost limit. A small log lay supported by a few limbs about a foot from the bottom. Several times he strove to get under this, but we gave him the butt and bore hard, thus keeping him just above it, as he darted across the pool. At last he joined his companion in the boat, the only two fish that were not returned to the water during this glorious afternoon's sport. Two or three good sized fish were lost by striking too soon. One made several rushes and tugged quite strongly before giving up the dangerous morsel, which was badly chewed about the hind legs. Two carried off the frogs, and many good bass came to the boat, but we had enough and preferred enjoying the sport another day to taking a large string to town to show and brag about.

White Goat Hunting.

By W. A. BREWSTER.

We had been planning the trip for some time and at last decided we would start Oct. 5th. There were four of us in the party, beside our guide, "Old Tom," an expert packer, and a Stoney Indian, who rejoined in the name of "Moses Bear."

It had been planned that we should start from Banff, and Mr. Howard Sibbal, his

brother Frank, and the Indian, arrived on the passenger train in the morning from Morley. The guide having horses and outfit ready, we soon made arrangements for an early start, when I received a message, which prevented me from leaving for another two days.

However, it was decided that the rest of

the party should go without me, and I would overtake them two days later at Laggan, which is about thirty-four miles west of Banff.

Two days later I found myself on the train bound for Laggan, with my rifle, fishing tackle, and dunnage bag. Arriving at Laggan station, I met my friends, who had arrived the night before and camped about a mile out on the Bow Lake trail. They helped me to carry my things to camp, but as it was 4 p. m. by the time we reached there, we decided it was too late to move camp. The rest of the afternoon was spent in trying our rifles, until each man was sure his own rifle was the best, and that if a goat was to show up anywhere within a mile, he was certain to become "meat."

Our guide was up before daylight next morning, made up the fire, which was still burning, and started out after the horses. The horses were all caught, tied up and saddled before we sat down to breakfast. After breakfast Howard and I washed the dishes and packed the grub boxes, while Luxton and the Indian took down the tents and folded the blankets. Frank and Tom were busy packing, so with everyone working, we managed to get an early start and were "hitting the trail" by 8 o'clock.

The trail here leaves the C. P. R. track and goes in a northwesterly direction, following the valley of the Bow River. We travelled through a country covered with a small growth of Jack-pine for nearly seven miles. Then we came down to the river bottom, which was more open. We followed the river about eight miles and found a pretty camp ground, where we stayed for the night.

Howard and I started to get supper ready, Tom hobbled the horses, and washed off their backs with salt and water to prevent them getting sore. Frank and the Indian sat by the fire talking Stoney, while Luxton amused himself trying to put up one of the tents alone. He soon gave it up as bad job, however. Luxton being the only tenderfoot in the crowd, he afforded us lots of amusement before we were home again.

After supper everyone had a smoke, then we put up our tents and cut balsams for our beds. By this time it was dark, so we built a big fire and sat around it tell-

ing stories of the "Little Black Man." This is a superstition of the Stoney Indians of an evil spirit roaming through the mountains, which means death to anyone seeing him. We all decided to go to bed early and if possible get another good start in the morning.

We were on the trail by 8.30 a. m. and about noon we saw a mountain to our left, that looked as if it might be a good range for goat, so we crossed the river and made camp. After dinner we prepared to climb. Leaving Tom in camp, we took the Indian and started up the mountain. We had not gone far when we decided to make two parties. Frank and I taking the small draw to the left, leaving Howard, Luxton and the Indian the right, which would be an easier climb for Howard, who was too fat to climb anything very difficult. Frank and I had a hard climb before we reached the top of the ridge, but we succeeded at last, and from there got a fine view of the valley on this side, which was full of glaciers and small streams.

We followed along the ridge, expecting to join the rest of our party, but when we got to where they should have been, we found they had not yet arrived. On looking down we saw them looking into a small valley to the north of the one they started to climb. We knew from the position they were crouching in that there was something in sight, so we started, intending to be in at the death at least.

We soon came down to where they were, Howard and "Moses Bear" had gone down to the foot of the draw, leaving Luxton where we had first seen them.

We asked him what was doing, and he told us to crawl over to the brow of the hill and take a look, but to be careful not to show ourselves. We did as told and saw a beautiful little valley, three-quarters of a mile wide, with a little lake in the centre. About four hundred yards across the lake the water was very blue, showing that it was also very deep. Fifty yards up from the lake an old Billy goat was feeding, with no suspicion of the danger he was in.

As we lay watching the Billy, Luxton crept up to us and we were all three watching the proceeding, when we heard two shots. Howard and Moses had taken

a shot each, both missed, however, so we decided we might just as well have a hand in the fun. We opened fire, although we were over eight hundred yards away. You could hear nothing but shooting for about five minutes, but no harm was done, as Billy was making tracks up the mountain as fast as his short legs would carry him.

Luxton and I started off up the mountain, intending to head him off before he went over the ridge. But he succeeded in getting over before us. We took up his trail and found him standing on a ledge of a rock overlooking a steep precipice.

Luxton took a shot, hitting him this time through the neck and making him start towards us on the run, intending to pass us to get on to a higher cliff to our left. We both shot at him at the same time, and both shots taking effect, he rolled over, kicking so violently that he went over the ledge and landed on another ledge five hundred feet below. This made it impossible to get at him from either way, so we just had to leave him and return to camp. We felt rather bad about loosing our first game, but after the good supper which Tom had ready for us, we became more reconciled and made our plans for the next day's work.

We got away early, passing the Upper Bow Lake about 10 a.m. Crossing the Bow summit, we started down the valley to Bear Creek. We followed the creek to the Waterfowl Lakes, making our camp after a long day's march at the end of the Lower Lake. Every one was tired and went early to bed.

The next day we made new plans for the hunt. Luxton and Howard had spotted some goat from the camp by the aid of their field glasses, so of course they took the lead. Frank and I followed the bed of the creek until we came to the foot of the ridge, that we intended to climb. We found it was much farther from camp than we had at first supposed. We had climbed only four hundred feet when we came upon fresh goat and deer tracks. However, we kept on climbing until we were nearly two-thirds of the way to the top. Then we struck around to the north, keeping about the same height that we were then. We had only gone three hundred yards when I stopped. Looking down below us we saw

about twenty goat. They had not seen us yet, so we retraced our steps to a place of shelter, where they could not see us after our first shot. As goat will sometimes stand for a second or third shot, if they cannot see where they are coming from.

We got behind a rock, and I took a shot, missing altogether, and hitting in the ground thirty yards on the other side. Frank then fired a few shots, but he also missed. By this time the goat had bunched up and looked down the mountain. We waited a few minutes to see if they would not start up the Mount, as is usual when shot at from above, but they stood still. I rested my rifle on a stone and took a steady aim at the largest Billy and fired, hitting him in the front foot. This started them, but down the Mount, instead of climbing up, much to our surprise. We followed, and soon found out why they had gone down. A short distance down was a precipice, which cut off sharply down to Bear Creek, a distance of about one thousand feet.

Scattered along the face of the cliff were the goat, on little shelves of rock that one would scarcely think it possible to stand on. We could not get down to them from where we were, so had to go around the end of the bluff. At the foot of the bluff we ran on the pack trail and Frank went back to camp. I wanted a goat pretty badly, so I went on. At the foot of the wall there was a little draw, which probably carried water in the spring when the snow was melting on the mountain side. I followed this for some time, but it was hard and dangerous work. After climbing for some fifteen minutes more I stopped for a rest. Just before starting again I heard a few loose stones rattling down the hillside. I climbed a little bank and found a big Billy, a Nannie and one kid. I fired down, taking good aim at the Billy. He went rolling down the hill four hundred feet. I started down to where he lay, and dragged him down to the trail. By this time it was getting dark, and I was yet four miles from camp. I bled the goat, but left him where he lay and started for camp. After an hour's tramp, I reached camp, tired and hungry, and found that the others had not yet arrived. It was a beautiful night. The moon was shining

brightly, so I knew the rest of the party would not have any trouble finding the trail. They reached home shortly after, and had had great success. They had killed two big goat and were carrying most of them to camp.

They were very tired. Luxton, our tender-foot, was slightly bruised, having slid down the mountain quite a distance. After shooting his goat, he tried to draw it across a snow bank. The weight of the goat pulled him down, and he and the goat rolled over one another down the hard, smooth surface for nearly one hundred yards, and almost twenty yards across the loose rocks at the bottom, before he could stop.

By nine a.m. the next morning the rest of the party left camp. I went out to the horses, caught "Baldy" and led him into camp. I put a riding saddle on him, and with a lash rope and cinch, started back over the trail, to get the goat I had shot the afternoon before.

I found him and proceeded to load him onto the horse. After getting him on, I used my lash rope and cinch to secure him to the saddle. I started back to camp, leading the horse and all went well until the Billy began digging "Baldy" in the flank. Then there was something doing for a while. After bucking around and drag-

ging me with him over logs and rocks, he decided it was no use trying to shake us.

We started on our way again. Baldy gave a few jumps and snorts to let us know he still had a grievance to be settled. However, we reached camp and I spent the rest of the day stretching the skin, skinning the head, and mending some clothes, which were beginning to show the wear and tear of camp life. The other boys came in later, without bringing any trophies of their day's hunt. They saw a bunch of goat, but were not near enough for a shot.

Next day was Sunday, and as usual, everyone had a little mending and washing to do. We spent a very interesting hour and a half talking to four Stoney Indians, who came to visit us that afternoon.

The boys went out again on Monday, securing three goat, making six in all. They could have killed several more, but, being true sportsmen, and each one having killed one goat, they left the rest for the next hunter. Tuesday morning bright and early we were on the trail for home. Nothing of any account happened on the way home. It rained the last day, but did not spoil our trip. On arriving in Laggan, we all, with the exception of Tom, boarded the train for Banff. Tom arrived two days later by trail with the horses.

Forestry in Quebec.*

The report of the Forestry and Colonization Commission of Quebec has been submitted to the Government and the Legislature and although publication is only partially completed at the present time, sufficient information is available to show the general trend of the report. The Commissioners are Senator Legris, Chairman; Canon Thiverge and Mr. J. T. Brodie, with Mr. J. C. Lengelier as Secretary, and the report has been prepared after making investigations and receiving evidence in different parts of the Province.

In the main the findings of the Commission are as follows:—

There is no conflict between settlers in good faith and the timber limit holders. As a rule they are necessary to each other and work harmoniously together, all the trouble coming from speculators who seek to obtain possession of the lots for the timber on them or to sell them again at a high price to settlers. The limit holders do not strip all the timber from lots under location ticket, but almost invariably have sufficient for the settlers to build and to sell for the support of their families during the first year.

In the overwhelming majority of cases speculators are at the bottom of all com-

*Contributed by the Officers of the Canadian Forestry Association.

plaints in connection with colonization, which they use as a pretext to advance their own objects. Speculation in the lots and in timber on them has reached such a pitch as to endanger the stability of many great pulp and paper industries, especially in the Eastern townships, by depleting their timber limits.

The law making free land grants to fathers of twelve living children has been grossly abused by speculators who have a regular organization, especially in the Eastern Townships, which makes it a business of hunting up such fathers, buying their rights from them for the merest trifle, picking out the most richly wooded lots in the timber limits, applying for them in their name, and then selling at a large profit, instances being known of lots which were obtained in this way for \$30, and from which \$20,000 to \$25,000 were afterwards netted for the timber alone. One of these organizations has actually applications for seventy lots pending before the Department. Settlers, under location ticket, who have no right to sell the timber cut outside their clearings until their lots are patented, nevertheless do so to speculators, often getting \$860 to \$900 for the cut, and this traffic is carried on so openly that it is often recorded in notarial deeds and registered.

The consequence of the Ministerial circulars of the 18th April and 8th May, forbidding agents to sell lands before submitting the applications to the Department have been grossly exaggerated and any falling off in colonization about that time was mainly due to the rise of wages in the cities, which prevented a certain number of intending settlers from going on the land. The responsibility for the whole unfortunate situation, compounded of fraud, speculation, misrepresentation, and enormous loss to the province and the limit-owners, rests chiefly upon the negligence and carelessness, if not worse, of the land agents who failed to make the register and necessary inspections, to enable the department to order the sales to settlers without delay.

There are enough surveyed and divided lands in the province to supply the demand for seventy years to come, and enough of colonization roads to suffice for

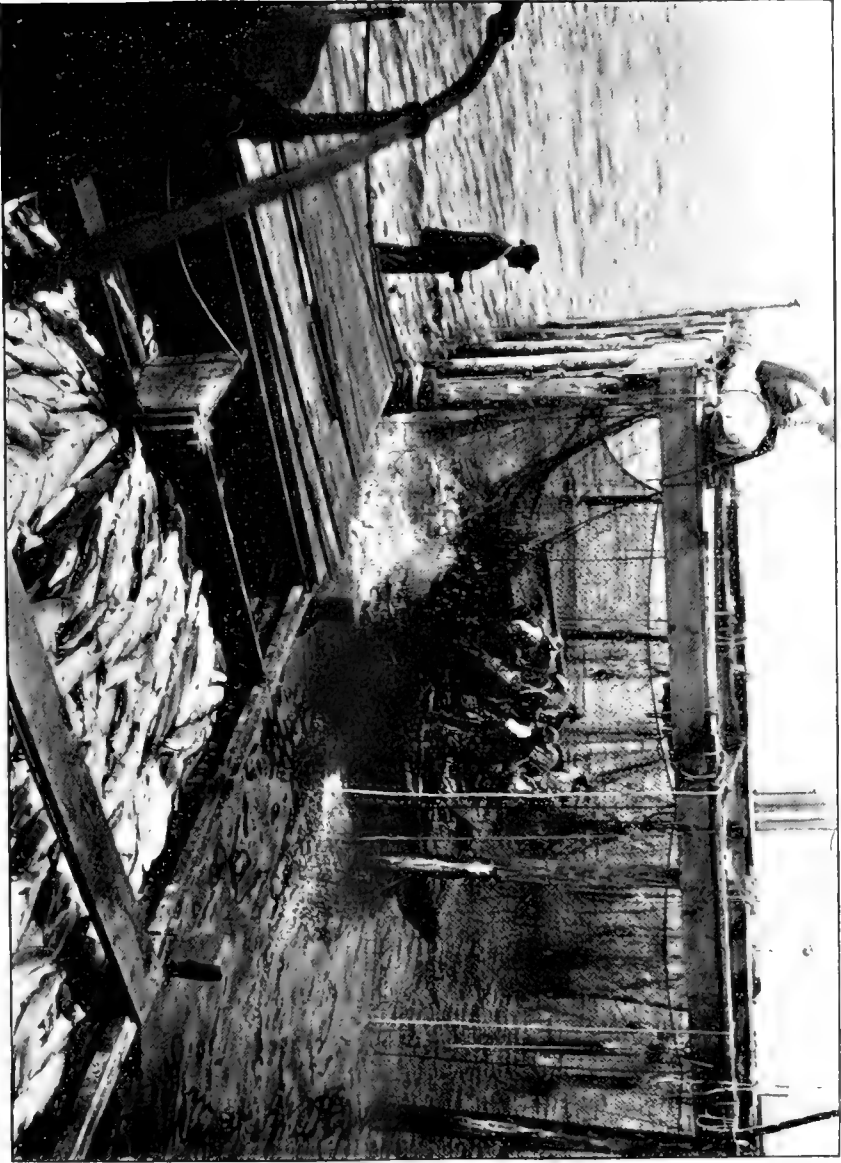
all the wants of settlers, if the work of colonization was properly managed instead of being carried on in a scattered fashion as at present. With the present system of scattered settlement it would call for an outlay of \$1,000,000 a year to satisfy all the demands for colonization roads, especially when a large part of this expenditure is appropriated for the objects of politicians to the mending and making of roads in the old parishes. Except the Quebec & Lake St. John Colonization Societies, these societies do very little good generally toward the promoting of colonization and should be suppressed.

Forest fires annually cause enormous losses to the province and private interests, and the fire ranging service is ineffective. The law for the protection of forests against fire should be amended in order to change the seasons when settlers are forbidden to set fire to their choppings, and such fires should not be made on any of these without the sanction of the district fire ranger.

Absence of classification of public lands renders the tenure of license-holders uncertain and hampers them in their operations, as well as contributes to the scattering settlements, and causes all sorts of embarrassment to the progress of colonization. The quantity of land sold annually for alleged settlements is far in excess of the real demand, and steps should be taken to prevent this loss to the province. Clandestine and unregistered transfers of rights on lots and timber are common, and one of the greatest sources of speculation and fraud to the detriment of the province and license-holders. There is a demand for competent, honest and reliable guides, paid by the Government, to direct settlers in the choice of their lots. One of the most flagrant grievances complained of by the settlers, and a cause of obstruction to colonization, is the bush rangers, who are usually appointed through political influence, and as a rule located too far from their field of duty to be useful to the settlers.

The recommendations made are the following:—

Classification of the public lands into settlement, or farming lands, and timber lands, the former to be reserved for set-



THE HARVEST OF THE SEA.
A snap-shot at a British Columbia "fish-pound."



AN OJIBWAY GATHERING.

tlement, and the latter exclusively for lumbering operations. Automatic cancellation of all lots for non-fulfillment of settlement conditions, such cancellations to take place without Government or political interference of any kind.

Regulation of all transfers of lots, or cut of timber thereon, in order to quickly detect and prevent speculation. In the case of grants of lots to fathers of twelve children, the grantees to be absolutely forbidden to sell or dispose of their lots or timber thereon under penalty of immediate forfeiture of all rights. Immediate cancellation of all lots upon which settlement conditions are not fulfilled, and return of the same to the public domain, to become available for other applicants. Repeal of the law concerning the sale of firewood lands as an occasion of speculation and fraud, and the substitution thereof of a system of reserves on which the Government should sell to the settlers the necessary firewood and building timber for their requirements, at so much per cord, or thousand feet. In order to secure forest protection against fire, the naming of fire rangers mainly from the employees of the license holders is recommended, the latter to pay them, but the Government to control them and give them the powers of justices of the peace. Water powers to be kept as long as possible and sold with the timber limits by public auction, in order to secure and maintain a proper wood supply for pulp and paper mills. Payment of a bounty on all exports of paper manufactured from pulp wood cut in the province and in the public lands, as the most practical means of encouraging the development of the pulp and paper industry.

The report deals extensively with very interesting and instructive descriptions of the best settlements and best timbered regions in the province, and especially of the

territory and resources of new Quebec, and concludes by pointing out that so long as the attraction of the timber on Crown lands, which is continually increasing in value, is held out as a bait to the speculators and pretended settlers, so long will those classes of interlopers more or less successfully frustrate all means and efforts to promote bona fide colonization.

The most important principle which this report lays down is one that coincides exactly with one of the main principles of the platform of the Canadian Forestry Association, and it is another strong evidence in support of its inherent reasonableness and fairness, namely, that public lands should be examined and classified so that they may be devoted to the purposes to which they are best adapted, thus helping the bona fide colonist to settle upon the locations suited for agriculture, and keeping the settlements close together, so that the inhabitants may be mutually helpful and the expenditure for roads and public works may be made most economically. The statement that there are enough surveyed and divided lands in the province to supply the demand for seventy years to come, shows the utterly unscientific manner in which colonization has been carried on up to the present time. It is to be hoped that the result of this report will be to convince the public that the permanence of the lumber industry and the settlement of agricultural lands are not antagonistic, but that each has its sphere and they are naturally the complement of one another. The Government should be strongly supported in any action to take the control of the work of colonization into its own hands, and to conduct it on proper principles, such as will be to the advantage of the settler, and to the revenues and future propriety of the province.



The White Birch.*

"Lay aside your cloak, O Birch Tree!
Lay aside your white-skin wrapper,
For the summertime is coming,
And the sun is warm in heaven,
And you need no white skin wrapper!"
Thus aloud cried Hiawatha,
In the solitary forest,

And the tree with all its branches
Rustled in the breeze of morning,
Saying with a sigh of patience,
"Take my cloak, O Hiawatha!"

With his knife the tree he girdled
Just beneath its lowest branches,
Just above the roots he cut it,
Till the sap came oozing outward;
Down the trunk from top to bottom,
Sheer he cleft the bark asunder,
With a wooden wedge he raised it,
Stripped it from the trunk unbroken.
Thus the Birch Canoe was builded,
In the valley by the river,
In the bosom of the forest;
And the forest's life was in it,
All its mystery and its magic,
All the lightness of the birch tree,
All the toughness of the cedar,
All the birch's supple sinews;
And it floated on the river
Like a yellow leaf in autumn,
Like a yellow waterlily,

So sings Longfellow of the hero Hiawatha and the building of his birch bark canoe, and any one who has had the pleasure of travelling by this mode of conveyance through any of our northern waterways will feel a responsive thrill to the poetic chords thus touched by a masterhand. The lightness of the canoe of birch bark upon the water, and its almost living response to the stroke of the paddle give a sense of freedom and power that is as exhilarating as the exercise of paddling is invigorating. To the Indian the canoe was his faithful friend and his only mode of conveyance. With it he threaded the numerous waterways that formed the chief means of communication through the pathless forests, finding his way through the intricate mazes of the swamps, running the rapids with a skill and daring born of long training and practice, skirting the borders of the great lakes, crossing the numerous

portages from stream to stream, carrying his light bark. Not more indispensable to the present day are the steam locomotive and the railways, which have become the great modern means of travel and communication.

Longfellow very accurately describes the process of stripping the bark from the tree for this purpose. It is cut below the lower branches and above the roots, or of such length as may be required. From another cut made lengthwise of the trunk it is gradually raised by wedges and stripped off in one piece and unbroken. Lying on the ground, it is then shaped over a frame of hardwood, the ends being drawn together, sewn with the fibrous roots of the spruce and made watertight with resin from the balsam. The upper part was steadied on a frame of cedar, with cross pieces of the same, and the interior was sheeted with thin pieces of the same wood bent into proper shape. The whole formed a boat of great lightness and strength, buoyant in the water, light on the portage, and capable of carrying loads such as would hardly have been conceived of from its lack of weight. The first canoes were probably crude enough affairs, but the shape and workmanship were gradually improved till a craft was produced that has never been surpassed by any other for the purpose for which it is required. The usual form is broad and flat in the middle, curving gracefully to a narrow point at each end, which rises higher than the centre. They were made of varying sizes, from the small canoe to be used by one or two persons, to the large canoes capable of carrying a large number of warriors or, later, voyageurs. That such light craft could be handled so steadily is remarkable. It is recorded that La Salle transported the machinery for a mill, including a forge, from Quebec to the mouth of the Illinois River, wholly by canoe and without misadventure. A great advantage possessed by the canoe for wilderness travelling was the fact that the materials for repairing it

*Contributed by the Officers of the Canadian Forestry Association.

were always at hand in case of accident, they being entirely supplied by the forest.

But it was not only for his canoe that the Indian was indebted to the birch tree. His four great requisities were the canoe, the wigwam, the bow and the snowshoe. The wigwam was usually constructed of birch bark also. Poles were slanted in from a circle on the ground to a point at the top. On these successive strips of bark were laid from the bottom upwards and fastened together by vegetable fibres or animal sinews. A space was left for the doorway, which was covered by the skin of an animal, and at the top a hole was left for the escape of the smoke from the fire in the centre of the erection. The bark was also used for the manufacture of pails and dishes of various descriptions for carrying the supply of water for domestic purposes, for holding sap in the sugaring season, and for general purposes. Both sap and water were boiled in such vessels by the Indians, and if any one doubts the possibility of employing such an inflammable substance for this purpose, let him try the simple experiment of boiling water in a dish made of paper over a spirit lamp, when its feasibility will be abundantly demonstrated. The lightness of the separated sheets of the birch bark and the ease with which it could be stripped loose caused it to be used for giving light in the wigwam, or for providing fuel for the torch with which the Indians guided his operations when he was out on a fishspearing expedition. In so many ways did the bark of this tree come to the aid of these primitive Canadians that an old writer felt compelled to make the following quaint remark in regard to it:—"Birch bark is almost proof against decay. It seems to me to have been a provision of the Almighty for the Indians' good, for without it I cannot see how they could have managed to get along."

In modern days leaves from the bark of the paper birch have been made the vehicle of many a sentimental message, or the memorial of some pleasant outing, and many tender recollections are enshrined in the pages of such rustic volumes. As Lowell says:—

"Thou art the go-between of rustic lovers,
Thy white bark has its secrets in their
keeping."

The use of birch bark for record purposes is not altogether modern however, as according to Pliny, the celebrated books which Numa Pompilius composed seven hundred years before Christ and which were buried with him, were written on the bark of the birch tree.

The white canoe, or paper birch (*Betula papyrifera*, Michx., *B. papyracea*, Ait) belongs to the order *Betulaceae*. The leaves are ovate, taper-pointed, smooth above, dull and hairy below, especially on the ribs and at their angles. The margins are doubly and coarsely serrate, the base rounded or even heart-shaped and the stem short (one-third to one-fourth the length of the leaf) and often downy. The new shoots are dark in color, but before long assume the characteristic white and laminated bark, which distinguishes this tree. The flowers are in catkins, the fertile being long and drooping, and opening their golden flowers with or before the leaves in spring. The fertile catkins are also drooping and mature their seeds in July. The heart wood is reddish and the sap wood beautifully white. It is soft, smooth and takes a fine polish, and is fitted for ornamental works. It is used principally for spools, bobbins, boxes, bowls, and other wooden-ware, shoe lasts and pegs. It is also employed in the manufacture of furniture and for interior finishing. According to Macoun's catalogue, no other tree in British North America has such a wide range as this one. If the western form is included, the limits of its growth are bounded by the Atlantic on the east, the Pacific on the west, and on the north by the limit of deciduous trees, while it extends southward beyond our border. The British Columbia form has much shorter and thicker leaves, and a very different bark, so that it may be a distinct variety. North of the Height of Land, in Eastern Canada, the birch does not grow sufficiently large to be suitable for the manufacture of canoes, and the Hudson's Bay Company have to import birch bark from the south for the canoes used in Labrador. The inflammability of the bark makes this tree a dangerous one in

the forest in case of fire. The fire takes hold easily of the light, loose ends and runs swiftly up the tree, thus being assisted to become a top fire, the most dangerous kind. Burning pieces of the bark also break loose and fly through the air, causing new conflagrations far beyond the confines of the original one.

A tree which greatly resembles the Paper Birch, is the white or grey birch (*Betula alba* var *populiolia*, Spach).

Its leaves are more triangular than those of the former, are smooth and shiny on both sides and long-stemmed, and it is generally more light and delicate in texture and appearance. This tree is confined to the Eastern Provinces and St. Lawrence Valley, but its range is little known outside of New Brunswick.

The Service Rifle.

By ST. CROIX.

The tendency has been to shorten and lighten military weapons ever since the day of the Brown Bess, and since the South African War the necessity of having larger forces of mounted men has become so apparent that every military nation is striving to produce a rifle, that, while possessing the range and accuracy essential to modern tactics, may yet be sufficiently handy for the use of a mounted trooper.

The American Government has now adopted a barrel twenty-four inches in length, but the more conservative British government seems to have decided on one between twenty-five and twenty-six inches long. If the American government is right, the British have not gone far enough, but when we remember the lamentable failure of the .236 adopted for the American navy, we are disposed to think that perhaps our authorities were wise when they made haste slowly in this direction. Few of the new pattern Lee-Enfield have been served out as yet, but it is said that at the next Bisley meeting competitions will be held between squads using the new and the ordinary rifle. The only accurate and detailed description of the new arm is that given in a recent issue of the "London Field." The writer says:

Soon after the question of modifying the service rifle was referred to the Small Arms committee it became known that the committee had not been empowered to adopt an entirely new service rifle, the area of their labors having been circumscribed by the terms of their mandate in such a

way as to bind them rather to shorten the old form of rifle than to consider the question *de novo*. The specific instructions which the committee received were merely to introduce such modifications into the design of the existing weapon as were shown to be necessary as a result of the practical experience gained in its use during the recent war. Paramount among these needful alterations was that the rifle should be of greatly reduced weight and bulk, in order that it should be par excellence a weapon for mounted troops, and one that would be especially useful for quick snap shooting. Only those who have experienced the difficulties of maintaining troops on active service can appreciate the advantages of a single type of weapon for all branches of the service. The improvising of mounted troops from infantry would at least not involve a change in the weapon with which the soldier has been trained. Other minor changes which were demanded included the modification of the bolt fastening, so that the bolt should not be liable to fall out of the rifle. More than this, it was considered necessary that a system of charger loading should be adopted, experience having shown that time was lost in charging the magazine with single rounds of ammunition. It was also found that the single cartridges were apt to fall out of the pouches, and that when the soldier placed a small pile of cartridges by his side, so as to reach them the more easily when occupying a prone position, he often left the unused ones behind

when the progress of the engagement required him to advance or retire. A sample of the new rifle was deposited some time ago with the Gunmakers' Association, who asked us to conduct certain tests. We are pleased to state that no objection is now entertained to our speaking of the rifle from the first-hand knowledge so gained.

Mechanics and experts have for many years been aware of certain points in the structural formation of the rifle and its ammunition which were in need of modification, notwithstanding the fact that they were not of a kind that would be specially apparent in time of war. The Lee system of bolt action is characterized by the fact that the bayonet method of locking the breech is effected by projecting lugs at the back of the bolt, whereas it is open to argument that the proper place at which to locate the fastening mechanism is as near the front of the bolt as possible. The present system of breech closure places a limit on the ballistics of the ammunition that can safely be used in the rifle, while with bolt locked at the front the margin of strength is so increased as to justify a pressure some twenty-five per cent. in excess of the present maximum limit. There is, however, no present intention to raise the pressure above the existing limits for which the strength of the rifle is sufficient. To increase the pressure with a view to raising the ballistics of the ammunition would, in the presence of the heavy British Service bullet, introduce the difficulty of a recoil in undesirable excess. The only apparent difference between existing military arms shooting high-pressure ammunition as compared with others dealing only with cartridges of medium strength would arise in the relation of recoil to weight of rifle and bullet, and in the relative flatness of the trajectory. While this latter would influence the accuracy of the shooting, its true proportional value would be disguised in practical service by the personal factor of the soldier's marksmanship. War service again would not emphasise the fact that the mechanical form of many parts of the rifle introduces needless difficulties of manufacture. The soldier cannot, by looking at a rifle, tell how many processes have been entailed in the making of its different component parts, and as few, even among

our officers, are familiar with the best types of foreign service rifle one might easily fail to appreciate many special features of the rifle which would be apparent to an expert.

Furthermore, as regards the ammunition, few persons are so well acquainted with the principles of its use and manufacture as to be aware that the extended rim is a disadvantage now that clip loading is essential, nor that the amount of metal left in the head of the cartridge is insufficient for withstanding anything higher than the exceptionally low pressures, which are regarded as a speciality of cordite, whereas they result, in reality, from the low range of ballistics for which the charges are adjusted. Another desirable improvement in the design of the cartridge is concerned with the shape of the shoulder, which would be all the better for a slight alteration in form. One would wish, therefore, that the committee had been free to deal with these matters; but, as they were not, it is only fair to judge the new rifle from the point of view of the changes which they were instructed to make.

The fact that the new rifle is five inches shorter and about $1\frac{1}{4}$ lb. lighter than the older type represents a bold development, for which the Small Arms Committee do not appear to have received the full measure of credit that is their due. The weary marching and counter-marching with rifle in hand, in addition to a total weight of 42 lb. of clothing and equipment, must be greatly alleviated by a marked reduction in the weight of the rifle itself. Other nations without our practical experience have, with but one partial exception, retained the cumbersome rifle which has hitherto been treated as an irreducible value. Our own Small Arms Committee have arrived at the conclusion that a far handier weapon can be produced without seriously militating against its efficiency. Critics of the new rifle have stated, amongst other things, that the recoil will be excessive. That it must be greater than with the old weapon we frankly admit, but it argues a woeful absence of technical knowledge to say that it will be excessive. We have fired one of the new service rifles in our recoil gauge, and the results obtained may be accepted as beyond ques-

tion. We suspended the rifle from two cords, and fired it under conditions that gave it absolute freedom of recoil. The velocity of its backward movement was meanwhile measured by means of a chronograph, and the comparative results obtained showed that the new rifle has a recoil 13.4 foot-pounds as against 11.9 foot-pounds for the old rifle. This represents an increase of 11.2 per cent., which is insignificant in view of the fact that the ordinary shot gun gives a recoil of about twice the energy of the new service rifle. On the subject of ballistics, it is possible to absolve the committee from the error of judgment which has been so freely imputed to them. The actual tests we have made show that the velocity of the new rifle is distinctly higher than that of the old. We cannot say that this is likely to be repeated in every pair of arms examined, since it is well-known that the velocity of a rifle varies a good deal according to the characteristics of the boring and the period during which it has been in use. It is, however, reasonably certain that with the new rifle the trajectory will not be markedly different one way or the other from that of the old.

Turning now to the question of sighting, it has been laid down that accuracy in this respect has been sacrificed by diminishing the distance between the front and the back sight. This admittedly is quite true in a relative sense, but, on the other hand, the distance between the sights of the new rifle is 19 inches, and with the finer sighting employed and its capacity for minute adjustment it is more than likely that the standard of marksmanship registered will be fully equal to that of the old rifle. With sights the above distance apart a carefully sighted rook rifle will throw a series of ten shots in a space of two inches square at one hundred yards. A great part even of this divergence is naturally due to the ammunition. Hence it must follow that the sighting arrangements of the new rifle are decidedly in advance of the shooting powers of the average marksman.

The stumpy appearance of the new rifle is due to the wooden cover that has been extended over the whole length of the barrel. This very important modifica-

tion has been called for by the high temperature that results as a consequence of even moderately rapid firing. Fifty rounds of service ammunition may be fired from a magazine rifle in a period varying from two to five minutes. Even when so long as three and a half minutes is spent in the firing of the above number of rounds the woodwork is practically on fire by the time the last cartridge has been discharged. While this rate of firing is not reached in practice, we can well understand the importance that has been attached to protecting the hands of the soldier from the possibility of coming into contact with the barrel at any part of its length.

Among marksmen the chief interest in the new rifle will centre around the question of sighting. In this respect the Small Arms Committee can be congratulated upon the adoption of a combination of sights which is far ahead of anything previously seen in this country. The old ladder form of leaf is a thing of the past, and the well known form of notched stem which now takes its place will be accepted as a vast improvement. No longer will the Vernier be required at the range. The marksman will move the slide till it engages in the appropriate notch cut in the leaf, of which there is one for every 50 yards from 100 yards to 2,000 yards. All intermediate adjustments can be effected by the Vernier screw, which raises or lowers the notch to any midway position that the conditions of the moment require. More than this, our soldiers will for the first time be provided with a horizontal wind-gauge adjustment, which enables them to alter the position of the V-notch laterally. The bar contains a saw cut enabling the soldier to feel with the finger nail in the dark whether the wind-gauge is in the central position. Each division on the wind-gauge and on the fine adjustment represents 6 inches per 100 yards. The fore-sight has been similarly perfected, so as to afford the greatest possible degree of accuracy in shooting. It is mounted in a dove-tail slot, which allows for the separate adjustment of each rifle at the factory, so as to obtain an exact grouping of the shot around the point of aim. To prevent the foresight from disturbance as a consequence of rough handling of the weapon, and to protect the tip

Our Medicine Bag.

A volume on "The Sporting Dog" is the seventh of the American Sportsman's Library, edited by Mr. Casper Whitney, and published by The MacMillan Company, the Canadian agents being Messrs. Morang & Co., Toronto. The author, Mr. Joseph A. Graham, has produced one of the best books on the sporting dog that has been issued on this side of the Atlantic. He has not made up his book with scissors and paste-pot, but has written out of his own intimate knowledge and large experience. The result is, naturally, a book each admirer of the dog will read with interest and find a place for in his library.

The author is convinced the British dogs and British methods are not exactly the best for America's sport, but gives full credit to these breeders and sportsmen that have made the British Isles the Mecca of those seeking the best blood in dogs, horses or cattle. "It is foxhounds and shooting dogs which have become under American conditions, something essentially different from what the British sportsmen established, and have maintained as filling their conceptions of utility and good looks."

Setters, pointers, greyhounds, foxhounds, beagles, Chesapeake Bay dogs, and wire-haired fox terriers are all described, their good and bad points discussed, and modern field and bench show winners considered. Mr. Graham knows his subject and is able to speak with authority. This latest volume is fully equal to any of its predecessors in the American Sportsman's Library. The price is \$2.00.

"Mr. H. Irving Hancock, author of "Life at West Point" and other books, has pub-

lished through G.P. Putnam's Sons, a work on "Japanese Physical Training" that will doubtless find a ready sale, now that everyone is talking of the wonderful little fighting men of the Mikado's services. The science of "Jiu-Jitsu" has been developed and practised exclusively; it may be summed up as the art of enabling a quick, strong, but small man to overcome by sheer science a heavier and more powerful antagonist. Mr. Hancock has given us a fairly good text book on the subject, and one that young athletes will do well to study carefully—but we do not think he has said the last word on the subject, nor do we agree altogether with some of his statements. For instance, it is permissible to doubt whether the photograph of "the arm of a sample student of jiu-jitsu" does not rather represent the arm of a youthful Japanese student at some American college, where he attended very conscientiously to his gymnasium work. Jui-jitsu does not give big muscles—though it does give quick muscles and an admirable physical control. Then the glorification of a diet of rice and dried fish seems a mistake, seeing that the Japanese eat all the flesh they can get, and merely diet on rice and fish because meat is beyond their reach.

Having pointed out these blemishes in the book, justice compels us to say it nevertheless contains a great amount of interesting information as to jiu-jitsu. The price is \$1.25.



Editor Rod and Gun in Canada:—

The "Ideal Spot" illustration opposite page 544 of your April issue, is apparently well named. Such locations are not

During the St. Louis Exposition Mr. Marble, Jr., will be in charge of the exhibit of the Marble Safety Axe Company, space No. 37, Fish and Game Building. A very full collection of this company's well-known sporting goods will be in his charge, and no doubt sportsmen will be more than usually interested in the exhibit.

IT IS WORTH WHILE

to send for the dainty little booklet which has just been issued by the Hopkins & Allen Arms Co., describing and illustrating three popular styles of their rifles. This little booklet will be appreciated by all those interested. It will be sent free on request by The Hopkins & Allen Arms Co., Norwich, Conn.



WHERE DUCK SWARM.
Uchielet, west coast of Vancouver Island.



EAST AND WEST.
Two cow-punchers and a tenderfoot. An Alberta scene.



THE WHITE BIRCH.

Perhaps the most useful tree of the Canadian forest.

many. I recollect a similar camping place on Sand Lake, about sixty miles northwest of Kipawa. One where my party was some years ago, and from which we brought back a magnificent moosehead. Perhaps you will tell us something about the Okanagan Lake country, and how much a month's outing will cost approximately for a man who has some experience, and is not inclined to carry useless stuff with him, or expect other than reasonable camp fare and life.

AMERICUS.

Boston, Mass.



A correspondent sends us in the following:—

"Nestling down in the first great valley of the Rockies after crossing the plains is the village of Golden, B. C., on the Canadian Pacific Railway.

"Leaving the train and taking the steamer from Golden, we travel comfortably and in the full enjoyment of the best of the scenery the Rocky Mountains can give, to Windermere and the other mother lakes of the Columbia River, with the jagged snow capped peaks of the Rockies on the left and the ponderous ice-clad masses of the Selkirks upon our right as we journey southward.

"Leaving these beautiful lakes, in which is the source of the mighty Columbia, a portage of three-quarters of a mile enables us to drop our canoes into the rapid waters of the Kootenay, which run in a contrary direction to those of the Columbia.

"From Canal Flat (a spot full of modern historical interest) to Kootenay Lake, there is only one easy portage, that of Albany Falls.

"What a rushing river and what scenery all the way! It is a rainbow trout country, too; at the mouths of all the rivers running into the Kootenay Lake, you are likely to hook the gamiest fish that swims.

"Capt. E. P. Armstrong, of Golden, B. C., is the man who knows all about the country. He is a sportsman of the old school, who is willing to tell a brother sportsman where to go and whose information can be relied upon."



Under the new Land Act, recently adopted by the Legislature of British Columbia, some changes have been made in the administration of timber lands. Leases of unpreempted Crown Lands may be granted, after public competition for a period not to exceed twenty-one years, subject to the payment of a royalty of fifty cents per thousand feet and of an annual rental of twenty-five cents per acre. By the previous Act, public competition was not required, and the annual rental was only fifteen cents per acre. In the new Act provision is made that the rent may be reduced to the old figure, if a mill is operated in connection with the limit, for at least six months in the year.

Special licenses may be granted for not more than 640 acres, for a period up to five years, at an annual rental of \$140 in the coast district, and \$115 east of the Cascade Mountains. The former Act fixed the rental at \$100 per acre and also provided that the license should not be transferable. This latter restriction has not been re-enacted.

An important provision is that a tax shall be collected upon all timber cut within the province, except that on which royalty is reserved, according to schedules incorporated in the Act giving a scale of rates. A rebate of the greater portion of this tax is, however, allowed on timber manufactured in the province and its evident intention is to encourage home manufacture.



A resolution has been introduced into the New Brunswick Legislature, urging that the Government should take steps to secure the manufacture within the province of all logs cut on Crown lands. The St. John lumbermen favor the motion, but it is opposed by the lumbermen of the upper St. John river, where it forms the boundary between New Brunswick and Maine. Logs can be taken from this district to mills on the American side free of duty, and these mills are many of them owned jointly by Americans and Canadians.



Mr. W. Selby Lowndes, Jr., joint master of the Whaddon Chase Hounds, is the sub-

ject of the portrait and biography in the April issue of Bailey's Magazine of Sports and Pastimes. Mr. Selby Lowndes has been a traveller in out-of-the-way parts before he settled down in England, and has enjoyed wonderful sport with the rod in Anticosti. An unsigned article on "Old Sporting Tools" is extremely readable, and contains among other matters an account of panther spearing in India, a sport full of exciting possibilities. The remarks on the need of practice in using field glasses are much to the point. Colonel Anstruther Thomson's recently published book, "Eighty Years Reminiscences" is reviewed at length, as indeed the reputation of the author suggests it deserved. Mrs. Baillie-Graham continues her essay on Ancient Hunting Horns and Music, reproducing a couple of curious old woodcuts of hunting scenes. "Crooked Powder" is written in a sympathetic spirit for those who are unable to account for the falling off in their shooting form, and who may find a solution of their difficulties in the consulting room of the oculist. An article on the Measurement and Sale of Timber will appeal to landowners; timber is not the valuable asset it was in the days when a wit described trees as "excrescences of nature made to pay gentlemen's debts," but a little more attention to woods and plantations than is usually bestowed upon them would probably repay the owner. Mr. Ogilvie's verses, "Come Along Coronet", are written with a verve and go that hunting men will appreciate. "Q" writes critically on "Some Features of Recent Test Matches"; and after the always interesting selection of notes from the Sporting Magazine of "A Hundred Years Ago", we come to the last of the Twelve Best series, which is devoted to "All Round Sportsmen." The text is one that requires the editor to determine first, what an "all round sportsman" is, and rightly, as we think, he accepts the popular reading of the phrase, holding such an one the man who takes personal part in the greater number of sports and games, irrespective of the measure of his skill.

Dr. A. Harold Unwin has severed his connection with the Dominion Forestry

Branch to accept a position in the Imperial Forest Service in West Africa. He will be in charge of work in the rubber forests. Dr. Unwin's knowledge of scientific forestry, gained through his thorough course in Germany, was of great assistance to those with whom he was associated in the advancement of forestry work in Canada, and as that assistance was always most cheerfully given, his departure will be felt as a serious loss. However, the wider field of the Imperial Service and the larger opportunities for scientific investigation presented advantages that could not be well passed by, and the best wishes of his Canadian associates will follow him in his distant field of labor. We have Dr. Unwin's strong assurance that he will continue his interest in the Canadian Forestry Association, and may still be depended upon to give it such assistance as may be in his power.

Mr. Roland D. Craig has been appointed on the staff of the Dominion Forestry Branch. Mr. Craig is a native of the county of Middlesex, in the province of Ontario, and is a graduate of the Ontario Agricultural College. He took a special course in forestry in the New York State College of Forestry, and has for the past year been employed by the Bureau of Forestry of the United States, doing special forest investigation work in California. It is pleasing to know that such opportunities for young Canadians are opening up in our own country.

The Hudson's Bay fur sales took place in March in London. Owing to the loss of the "Lady Head" and other minor reasons, a number of the skins offered was less than was the case last year. The following table gives the actual figures for 1903 and 1902:—

	This Year Skins.	Last Year Skins.
Otter	6,452	10,273
Fisher	2,580	3,223
Fox, Silver	122	491
Sea Otter	1	—
Fox, Cross	2,208	1,970
Fox, Blue	43	90

On Tuesday, March 15th.

	This Year	Last Year
	Skins.	Skins.
Marten	54,395	78,629
Fox, Red	6,185	6,200
Fox, White	5,549	10,717

On Wednesday, March 16th.

	This Year	Last Year
	Skins.	Skins.
Mink	55,455	66,360
Lynx	19,189	9,031
Wolf	1,279	1,790
Wolverin	627	695
Skunk	5,427	5,206
Raccoon	717	1,024
Badger	417	824
Ermine	15,902	33,883
Beaver	3,830	1,413
Musk Ox... ..	333	246
Hair Seal... ..	1,112	2,509
Musquash	1,386	5,617

On Thursday, March 17th.

	This Year	Last Year
	Skins.	Skins.
Bear, Black	6,086	6,414
Bear, Brown	610	726
Bear, Grey	188	246
Bear, White	55	96

And sundry skins and furs.

"The Still Hunter," by Van Dyke, is one of the classics of American sport. It ranked with Caton's book on deer, Hallock's "Gazetteer," Bogardus's "Trap Shooting" and one or two others, but seems to have outlived them all, and Messrs. MacMillan & Company have done well to bring out a new edition. Moreover, they have had it illustrated by Carl Rongius, perhaps the best animal painter in the States today.

Van Dyke learned how to hunt in the days when it was no trick to take the old Winchester down from its peg on the wall, stroll out into the back lot and find fresh deer tracks within half an hour. Few indeed are the places within the territory of the great Republic where this may be done today, though here in Canada we have lots of them within one hundred miles of the cities of Quebec, Montreal and Ottawa, and there are places in the Northwest and British Columbia, where it would be almost an indignity to offer the hired man venison more than twice a week.

The art of deer hunting cannot be learned from a book, but there is no doubt that a painstaking study of Van Dyke's work, combined with plenty of practice, will turn any man with an aptitude for field sports, into a tolerable hunter. The book is sold in Canada through Morang & Company, Toronto, the price being \$1.75.

Reports from the north and the surrounding country give every indication of a good take of fur and game. Already several large consignments of furs have arrived down at Edmonton, Calgary, Selkirk, Rat Portage and other points and it has all been of a quality well above the average. Trappers and Indians who have come down from the northern districts report that fur bearing animals are more plentiful this year than they have been for many years past.

To Rod and Gun in Canada:—

Dear Sirs.—I should be much interested if you can call forth opinions on the original meaning of the word maskinonge. Your always interesting contributor Mr. C. C. Farr ought to be able to say something as to this. There is no question as to kinonge, which means pike. But masmeans great, usually, while maskmeans deformed or, possibly, different. Both meanings, as applied to the fish named, have support from students, and the question is what do the Indians of the maskinonge region consider the real derivation of the prefix.

A certain stigma would seem to go with the meaning "deformed or different" as often quoted, and as the maskinonge is superior to the pike in all respects, the term would seem to fail considerably of the usual aptness of Indian descriptive names. On the other hand masas meaning great is exceptionally fitting to the case. Eastern Indians have told me that the word means "big pike," but they are out of the main habitat of the fish.

I should be quite indebted for light on this question.

Yours very truly,

W. B. CABOT.

Boston, April 18th, 1901.

In reply to a deputation which inter-

viewed him recently in regard to the establishment of a School of Forestry and other matters in connection with the University of Toronto, the Premier of Ontario stated that he would like to see it, but thought that his interviewers were not on the right lines, as the country was not ready. There were two propositions—old Ontario and New Ontario. As to old Ontario, the Province ought to start with the farmers, 130,000 of whom could be reached at once through the farmers' institutes. Instructors could be chosen from the graduates of the University of Toronto or of the Ontario Agricultural College and sent at the expense of the Province to Germany, or one of the Colleges of the United States to learn forestry. He wanted to educate every farmer to care for every shrub and sapling, and they could all be reached in this way. Then this staff could look over New Ontario during vacation. Here was a new proposition, and the Crown Lands Department, with its rangers, its forest reserves, its relations with lumbermen, could cover a larger area than any chair at a University. Kingston had received only one applicant for the course. Where would Toronto find the applicants or occupations for them?

We unfortunately omitted the name of Dr. A. Harold Unwin, as the author of the very capital paper on the "Art of Forestry," that we published in the April number of "Rod and Gun in Canada."

A dispatch to a Western Canada newspaper from Dawson says:—

Sixty tons of caribou have been killed up the Klondike river for the Dawson market. The greater number killed are one hundred

and fifty miles up the Klondike river. The greater number were killed by a party of hunters who ran into a bunch of hundreds if not thousands. The caribou were so numerous that the hunters shot them down as rapidly as they could load until all ammunition was exhausted. Men who have just arrived from up the Klondike on hunting expeditions report the game now scarce there. It may be that the caribou have been driven back, or that they are scattered and are hard to find in the old localities.

Last year we heard of similar destruction of game, and at the time representations were made to the Dominion Government about this slaughter, and it was understood that measures would be adopted to prevent such butchery; but it seems that the arm of the law is too short to reach thus far. Sixty tons of caribou; and some day this great waste of the North will be as devoid of animal life as the Sahara itself.

The following interesting letter was received by the E. I. DuPont Company:—

Dear Sirs.—I have in my possession some DuPont powder that was bought about fifty years ago by my uncle and grandfather; they owned two rifles and did lots of shooting, so they bought a considerable quantity of powder and stored it in a large stone heap on my father's farm at a safe distance from the buildings. Uncle took to fever and died; grandfather never shot much more and died not long after. My father was no gunner, so the powder or portion of it was left until about fifteen years ago. I went and dug it out. There was a large flat stone over the box and about two dozen $\frac{1}{4}$ lb. cans, round cans, I think, with an Indian's picture on each one. They were badly rusted; I picked the rusted can from around the caked powder, broke it up and sifted out the dust, leaving the powder looking quite natural but for some red grains that showed the rust. I saved four pounds. I never tried it till last fall I loaded 38-72 shells with it and some with some DuPont bought recently. The old powder shot fully as strong as the new.

Yours truly,
(Signed) W. A. CLARK.

Rod and Gun Pub. Co.—We have just learned that the indoor pistol championship of the U. S. Revolver Association was won by Dr. E. H. Kessler, of St. Louis, Mo. The latter party scoring 450 points out of 500 at 20 yards, using a Stevens Lord Model pistol, .22 long-rifle cartridges.

Very truly yours,
J. STEVENS ARMS & TOOL CO.
Per Chas. A. Stein.

It has been said by some that the days for big game hunting in British Columbia are over. This is entirely erroneous, and Mr. John Hyland of Telegraph creek, who is at present visiting the city, gave the *Colonist* yesterday* a few facts respecting big game in the vicinity of his home which are worth making public. He says that within sixty miles of Telegraph creek big game abounds, and that he keeps a staff of experienced guides ready for service at all times. These men are thoroughly conversant with the country in every direction, can pack, cook, make camp, find the game, and when shot, skin and cure the hides. They also thoroughly understand getting the heads, claws, etc., ready for transportation to the taxidermist and to a man with means, a big game hunt can be made very simple and certain of results.

The game laws of British Columbia prohibit a non-resident of the province from shooting big game unless a license, which costs \$50 is first obtained from the provincial government. This license entitles the holder to shoot and preserve double the

number of moose, caribou, and big horn as the ordinary resident, who can shoot without a license, is allowed to.

Telegraph creek is accessible both winter and summer. In summer the Hudson's Bay Company operate a river steamer on the Stickeen from Wrangel, and when the river is frozen dog teams and sleighs are used. Mr. Hyland's last trip out in two days and eight hours reported in last Friday's issue, shows how quickly the trip can be made with good material.

The season for moose, caribou and big horn starts in September and heads are good until about the 1st of January, when the males lose their horns and the heads consequently are worthless as trophies of the chase. Moose are found in abundance towards Dease lake, a distance from Telegraph creek of about sixty miles.

There are excellent trails everywhere and pack horses can be taken and the hunters can ride. The guides know exactly where the game can be found and hunting in this country is a matter of pure and unalloyed pleasure. Caribou are found in much the same locality as the moose, only higher up the mountains. Big horn can be obtained nearer and are in abundance within thirty miles of Telegraph creek.

Grizzly bear are very numerous on the Stickeen river and at Shesley lake, north of Telegraph creek. All other species of bear abound and magnificent sport is obtainable all the year round. The skins are good from September to May and it is an easy matter for a good shot to obtain specimens of brown and cinnamon bear, while persons who do not mind taking a chance at a grizzly can always get out if so minded.

"There is no better fishing in the world," said Mr. Hyland. "Trout abound in the rivers and the lakes are full of good edible fish. In the spring and fall geese and ducks are on the rivers and marshes in immense quantities and the pot can be always stocked with such dainties. There are also ptarmigan, blue, ruffled and Franklin grouse in abundance. The ducks and geese can be knocked over with sticks in moulting time and the Franklin grouse, or, as it is called in the up-country, the fool hen, can be killed with stone or stick at any time. Of course, it is not sport, but the

A physician of great standing in New York recently advised one of his patients who was suffering from a nervous disorder, to spend a few weeks shooting, either in the fields and woods or at target practice. He maintained that the concentration brought about by trying to hit a mark acted as a tonic on the nerves.

To further prove his claims he said that the mere fact that all gunners continued to improve their marksmanship with constant use of firearms, was convincing enough.

The boy with a rifle is therefore sure to be benefited. But the first point to look after is the gun. The most prominent makers of firearms in the country is the Stevens Arms & Tool Co. of Chicopee Falls, Mass., and their "Stevens" rifle is almost as well known as gunpowder itself.

A boy with a "Stevens" and an understanding of its use is a benefit to any farming community where crop-destroying animals are at large. And incidentally he is making for himself a nervous system that will stand him well in the wear and tear of old age.

larder has got to be kept going when a party of guides and hunters are on the trail and these delicacies help very materially. The Indians, who are usually sent as guides, can make a most appetizing dish out of porcupine. They skin and clean the animal and roast it over a big fire suspended from a pole, keeping it spinning all the time it is cooking. They also make most excellent soup out of the dish."

Mr. Hyland says the country is simply full of game and that a visit from any real game hunter would prove this to be the case.

Mr. Hyland says that all he requires is a few weeks' notice of the desire of a party to hunt and everything necessary will be provided.



The following extracts from the 1902 report of the Nova Scotia Game and Inland Fishery Protection Society should prove of interest to our readers:

"Regarding moose, I can say that they are holding their own fairly well, a condition of things which is largely due to legislation passed at the instance of your Society.

"Forty years ago dogging was much practiced by the country people, many of them keeping from one to three so-called moose dogs, a cross between the smooth-haired Newfoundland and the bull dog, for this purpose. Happily this style of hunting our noble game is almost, if not quite, a thing of the past.

Snaring has been more in vogue of late years, and is still carried on in out-of-the-way districts; but by perseverance on the part of our agents in continually destroying the snares, and always, when possible, bringing the law-breakers to justice, this evil also will, I trust, be stamped out ere long.

"Judging roughly from the agents' reports, I should say that about three hundred and fifty moose have been legally killed during the year.

"I regret to have to differ from my venerable friend, Commissioner Crooker, and others who think the license fee for non-residents too high. I do not think there is an American sportsman worthy of the name who would object to the forty dol-

lar fee for an all game license, nor do I believe that lowering the fee would increase the number of visiting sportsmen one per cent.

"Agent Kelley is to be congratulated on his success in convicting the gang of snarers at Oak Park, Barrington. These men have been carrying on a wholesale destruction of moose quite unhindered, as the men of this vicinity, appointed by the Society to suppress this practice, were afraid to act.

"Caribou have left our peninsula, with the exception of a few small herds. These should have a close season of some years. In the Island of Cape Breton, the caribou have greatly benefitted by the close time enjoyed by them some few years ago, and in some districts are quite numerous.

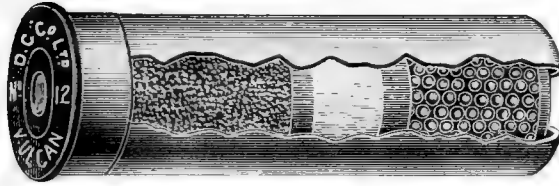
"The manner in which the red deer have multiplied during the few years since their introduction is most gratifying. They are now to be found in nearly all the counties of the peninsula. In Yarmouth and Queens counties, where last year only a few of their tracks were seen, there is now quite a good showing of them, some quite near the farms. Our Yarmouth agent reported a herd of eleven, while Queens reported as many as seven having been seen at one time. Not one has been killed during the year, as far as can be ascertained.

"The Society must not forget that the close time for red deer will expire in 1904. Therefore it should ask the Legislature to further protect them.

"The country is well stocked with hares, excepting some places where disease has diminished their numbers. I think that the open season should begin on the fifteenth of October, as the hare is only then clear of ticks and fit for human food.

"You will see, by referring to the agents' reports, that there are still a few beavers left in Nova Scotia; but if they do not receive immediate and prolonged protection, there will not be one of them remaining after a year or two.

"Ruffed grouse were very scarce in most of the counties in spite of their recent rest of three years. Undoubtedly the principal cause of this scarcity is the unusually cold and wet weather experienced by them for the last three or four years during hatching period."



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

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THE objects of the CANADIAN FORESTRY ASSOCIATION are:

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

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

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

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

Applications for membership should be addressed to the Secretary,

R. H. CAMPBELL,

Department of the Interior.

OTTAWA, ONT.

THE TRAP

ROD AND GUN IN CANADA is the Official Organ of the Dominion Trap-shooters and Game Protective Association of Canada. All communications for this department should be addressed to Editor "The Trap," Rod and Gun in Canada, 414 Huron Street, Toronto, Ont.

The officials of the various Canadian Gun Clubs should bear in mind that ROD AND GUN IN CANADA is prepared to publish in its Trap Department, everything of interest concerning Trap Shooting. If you have the interests of your Club and the welfare of trap shooting at heart, you will see to it that reports are sent in each month. Any practical suggestion that our readers can offer, whereby the usefulness of our Trap and Gun Department can be augmented, will be appreciated by the publishers. We will endeavor, at all times, to look after, to the best possible advantage, the interests of Canadian Trap Shooters, and give as clear and complete reports as possible. We want every trap shooter in Canada to feel that this department in our paper is his own.

The Editor of the Trap Department of ROD AND GUN IN CANADA is in receipt of a valuable letter from Mr. L. H. Collinridge, proprietor of the Queen's Hotel, Guelph, Ont. Under date of April 7th he writes: "I have received copy of ROD AND GUN IN CANADA, and am much pleased with the Trap Dept., and think all good sportsmen should encourage you by sending in their orders and enabling you to still further add improvements and provide lovers of trap shooting and hunting with a paper that is interesting, instructive and full of items of interest. I will do my best to further interest here with the Guelph clubs."

The Clinton Gun Club.

The Clinton Gun Club was organized a-way back in the seventies and has continued to shoot till the present. It has also



E. GRAHAM,
President Clinton Gun Club



J. E. CANTLON,
Secretary Clinton Gun Club

grown to be one of the strongest in Canada in shooting material, as well as financial. It was up-hill work for quite a while,

owing to price of ammunition, guns, etc. To Mr. Wm. Foster is due the credit for continuation as well as organizing of the club, and although near seventy years of age he can yet make the younger members go some in the shooting game, and can discount the best of the club members in the bush. The first trap to be used was the glass ball trap, then the Niagara, which used to throw targets with paste-board points; then the Standard, and lastly, and the ones in use at present, the Cleveland experts. At one time the boys used to make their own birds, remolding the old broken targets and buying a little fresh material, when it would become too stiff to work over. The Club used for years the Recreation park for shooting purposes, until the residents objected to the noise and the broken targets on the

ground bothered the ball players, so the club had to move. It was then that our club was organized as it is today, and we have just passed our tenth birthday as the Clinton Gun Club Limited, being incorporated by letters patent and owning a beautiful park, the finest exclusive shooting park in Canada. The grounds are situated near the G.T.R. station and upon which has been erected a modern club house. The background is perfect and the Club today has a membership of above fifty and the most of them are live ones. The Club has always been fortunate in having members who could keep their end up in the best of company, among whom in years gone by have been W. Forbes, J. E. Blackall, J. McMurray and W. Greigg, the last named now deceased. "Peace to his ashes." At present we have J. E. Hovey, winner of the aggregate prize at the last shoot of the Dominion of Canada Trap Shooters Association shoot held at Toronto on August 12, 13, 14, 15, 1903. He also won the Parker gun event and high average for the 3rd day's shooting. At present he holds the Robin-Hood Trophy, which is subject to challenge, and is emblematic of the championship of Canada.

J. E. Cantelon, 1st Vice-President of the Dominion of Canada Trap Shooters Association, and Secretary of the Club, better known as "Shorty", who tied for first place in the Canadian Handicap at Hamilton in January, 1900, with a perfect score and later (Dec. 10, 1903) tied for first place at St. Thomas with another perfect score. The above scores were at live birds. He has also held the Robin Hood Trophy and won the best average of the Clinton Gun Club for 1902 and 1903. W. G. Doherty, who scored 49 out of 50 in Toronto last August 15th, the best score made in a 50-bird event at the sournament. Others worthy of mention are R. Graham, President of the Club, Dr. G. E. Holmes, "Dollie" and lots of young blood coming up, the kind that make top-notchers. At the annual meeting of the Club held Jan. 29, 1904, the treasurer's report showed the Club to be in a strong financial condition, having a cash balance on hand of \$75, and assets valued at \$1,000; liabilities nil. Over 20,000 targets

were shot at last season. The officers elected were as follows:—

President, R. Graham; Vice President, J. Ireland; treasurer, J. E. Hovey, Secretary, J. E. Cantelon; directors, E. Foster, Wm. Foster, G. Hinchley, J. Powell, O. Johnson.



MAPLE CITY GUN CLUB SHOOT.

Friday, April 1.—The following are the scores at the shoot of the Maple City Gun club at Riverside park:—

Event No. 1, at 10 targets—J. Moore 10, W. Paullucci 6, A. C. MacKay 8, F. Bedford 6, W. Boyd 7, W. Nichol 2, J. W. Aitken 6, T. Nichol 6, J. Edmondson 4, A. Hutchinson 6.

Event No. 2, squad III., No. of targets 15—Dr. Perdue 9, T. Nichol 8, J. McCoig 5, J. G. Kerr 7, Rankin 7, J. Oldershaw 13, John Aitken 11, Dr. Tye 11, J. Edmondson 10, J. McLean 0.

Squad I., targets 15—J. Moore 15, F. Bedford 11, W. Paullucci 7, W. Boyd 10, A. C. MacKay 12.

Squad II.—J. W. Aitken 11, W. Nichol 3, J. Edmondson 10, A. Hutchinson 7, J. Oldershaw 11.

Event 3, squad I., targets 15—J. Moore 12, F. M. Bedford 12, W. Paullucci 12, W. Boyd 8, A. C. MacKay 10.

Squad II.—J. W. Aitken 14, W. Nichol 5, J. Edmondson 5, A. Hutchinson 11, J. Oldershaw 9.

Squad III.—Dr. Perdue 9, T. Nichol 6, J. McCoig 7, J. G. Kerr 12, Dr. Tye 10.

Squad IV.—John Aitken 12, W. B. Wells 13, J. McLean 3, Taylor 1, Rankin 7.

Event 4, squad I., targets 10.—J. Moore 9, F. M. Bedford 6, W. Paullucci 8, J. W. Aitken 6, A. C. MacKay 8.

Squad II.—John Aitken 5, Hutchinson 5, J. G. Kerr 6, Wells 9, Dr. Tye 7.

Squad III.—J. G. Kerr, 8, Taylor 3, Dr. Tye 10, J. McLean 4.

Oftentimes a trap shooter may have a gun or some other contrivance that he may wish to exchange or dispose of. The advertising pages of ROD AND GUN IN CANADA are open for his use. Our rate for one inch space, one month, is \$2.00. Two months, \$4.00. Three months, \$6.00. Six months, \$9.00.

SPRINGWOOD GUN CLUB TOURNAMENT.

The Springwood Gun Club of London will hold their second annual tournament on June 16th and 17th. The officers and members of this enterprising Gun Club extend a hearty invitation to all trap shooters to participate in the several interesting events that will take place at this tournament. Programmes will gladly be furnished on application to B. W. Glover, Secretary of the Springwood Gun Club, Box 346, London, Ont.

WOODSTOCK GUN CLUB.

Woodstock has a Gun Club that is a credit to the city. Although an old established body, it was not until recent years that it became a successful club. Their grounds and club house are located three miles west of the city. Although not yet in the best of shape, the members look eagerly forward to the establishment of one of the best club properties in Canada. The Club is made up of the right kind of stuff and big accomplishments in the way of scores are anticipated during the coming season. In next month's issue we hope to be able to publish a more comprehensive account of the Woodstock Gun Club.

The Woodstock Gun Club held their first shoot of the season on Good Friday. Although the weather was not all that could be desired the attendance was good. The prospects for a good season for the club are excellent. The following are the scores:

Event No. 1—20 blue rocks—H. McIntosh 9, John Hartley 11, Jos. Maynard 20, Harry Hampson 14, M. Virtue, Jr., 13, W. J. Bonnett 10, J. E. Thompson 16, Alf. Hopkins 12, C. J. Mitchell 16, M. Dawes 14.

Event No. 2—10 blue rocks—John Hartley 3, Harry McIntosh 6, W. J. Bonnett 8, Alfred Hopkins 8, Joseph Maynard 6, Lew. Walters 7, C. J. Mitchell 10, M. Virtue, jr., 4, Hy. Hampson 9, M. Dawes 8.

Event No. 3—15 blue rocks—W. J. Bonnet 11, M. Virtue 12, Hy. Hampson 9, Jos. Maynard 11, C. J. Mitchell 8, Lew Walters 14, Douglas Thompson 8, J. E. Thompson 11, Mr. Walker 6.

Event No. 4—10 blue rocks—Harry McIntosh 4, W. J. Bonnett 7, Douglas

Thompson 8, Alf. Hopkins 7, J. E. Thompson 9, Mr. Walker 4, Lew Walters 8, M. Virtue, Jr., 7, Jos. Maynard 7, Mr. Dawes 7.

Event No. 5—10 blue rocks—W. J. Bonnett 7, Alf. Hopkins 3, C. J. Mitchell 7, J. E. Thompson 7, Mr. Walker 5, Harry Hampson 7, Douglas Thompson 6, W. J. Bonnett 6, Jos. Maynard 9, Mr. Dawes 9.

QUEBEC GUN CLUB.

A good day's sport was enjoyed by the members of the Gun Club at their first quarterly trap shooting tournament on their grounds at Kent House Monday afternoon, April 11. There was a good attendance of members and a crowd of spectators were present to see the different events take place, which were keenly competed for by the shooters. The Rose system was used for the first time for dividing the money amongst those who had made the highest scores.

1st event—(open)—R. O. Montambault, Chas. Fremont, Mc. G. Burroughs.

2nd event—(open)—"Lunch Kitty"—Chas. Fremont.

3rd event—(members only)—"Foy Cup"—R. O. Montambault, highest score; Charles Fremont, 2nd highest score; J. K. Boswell 3rd highest score.

4th event—(open)—R. O. Montambault, J. K. Boswell, E. R. Pepin, St. Bazil.

5th event—(members only)—J. B. Matte, E. A. Evans, Felix Turcotte.

6th event—(open, miss and out)—1st, Chas. Fremont, 2nd, F. Turcotte, 3rd, J. B. Matte.

7th event—(Kent House match)—Open — Prizes presented by Field Capt. C. W. Baker.—1st, R. O. Montambault; 2nd, F. H. Wood; 3rd, Capt. de Lotbiniere Panet.

8th event—(open)—Rev. R. Wright, C. E. A. Boswell.

Extra event—(open)—"Sweepstake"—1st money, M. J. Hawkins, 2nd money, R. O. Montambault.

BALMY BEACH GUN CLUB.

The shoot held between the Balmy Beach Gun Club and the Nationals on Saturday afternoon, April 16th, resulted in a victory for the latter.

AT THE MONTREAL TRAPS.

The results of the shoot at the Montreal Gun Club Saturday afternoon, April 16, resulted in Redman winning the club championship, and Kearney the spoon.

Event No. 1, fifteen birds, unknown traps—Redman 13, Kearney 12, N. Candlish 11, Landriault 10, Rainville 10, McDuff 10, Cooke 8, Edward 8, Murray 7, Cote 7.

Event No. 2, twenty birds, known traps—Kearney 18, Rainville 17, McDuff 17, Hogan 16, N. Candlish 16, Landriault 16, Redman 15, Cooke 15, Edwards 15, Alexander 13, Murray 12, Cote 8.

Event No. 3, twenty birds—McDuff 18, Edwards 17, Alexander 17, Kearney 15, N. Candlish 11, Redman 13, Hogan 9.

Event No. 4, twenty birds—McDuff 18, Redman 17, Kearney 17, N. Candlish 15, Alexander 12.

Event No. 5, twenty birds—Edwards 19, Kearney 18, N. Candlish 17, McDuff 15, Alexander 15, Landriault 13, Redman 12.

Event No. 6, five pair doubles—Landriault 9, Kearney 8, Redman 7, Rainville 5, Cooke 5, Hogan 4, N. Candlish 4, Edward 1, McDuff 1.

THE TORONTO ROD AND GUN CLUB.

The members of the Toronto Rod and Gun Club to the number of a score assembled at the Woodbine on Saturday, April 16. The occasion was one of interest, inasmuch as the presentation of prizes was to be made to the successful contestants of the live bird events for the past season.

The first prize was carried off by the president, who also captured the first prize for aggregate.

The afternoon was signalized by a match at twenty-five bluerocks between sides chosen by the President and Vice-President, resulting in a victory for the Vice-President by eight birds.

After a supper at the Woodbine Park hotel and due honoring of conventional toasts, short and interesting speeches were made by various members, and a number of capital songs were contributed.

The prime motive of this club is to inculcate proper and sportsmanlike methods in trap shooting. They believe that a

man's position at the trap should be that of a sportsman in the field under normal conditions, that is, the gun stock of a contestant at the traps must be held below the elbow. The genial referee, Mr. George Briggs, takes particular interest in the enforcement of the very letter and spirit of this regulation. The doctrine is sound, and the example of the Rosedale Gun Club and of the Toronto Rod and Gun Club, it is hoped, will be followed by all the leading gun clubs of the Province.

It was unanimously decided to continue the bi-weekly meetings during the summer.

GOOD SCORES MADE BY HAMILTON CLUB.

On Saturday, April 9th, a merchandise shoot was held at the Hamilton Gun Club's grounds at Hamilton. Although the weather was very unfavorable to go shooting, the scores made were good. Messrs. Hunter, Thomson and Cline were the winners. The merchandise prizes were for three 15-bird events. The balance of the programme was made up of ten-bird events. Averages made were as follows:—

Hunter .844, Hunt .844, Thomson .800, Brigger .800, Johnson .800, Graham .767, Wilson .766, B. Smyth .720, G. Cline .720, Upton .711, A. Smyth .709, Coffin .700, J. Cline .688, Frank .680, Green .675, Bowron .673, Dunham .650, Crooks .618, Briggs .491.

MERCHANTS' GUN CLUB.

The Merchants' Gun Club of Hamilton held its first shoot of the season on the grounds at Dynes' hotel on Saturday afternoon, April 16. The recent storm kept the attendance down, but the grounds were in good condition, and good sport was enjoyed. The principal events were the three 15-bird merchandise events, the first two being won by W. Thomson, and the third by "Dr. Wilson." There was also a high average prize for the best three series in these events, for which Upton and Thomson tied, Upton winning in the shoot off. The high averages were:

Upton .878, "Wilson" .838, Bowron .773, Maxwell .769, Green .767, Thomson .767, Crooks .688, "Frank" .640.

BOLTON'S GOOD FRIDAY SHOOT.

A match was shot at Bolton on Good Friday, between the Bolton Gun Club and the Shoe Pack Sporting Club of Toronto, at 20 clay birds per man, the latter winning by 27 birds. The score:—

Shoe Pack Club—G. Evans 17, H. Williams 15, A. Wolfe 15, G. Wolle 13, R. Shepe 12, O. Whinton 11, E. Williams 10, W. Davison 7. Total 100.

Bolton Gun Club—E. Elliott 13, T. D. Elliott 12, H. Sheardoune 11, W. Lister 11, W. Beamert 10, A. Clayton 7, A. Nayler 5, G. Vesner 4. Total 73.

A challenge match, three men aside, at 20 birds, was won by the Shoe Pack Club by this score:—

Shoe Pack—G. Evans 14, E. Williams 16, G. Wolfe 13. Total 43.

Bolton—A. Clayton 9, T. D. Elliott 9, W. Beamert 4. Total 22.

After the shoot, the local club invited the visitors to a banquet at the Queen's Hotel, where a most enjoyable time was spent.



STANLEY GUN CLUB GOOD FRIDAY SHOOT.

The Stanley Gun Club held their annual target shoot for prizes on their grounds on Good Friday. The shoot was a 50-bird event, handicap by distance, ranging from 14 to 22 yards. The day was fine, but a strong wind made shooting somewhat difficult, especially those on the long mark. After a spirited contest Mr. Thomas won first prize with a score of 40. After the prize contest sweep shooting was indulged in. At the close of the day's sport all retired to the club's parlors, where the prizes were presented to the successful competitors. The following is a summary of the scores:—

No. 1, 10 targets—Hulme 9, McGill 9, Dunk 8, Dey 8, Wilson 7, Frame 6, Herbert 6, Mason 6, Kingsdon 6, Thompson 6, Hogarth 5, Thomas 5, Ingham 4.

No. 2, 50 targets, handicap—Thomas 20 yards, 40; Dunk, 19 yards, 38; McGill 22 yards, 38; Ingham, 14 yards, 37; Thompson, 20 yards, 35; Green, 22 yards, 84; Hulme, 22 yards, 33; Lucas, 17 yards, 30; Townson, 19 yards, 29; Hogarth, 17 yards, 29; Pearsall, 18 yards,

28; Dey, 23 yards, 27; Mason, 18 yards, 27; Kingdon, 19 yards, 27; Wilson, 16 yards, 26; Herbert, 18 yards, 26; Frame, 19 yards, 26; Hiron, 14 yards, 24; Moser, 19 yards, 22; Jones, 17 yards, 20.

No. 3, 15 targets—Green 13, Dunk 13, Kingdon 11, Moser 11, Lucas 11, Thomas 10, Pearsall 10, Dey 9, Hulme 7.

No. 4, 15 targets—Green 15, Dey 13, Kingdon 13, Dunk 12, Mason 9, Hogarth 8, Ingham 6.



McDOWALL'S GOOD FRIDAY SHOOT.

McDowall and Co.'s Good Friday shoot at the Woodbine was well patronized. After several practice matches the following events were shot off. Ten to fifteen competing. All events were class shooting, ten targets; \$1.00 entrance:—

Shoot No. 1.—Asling 7, Mollen 7, Heathcriston 5, Wood 5, Wallace 5.

Shoot No. 2.—Wood 7, Mollen 6, Asling 5, Davis 5, George 4.

Shoot No. 3.—Mollen 8, Hoovey 7, Meyers 7, Davies 6, Tompkins 6, Wallace 6.

Shoot No. 4.—Skey 8, Meyers 7, Mollen 7, Wood 7, Hoovey 6.

Shoot No. 5.—Cashmore 9, Mollen 9, Skey 8, Asling 8, Meyers 7, Harbottle 7, Eley 7, McQuillien 7.

Shoot No. 6.—Harbottle 9, Skey 9, Cashmore 9, Blatchley 8, McQuillien 7, Eley 7.

Shoot No. 7.—Mollen 9, Harbottle 8, Skey 8, Davis 7, Blatchley 7, Eley 7.

Shoot No. 8.—Anderson 9, Cashmore 9, Asling 9, McDuff 8, Harbottle 7, Heatherington 7.



JUNCTION BEAT STANLEYS.

The return match between teams from the Stanley Gun Club and Toronto Junction Gun Club was held on Saturday, April, 16, on the Junction grounds, and resulted in a win for the Junction Club by 16 birds. The weather was unfavorable, and consequently the scores were low. As each team has won a match the deciding one will be shot on Stanley grounds some time in May. The following are the scores:—

Team shoot at 25 birds each:—

Junction Gun Club—C. Burgess 21, P. Wakefield 21, J. H. Thompson 20, G. Mason 20, H. D'Eye 17, J. Hardy 17, J.

Townson 12, E. Turp 12, D. Walton 15, W. Wakefield 11, H. Playter 10, R. Roberts 8. Total 181.

Stanley Gun Club—A. Hulme 19, A. Dey 18, T. Martin 17, W. Kingdon 17, J. Ingham 13, J. Sawden, jr., 13, — Hogarth 13, R. Fleming 13, Fritz 13, Wilson 10, Hirons 10, Buck 9. Total 165.

Shoot No. 1, at 10 birds—Thompson 9, W. Wakefield 6, F. Martin 6, Fritz 3, Hirons 3.

Shoot No. 2—D'Eye 8, Townson 7, Paterson 5, Hick 3, Hardy 3.

Shoot No. 3, 10 birds—Ingham 7, Dey 6, Mason 5, Sawden 4, Hogarth 3.

Shoot No. 4, 10 birds—Ingham 8, Buck 6, Sawden, jr., 5, Williamson 5, Hulme 5.

Shoot No. 5, 10 birds—Wilson 10, Kingdon 8, Hulme 7, Paterson 4, Abrey 4.

Shoot No. 6, 10 birds—P. Wakefield 9, Fleming 8, Hampton 8, Thompson 8, Mason 7, Hulme 7, Sawden, jr., 7, Hogarth 6, Dey 6, Kingdon 5, Townson 8.

Shoot No. 7, 10 birds—Sawden 10, Townson 9, Kingdon 8, Thompson 7, Hampton 6, Hogarth 5, Mason 5, P. Wakefield 5, Fleming 4.

GOOD FRIDAY EVENT OF SPRINGWOOD CLUB OF LONDON.

The second annual club shoot of the Springwood Gun Club was held at their grounds on Friday, April 1st. At the outset the weather did not look as if it would be possible to pull off the programme, but as the day went on the sun came out and made shooting possible, although the sky line was not favorable for high scores. There was a large attendance of shooters, both from the city and outside. Among those present were Messrs Coffey, Emslie, and Butler of St. Thomas; McColl, of Fingal; Wallace, from Brantford, and T. H. Conover of Leamington, the representative for the Dupont Powder Company, who gave a fine exhibition of shooting.

The committee in charge of the shoot was as follows:—J. Nicholson (president), D. A. Breckon, C. Bowman, A. Tillmann, W. E. Robinson, W. A. Brock (treasurer), B. W. Glover (secretary). The referee was M. Graydon. The scores:—

Event 1, 10 targets—Webb 7, Guard 6, Glover 6, Nicholson 4, Bryce 9, Harrison

3, Simcox 5, Conover 9, C. Bowman 9, Winnett 7, Breckon 7, G. Bowman 6, MacBeth 7, Fortner 5, Sreaton 8, Robinson 8, Gibson 10, Wood 6, Anderson 8.

Event 2, 15 targets—Webb 12, Conover 13, Sreaton 11, Robinson 11, Breckon 10, Nicholson 6, Glover 9, Brock 7, Woods 7, MacBeth 10, Anderson 12, Gurd 9, Winnett 13, Reid 10, Arnott 12, Fortner 8, Bryce 11, Harrison 8, Gibson 9, G. Bowman 8, C. Bowman 8, Balkwill 10, Hughes 9, Simcox 9.

Event 3, 5 pairs—Webb 4, Conover 6, Sreaton 5, Robinson 3, Nicholson 3, Breckon 6, Glover 6, Reid 4, MacBeth 7, C. Bowman 5, Winnett 3, Balkwill 3, G. Bowman 5, Arnott 4, Anderson 4, Gibson 5, Fortner 5, Brock 0, Dinnen 5, Bryce 5, Simcox 6, Hughes 0, Wood 6, Emslie 4, McColl 4.

Event 4, 10 jack rabbits—Webb 1, Conover 5, Sreaton 7, Robinson 5, Nicholson 3, Breckon 3, Glover 5, Reid 5, Anderson 2, C. Bowman 8, Fortner 1, Bryce 3, G. Bowman 5, Brock 3, Hughes 4, Gurd 5, Simcox 3, Winnett 7, Gibson 5, Dinnen 6, Balkwill 7, Arnott 3, Emslie 7, McColl 3.

Event 5, 15 targets—Webb 7, Conover 9, Fortner 8, Sreaton 12, Robinson 9, Breckon 9, Glover 12, Reid 8, C. Bowman 9, Nicholson 8, Hughes 5, Winnett 7, McColl 8, Emslie 10, Anderson 7, Gibson 12, Coffey 6, Harris 4, Butler 8.

Event No. 6, 25 targets—Webb 16, Conover 22, Sreaton 23, Robinson 15, Breckon 14, Glover 17, Reid 7, Nicholson 10, Coffey 13, Fortner 14, McColl 11, Emslie 14, Anderson 14, Butler 12, Gibson 15, Darch 6, Burns 3, MacBeth 12, Ward 9, Fefield 11, Rennie 12, Woods 6, Dinnen 14, Brock 17.

Event No. 7, miss and out—Coffey 6, Conover 5, Robinson 4, C. Bowman 4, Sreaton 3, Reid 3, Glover 2, Fortner 2, MacBeth 2, Emslie 2, McColl 2, Dinnen 1, Brock 1, Wood 1, Rennie 1.

Event No. 8, 10 targets—Harris 5, Webb 7, Conover 9, Sreaton 5, Robinson 5, Breckon 4, Reid 4, Nicholson 4, C. Bowman 4, Glover 6, Rockett 1, McCormick 3, G. Bowman 2, Bryce 3, Rennie 2, Harrison 4, Fairfield 4, Finnen 5, Burns 4, Anderson 6, Brock 7, MacBeth 5, R. Coffey 8, Graydon 6, Wood 5, McColl 4, Emslie 8, Butler 7, Fortner 5, J. Coffey 1.

Kidd 9, W. Mullis 9, C. J. Packham 9, J. McCague 8, J. Burrel 8, W. J. Campbell 7, J. Dent 6, W. Smeaton 6.

Event No. 4. — For championship of Brampton Gun Club. Silver medal. Miss and out.—S. J. White 18, T. Henry 17, J. Burrel 4, C. J. Packham 2, W. J. Campbell 2, W. Mullis 2, J. Dent 2, J. Kidd 2, J. McCague 2, W. Smeaton 0, B. Dyer 0.

Event No. 5—10 birds—C. J. Packham 10, W. Mullis 10, T. Henry 9, J. McCague 9, S. J. White 9, H. A. Watson 9, J. Kidd 8, W. J. Campbell 7, B. Dyer 7.

Event No. 6—Novice—5 birds—H. A. Watson 5, B. Dyer 4, F. Peaker 2, J. Birss 2, A. Ashley 2, H. Pratley 1.

THE WOODSTOCK GUN CLUB.

The Woodstock Gun Club held a very successful shoot Saturday afternoon, April 23, at their ranges on the Beachville road. Over 350 birds were used. The following are the scores:—

Event No. 1.—10 birds—Walker 4, Hopkins 3, Lane 8, Dawson 9.

Event No. 2—10 birds—Dawson 4, Maynard 9, Thompson 6, Meadows 4.

Event 3—White 2, Walker 7, Lane 7, Bonnet 7, Hopkins 3.

Event 4.—Thompson 7, Meadows 3, Maynard 7, Dawes 7, Dawson 6.

Jack-Rabbit shoot—5 birds—Bonnett 3, Meadows 3, Walker 1, Dawes 2, Dawson 2.

2nd Jack-Rabbit event—Lane 2, Maynard 4, Thompson 3, Hopkins 3.

Doubles—10 birds—Maynard 6, Bonnett 6, Dawson 4, Dawes 8, Hopkins 5.

Bryce 5, G. Bowman 5, Graydon 7, Coffey 5.

The professional high average for the day was won by Forest Conover, Leamington, representing the Dupont Powder Company, with a score of 86. The amateur high average was won by S. M. Screamton with a score of 81. B. W. Glover was second with a score of 70, Messrs. Conover, Screamton and Glover all shooting with L. C. Smith guns.

Event No. 9, 15 targets—Webb 11, Conover 13, Screamton 10, Breckon 3, Reid 6, Nicholson 10, C. Bowman 8; Glover 12, Harrison 4, Brock 7, McColl 9, Emstie 13, Butler 11, Fortner 4, Bryce 11, Wallace 9, Dinnen 7, MacBeth 6, Graydon 7.

Event No. 10, 10 targets—Webb 8, Harrison 2, Fortner 7, Nicholson 4, Reid 3, Brock 7, Gibson 5, MacBeth 5, Breckon 5, Dinnen 8, Burns 1, Glover 7, Harrison 4,

BRAMPTON GUN CLUB SHOOT.

Brampton Gun Club shoot on Good Friday was well attended, and the different events well contested. The following is the score:—

Event No. 1.—10 birds—C. J. Packham 9, W. J. Campbell 9, J. McCague 8, W. Smeaton 8, W. Mullis 7, J. J. White 7, J. Burrel 6, J. Kidd 5, J. Dent 4, G. Dickey 4.

Event No. 2.—5 pair, double rise—J. Kidd 9, C. J. Packham 8, W. Smeaton 7, W. J. Campbell 7, B. Dyer 7, W. Mullis 5, J. Burrel 5, T. Henry 5, J. McCague 3, J. Dent 2, S. J. White 2.

Event No. 3.—10 birds—T. Henry 10, J.





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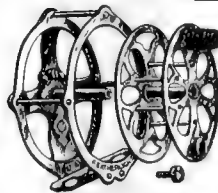


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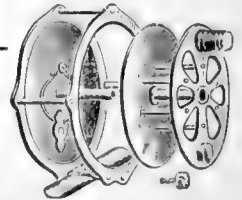


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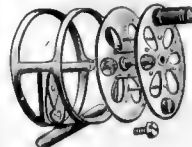
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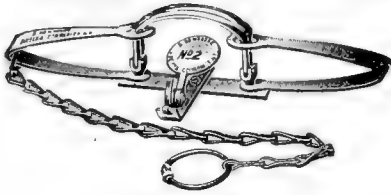
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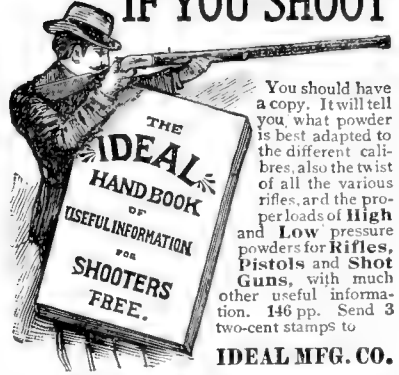
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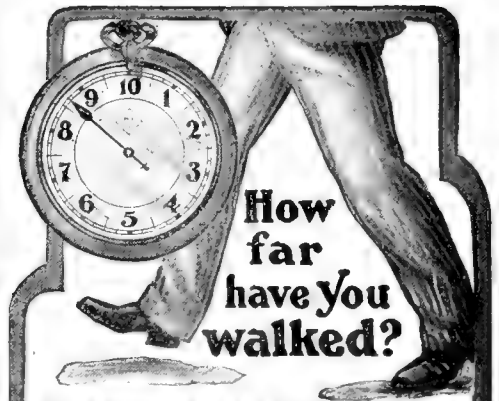
Name of River	No. of Rods	Probable No. Salmon
Birch	1	40
Manitou	1	25
Sheldrake or Sawbill	1	40
Thunder River (trout only)		
Magpie	1	60
Bear or Victor	1	30
Corneille	2	100
Pishteebee	1	50
Minacoughan Quettashoo	1	50
Little Watischoo	2	60
Napissippi	1	25-40
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Mingan	2	200
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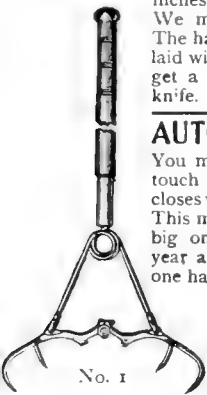
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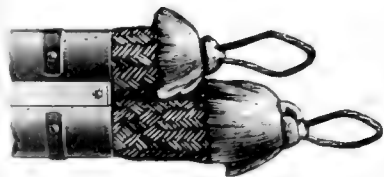
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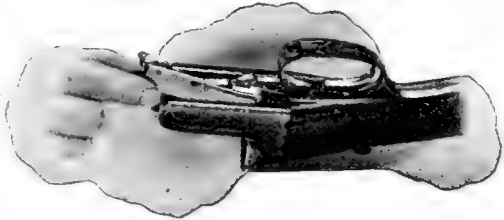


Fig 1.

Note the absence of SCREW or pin-heads on the side of the gun.

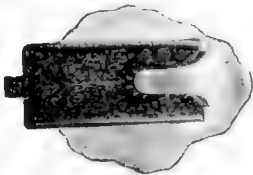


Fig. 2.



Fig. 3.

Fig. 1 shows the simple manner in which the lock is detached or replaced. Fig. 2 shows the bottom cover plate with spring catch at end to secure it in position. Fig. 3 shows the detachable lock, containing hammer, mainspring, sear, sear spring and cocking lever.

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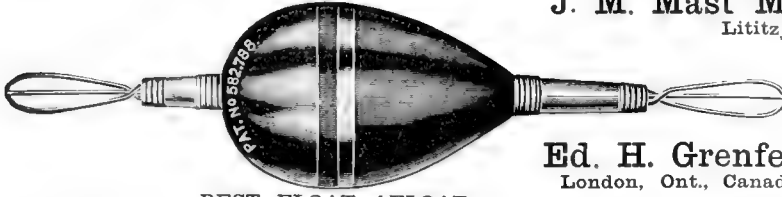
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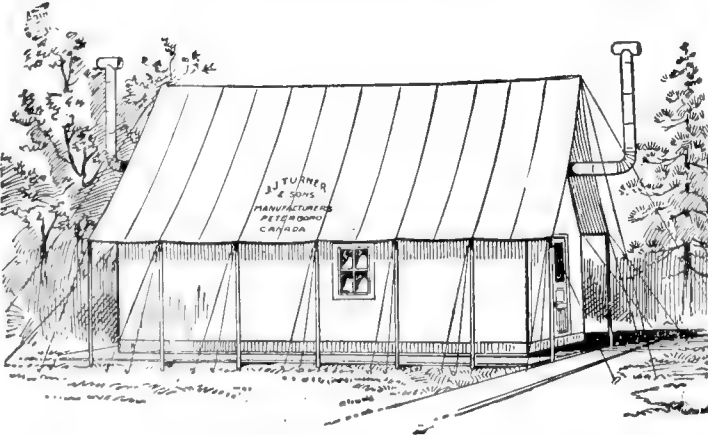
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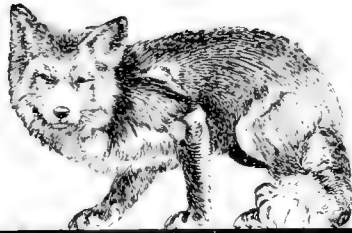


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