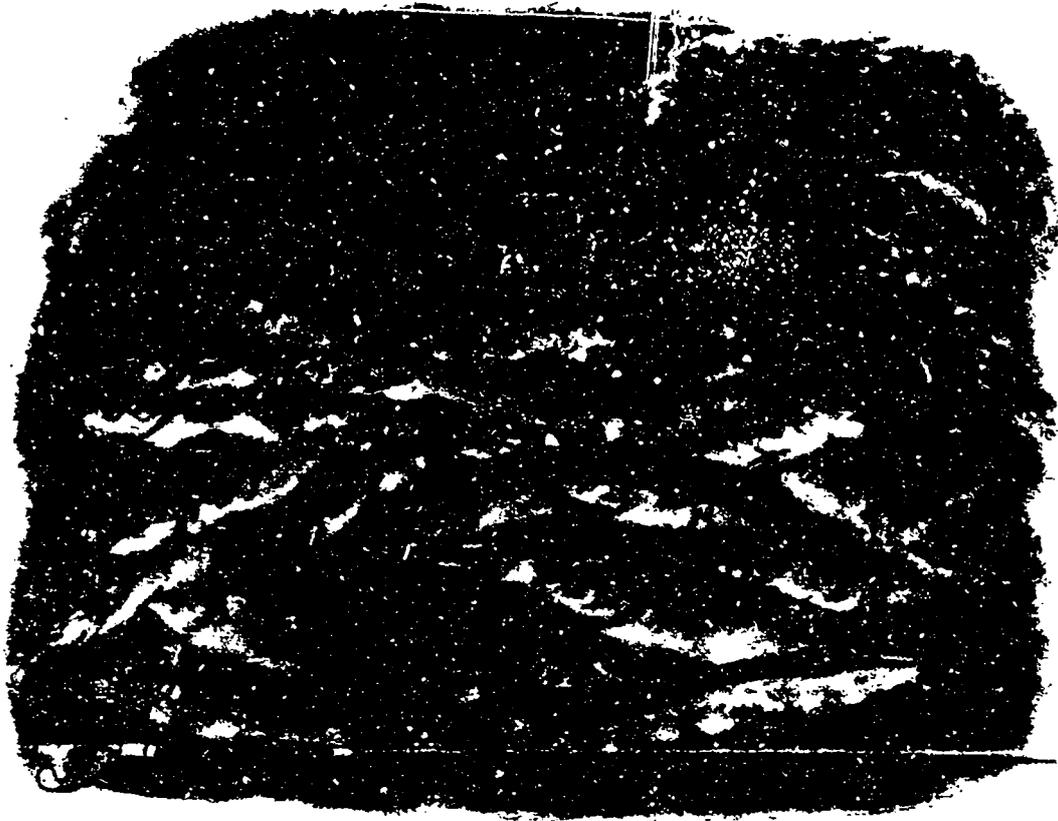


Single Copies, 10c. JUNE, 1902 - 1903. \$1.00 a year

Vol 4.

725

ROD AND GUN IN CANADA



Temagaming Bass

**A MAGAZINE
OF CANADIAN SPORT
AND EXPLORATION**



HUDSONS BAY COMPANY



The Hudson's Bay Company

Has had over 229 years experience in providing for hunters



Everything necessary can be supplied. Circular Letters of Credit issued on all the Company's Inland Posts. Further particulars on application to

HUDSON'S BAY COMPANY
WINNIPEG

Hamilton Powder Company

HAS MANUFACTURED **SPORTING GUN POWDER**



Since 1865, as a result you have

"CARIBOU" made from best materials, perfectly put together. "DUCKING" hard pressed, slow burning, keeps well under all conditions. "SNAP SHOT" high velocity, moist residuum Cheap. The powder for every day use.

ENGLISHMEN SAY

Powder can be bought in Canada as good as ever put in a gun. It has a positive advantage over home make, the dirt is soft.—J. J. W. in London Field.

AMERICANS SAY

The finer English or American Powder and Canadian "Caribou," I am quite familiar with. They give so little recoil that one may shoot all day without bruised shoulder or headache—Forest and Stream.

CANADIANS ABROAD SAY

Can you send over some Trap? I don't mean to flatter but it is ahead of anything we get here.—A. W. W., Batavia, N. Y.

ASK FOR THE

Rubber Lined Sporting Boot MADE BY

The Canadian Rubber Co. of . . . Montreal

MONTREAL TORONTO WINNIPEG

See the Name on Each Heel

- Perfectly Water Tight
- Light in Weight
- Compact Sole
- Extra Long Leg
- Perspiration absorbed by an extra sock instead of the lining, hence dry boots next morning.





THE FAMOUS KOOTENAY FALLS

ROD AND GUN IN CANADA

VOL. IV.

MONTREAL, JUNE, 1902

No. 1

The Kootenay River.

BY GEORGE D. CURTIS.

The town of Nelson, B.C., is beautifully situated on the south shore of the Kootenay River, on its course from Kootenay Lake to its junction with the Columbia. Nelson is the commercial metropolis of the interior of British Columbia, and the chief town of the mining district of Kootenay. It may be reached in many ways: from the east by boat from Kootenay Landing, where the Crow's Nest branch of the C. P. Railway is arrested by Kootenay Lake; from the west by a varied journey via rail and lake from Revelstoke or the C.P.R. main line; from the south by the Nelson and Fort Shephard Railway, a branch of the Great Northern running from Spokane, Washington State. Any of these railway journeys are interesting, and those from east and west are beautiful. The Kootenay River is about half a mile wide at Nelson, and is ideal for boating. Many boat houses, with their wharves and landing stages, line the foreshore; many summer cottages and small ranches dot the far shore, and it is a real boon to be able to leave one's office on a hot summer day, with tea basket and rod, and in ten minutes leave behind the heat and dust of the town and find shady and fragrant refuge under sweet scented cotton woods and vestal syringa, while twenty yards away the trout are rising freely and are ready to fall victims to the sportsman's guile.

As an instance of the boating facilities which Nelson enjoys and of the keen interest in boating which predominates, the Northern Pacific Amateur Associa-

tion is holding its annual regatta at Nelson this year, on July 25 and 26, and the Nelson Boat Club has built a splendid new boat house in preparation for the event. Crews from Portland, Winnipeg, Victoria, Vancouver, etc., will compete in fours, doubles, skiffs, canoes, etc.

For all disciples of Izaak Walton the Kootenay River has great attraction. From Balfour, where it emerges from Kootenay Lake, to Robson, where it joins the Great Columbia, is a stretch of 42 miles, and along this whole length there is excellent fishing. Taking Nelson for headquarters, any part of the beautiful river can be reached in an hour or two. Going up the river, the boat which leaves in the early morning will drop you at any point desired. Going down, the trains which leave at 8 and 10 a.m., will stop at wherever one may wish; the boat returning in the evening will call in response to signal and the obliging trains will stop at the waving of a flag. From Balfour to Nelson the river averages about half a mile in width, and a boat is essential to a good basket. At Proctor, opposite to Balfour, there is good hotel accommodation, and the fishing in this neighbourhood is at its best from the middle of May until the end of July. Below Proctor the river narrows, and for about half a mile has a width of about a hundred yards. Here are the swirls and eddies that trout love, and as there is ideal camping ground along the shore a keen fisherman can find his fill of enjoyment.

Below Nelson it would be difficult for a stranger to know where to commence fishing, as every creek seems so promising. Four miles down is the railway bridge spanning the river, and nearby is a small hotel where one can put up and procure a boat. The river is always good for a full creel from the bridge to Bormington Falls, a place of surpassing natural beauty, and one can fish anywhere, as there is a succession of rapids, pools, and eddies. At Bormington Falls is the power station of the Kootenay Electric Supply Co., which furnishes power and light to Rossland, Nelson and adjacent mines.

Two miles below Bormington is Ward's Ferry, an angler's paradise. This far-famed pool is about a mile and a half in length and half a mile across at its head, and the water comes tumbling down over rocks and forms a rapid of about two hundred yards, on each side of which the eddies come and go. It is by no means uncommon for one who can cast a fly to be rewarded with a basket of forty or fifty pounds in an afternoon, and the writer has, with the help of another, creeled seventy-six pounds in half a day, only one fishing at a time, while the other handled the boat. The fish of the Kootenay River are trout, charr, ling, a species of grayling, and a fish locally known as the squaw fish, while its tributary creeks and streams abound with brook trout. To the sportsman by far the greatest attraction is the rainbow trout (*Salmo iridens*), which is to be seen at his best in the Kootenay River. Balfour is a favorite haunt for charr at any time about mid-summer, and large baskets of this fine fish are taken, the *modus operandi* generally being trolling with spoon, artificial or live minnow. Ten and twelve pound charr are not at all uncommon.

The C. P. R. have a comfortable and well furnished house boat, which a party of fishermen can charter for any length of time, and which can be towed up and down the river by the regular steamers. With a good Chinese cook, a party of congenial spirits can hardly find a more pleasureable form of outing. One cannot use the house boat below Nelson on account of the rapids and falls, but compensation is found in the magnificent scenery and the exceptionable fishing.

Here is a point, say, where the river is a quarter of a mile wide, evening is falling, the water is calm and glassy as a mill pond; all about are three-pounders sucking down their evening meal or rolling about with dorsal fins out of water, gorging their full of the innumerable salmon flies. This is the time for dry flies, when with fine tackle, greased line and a floating fly you may fill your basket with two and three pounders in a couple of hours. Or again, here are rapids with white tumbling water, full of rushing, swirls and eddies; on the edge of the rough water lie the fish waiting for the food that the river almost sweeps into their mouths. It is harder work than in the still water, but you will get abundant recompense.

A word to anglers who propose to try their luck on the glorious waters of the Kootenay River: Do not depend on your own superior knowledge or great experience. There are many good fishermen in Nelson, Rossland and the parts about who are also very good fellows and who are only too glad to help a visitor to enjoy himself with profit, and as they know the river and the best pools at different seasons and conditions of the water, and the flies which are most suitable, it will repay the stranger if he will seek their very ready assistance.

Both in Nelson and in Rossland there are Fish and Game Associations, and the visitor who looks them up will always find some one qualified and willing to give all the help to them it is possible.

With regard to flies, the following may be of use to one coming to the Kootenay for the first time. It is quite unnecessary to overload oneself with a large assortment of tackle for the different seasons; those that are appended will amply suffice from March 15th to May 15th.

1st—Claret body, claret hackle and Indian crow-tail, gold or silver twist, and bronze mallard wing.

2nd—Yellow and red body, red hackle, Indian crow-tail and teal wing.

3d—March brown.

From May 15th until the end of the season, in addition to No. 2, the following:

4th—Apple green, floss body, honey dun hackle, Indian crow-tail and summer duck wing.

5th—Green seal's fur body, Indian crow-tail, honey dun hackle and Egyp-

tian goose wing. (This fly can be tied with body three different shades of green.)

6th—Yellow and red body, red ibis hackle, Indian crow-tail and compound wing of scarlet ibis and white ibis. (This fly, generally known as *parmachenebelle*, is a good evening fly all through the summer.)

7th—For the end of the season, bright yellow body, Indian crow-tail, honey

dun hackle, and canvas-back wing, gold twist. This fly should be tied on Nos. 5 to 7. (new Nos.) Cholmondely Pennell hooks, using the smaller flies when the water is clear. They can be wrapt with small round gold or silver twist.

Most of the above flies, tied by Harding Bros. (England) to special pattern, may be obtained, together with all necessary fishing tackle, at very reasonable prices in Nelson.

(*To be continued*)

Ontario's Game and Game Laws.

BY JAMES DICKSON, D.L.S.

(*Concluded from the May issue*)

It can easily be understood how the Indian or professional hunter who kills for gain alone will resort to every ruse in order to secure the prize. But the true sportsman always gives the quarry a chance for its life. And if the still hunter fails, which in the majority of cases he does, in getting in a shot before the suspicion of the deer has been aroused, it requires both energy and skill to stalk it afterwards. The intelligence of the hunter pitted against the intelligence of the hunted. The odds, if anything, in favor of the latter. And when the stalk is brought to a successful issue, one feels he has earned the prize, and performed a feat of which he may justly feel proud.

The question of whether hounding should be abolished or not is a matter which requires the most careful consideration. There are such a diversity of interests involved. Some keen sportsmen are not sufficiently skilled in wood lore ever to become successful still hunters; others are physically incapacitated for the fatigue involved, and their interests are as much entitled to consideration as any others.

Some sportsmen imagine they are the victims of a great injustice if they ever return from the chase without a full bag. Others care very little whether they have a kill at all or not. They simply go out for recreation, a change of scene, and a short holiday. The baying of a hound in full cry is the sweetest of music to

their ears. The sight of a buck with a noble set of antlers at one end, a white flag at the other, alternately rising and falling as the graceful animal bounds over brush pile and fallen timber, is the grandest of sights to their eyes. And they would just as soon see it escape as not. The short wait they have on the runway from the time the first distant note is heard from the chase until they draw a bead on the quarry, or the short, sharp canoe chase, is fraught with the keenest enjoyment.

And it is manifestly unfair to deprive any class of their quota of pleasure if it can be avoided. But, if the preservation of the game is the main object to be kept in view, stop hounding at once.

Some gravely assert that more wounded deer are lost to the still hunter and either die a lingering death or become an easy prey to other animals, than are lost by the man who hunts with hounds.

This is the veriest sophistry. In the majority of cases the still hunter secures a standing shot, while with the other the opposite is generally the case, and I have known some beautiful misses scored at even short range. In still hunting, if the animal does not see the hunter, several shots can generally be had before it leaves, for it will not stir until it has located the danger.

The long range rifle is undoubtedly to blame for many wounded deer being lost; numbers of them being shot at are never looked after. In old times, before the in-

roduction of the breech-loader and magazine rifle, a smooth bore that would chamber an 18 or 20 bullet to the lb., and good for a shot at 100 or 150 yards, or a rifle that would kill at 18 or 20 rods, was good enough, and I have no hesitation in asserting that, gun for gun, there were more deer killed in those days than there are now.

In those days a man would not shoot unless he knew the game was within range. Now, to use the language of hunters, they, whether the game is standing, or on the jump, "pump lead after them," either as long as the animal remains in sight, or until the magazine becomes exhausted.

In Ontario there is no open prairie, and unless in a newly burned district, or on hill tops a shot is not often had at a greater distance than the old muzzle loader would carry, and if sportsmen were confined to the use of weapons good only for such distances, and would not shoot unless the chances were fairly good, fewer wounded animals would be lost.

Another reason why so many wounded deer are lost is the prevailing idea that if one raises its flag and bounds off after being shot at, there has been a clean miss. This is entirely wrong. I have known a deer to raise its flag and bound as gracefully off as if it were unhurt, and run for 150 yards before it fell dead, pierced through the lungs, the bushes dyed red with the blood squirted out by every breath it inhaled; and I have known another raise its flag, and cover 300 yards before it dropped, with the tip of its heart shot off.

No doubt, in a great many cases—perhaps in the majority of cases—a wounded deer does not raise its flag. Every one fired at, no matter how it may act, should be tracked for some distance, and care taken to find out whether it has been hit.

A case came to the knowledge of the writer recently of a sportsman standing on a hill; he had emptied his magazine at a buck on another hill at a long range. He remarked to a friend who came up that he had scored a clean miss every time. The friend prevailed upon him to follow it. It was found a short distance off with two bullets in its hind quarters which might or might not have proved

fatal, but which would have left it an easy prey to even a cur dog. There were two other shots through the body, either of which must have proved fatal in a few hours. It was, in fact, so much cut up with lead that the carcass was bestowed upon a settler, as not being worth taking out.

But of all the unsportsman-like methods resorted to in order to secure a haunch of venison or set of antlers, I hold that the calling of the male moose during the rutting season takes the lowest place. There is no more caution to be exercised or fatigue to be endured in stalking the Ontario moose than there is in the case of the red deer. Yet there are sportsmen—I trust they are few and far between—who, instead of going in broad daylight into the haunts of the moose and taking their chances for a shot where the animal's instincts are brought into competition with their cunning, sneak quietly, in the gloom of the evening, into its feeding grounds, esconce themselves to leeward of where they have reason to believe the animals are browsing, there, in the dead of the night, with a birch bark horn imitate the call of the female when she longs for the society of her mate,—a cry which owing to their keen sense of hearing is audible at a distance of a mile, and repeating the call until the game, completely deceived and responding to every note, is lured to its fate. It is forbidden to set a snare for moose; yet here is a snare of the very meanest kind, against which there is no law, but which should be legislated against at once.

There seems to be a consensus of opinion that two deer per man per season are enough,—in fact, the trend of public opinion has grown rather in favor of reducing the number to one; and two years ago it was made permissible to kill one bull moose on payment of a license of \$5 once in three years. This is now being changed, and an open season of one month in which to take one moose or caribou provided, for all that portion of Ontario north of the line of the C. P. R. This is as it should be. They are now so plentiful in that region that this concession can be very well afforded.

But we think this might be carried still further, and the killing of the female of any species of deer forbidden. It will

be urged, how are the hunters to distinguish between the sexes? In reply, during the open season the antlers are in their prime, and let none be allowed to be shot which have not got antlers. This, of course, will not apply to caribou, as both male and female of that species have horns, but the difference in their size is so great that it would require only a short time to enable the hunter to distinguish between them.

Apart from the antlers there are other points of difference between the sexes, by observing which the practised hunter rarely makes a mistake.

It may be urged that the temptation to shoot when only a portion of the animal is visible is so great as to be irresistible, and if the hunter does not shoot then he may lose his chance altogether. That is no valid reason why one should shoot before he is certain of what he has got.

Once, when a lad, the writer being out with his gun, he saw a spot of red through a clump of alders where deer were wont to be; seized with an acute attack of buck-fever, he fired, but the game turned out to be a neighbour's ox. A short time ago, when surveying in Manitoba, a young half-breed showed me a turned up tamarac root which he had seen a friend pump four shots into from his Winchester, mistaking it for a moose. A few years ago I knew a case of a man firing at a bear at very short rifle range, but on going up to it, found not a bear, but an Indian in the throes of death. He was dressed in black and stooped down in the act of setting a beaver trap when caught sight of. A short time thereafter the same individual shot a ground-hog one day in his own field, but on going up found his own son dead, shot through the head.

Scarcely a season passes that we do not hear of fatal accidents owing to this hasty shooting.

With such cases constantly occurring, the man who has not sufficient self-control to contain himself until he is sure of his game should not go into the hunting field at all.

Exception is being taken to the length of the present hunting season, two weeks, and earnest efforts are being made to have it extended so as to include the whole month of November.

There is no doubt but that when the open season was fixed at two weeks the primary object was to have the deer disturbed for as brief a period, consistent with the public interests, as possible. But now it might be in the interest of both the sportsmen and game to have the period extended to four weeks.

The principal, and, in our opinion, a valid reason why a change should be made, is that the short season is responsible for so many rifles being in the field at one time.

Ten days or two weeks is about all the open time the average sportsman has at his disposal for an outing; and as the hunting season is so brief, all must take it at the same time.

Consequently, certain sections are literally alive with men and hounds. But were the season extended, the chances are that not more than half the number of parties would be out at one time, and the deer disturbed little, if any, more than they are at present.

It is not the intention of the writer to criticise the game laws either favorably or otherwise. Neither is it the intention to cast any aspersions on the backwood settler.

But there is a great deal too much sentiment in this "poor settler" cry. One class prefers to live in the wild woods, on the borders of or beyond the confines of civilization, depending wholly or nearly so on his rod, gun and dead-fall for a livelihood, and is more interested in keeping the woods in a state of nature than otherwise. The only education he considers necessary for his family is to have them skilled in all the mysteries of the chase, and to eke out a living without having to resort to hard, manual labor. And as soon as the march of civilization invades country grounds, and the game becomes scarce it is up stick and away to "greener fields and pastures new." He is constantly at war with any and all who attempt to encroach on what he believes is his by divine right. That is the class of backwoods settler who is continually crying out against the stringency of the game laws, and who is the recipient of so much sympathy.

Another class prefer to remain in our towns and cities and pass their lives as day laborers. Their presence is an abso-

lute necessity. They and their families frequently endure privations from lack of work or low wages, such as the backwoodsman hardly ever knows. They contribute very much more to the prosperity of the country than the trapper or impecunious backwoods settler does, and are much more deserving of special favors.

Another class go into the woods, who are the real pioneers of civilization. They devote their whole time to the cultivation of the land. They neither hunt nor trap. Their whole time is devoted to their farms. Their families are properly housed, clothed and educated. Probably not more than one in ten of them ever shoots a deer or traps a rat. A few, but even that a small percentage of them, take their short annual outing to hunt or fish. They never ask for special favors or complain of the stringency of the game laws. The sight of a deer during the close season never tempts them to drop cradle or axe and rush in after their rifle.

These are the true civilizers of the country and are the men above all others who are worthy of sympathy and support, and whose efforts are generally crowned with success.

It does appear somewhat absurd that a man living in the heart of a deer country can procure a license to take two deer for the sum of 25 cts. while other residents of the Province, hundreds of miles distant from the hunting field, should have to pay \$2 for the same privilege. Surely this provision has outlived its usefulness. And the man who has the game at his door should, at the very least, be called upon to pay as high a license as he from a distance.

In a settler's license the name of the township, concession and lot are set down, and it was never the intention that any more than one member of a family should procure a license for a given lot. Yet, we are credibly informed that several members of the same family have each obtained a 25 cts. license. Nor was it ever the intention that residents in towns and villages in the game country should have the advantage of that provision in the law. Yet cases are known where the issuers grant such licenses indiscriminately, even to members of their own family.

When such acts on the part of those whose duty it is to see the law enforced, both in spirit and letter, impartially, are overlooked, it is not to be wondered at that it is so openly violated by others.

Any issuers of licenses found guilty of such acts should be promptly dealt with, and if discovered in time, the license revoked.

Two years ago the bounty on wolves was further increased from \$10 to \$15, which, together with \$2, the average value of the pelt, makes each wolf caught worth \$17 to the hunter.

I observe in a report of the annual meeting of the "North American Fish and Game Protective Association," the chief warden of Ontario is reported to have said that "wolves had been almost exterminated in the territory covered by the law." We must take exception to that statement. We know as a matter of fact that wolves have been more plentiful and more aggressive in the Huron and Ottawa territory this winter than they have been for years. And this is a matter for congratulation. It is perhaps the most positive evidence we could get that the deer are increasing in numbers. For where deer are not plentiful wolves are rarely found.

We have spent many an hour listening to harrowing tales by the poor settlers, of the havoc committed amongst the deer by wolves, but never met one who admitted that either he or his mongrel dogs killed any by other than lawful means, or at improper seasons, or any other variety of game, although evidence to the contrary was palpable in all their surroundings. That Mr. Wolf is correctly held responsible for a great slaughter of game there can be no doubt, but withal he is blamed for many black crimes of which he is entirely innocent, and were he a human biped who could take advantage of the law of libel, what rare chances there would be of his securing heavy damages.

It is only a few years since the Government assumed responsibility for the payment of any portion of the wolf bounty. Previous to that time there was no record of the number annually destroyed, and I very much doubt if the annual slaughter amongst them is any greater now than formerly.

Big game has now practically disappeared altogether from the older settled portions of the Province, that is south of the Laurentian range, where all the land is adapted for agriculture and the cover destroyed.

But north of that, there is all over the Province a large percentage of land which must practically remain in a state of nature. In some parts, large sections have been burned over, but in most of these a dense second growth is springing up. So that there is, and always will be, abundant shelter for all varieties of game, and a never-failing supply of the purest of water, an element as essential for the welfare of wild, as for domestic animals.

Further, it is a well established fact, that if deer are not harrassed and chased, they are as numerous, or even more so, in a sparsely settled district where there is sufficient cover, as in the depths of entirely unreclaimed wilds.

The deer is by no means a very wild animal, and does not hold man in much dread if undisturbed by hunter and hound. And, moreover, they are less liable to the attack of wolves in the neighbourhood of a settlement, a fact of which they seem to be perfectly well aware.

If the settlers were only more alive to their own permanent interests, would abstain from endeavouring each to get the start of his neighbour to the extent of a deer or two in the season, would abstain from the use of hounds and would refrain from, and keep, his hunting propensities in check for a few years, we venture to predict that, by the end of a single decade, deer would be as numerous in the sparsely settled districts of Ontario as they ever were. It would not then be necessary to go one or two days' journey for a day's sport or a haunch of venison, and the present restriction as to the number allowed to be taken could also be a good deal relaxed.

With the "Algonquin Park," where there is neither hunting nor trapping

ever permissible except for the destroying of the carnivora, such as wolves, etc., in central Ontario, and surrounded as it is on all sides by a settled country, a section of which is not likely ever to be more thickly populated than at the present day, there is no reason why game should ever become scarce in "Old Ontario." And there is even less danger of such a contingency in what is known as "New Ontario," with its large forest and game reserve on the Temagamingue waters, a section of country in which the axe of the lumberman has never even been heard. Surrounded by a district extending from the Province of Quebec, on the east, to Manitoba, on the west, and to the Arctic Ocean on the north is a vast area literally teeming with animal life.

The moose, the largest, the noblest herbivorous animal, with the exception of the elephant, in the world; the caribou, the red deer, and in a few sections the wapiti, roam in countless numbers, while fur bearing animals of all kinds from the weasel to the white bear, infest its woods and waters.

Not a lake or stream which does not contain some one or other variety of succulent and gamey fish; abundance of all varieties of both water and other fowls peculiar to the northern hemisphere; scenery unrivalled, either in summer or winter, and all easily accessible, owing to its numerous lakes and streams, at all seasons of the year.

A veritable hunter's and fisher's paradise, with a climate unrivalled for its salubrity.

Should it not be the duty? Is it not to the direct interest of every resident of Ontario to assist, to the utmost extent of his ability, in protecting and conserving this rich heritage? And not stand idly by while a few unprincipled individuals are despoiling the land and leaving it in a condition to become barren to future generations for the sake of an uncertain temporary gain.



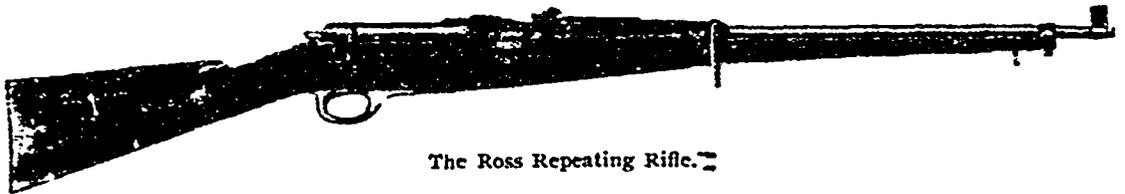
The "Ross" Rifle.

It is said the rifle invented by Sir Charles Ross has been adopted by the Department of Militia and that it will be manufactured in Quebec, hence a description of this arm will, doubtless, interest many of our readers, especially as it may also be sold in sporting model ere long.

The weapon was recently tested at Mr. Charles Lancaster's private range near London, and, subsequently, Arms and Explosives published the following account of the trials :

Sir Charles Ross has been wisely inspired in producing as his sample British weapon one which is adapted for the existing .303 Service ammunition, since this at once places it within the region of practical politics as a military arm that is well worth the careful consideration of the Small Arms Committee, and allows of a ready comparison with the Lee-Enfield on all counts. But beyond the leading

wood-work in one unbroken piece from butt plate to muzzle locking-ring, in place of the ugly and unpractical dividing of the stock just behind the shoe in the Lee-Metford and Lee-Enfield rifles, which was adopted, apparently, for no other reason than because the Martini-Henry had, perforce, to be so divided. These are features which are at once to be appreciated by a practical observer, but as regards other external characteristics it may be said that the rifle which Sir Charles Ross has brought over from Canada is what is termed a "shop pattern," and may be capable of some modification, as, for instance, in the matter of providing a half-pistol grip to the stock. On the other hand, this weapon in its present form "handles" beautifully in every respect, and the wood-work is finely modelled without sacrificing any of the strength requisite in an arm destined to the un-

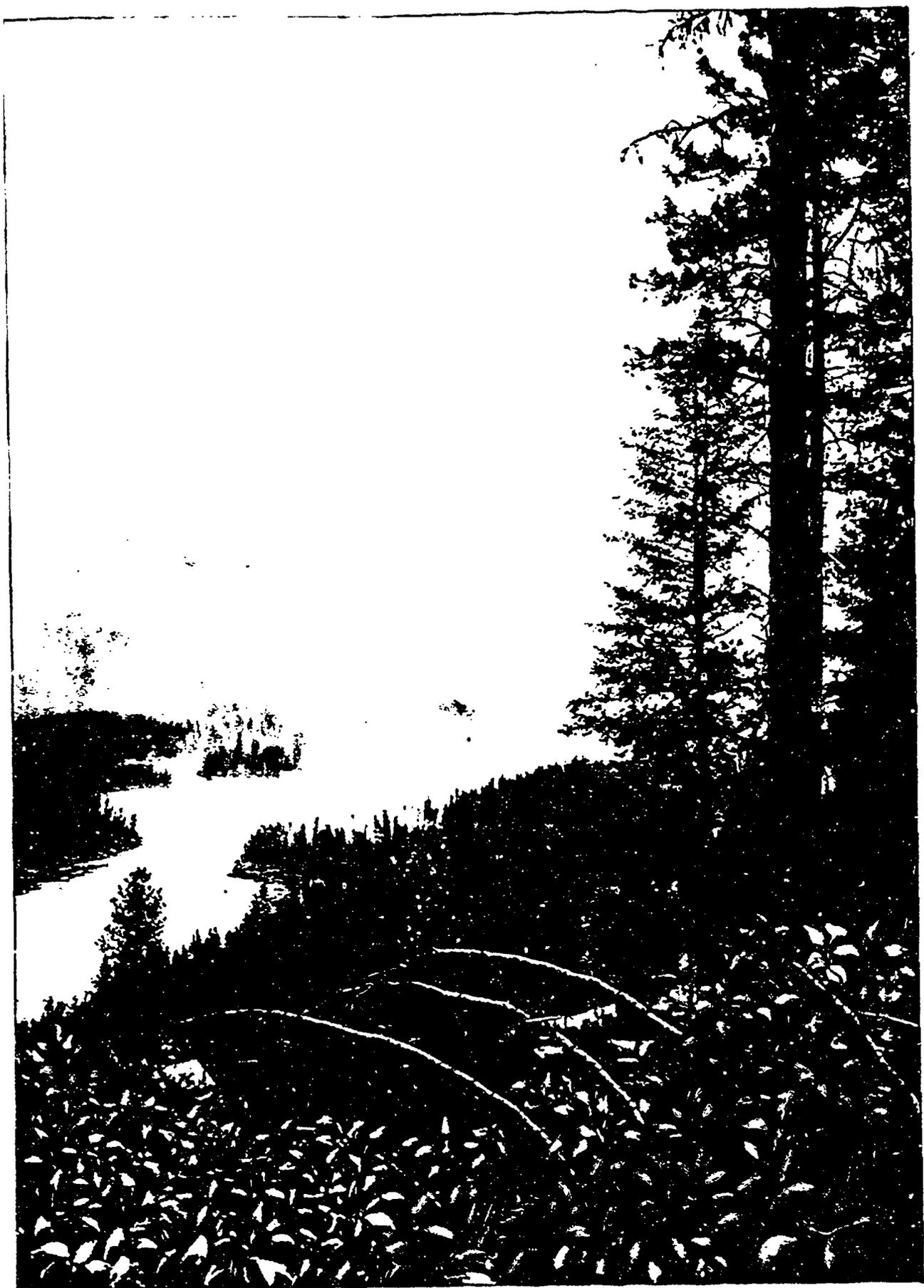


The Ross Repeating Rifle.

conditions of having a barrel of Service calibre chambered to suit the Government cartridge, the rifle has few points of similarity with that now issued to the British Army. Even in external appearance the differences are sufficiently striking. For example, the magazine of the Ross rifle is flush with the wood of the stock, so that there is no unsightly metal projection in front of the trigger guard to worry the soldier in every conceivable way, and to prevent him from "sloping arms" according to the time-honored custom prevailing before 1892. It is well-known that the method of carrying the Lee-Enfield sideways at the "slope," which is necessitated by the obtusion of the magazine at the place which should naturally rest on the shoulder, proves excessively tiring to the wrist and hand during a long march, and tends to cause a marked unsteadiness if any firing has to be done subsequently. Another feature to be noted is the continuation of the

ceremonious treatment of a "Tommy" under Service conditions.

Turning to the mechanism of the rifle, the bolt is of the front-lock straight-pull variety, a single rectilinear movement backwards and forwards serving to lock and unlock the breech-action and cock the firing-pin. This simplicity of operation, which is very marked in firing the rifle as compared with the usual turning-bolt, is attained by making the bolt-head separate from the main portion of the bolt, the two engaging by a series of volute grooves in such a manner that the pushing of the bolt home rotates the head, so that two lugs upon it enter into corresponding recesses in the front end of the breech-shoe as in the turning-bolt system, and *vice versa*, the withdrawal of the bolt rotates the head so as to free the lugs. It should be noted in this connection that Sir Charles Ross has fitted a long and strong mechanical extractor, which, in conjunction with the easy



WARD'S CROSSING

A scene on the Kootenay River, P.C., below Bonnington Falls



*Length 23 1/4 in, Girth 12 7/8 in, Weight 4 lbs 10 oz.
Caught by Ernest Mansfield, in Homeray
Lake. 26th July 1901.*

action of the bolt movement, suffices to dislodge even the most obdurate cartridge case. The extractor is, in reality, a long piece of steel, spring-tempered so as to allow it to snap over the rim of the cartridge, but for extraction it does not rely on its strength and springiness. On the contrary, the under-cut lug laps over the extractor during the withdrawal of the bolt, thereby locking it mechanically against the cartridge case. That Sir Charles combines the practical knowledge of the soldier with the mechanical ingenuity of the born inventor, is shown in his arrangement of the sear and trigger. He has so designed these that, though a strong trigger-spring is provided, the rifle would be quite as effective were it broken or lost. The sear-piece consists of two parts, the one being of the usual bell-crank form working on a rocking pin, with one end engaging in the trigger and the other in the usual manner in a detent in the cocking-piece for the purpose of holding back the striker in the cocked position. But, in addition, there is another arm on the cocking-pin, reaching forward and normally in contact with the under side of the bolt; it is compelled, except under stress of *force majeure*, to act on the sear proper by the pressure of a powerful spring, so that even were the trigger-blade entirely disconnected, the sear would be compelled to engage with its corresponding detent in the cocking-piece as the bolt was shot forward into locking position. So far, so good; but we may imagine that both the trigger-spring and this special sear-spring become inoperative through breakage or any other cause. In this case the trigger itself provides a solution to the difficulty. The back of the trigger-guard is slotted, and the trigger is made of extra depth so that it projects backwards an appreciable distance through this slot. In the natural process of handling the rifle and operating the breech mechanism, the middle finger of the right hand presses against the back of the trigger-guard just at the very spot where there is this projection of the trigger, and that pressure of the finger operating through the trigger to the sear affords at once the missing impulse to engage the sear with the cocking-piece.

The next point of interest lies in the magazine, which, as has already been

pointed out, is of a compact form kept flush with the wood-work of the rifle. Generically, the Ross magazine belongs to the same class as the Harris magazine, which was described and illustrated in these columns some few months ago, to the extent that it consists practically of a metal box, into which the cartridges, five in number, can be dropped haphazard on to a platform depressed for that purpose by hand, the arrangement of the cartridges in proper zig-zag fashion ready for use being accomplished automatically, or at worst assisted by a slight shaking of the platform. In addition it permits of the use of a clip or charger such as is adopted in the Mannlicher and Mauser rifles. But beyond that general likeness, the two magazines have little in common. Without instituting any odious comparison, it may be said that the Ross magazine is decidedly the simpler in its mechanism, and consists of the fewer parts, three, as against eleven. The platform extends into, and is concealed in, the wood of the fore-end below the barrel of the rifle, and normally the platform is pressed upwards by the force of a strong and sufficiently flexible steel spring of Z shape. The platform, however, can be operated readily by hand, it being for this purpose provided, midway along its length, with an extension piece, which comes up on the right side of the rifle barrel through a suitable recess cut in the wood of the stock and hand-protector covering that portion of the barrel, in such a manner that, though not constituting a marked projection, the visible portion is easily reached by any of the fingers of the left hand when holding the rifle at its centre of balance, as would be done naturally during the process of firing and loading. One finger suffices to work this ingenious contrivance for lowering or shaking the cartridge platform, and the more so since its total downward travel in depressing the platform to its utmost extent is less than half an inch. Before leaving this point it should be mentioned that a simple indicator fitted in conjunction with the depressing stud shows at a glance how many cartridges are in the magazine at any given moment, and that miss-feeds cannot occur from accidentally depressing the platform, as might be the case were a forward movement required to depress it.

There is another feature of the magazine which also requires notice here. In accordance, no doubt, with the marked partiality of our War Office authorities for a magazine rifle, which may on occasion be worked as a single loader, Sir Charles Ross has provided his rifle with a "cut-off." His conception of a cut-off is, however, in marked contrast to the freak of fancy that fitted our Service rifle with the awful atrocity which does duty in that respect—except when it is bent out of shape or broken off. The cut-off of the Ross rifle is worked by an unobtrusive slide on the right side of the breech-shoe, which simply drops the interior of the magazine so that the cartridge which happens to be at the top is kept clear of the bolt in its travel backwards and forwards. For single loading, then, with the cut-off in use, nothing remains but to place single cartridges one by one on top of those held in reserve, and to fire them separately.

In the interval that has ensued between our first inspection of the Ross rifle some months ago, and the trial at which we were present at the beginning of December, Sir Charles Ross has not been idle. Sufficient has surely been written here to show that he has produced a military weapon which is absolutely practical in every respect, and on the face of it capable of being handled rapidly and easily, even by comparatively unpracticed users. But he has further devised for use in conjunction with this splendid weapon a system of carrying ammunition, that greatly enhances its efficiency. Unfortunately, we are precluded at present from giving a detailed description of this system, which is not yet fully protected; but without breach of confidence this much may be stated, that the cartridges are put up in separate cases into batches of five, each package thus constituting a magazine charge. These cases, which are made in tin or in cardboard, to suit climatic and other requirements, are so made that a single motion strips off the cover, and the contents can be poured direct into the magazine. The cases, opened or closed, can be carried in a bandolier, and this system at once removes one of the crying evils brought to light in the still-enduring South African War, since it is practically impossible to lose ammunition when made up in this fashion.

Having so far dealt with the rifle entirely as regards its constructive details, it remains to speak of it in operation. As is now well known, the Canadian Government has lately adopted the Ross rifle for the armament of the Dominion troops. This was not done, however, without submitting the weapon to tests which were probably more severe than any to which a rifle has hitherto been subjected. We are not at liberty, even did space permit of it, to give in detail the nature of those tests, but some idea of their severity and completeness may be gathered from the fact that they were modelled on the tests of the U.S. Ordnance Board, with every additional rigour of detail that ingenuity could devise. It is enough to say that the Ross rifle emerged satisfactorily from each and every of the series of trials, with the result that the authorities concerned signified their approval in the manner already indicated. More extended mention may be made of an endurance test, made with the rifle that we afterward saw and handled. This consisted of the firing of 500 rounds in 10 series of 50 rounds each. The total time occupied in actually firing the whole series amounted to 19 minutes $\frac{1}{4}$ seconds, the best time for an individual 50 rounds being 1 minute 32 seconds, which, curiously enough, happened to be the last of the series, and the worst—which was the first—2 minutes 39 seconds. Immediately on completing this test, when the barrel must have been nearly red-hot and the wood-work was actually charred and smouldering, the rifle was tested and found to be in perfect working order.

The trials made in our presence were scarcely of so exacting a nature as those conducted in the Dominion across the seas, but they were nevertheless sufficiently thorough to demonstrate the remarkable qualities of the rifle. A certain number of shots were fired at 100 yards for diagram, under circumstances not particularly favorable to that test, but all the same the grouping showed good results. It may, in fact, be said at once that the whole of the trial, so far as the Ross rifle was concerned, took place under a disadvantage, inasmuch as Sir Charles Ross, who handled the weapon as demonstrator, had only landed from an Atlantic steamer on the previous day,

after one of the roughest passages on record, and could scarcely be expected to show his average "form." It follows, therefore, that the actual and undoubted success of his demonstration had a far greater value than might at first sight appear. In earlier Canadian trials of this same rifle, as has been mentioned, he was able to show extreme rapidity of fire, seven out of ten batches of 50 rounds each being fired well within two minutes per batch. Sir Charles wished to give us a sample of this rapidity by firing a series of 50 rounds. Apart from being out of "form" himself, he was further handicapped by the fact that, in place of having ten of his ingenious carrier-chargers ready to hand, he had less than half the number, and they had to be recharged in turn to make up the requisite number of rounds, and this work being accomplished by unaccustomed hands caused several perceptible pauses in the reloading of the rifle. Under all these adverse conditions, however, the 50 rounds were fired within 2 minutes 10 seconds, about the same time as was occupied in firing the second batch of 50 in the endurance test made in Canada. With this result as a basis, an expert volunteer marksman was set to fire a similar number of rounds from the Service rifle. The conditions were, to fill the magazine and use it as a magazine rifle throughout, without the cut-off, but the marksman was allowed to have the whole 50 rounds disposed at his side ready to hand. After following the smooth operation of the Ross straight pull, and

the ease of loading, it was almost painful to watch the efforts of the expert with his Lee-Enfield and loose cartridges. The time occupied in firing 50 rounds from the Service rifle was 4 minutes 40 seconds, or 2½ minutes longer than with the Ross. In one case there was no hurry, and no taking of the rifle from the shoulder; in the other, all was bustle and quick spasmodic actions, to say nothing of loose cartridges dropping about in a manner eloquent of awful waste during the strenuous moments of active service.

Altogether, about 100 rounds were fired from the Ross rifle in our presence, and if this personal test cannot be accepted as conclusive, it was sufficient at all events to convince us that the inventor has brought to a state of practical perfection a magazine-arm of extraordinary capacity, sound alike in design and in construction. It seems well-nigh the ideal of what a military rifle should be, and the fact that it has emerged from tests so stringent as those imposed upon it by the Canadian authorities is sufficiently eloquent to need no further elaboration in demonstrating its fulfilment of every possible Service requirement.

For sporting purposes the Ross straight-pull magazine rifle has been adapted to the .256 Maunlicher, the .303 and the .370 calibres, and at the present it is in contemplation to supply it to the .400. The average weight with a 26 in. barrel is about 7 lbs. 8 ozs., and the total length is 46 in.

A Practical Darkroom.

BY H. M'BEAN JOHNSTONE.

While development and developers are subjects often enough treated in the columns of the photographic magazines, the workroom wherein all this is done is so seldom mentioned, and even when spoken of given only a passing notice, that apology for a thorough talk on it ought not to be necessary here. In almost everything else we are able to profit by the mistakes of others; but here, because we so seldom see more than our own workshop, we are obliged to learn largely by experience. It, therefore, is

my intention to give a description of what seems to me to be a fairly convenient darkroom.

The darkroom which is most satisfactory (I am taking it for granted that it is to be devoted exclusively to photographic purposes) is the one in which everything is right at hand, and where, if there be only one or two plates to develop, there is not a lot of trouble to go to get ready. It must be large and roomy and have plenty of fresh air. Many and many is the time when I have had to go into a

little stuffy closet where there was hardly room to change your mind, and where the ventilation existed in name only. In such a place it is impossible to do one's very best work. After you have been at it for half an hour, and that horrible oily, smutty smell has commenced to manifest itself, there sort of creeps over you an inclination to get outside; after that, the plate gets just whatever treatment you like to give, and no longer what it requires.

Now, in the first place, as regards the room to be used. I strongly recommend that it be plenty large enough to admit of your taking at least three or four steps to cross it, and, if possible, that it be fitted with a "snake" entrance instead of a door. This will admit plenty of fresh air, and will also allow you to set down the plate you are working on and go outside for a minute or two, if necessary, without letting in any light. Of course, where space is a question, it will be necessary to use a common door, as the other plan cannot be accomplished without a passage way four feet wide and six or eight in length. The advantage of a large room is that it gives you plenty of space to make enlargements by either day or artificial light, a thing that would be an impossibility were you working in confined quarters.

Then, too, if the room be of sufficient width, when you are building your sink you will be able to allow room at each end for a place to lay things on, instead of having to turn round when you want a place to put your plate-holders, etc. As regards the building of the sink (perhaps the most important thing to be considered after the choice of a room), I have several words to say. In the first place, have it made of wood and then lined with what is commonly known as "four pound" lead. Let the lead be well beaten down into the corners and then drawn up over the top and made fast with *copper* nails. You can buy such a sink if you have a mind, but I had mine made. The dimensions of it are about a yard long, two feet wide and eighteen inches deep. These, however, are of but little importance, and may be varied to suit the circumstances. If you can, it is just as well to have both hot and cold water taps over it, then when mixing chemicals where you have crystals to dissolve it is often possible to

save considerable time. Have the carpenter make a wooden grating to fit over the top of it, that may be set down on it in such a way as to remain just where it is put and not slip this way or that. A grating like I have in mind ought to be made of strips about an inch square (common pine will answer), and so constructed that it may be taken out easily and washed from time to time. The object of this grating is to support dishes, etc., during development, and, at the same time, to allow anything which may chance to be spilled to drip into the sink beneath. In other words, it is simply a work table that can be slopped over. Mentioning it in the light of a work table brings up the question of how high are we to have it? Presuming that you do your work standing up, it is best that you have the top of the sink to fall just an inch or two below your elbow. This is most convenient. The advantage of a wooden sink under a lead lining, instead of an earthen sink, is to be found in the fact that if you drop a negative into it, it is less liable to break,—no slight consideration, when one remembers that we are all more or less butter-fingered, and, as a rule, with our best negatives. Another point worth noting, as it is apt to save a negative occasionally, is to have the mouths of your taps wound with cloth, in case in rinsing off a plate you lift it just an inch or two higher than you intended and scrape half the film off it. One is very apt to misjudge distances in the semi-darkness.

Now let your hypo pan be placed on the little stand you have left at one end of your sink, and right beside the other end have your washing-box arranged. The ruby window must be placed right back of the taps and over the sink, and ought to be so arranged that the light is on the outside but under control from the inside of the darkroom. This end may be gained by having a pipe put through the wall, and the turncock on the inside. The window must be made to slide back, in order that you will have a white light to examine your work by. It is an excellent idea to have a roller blind, with a white shade attached to it, put over the window, so that when you want less light it may be pulled down, or when the window is opened for the examination of the plate you will

have a white backing to hold it up against. The tracing cloth that engineers use is an excellent material to make such a curtain of, as it diffuses the light to just the right degree. A similar shade for the printing window is a very good idea. Now, over this window, we want to have a shelf about ten to twelve inches wide to hold bottles of developer, restrainer, etc. Large bottles of stock solution may be put away on the shelves on the other side of the room, and only such as are in common use be kept here. On no account must they be put away under the sink, for there is always more or less risk of foreign substances trickling down into them. Graduates, stirring rods, and other such paraphernalia as is in common use, may also be kept above the work table where it is convenient to the reach. The space below the sink may be utilized for a box or basket into which waste papers may be thrown.

On the wall at the end of the sink are *two* hooks to hold your developer and hypo towels. Be sure that you have two, and have them labelled, in order that you do not use the hypo towel when you are about to place your hands in the developing solution.

On the opposite side of the room from the sink is a closet that has been made

perfectly light-tight, into which you may put your exposed plates as you take them from the holders, to keep until you are ready to develop. Above this are several shelves whereon may be placed such articles as are not in very common use, and where extra plate-holders may be put. Below the dark plate-closet is one shelf, and about six or eight inches from the bottom is a strip nailed across from side to side, behind which trays may be stacked against the wall.

The arrangement described in the foregoing has been treated in detail, not because it is supposed to be ideal, but because it has been found by experience to be perfectly practical and on the whole very convenient. It is true, the washing box and hypo tray might be nearer the developer, and avoid having to carry the drip over so great a distance; but in view of this fact, it has been so placed as to necessitate carrying it only over the grated sink. It is better that it should be thus than that the hypo be where there is any possibility of a drop getting into the other solutions. A further improvement might be the result of the solution bottles being where there was no possibility of their dropping into the sink; but where they have been put, they are most handy. So, there you are!

Fly Rods and Flies.

BY WALTER GREAVES.

Which material seems to suit the best for fly rods has occupied my attention for a considerable length of time, and I have used rods made of split bamboo, lancewood, greenheart, and lancewood and hickory combined. My experience inclines me to think that split bamboo, if properly made and of the best quality, is an excellent material for this purpose,—in fact, *the best*, so far as its steel-like properties and casting powers are concerned. The only objection I can see to its use (and it is the only one) is that if, through accident or otherwise, you should happen to break your rod when out fishing, you might find it a difficult matter to mend it properly on the stream; whereas, with the solid wood rod this

can usually be done in a few minutes. According to my experience, lancewood comes second to the split bamboo, so far as its casting powers are concerned; and then greenheart. The lancewood will stand a great deal of rough work, and keep straight and sound for many years. Greenheart is, of course, a splendid wood for rods, but I find that after being in use for a few seasons it becomes powdery, and is then liable to snap with very little strain—in fact, without any apparent reason. I have known a greenheart rod to stand well for several years and then all at once to break time after time without being put to any severe strain. This has prejudiced me to some extent against the wood. I have never known

good quality of lancewood to act in this manner, and I have a rod in my possession, made, probably forty years ago, by Mr. Kelly of Sackville street, Dublin, on which I have killed hundreds of fish (black bass, trout, &c.), and I really believe it is as good to-day as it was when it came out of the shop, as it is perfectly straight, notwithstanding that I have no wooden form for it, but keep it in a bag. Among my many rods that I prize very highly I may mention a "Murray" trout rod, eight-strip split bamboo, ten and one-half feet, without dowels, g. s. trimmings, weight about seven ounces. To my mind this is as perfect a rod for trout or black bass fly-fishing as one could wish for. I have had it several years and it is just as good as the day I got it, although I have given it plenty of hard work. I take great care of all my rods, and varnish them well every winter. I have landed several grilse, and played some large salmon with the "Murray" rod, but was always unfortunate enough to lose the salmon, although I had some of them on for fifteen or twenty minutes. The reason for this is that I have accidentally struck them after the season closed, when fishing from the rocks for trout, and having only a trout reel and a line of about fifty yards, the reel either did not revolve quickly enough when the salmon made a long and sudden run, or the casting line gave way, caused probably through the back-running of the small reel. You have not much control over a salmon with a seven ounce rod, fishing from the bank. Anyone who has tried it will readily understand this. (Had I landed the salmon out of season, I should, of course, have put it back again into the water.) A rod I also prize very highly is one of lancewood, finished by myself—a light rod of about six and one-half or seven ounces. One can cast all day with it without feeling the slightest exertion, and it can land a heavy fish too, as I have on many occasions proved, both at Lake Edward, north of Quebec City, and in rivers and streams in New Brunswick. I have landed many trout in Lake Edward with the fly (I do not use bait) that I believe would run up to 3 lbs. You may think, from what you have frequently read, that the trout in Lake Edward do not take the fly; but just try

them. If you ever happen to have such sport as my brother and I had there once with the fly, you will not, I think, forget it. We camped about ten miles south of the Station, and fished chiefly near some rocks called "Gull Rocks." The only drawback to our trip was the black-flies, mosquitos, and sand-flies, which were simply in clouds during July; but one might avoid this by going in May or September. A more beautiful lake it is impossible to imagine, and the atmosphere and scenery are simply delightful.

If you go to this part of the country, take the following flies with you, dressed on hooks No. 5 (not smaller, but no harm if a size or two larger):—

Parmacheme Belle; Grizzly King; Professor; Dark Montreal; Claret Hackle; Queen of the Water; Canada; Governor; Zulu; Silver Doctor; Split Ibis; Coachman.

Those flies will all kill in Lake Edward at one time or another; and the same may, I fancy, be said of almost any trout water.

I make all my own flies for salmon, trout and black bass, and find them quite as killing as the best bought flies. Most of my flies I make without regard to any particular pattern. In dressing my salmon and trout flies, I prefer to make the bodies of seal's fur, as it retains its colour better than any other material when wet. Pig's wool and mohair are also good.

Did you ever try my "Massassaga" fly for black-bass? If not, do so the next chance you get,—that is, when you fish in a weedy water, or one with frogs in the vicinity. (I think the bass take it for a green frog.) It is made thus:—

Body bright emerald green tinsel, tail bright scarlet ibis, wings guinea-fowl, with large spots, dyed bright yellow, hackle yellow, hook No. 1.

I used to have such grand sport with this fly near Massassaga Point, on the Bay of Quinte, that I called it the "Massassaga." If properly made, it is by far the best fly I have tried for bass. In fishing a river or stream one should pay considerable attention to the proper size of the hook to be used. I have caught salmon and grilse on a No. 8 hook, when they would not look at the same fly dressed on a hook a size or two larger. I also attach much importance to the

colour of the body of the fly,—more so, in fact, than I do to the wings or hackle, etc. With the correct colour of body, I have frequently caught fish on a fly when the wings and hackle had almost entirely disappeared, and the fish preferred it, even then, to other and more attractive-looking flies. I have found the following fly, which I call the "Nigado," a very good killer for trout:

Body gray seal's fur, ribbed with oval silver, butt yellow seal's fur, tail pin-tail, hackle gray, with fine guinea fowl over, wings black-and-white, barred snipe, small jungle-cock checks, head light pink or white ostrich. Give it a trial. A fly with the same dressing but with wings of mixed pintail and white feather, is also a good killer; but the one with the barred black-and-white snipe feather is the more attractive fly, I think.

The White Spruce.

The Spruce has been an important timber tree in New Brunswick and Nova Scotia ever since the disappearance of the pine, but farther west the latter has overshadowed it up to the present, and it is only in recent years, with the great expansion of the pulp and paper industry that it has been begun to be realized what a great part the spruce is destined to play in the future history of Canada. The pulp-wood forests in Eastern Canada have been estimated as covering an area forty-four times that of England, or, by another calculation, an area of 219,259,958 acres, while in northern British Columbia there is stated to be a forest of spruce the immensity of which cannot be conceived of by any person who has not seen it. There is in the Dominion a supply in abundance to meet the needs of the world, and it becomes our citizens, as thinking men and Canadians, to take due care that this great source of comfort and prosperity, which we can destroy in a day but cannot re-create in a century, be managed with skill and wisdom, so that not only shall the present need be supplied but the Canada of the future shall enter into an inheritance that shall stand as a monument to the wisdom and foresight of a generation that had sufficient power of imagination to have a vision of what the coming years might be, and strength enough to ensure that it should become a reality.

The spruces and other firs are differentiated from the pines by having their much shorter leaves arranged singly along the branches instead of two or more in a sheath and the spruces have the additional distinguishing feature that the leaves are terete or four-sided. The

White Spruce (*Picea alba* or *Abies alba*) attains a height of 100 feet and is a beautiful tree when growing in the open, its straight branches spreading in rows from the trunk and decreasing in extent from the bottom upward so as to give a pyramidal form to the whole. The foliage is light in color, sometimes approaching to a glaucous white. The branchlets are glabrous, that is, smooth or devoid of hairs, and this is one of the chief distinctions between this and the Black Spruce. The cones are one to two inches in length, longer and slenderer than those of the Black Spruce, and drop from the branches. They are green at first, later changing to a brown or straw color, and the edges of the scales are entire. An examination of the cone is considered necessary to finally determine the species. The leaves, when crushed, have a peculiar feline odor, and for this reason it is not advisable to use this species in the manufacture of spruce beer.

The range of the White Spruce is from Nova Scotia westward to the Rocky Mountains and north indefinitely, it being yet undecided whether this or the Black Spruce has the more northern habitat. The White Spruce shows a preference for the higher and drier situations. It reaches tree-like proportions in about thirty years and is mature in one hundred, but in the Atlantic Provinces the rate may be more rapid. This is the timber tree among the Canadian spruces, and produces a white, clear, easily-worked lumber, a large part of which is exported to Great Britain.

The process by which this tree is turned into pulp and the qualities possessed by it which make it suitable for

this purpose form a subject of much interest. The woody parts of the tree are largely built up of cellular tissue, or woody fibre. A fibre of good length and toughness ensures a strong paper, and a clean, white wood is a requisite for the production of a properly colored pulp. These qualities are found pre-eminently in the wood of the spruce tree. There are, however, other substances, such as rosin, etc., in the tree structure, and the object of the manufacturer is to separate the wood fibre from the incrusting substances. The most simple method adopted is that for the production of mechanical pulp, which simply consists of breaking up the wood by pressure against a grindstone under a stream of water. This is a comparatively cheap process, but it results in the breaking up of the fibre and does not remove the impurities to any extent.

The chemical process, that which results in the production of what is called "cellulose" to distinguish it from mechanical pulp, is much more intricate and expensive, involving an additional output

for boilers, chemicals, etc. The two main chemical agents used are sulphite and caustic soda, and the resultant products are designated as sulphite pulp and soda pulp. The wood is barked, cleaned of knots and imperfections, and, after being cut into chips by a strong revolving knife, is placed in the boiler. By the assistance of heat and the pressure developed in consequence the sulphite is driven into the pores of the wood, dissolving the rosin, and leaving finally the clear white pulp of wood fibre which is drawn off, washed and prepared for shipment by rolling and drying.

According to the figures of the Dominion Statistician the pulp mills of Canada now in operation have a capacity of 387,000 tons a year, of which 204,000 is mechanical pulp, 17,750 soda pulp, and 160,000 sulphite. Their output last year was 264,600 tons. The export of wood pulp in 1901 was valued at \$2,002,120, of which \$982,142 was shipped to Great Britain, \$968,007 to the United States, and \$51,792 to other countries.

The Nepigon.

Information as to the Nepigon seems to be in great demand this spring, and, having had many enquiries, we take this opportunity of giving a description of the river and its fishing. We are indebted to Mr. William McKirdy, the Government Fishery Overseer at Nepigon, for much of that which follows:

The Nepigon has long been termed "the king of trout streams," and as civilization advances, and the older trout streams are practically fished out, we find the Nepigon still holding its own, and producing records which would make any angler envious of the fortunate one who has selected the Nepigon for his outing. Five-pounders are common, and there is a record of one weighing eight pounds two ounces, caught by Eugene Stevenson, of Paterson, N.J.; numbers of doubles are caught, E. P. Williams, of Cleveland, O., with a six-ounce rod, taking one weighing 6½ pounds and another 4¾ pounds, in the aggregate 11¼ pounds. Many other records worthy of

a first place cannot be recorded here, as our purpose is more particularly to give information as to the river, and a few hints on outfit.

The Nepigon is 40 miles long, with numerous lake expansions and surging rapids; its width 300 to 400 feet; water of the purest, clearest kind, and of the coldest temperature; there are nine portages on it, the two longest being 2½ and 1½ miles—the rest are short; it is near these portages the best fishing is to be had.

Nepigon station is on the C.P.R. main line, 65 miles east of Port Arthur, where connections are made with the C.P.R. steamers, Beatty Line, and steamer "Dixon" from Duluth. The train from the west reaches Nepigon at 9.40 a.m., giving ample time to reach the first camping and fishing grounds—12 miles—in good season, provided arrangements have been made for guides, etc. It is absolutely necessary to arrange for guides beforehand, in order to avoid disappoint-



A PRETTY FAIR FISH

A British Columbia salmon of the "Tyee" species, *Onchorhynchus quinnat*,
guaranteed to yield excellent sport on a light rod



READY FOR LUNCHEON

Canadian fishing gives every angler a keen appetite, and a cook who can stand an encore or two is worth his weight in gold



TROUT FISHING IN BRITISH COLUMBIA

Good sport on Shuswap Lake, a few miles from Kamloops

ment and delay, particularly during the months of July and August, when the season is in full blast.

The usual way of "doing" the Nepigon is in parties of two or four. Each canoe (18 feet long) is manned by two Indians, and accommodates two gentlemen and supplies for a ten days' trip. Cost:—

Two canoes, 50c. per day	\$10 00
One head guide, \$2.00 per day	20 00
Three other guides, \$1.50 per day	45 00
Rent of one tent and fly for gentlemen, 50c.	5 00
Rent of one tent for guides, 25c. per day	2 50
Rent of camp outfit (axes, pack-straps, cooking utensils)	7 50
<hr/>	
Making a total of	\$90 00

Added to this will be the cost of supplies, and this will entirely depend on the varied tastes of the party—the supplies for Indians are flour, pork, tea and sugar. As the Nepigon is eminently a fly-fishing stream, parties wishing to enjoy themselves to the fullest extent take one canoe for each, and also a cook, who can be procured at \$2.00 per day; this of course doubles the expense, but to those who can afford it is by far the best way. The cost per day for each varies from \$3.50 to \$7.00, as to the mode adopted. One word as to the guides. These men are Indians and half-breeds who have followed this business for a living for years, and are thoroughly acquainted with all the intricacies of the river, both as to the dangerous parts, and as to the best fishing pools. They are intelligent and desirous of giving satisfaction to their employers, doing all the packing over portages, putting up tents, making comfortable beds, and attending to the cooking—in fact are ever on the alert for their employers' comfort. Much of course depends on the head guide, who should be chosen for his experience and capabilities.

Tourists will find it to their advantage to procure their supplies at Nepigon, as it will avoid customs troubles when coming from foreign parts, also the disappointment of goods being delayed or lost in transit, and as the local outfitters understand what is necessary, goods are

properly packed in suitable packages for storing in canoes and handling on portages. They keep on hand, for rental, tents, canoes, camping outfit for cooking, camp tables and chairs, blankets, etc., and a full line of such supplies as have been selected after ten years' experience in the requirements of visitors, and only the best are kept.

This stream is protected by the Provincial Government and a license fee of \$15 for two weeks, \$20 for three weeks, and \$25 for four weeks per man is charged to visitors whose homes are outside of Canada, Canadians being charged \$5 and \$10 for the same privilege. Permits are procurable from the Fishery Overseer.

Lake Nepigon, the fountain-head, the producer of the brook trout for which this stream is justly famous, is also the home of the whitefish and lake trout, some of the latter having been caught with the rod weighing from thirty to forty pounds. The lake is beautiful, studded with numerous islands offering pleasant camping places, and many tourists who visit the Nepigon spend a time on the lake, which can be safely traversed in the large bark canoes used on the river. The climate there is particularly enjoyable; the delicious coolness of the air, in contrast to sultry congested centres and more southerly localities, has wonderful recuperative powers, and refreshing sleep under warm blankets the lot of all.

The big game of the district consists of moose, caribou and bear, and as the Ontario game laws now permit the shooting of moose from the middle of October to the middle of November each year, it is very probable that many sportsmen will outfit at Nepigon, for a hunt in a region which has been rather strictly preserved for years. Owing to the number of Indian guides to be picked up at Nepigon it will be easy to obtain first class hunters, and that is more than half the battle.

A few names may be given, of fishermen who find it worth their while to revisit the Nepigon season after season: General McNulta and H. N. Higginbotham, of Chicago, Ill.; General Noble, Dabney Carr, Esq., and Dr. Carson, of St. Louis; C. W. Bunn, Esq., and Matt. Clark, Esq., of St. Paul, Minn.; Trenor L. Park, Esq., Dr. Morris and L. E.

Sexton, Esq., of New York; L. C. Van Vleck, Esq., of Toledo, Ohio; C. E. Sampson, Esq., of Boston; Honorable J. W. Cochran, of Ashland, Wis.; Honorable Ben. T. Cable, of Rock Island; John A. Sea, Esq., of Independence,

Miss.; J. C. Hunter, Esq., of Duluth, Wis.; D. E. Thompson, Esq., of Toronto, Ont.; J. W. Hague and F. W. Salisbury, of Pittsburg, Pa.; C. H. Bosworth, Esq., of Peoria, Ill.; Eugene Stevenson, Esq., of Paterson, N.J.

An Unfair Advocate.

In the issue of the 20th March last, *The Farmer's Advocate*, under the caption "A Disappointing Department," attempts a criticism of the Dominion Bureau of Forestry and the Canadian Forestry Association, which organizations it apparently cannot distinguish. It would be well, therefore, for the benefit of the *Advocate* and any others who may be laboring under the same misapprehension, to have it clearly understood that the Canadian Forestry Association is not in any way connected with or under the control of the Dominion Bureau, or Superintendent of Forestry, or any Provincial Department of Forestry, although it has been favored with the support of practically all of them, and owes much, especially, to the assistance which has been given it by the Dominion Government and the Dominion Superintendent of Forestry. It is only a fair statement of the case to say that the Forestry Association owes its origin to Mr. Stewart, the Superintendent, and that the present success is mainly due to the active efforts made by him to advance its interests. Mr. Stewart, in doing so, had probably in mind the advancement of the work of the Bureau over which he presides, but he was broad enough to see that his sympathies should be as wide as the whole Dominion, and that the propagation of a knowledge and interest in tree growth in every Province was not only a matter of interest to him as a Dominion official and a Canadian citizen, but would have its effect in a better understanding of the requirements of the Great West in regard to tree planting and forest management, a matter which is to be considered in Parliament and decided upon by the representatives of the whole Dominion. We venture to say that the future will vindicate the wisdom of those who have formed the Canadian Forestry Associa-

tion, whether from the point of view of the whole Dominion or of that of any part of it in particular.

To understand the line of criticism of *The Advocate*, it is necessary to state that Mr. Stewart, after it was decided by the Government to adopt the co-operative system for assisting settlers in tree planting, which has been fully explained in our columns, held a number of meetings in Manitoba and the North West Territories to explain the proposed scheme. At these meetings he suggested the formation of Forestry Circles in affiliation with the Canadian Forestry Association in order that an opportunity might be given by the meetings of these circles for an exchange of views on tree planting and keeping up the interest in the subject, and also for an expression of their views as organizations, which is always more influential than individual expressions of opinion on matters of policy or public action. Membership in the Dominion Association was considered advisable for these circles, to keep them in touch by the publications of the Association, including the official organ, *ROD AND GUN IN CANADA*, with the work which was being done, while the influence of the Association would be available to support them in any advance or extension which they wished to advocate. But see how *The Advocate* interprets this: "Every member of the central association was supplied with a copy of a monthly sporting magazine, the *ROD AND GUN*, of which very excellent little paper the Forestry Superintendent is editor. It will thus be seen what an excellent scheme the formation of these little forestry circles proved to swell the circulation of *ROD AND GUN*." In reply to such a statement it is only necessary to say that the Forestry Superintendent is not the editor of *ROD AND GUN*, that he has no pecuniary interest

in it directly or indirectly, that he has no desire to increase its circulation except in so far as doing so may be in the interests of forestry, and that the insinuation conveyed in the latter portion of the quotation is utterly false and foundationless.

The article goes on to urge that the headquarters of the Dominion Forestry Bureau should be in the West, but unless the whole management of matters western is to be removed from the capital and the West cut off from the rest of the Dominion and the control of the Dominion parliament altogether, it is much more convenient for all governmental purposes that the Superintendent of Forestry, who would have to be at Ottawa the greater part of the time of the session of Parliament, no matter where his headquarters were located, should have the records of his work where they would be most conveniently available when called for by Parliament. The attempt to administer Dominion lands from Winnipeg resulted only in duplication of work and delays which made necessary the removal of the Commissioner's office to Ottawa. Besides it should be remembered that the Dominion Forestry Bureau has the protection and management of the great northern forests and those of the Rocky Mountains and the railway belt in British Columbia, which for all practical purposes are as far distant from Winnipeg, which The Advocate evidently means by the West, as they are from Ottawa.

The Advocate also complains because the carrying out of the project was not placed in the hands of thoroughly capable western men. We venture to say that The Advocate cannot find any more capable men, either western or eastern, for this particular work than those who have charge of it. To Mr. Stewart belongs the credit of originating and carrying through to so great a degree of success in so short a time the co-operative scheme, while his knowledge of timber matters has been gained by many years of practical experience. Mr. Ross, the assistant superintendent, was employed for some time at the Experimental Farm at Indian Head, where some of the most successful experiments at tree planting in the West have been carried out, and the fact that he after-

wards took a special scientific course is not likely to have decreased his capability. Mr. A. D. Stevenson, the agent for Manitoba, is known widely as one of the most practically successful tree growers in the West.

A criticism of the alleged inability of the Bureau of Forestry to supply sufficient tree seeds of the most desirable varieties—a failure which, if it were the case, might easily be excused in the inception of a new and large scheme—gives occasion for statements on the tree question which hardly show that The Advocate has a very thorough grasp of the subject. In enumerating the most desirable trees, it begins and closes the list with the native maple. Now, while this maple is a hardy tree of quick growth, and therefore a most desirable one for starting with, it can hardly be seriously contended that operations should be confined to it, while in Southern Alberta it is stated by some who have experimented most extensively that it will not succeed at all, either on account of the Chinook winds or the altitude. The wood of the native maple is of very little use and it is only for shelter purposes that this tree is valuable. The Dakota cottonwood, which might just as well be called the Manitoba cottonwood or the native cottonwood, as it is as much a native as the maple, has been a success at the Indian Head farm and in the territories generally, and, if planted on suitable land, there need be no fear as to its success. It grows quickly and the wood is valuable. The ash, which also comes in for condemnation as a slow grower, has qualities in its wood that will be compensation for slow growth, and as this tree is also a native of Manitoba it should be grown with success. There are other trees such as the elm, oak, spruce, tamarack, etc., that are natives of Manitoba and it is to be hoped that while for the first years only the most easily available and successful trees are used, as opportunity and resources develop the number of species used for woodlots and shelter belts may be increased rather than diminished, so long as those that are merely experimental are not employed.

The Dominion Forestry Bureau will probably welcome criticism that will be helpful to the objects it has in view, but

the article in *The Advocate* makes no suggestion of any value. It is strong, and suggestive neither in fact nor in argument, and contains such utterly gratuitous insinuations as would destroy the value of a much abler presentation of its case.

We opine, however, that the attack was primarily intended to be directed against the Canadian Forestry Association, as the opinion is apparently held that the return for membership in the Association is not sufficient to compensate for the fee asked. The members receive the official organ, *ROD AND GUN*, and the Annual Report, and such other

literature as may be from time to time issued by the Association or the Forestry Bureau. While the field to be covered is extensive the facilities are certainly inadequate to accomplish all that is desired by the Association, but the work in which it is engaged is one of such great national importance that it deserves the support of every patriotic Canadian even if it should be at some slight sacrifice, and even if some may feel that their needs are not as yet being fully met. We will be glad, however, of any suggestion that will aid in making their connection with the Association more helpful and useful to our members in the West.

The Volume of Standing Timber.

BY A. KNECHTEL, FORESTER, N.Y.S.F.F. AND G.C.

A few words in regard to form factors are necessary for a clear understanding of the methods described in this paper.

The term "form factor" means the ratio between the volume of a tree and that of a cylinder having the same base and height as the tree. Let *A* be the cross area of the base of the tree, *B* its height, *F* the form factor and *V* the volume; then:

$$\text{Volume of cylinder} = A \times H$$

$$\text{Volume of tree } V = A \times H \times F$$

$$\text{Form factor.. } F = A \times H$$

The volume of the stem of a tree without the branches is less than that of the corresponding cylinder; hence, the form factor for the stem alone is less than 1. If the branches are added, the form factor is sometimes greater than 1, especially when the tree is young.

Form factors may be:

1. Stem form factors, which refer only to the volume of the stem above ground.

2. Tree form factors, which refer to the volume of the stem and branches, excluding the root wood.

3. Timber form factors which exclude all material except those parts that make timber, whether stem or branches.

The diameter is measured at breast height of an ordinary man, about 4 ft. 3 in. The height of the ideal cylinder is equal to the height of the tree. Since

the measurements are taken at a constant height, the form factors of two trees of the same shape but differing in height cannot be the same. Therefore, in using form factors for calculating the volume of trees, the height of the trees must be taken into consideration.

European tables based upon the measurements of numerous felled trees have been prepared, which give the form factors for different species, heights and ages. The following table shows the form factors for four species:—

Height or Length Feet	Timber only, down to 3 in. diameter				Whole tree, exclusive of root wood			
	Scotch Pine	Spruce	Silver Fir	Beech	Scotch Pine	Spruce	Silver Fir	Beech
20	.14	.18	.27	.13	.83	.88	.83	.63
30	.32	.31	.38	.21	.68	.77	.77	.62
40	.45	.41	.51	.30	.62	.69	.68	.62
50	.48	.47	.53	.40	.57	.64	.65	.59
60	.47	.48	.53	.45	.53	.61	.63	.57
70	.46	.49	.52	.47	.51	.59	.60	.56
80	.46	.49	.52	.48	.50	.57	.59	.56
90	.45	.48	.50	.50	.50	.55	.56	.57
100	.45	.47	.51	.51	.49	.53	.55	.58
110	.44	.46	.52	.52	.49	.51	.52	.59
120	.43	.44	.52	.52	.48	.49	.51	.60

Tables of form factors give averages of numerous measurements, and are therefore not reliable for calculating the vol-

ume of a single tree. Tables are not yet constructed for the American species, excepting the white pine, but in a general way it may be said that the factors of shape run about as follows:—

Diameter in inches	Hardwoods	Softwoods
12	0.55	0.50
14	0.54	0.50
16	0.52	0.49
18	0.50	0.49
20	0.49	0.48
22	0.48	0.48
24	0.48	0.47

Factors of shape for any species will differ as the trees are grown under different conditions of soil, light, etc. A white pine tree grown in the open will have its stem nearly conical, while one grown in the dense forest will more nearly approach the cylinder.

The table below gives the form factors for the white pine when grown in a moderately dense forest. The table is taken from bulletin No. 20, U. S. Department of Agriculture, Division of Forestry, Washington, D.C.

Diameter at breast height	Corresponding factors of shape	Diameter at breast height	Corresponding factors of shape	Diameter at breast height	Corresponding factors of shape	Diameter at breast height	Corresponding factors of shape
6	0.51	17	0.46	28	0.42	39	0.40
7	0.50	18	0.45	29	0.41	40	
8	0.50	19	0.44	30		41	
9	0.49	20	0.44	31		42	
10	0.49	21	0.43	32		43	0.39
11	0.48	22	0.43	33	44		
12	0.48	23	0.42	34	45		
13	0.48	24	0.42	35	46		
14	0.47	25	0.42	36	0.40		
15	0.47	26	0.42	37			
16	0.46	27	0.42	38			

The Indian's Spring.

BY C. C. FARR.

The Indian name for spring is "Mi-no-ka-mi," "Mi-no" good, "Kami" an affix implying water, practically "open water." After months of ice and snow the wintry bonds are loosened, and once more navigation is possible, hence "Mino Kami." The very word implies the joyousness of spring and release from bondage. It is the season of full creeks and brimming rivers, of warmth and comfort, a joy to every animal. The spring birds fill the air with song and nature lives again.

The Indian is akin to the aquatic, and rejoices in the new conditions. He hangs his snowshoes upon a tree, or in his abandoned winter camp, where he can find them when he needs them again, and, like the other animals whose beloved element is water, he sallies forth to hunt his daily bread. During the warm days of April he has fashioned from his stock of bark (a stock laid in nine months ago) a new canoe, and thus prepared he sallies forth.

The muskrats are calling to their mates. He imitates their call, and calls

them to their death. It is a simple cry, but unwritable, a language only learnt by experience. I have seen not less than half a dozen muskrats swimming round and following the canoe, attracted by the voice of my Indian companion, who was perfect in the art.

The beaver, too, is often thus deluded and falls an easy prey to the ready gun. It is the pairing season, and many a poor beast is cajoled to its death through love. The Indian cultivates the art from childhood. The imitation of the various calls of animals is the A B C of Indian knowledge, and is the essential qualification of a good hunter. The very birds are thus cajoled, the duck, the loon and even the owl. The partridge drums his whereabouts, and is sacrificed for its obtrusiveness.

There is no fear of famine in the spring, for meat is plentiful, and, failing meat, the pike are in the bushes, so intent upon their own functions that a blow with a paddle will provide a dinner. It is indeed "mino kami" and a relief from the hardships of winter.

The creeks are crowded with suckers, and where the suckers are there are the bears, so intent upon breaking their long winter's fast with a fish diet that they become unsuspecting, and if the wind is right, unconscious of the approach of their deadly enemy. When the bear first emerges from its winter's den it feeds on roots, and, even at a pinch, on twigs. A dead, half decayed moose to it is a bonanza, and often the Indian will kill a few moose in the winter, leaving their carcasses where they fall as bait for the bears. The sap is also rising in the balsam trees and the hungry bear in spring will strip the bark for sake of the "so boen," the aromatic, sappy underbark of the balsam. The large black ants that have survived the winter in rotten trees are also to the bear a delicacy. And when the Indian goes forth to find a place to set his trap or deadfall for a bear he watches for such signs as these, the stripped balsam stem and overturned rotten log, knowing full well the habits of the bear, for the bear is conservative. It very seldom changes "routes," even when one has been killed another takes its "beat."

There must be something about the road it travels that is good for bears, for the same deadfall or spot for trap will often last an Indian his lifetime, and be used from generation to generation. There is an affinity between the bear and the Indian. The latter always looks upon the bear as his friend, and a good hunter will always shake hands with a dead bear saying "Meeguetch shoomis nias ka mijian." "Thank you, old man, for the meat you have given me." This is etiquette and must be observed by those who would kill more. It is as binding as the hanging up of the skull upon a tree, which is also the expression of regard for a friend. But I have left the Indian in his canoe with his muskrats, his beaver and perchance an otter swimming around him. The creeks are flooded over their banks and his canoe carries him where in summer he would be obliged to walk, through the alder, through the tangled growth of the primeval swamp, and down the foaming rapids

of the creek where no canoe could pass in summer time. It is indeed mino kami.

It is likely that during the winter he may have set a line of traps for martin. He probably has not visited them for nearly a month and must now pick them up or they will become useless. He can bring them to his camp in his canoe and so steps ashore when the creek intercepts his winter's trail. A half decayed whiskey-jack occupied the first trap, and further on the carcass of a martin, the flesh so rotten that the hair pulls out like the bristles of a scalded pig.

Perchance a march mad rabbit has poked his inquisitive nose into the cabin, left a bunch of hair, and a foot, having been devoured by fisher, owl or martin. And thus he picks up his traps, not forgetting to set a dead-fall for a bear, near by the carcass of the moose, which he had wounded, during the hot suns of April, when no man could walk upon the melting snows. He throws them (the traps) into the canoe, for they are precious. He knows that in the fall he will need them for the mink catch.

His family are on the watch for him. They expect fresh meat and are not disappointed. Muskrats are there in the canoe in abundance. Also a beaver and ducks of various kinds. He, the lordly man, uncommunicative, and unemotional runs his canoe ashore and stalks up majestically, leaving the women and children crowding round the canoe and seizing the slaughtered animals with vociferous energy.

To the women belongs the task of skinning, plucking, cleaning and cooking the meat, fish, flesh or fowl, that her lord and master brings. He, happy man, has only to sit and smoke in contemplative silence while the work goes on. And then the meal, the welcome change of diet, well earned and well enjoyed. The grateful warmth of a cheerful fire counteracts the chill of the evening and induces sleep. The piping frogs from the neighboring pools close by sing lullabies. It is good to be alive. The spring has come. It is indeed mino kami.



The Montreal Dog Show.

The international bench show held at the Arena, May 15-17, under the auspices of Montreal Canine Association, was a much greater success than even the most optimistic among its promoters anticipated. The number of dogs benched was nearly 100 in excess of the show held last year, there being 471 in all, and the number of duplications in the classes swelled the total entry to something over 1,100. Although there was some confusion and delay in getting the dogs benched, and an absence of straw and other accessories for their comfort on the morning of the first day, by afternoon everything was running smoothly, and by the second day the exhibitors had quite forgotten all their troubles and were only concerned as to the verdict on their dogs. Favored with beautiful weather, there was also a record attendance, the public showing up exceptionally strong the second and third days. Among the visitors were Mr. Vredenburg, secretary of the American Kennel Club, and Mr. Donovan, of the C.K.C. Both gentlemen expressed themselves as being well pleased with the show and the numbers and quality benched.

Mr. James Mortimer, of Hempstead, L.I., judged all breeds, with the exception of toys, which were taken in hand by Mrs. John A. Pitt, of Montreal, a lady who has ample knowledge of her subjects from her experience both as breeder and exhibitor. It was the lady's first experience in the judging ring, but she acquitted herself admirably and gave entire satisfaction. On concluding her classes Mrs. Pitt was presented with a beautiful bouquet of red and white Beauty roses from the committee, by the president, Mr. D. W. Ogilvie. The gift was conveyed in a neat little speech appreciative of the lady's services.

It is almost needless to say that Mr. Mortimer had his hands full for the better part of two days, as he closely examined every animal brought into the ring, and gave every opportunity to the handler to show his dog to the best advantage. Of course, he did not satisfy every one—it was not expected that he

would—but there was very little grumbling until collies were reached, and here, we may say, some dissatisfaction was expressed. Montreal is a hotbed for this breed, and almost every owner of a dog thinks he knows all about them, and it was, therefore, quite natural that there should be considerable variance of opinion over the selections made, but there was really no grounds for some of the remarks made by a few of the hot-headed ones. Mr. Mortimer judged conscientiously throughout, and if he erred it was an error of judgment only. However, it is only right to say that some men present who have bred collies all their lives, who know every part of them and who have kept pace with the modern standard, were very much disappointed, and pretty openly expressed their dissatisfaction. At Mr. Mortimer's other decisions there was nothing to cavil, and we believe they were accepted with the best of grace and gave general satisfaction.

It is not our purpose, neither is it within the scope of such a magazine as *ROD AND GUN*, to give a detailed criticism of the dogs. Suffice it to say that they were with few exceptions of a high standard of quality and of very even description, which made it all the more difficult for the judge. The absence of some breeds was a distinct disappointment to all lovers of the canine race. For instance, nothing was to be seen of the good old English mastiff, a dog which for courage and fidelity to his master's interests, has no equal. The neglect of the mastiff for a number of years past is bearing fruit, and there is now seldom to be seen, either at a bench show or elsewhere, any really good specimens of this noble and once highly esteemed animal. The English retriever is also another dog seldom seen at bench shows in this country, yet a more desirable companion, or a more useful, could scarcely be desired. It possesses in a marked degree the qualities which call forth the admiration of man—intelligence, docility, beauty—and it is greatly to be regretted that he is not

more appreciated at the present day. There was none of him at the show. Bloodhounds, which some years ago were quite common in this locality, were absent. Great Danes, deerhounds, and greyhounds were disappointingly few and below the average in quality. But if all these breeds were absent, or few in number, then was a gratifying increase in others, and especially was this the case in field and sporting dogs. There never was such an exhibit here of English and Irish setters and spaniels, fox terriers,

Irish terriers and black and tans, collies (in quality), St. Bernards, bull dogs, bull terriers, and some other breeds, which made the show all the more interesting perhaps to the average visitor. City people naturally favor the small dog because of the limited accommodation necessary for his keeping, and to these the terrier race benches was a point of attraction, yet the great St. Bernards and handsome coated collies had a large number of admirers, especially among the fair sex.

The Choosing of a Puppy.

A litter of puppies in the early weeks of their existence is an interesting subject of study to the student of animal family life, from the different characteristics and individualities in the group. Although they are "all born twins" and are presumed to start level in the race of life, it is not long before each individuality asserts itself, and we have, as in the human family, the bully, the rogue, and the craven, who is continually sat upon by the others, deprived of his fair share of the means of existence, and bitten and mauled till life becomes a burden. Unless rescued by an observant master or mistress, in time he dwindles and dies, or at the best grows up into a "mongrel," despised of all his brothers and sisters, and finally becomes the unfortunate target for the small boy to vent his "fun" upon. To every sympathetic person, and especially to children, the differences in puppies—their good and bad qualities, growth and development—are intensely interesting features to watch, and many useful lessons may be imbibed from the process. Even at the most immature period of life there are plenty of wiseacres who profess to a full knowledge of what a puppy will arrive at, much in the same way that a fond mother will predict for her first born that he will "wag his heid in a poopit" or occupy some equally important position in the public eye; yet their predictions only too frequently come to grief. There is no sure method of selecting a puppy, no more than there is in predicting the future of a child,

although there are many "infallible" ways of doing so. The wiseacre will take the fat, sleek, round-bellied little animals and put them on a bench to sprawl and whimper, the anxious mother meanwhile looking on proud of the notice taken of her progeny, yet filled with nervous dread of something going to happen, and only appeased when the examination is over. The markings of one little mite attracts the eye of the "fancier" and he waxes eloquent on the future prospects of this one being a grand dog or a promising female, but it is only talk, for until several months have passed over his head and the soft, pliable bone has commenced to "set," and the many ailments incidental to puppyhood have been successfully avoided or fought, there is no telling what a puppy will turn out at maturity. One safe way of getting at a good dog is to make certain that the sire and dam are sound, of good blood, that he is well housed in an airy place, free from damp, and that he is carefully, and even generously fed, for at least some time, on blood-enriching, muscle-forming food.

Of the many old and infallible rules which governed the selection of a puppy are one or two which are worth preserving, not that we believe they have any special merit, but because they were almost universally believed in and acted upon by our forefathers, who, some of the litter having to be sacrificed, wanted to know which. The method was to place the puppies in a row on the ground, a couple of feet from the mother,



A NICE "BASKET" OF TROUT

Two rods took these forty fish on Cheekamus Creek, near Vancouver. Total weight, 203 pounds.



IN THE LUMBER WOODS

This is a typical scene in the lumber woods of the Upper Ottawa. These "Shanties" are well suited to the needs of the hardy fellows who pass much of their lives in the bush, chopping logs.

and let them wriggle to her; then avoid choosing the last to reach the parental fount. "Stonehenge," one of the old writers on canine matters, in speaking of the selection of greyhound puppies, says: "Let the puppies remain with their dam for a week. Then hold each up by the tail; the best ones will bring their legs well over their head and you can see which possesses length and the promise of good ribs." An old friend of ours puts it tersely thus: "The last to come should be the first to go," and many well-known fanciers act upon and believe in this modified Malthusian doctrine which condemns the weakest, arguing that it is for the benefit of the mother as well as in the interest of the remainder.

When puppies begin to open their eyes they also begin to crawl, and at this stage is the most interesting period of their lives, for whatever they are going to turn out afterwards—long or short, rough or smooth—they are almost exactly alike in face, with ridiculously short noses and weak, bleary little eyes, strongly indented with "crow's feet" and marks down each side of their noses as if their heads had been originally fastened on with wire, like champagne corks, making them look the oddest caricatures in the world. When they begin to walk their bodies are round and fat, looking too heavy for their short understandings to carry, but gradually, if their feet look large and out of place, they assume better proportions and with plenty of space they soon romp around "as lively as kittens."

Take a litter of setter puppies at this stage, start them fair on their legs and see what they will do. One writer says: "It will be noticed that they walk with their noses close to the ground, like hippopotami, but with their tails up or stuck out straight, and that when they think they are going to fall they put their noses on the ground to help to balance them. At this time, too, they leave off squealing and try to bark, which they are inordinately proud of, and soon learn to do in a very fierce and forbidding manner. Being too weak to stand the shock of barking, a single bark is as much as they can usually manage at a

time, and if they do this when walking it upsets their balance and they fall over. Sagacious puppies soon learn this and sit down to bark, getting up again to walk, and then sitting down for another bark. When once the puppies are able to make excursions on their own account they will, if allowed the full liberty which they deserve, become a daily and hourly excitement in any quiet family."

Small puppies early develop the dog instinct for burying food, and any old bones they pick up is instinctively carried to the nearest cache and half covered over. They are evidently afraid to lose sight of it altogether, and are forgetful of the fact that their brothers and sisters have also eyes, some sense of smell and a penchant for exploration on their own account. This is suggestive to naturalists, who see in it the survival of the instinct which makes the young wolf, or wild ancestor, begin to pick up a living and carry what it catches or what its mother gives it to its den. Puppies retain any amount of these interesting survivals, and for some weeks they regard collecting as the sole object in life, with this curious condition that they think nothing worth taking and keeping unless it comes from the house. They sit on the watch at the doors, or keep an eye from a distance on unguarded entrances, and then trickle in like water from a partly opened sluice, emerging soon after with an old boot, a hat or a door mat, which they proceed to tear up as small as possible; with the ulterior object of burying. The main object, however, is to tear, and when this is accomplished they look for appreciation of their efforts. Beating does not mend matters; the first opportunity is taken advantage of again—this period of wanton destruction must run its course. Greyhound puppies have the reputation of being the most mischievous of the mischievous brotherhood of puppies. They inherit this to some extent, for a large percentage of greyhounds when grown up are inveterate thieves and chicken killers, not from any particular vice, but because "it is their nature to," and they have not the moral sense which other dogs possess.

Our Medicine Bag.

With the present number *ROD AND GUN IN CANADA* emerges from the larval stage and enters into the sub-imago condition. Presently we hope to become an imago, with the full use of our wings and an ambition that will carry us far. These may seem boastful words, but they are not really so, because when those who have guided the destinies of this little magazine look backward and reflect upon the disheartening conditions that once beset them, the difficulties of the future promise to be absolutely trivial by comparison.

Within the short space of eighteen months this magazine has trebled in circulation, and the kind words we constantly receive from brother sportsmen assure us that the support *ROD AND GUN IN CANADA* has acquired has been won on its merits, and is not likely to fail us.

Of the making of sporting periodicals there is no end, and for a magazine to succeed it must have a field, and it must be able to fill that field in a satisfactory manner. In our judgment, and the success of the venture has proved we were not mistaken, a magazine was required which should deal with Canadian field sports in an absolutely honest way, and that the articles should be written by men who knew what they were writing about, and had not merely acquired their knowledge of the wild things of the woods out of their own inner consciousness, or from the pages of others. Keeping these aims steadily before us, we have been able to publish matter which has been deemed so valuable by the librarians of the large scientific libraries of the world, that they have in most cases become subscribers for *ROD AND GUN IN CANADA*.

We hope during the coming year to secure a number of well written articles, dealing with little known regions in Canada, and we are sure that the fourth volume of our magazine will be better than any of its predecessors.

Our readers will no doubt enjoy the very able article which we publish in the present number by Mr. George D. Cur-

tiss, dealing with the Kootenay River. British Columbia is a most charming sporting region, and we esteem ourselves fortunate to be able to secure the valuable contribution that Mr. Curtiss has favored us with. We have also other manuscripts dealing with fishing and shooting in that province, which will appear from time to time.

The Chief Game Commissioner for New Brunswick makes the following observation in his report :

"As the law now stands any person can come into the Province and trap without a licence, and many of these so-called trappers come here with the intention of killing any animal whose skin they can sell from one dollar. Experience has proven that they will kill whatever they see either for food or for its pelt, and they are not particular where they build fires nor do they look to it that the fires are always extinguished before leaving them. Such methods render these trappers a source of danger to the forests of the country besides rendering game protection more difficult. The majority of the trappers come in from Quebec, a few from Maine, and some have been known to come from Nova Scotia, and to remain in our woods for many months."

The Report of the Commissioner of Lands, Forests and Fisheries for the Province of Quebec for the year ending 30th June, 1901, shows a revenue from Woods and Forests of \$1,234,072.05. In June, 1901, a sale of timber limits in different parts of the Province was held, when an area of 4,634 square miles was disposed of at an average rate of \$81.12 per mile, or a total of \$375,947.19. The reduction in the dues on pulpwood for export from \$1.90 to 65c. per cord is stated to have been made because at the higher figure the dues were found in many cases excessive or even prohibitive and very difficult to collect, especially in the case of wood cut by settlers when clearing their lots. Another reason given for the change is that the merchants who shipped to the United States showed

that they spent as much if not more in that Province than those engaged in the sawmill industry, inasmuch as they were obliged to bark their logs and handle them in other ways to prepare them for export. Another change in the regulations is that permitting the cutting of black spruce, balsam, poplar, hemlock and other small trees intended for pulp manufacture down to a diameter of seven inches. It is stated that the reports of the experienced inspectors and land surveyors were to the effect that the black spruce trees suitable for pulp making seldom attain a diameter of eleven inches on the stump, and as, in certain regions such as Lake St. John, the Saguenay and the North Shore of the Gulf of St. Lawrence, three-fourths of the forest consist of trees of this kind, it was becoming impossible to dispose of them by continuing to prohibit the cutting of trees under eleven inches in diameter.

Beginning with the May number, The Photographic Times and Anthony's Photographic Bulletin took the form of one publication with the name of the Photographic Times-Bulletin. While this move was not unexpected since the consolidation of the stock-houses of E. & H. T. Anthony & Co. and Scovil & Adams, one cannot but feel that in the passing of the Bulletin, a certain familiar face in the field of photography, has been lost, never to be replaced. Editor W. I. Scandlin, of the Bulletin, retires on an honorable and well won record and Editor Walter E. Woodbury, formerly of the Times, will be at the helm to give a guiding hand to the new publication.

A meeting of the Board of Directors of the Canadian Forestry Association was held at Ottawa on the 4th April. Outside of routine business the most important subject taken up was the resolution in regard to timber lands passed at the annual meeting, and the secretary was instructed to communicate with the different governments and lumbermen's associations in order that united steps might be taken to have the question dealt with. The resolution recites the loss to the forests occasioned by fire, and urges that steps be taken to so arrange for the

setting apart of lands fit only for timber purposes and the prevention of settlement therein as a necessary step for the protection of the forests.

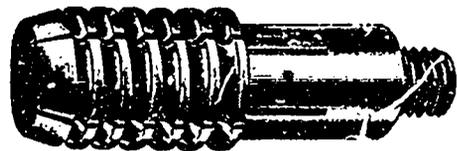
There has been introduced into the New Brunswick Legislature a Bill to establish a Forest Preservation and Provincial Park. The Bill proposes to give authority to the Lieutenant-Governor-in-Council to withdraw from sale, settlement and occupancy a tract of land in some portion of the Province covered with forest not exceeding 900 square miles in extent. The intention is to place this tract, which has not yet been selected, directly under the control of the Crown Lands Department, to be held as a forest reservation, fish and game pre-

The J. Stevens Arms & Tool Co., of Chicopee Falls, Mass., are offering to the



Insert at Breech.

sportsman a new gun cleaner which more exactly fills the want of a gunner than anything yet devised. It applies the patch with a firm and hard rubbing contact to every portion of the barrel's interior, and adjusts itself to the smaller as well as the larger portion of the bore. It supercedes the indiscriminate use of scraping and scratching devices, thereby preventing any injury to the finished surface of the bore arising from their use. Being made of soft brass, it is indestructible and never requires cleaning. It is made for 10, 12 and 16 gauge guns, and sells



Actual size for 12 gauge.

including a cotton patch and one of fine brass wire cloth, for 50 cents. It is a practical outfit, and fits all standard rods.

serve, health resort and pleasure ground. Provision will be made for the protection of fish and game and for fire prevention. As to the timber within the park the policy apparently is to permit of its being cut either under the present regulations, particularly as to lands already under license, or under such special regulations as may be adopted by the Lieutenant-Governor-in-Council for the government and maintenance of the park.



The extension of the Rocky Mountains National Park at Banff has been decided upon at the session of the Dominion Parliament. This will add to the beauty and usefulness of the park and make the administration more convenient.



The majority of people who keep dogs will agree that, to find a name that is at once pretty, novel and appropriate, is not the least difficulty they have to contend with. If there are any who think otherwise, let them just glance over the pages of any dog show catalogue and find out for themselves how few there are which, in their estimation, hit the mark, or fall short of suggestiveness as to physical or other characteristics of a breed. Indeed, in some instances, the name bestowed makes the animal look positively ridiculous to anyone having the faintest idea of the fitness of things, while the poor animal itself appears to shrink under the load which it is condemned to carry through life. "Nero" is a very suitable name for a mastiff, a Great Dane, or a Newfoundland, but absurdity is apparent if it is attached to a fox terrier; while "Happy Hooligan" would be a happy designation for an Irish terrier it utterly lacks significance if applied to the one of Scottish origin. Like actors and actresses who have one name for the billboards and another for private life, show dogs have also two names, but how much better would it be if one name could be found equally fitting for both. The man who can invent such a name for his dog will experience that thrill of pleasure which accompanies the birth of a new idea in the mind of every inventor. Many of the names given to dogs when first domesticated, still hold good, and to-day we have our "Rovers," "Trustys," "Trays" and "Fidos" as

of yore, but there is wealth in store for the man who will give us a compilation of names combining originality with fitness.

The officials of the Montreal Canine Association are being congratulated on every hand over the success of their last venture.

George Raper, probably the greatest authority in England on fox terriers, is under engagement to judge at Toronto in September.

"Oor auld friend" Joseph Reid captured the prize offered to the exhibitor having the greatest number of dogs at the show, and "Auchcairnie" Smith the one hung up for handlers.

The question now being debated in local canine circles is: "Ribbon shows, with a full classification and 50c. entry fee, vs. Good prize money, a limited classification and \$2.00 entry."

Charles Thomson has sold his nice smooth fox terrier bitch, Elmwood Electra, for a good figure.

To propagate Britain's breed—the bulldog—the Bulldog Club of Canada was formed here Saturday evening, 17th May. The officers elected were: Mr. D. W. Ogilvie, president; Mr. H. B. Donovan, first vice; Mr. J. P. Roche, second vice; Mr. W. H. Tallis, Grand Mère, Que., secretary-treasurer. The foregoing will compose the executive along with Messrs. H. L. Thomas, Montreal, and F. W. Jacobi, Toronto. The C. K. C. will donate a challenge cup, and cups were also offered and accepted from Messrs. Tallis, Thomas, Roche and Ogilvie, and Mr. Donovan also guaranteed one from John G. Kent, Esq., president of the C. K. C. There are many admirers of this noble breed throughout Canada who should welcome this opportunity of advancing its interests by becoming members of the club.

The well-known fox terrier Bank Note will no longer be shown under the ægis of Mr. Ogilvie, he having disposed of him, along with his good little bitch Flashlight, to Mr. Geo. Thomas. The fancy are speculating as to whether Mr. Ogilvie is losing his interest in fox terriers or has something up his sleeve which he considers good enough to take the place of his famous dog.

Harry Lacy thinks he has the laugh on the owner of a black and tan dog judged by him last year.

Mr. Webber, of the Longueuil Cocker Kennels, has bought from "Pop" Dunn, of Woodstock, the red cocker dog Waverley Prince and the black bitch Greta.

It would seem that prick ears on a collie do not disqualify. The winner in the puppy class was so astonished at the award that his ears stood as straight as a donkey's the second time he was brought into the ring.

The Montreal Hunt has made a great addition to its kennels, ten couples being landed here from the S. S. Rosarian on Saturday, 17th May. They were personally selected by the huntsman, Mr. Wm. Nichols, in England, and in size and quality are a remarkably even lot.

Mr. H. B. Donovan, the popular secretary of the C. K. C. and editor of the Kennel Gazette, spent three or four days here taking in the show and cultivating the acquaintance of the fancy in this neighborhood. He was geniality itself and made a good impression on the boys.

Mr. J. A. Laurin has just imported from England seven Airedale bitches of prime quality. One of them is in whelp to Masterpiece.



The following appeal needs, surely, no introduction or excuse:

TO THE EDITOR OF ROD AND GUN:

As your paper moulds public opinion I request that you will publish, with editorial comment, the enclosed leaflet of the National Committee of Audubon Societies.

When published, a marked copy of your paper will be highly appreciated.

Very respectfully yours,

WILLIAM BUTCHER, Chairman.

525 Manhattan Ave., New York.

"Many sportsmen, when on hunting trips, are in the habit of shooting birds that can in no sense be considered game 'simply for practice.' It is undoubtedly a fact that large numbers of gulls, terns, swallows, swifts, night-hawks, which in some sections of the country are known as bull-bats, and birds of like character, are destroyed every year.

"Without considering the æsthetic side of the question, such birds should not be killed, from an economic standpoint; they are of great value to the public, and to wantonly destroy them 'for practice' in shooting is a habit that no true sportsmen will engage in; let us hope that it is the result of thoughtlessness.

"This appeal is made to the sportsmen of the country, to ask them to consider the great value of the non-game birds, and it is believed that they will not only abstain from killing such birds, but will preach the gospel of protection at all times."



Our readers will not receive their copy of this month's issue of ROD AND GUN IN CANADA in as good season as has been generally the case, but we feel sure that they will extend to us their forgiveness, seeing that the make-up is an entirely new one, and the delays were unavoidable. We hope, hereafter, that ROD AND GUN will be issued not later than the first of each month.

We are happy to announce that we have made arrangements to obtain some exhaustive and accurate information as to British Columbia's sporting attractions, and we shall, from time to time, publish interesting and trustworthy stories as to the sport by flood and field which will

Riflemen and users in general of .22 short and .22 long rimfire cartridges loaded with smokeless powder have been looking a long time for a cartridge of this class which for accuracy and reliability would be equal to similar cartridges loaded with black powder. Winchester rimfire cartridges loaded with smokeless powder have always shot well, but, after much experimenting and many tests, we have hit upon a plan to make them shoot far better than any other similar cartridges upon the market. These new cartridges are loaded with Winchester greaseless bullets for .22 short and .22 long rimfire smokeless powder cartridges. By doing away with the lubrication on the bullet, one of the prime causes of the deterioration of the powder is removed, and the accuracy, reliability and keeping qualities of the cartridges greatly increased. It also prevents fouling of the barrel; and the cartridges are much cleaner to handle. Winchester greaseless bullets are made of a special alloy, known only by us, which gives exceedingly satisfactory results. A trial of our .22 short or .22 long rimfire smokeless powder cartridges will convince you of the value of Winchester greaseless bullets. For sale by all dealers. Winchester Repeating Arms Co., New Haven, Conn., U.S.A.

have been sent us by our friends in that province. British Columbia is so rich in scenery, in climate and in sport, that exaggeration would be as useless and as foolish as an attempt at gilding refined gold. Whether the sportsman be a votary of the rifle or of the rod, he will find abundant occupation in many parts of British Columbia.



Few persons seem to know much about the sporting resources of the country between Port Arthur and the Manitoban boundary, so the following letter should interest our readers:

Hymers, via Murillo,
May 9th, 1902.

DEAR SIR,—

In reply to yours of April 28th I will try and give you a good account of our country. The country through which we hunt comprises the townships of O'Connor, Marks, Carmel and some other unsurveyed country adjoining. These townships are situated about twenty-five miles south-west of Port Arthur, on the line of the P. A. D. & W. Ry., and are thus easily reached. The country is rather rolling, with mountains here and there. It is well watered, there being any number of lakes and creeks that abound with trout. Game is also very plentiful, moose and caribou especially, also a few red deer, and the smaller game, such as partridge, pin-tailed grouse, rabbits and ducks, are very plentiful, bears are quite frequently killed. The country is mostly burnt over, enabling the hunter to see long distances, and he can generally find ample cover under which to approach his game. You asked for names of some other guides, I will have much pleasure in giving you the names of four others besides myself. Ed. (Scottie) Parker, Stanley P.O., via Murillo, who is well known to the sporting public, as he was a guide for years around Jack Fish; T. Chambers, Hymers P.O., via Murillo; J. Chambers, Hymers; J. Wells, Hymers; and your humble servant.

Yours truly,
R. H. CLARKE.



We quote the following from the Annual Report of the Dominion Superintendent of Forestry:—

“There is no work at present demanding greater attention than that of selecting and setting apart certain areas of the country for the production of timber. The older settled parts of eastern North America are now paying the bitter penalty for the ruthless destruction of the forests at the sources of their rivers and streams. Each spring is to many localities a season of anxiety, and never one passes without leaving behind its record of destruction of life and property.

And this is not all, for on in the summer the very element that was wasted a few months before is sadly wanting. The springs and creeks become dry and soon the deep wells also fail, and this is due directly to the denudation of the natural reservoirs by the destruction of the forest which once covered them. Our aim should be to work in harmony with and not in opposition to nature. She does not ask for the forest growth on the fertile and productive valleys, but only on the rough mountain tops and hillsides where the altitude is frequently too great for the growth of cereals, or where the land is rough and difficult to work. There she asks us to spare the forest in order that she may weave a net to hold back the water at these heights. Moreover, it will in most cases be found that the timber produced by this land is of more value than all the grain that could be grown thereon.



The true policy for any country like Canada having still in its possession large tracts of ungranted lands, would certainly be to explore the country in advance of settlement, and then divide it according to its character into agricultural, timber and mineral lands. The agricultural lands can then be dealt with as seems wisest for agricultural purposes, and the mineral lands for mineral purposes, but when we come to the timber areas we find that the utility of the forest is at least two-fold—first, for the merchantable value of the products, and secondly, on account of the function it performs in modifying the climate in the distribution of moisture, and lastly, in its great office when growing on mountain and hill sides, in holding back the water and causing a more even flow to the rivers and streams that always have their sources in these elevations.



A correspondent at Innisfail, N.W.T., writes as follows:—“Duck shooting is now over. The last few weeks the sloughs have been crowded with ducks, snipe, grebe, mud hens, loons and other birds, and many have been the attempts made to bag some of them. The birds, however, have been exceedingly shy and wary, and there have been but small returns for the number of cartridges expended.”

The calendar of the Yale Forest School, New Haven, Connecticut, has been received. The school is under the directorship of Professor Henry S. Graves and the fall term begins on the 25th September, 1902.

Two Nanaimo fishermen had some great sport recently at Little Qualicum. In a couple of days they secured about a hundred weight of rainbow trout containing a fair proportion of two and three pounders, but the prize fish was a magnificent seven pounds trout. Mr. Scovill took it on a light trolling rig.

The annual report of the Surveyor-General of New Brunswick for the year ended the 31st October, 1901, shows the total receipts from timber lauds to be \$174,524.10, the sales of timber licenses yielding \$73,361.62, and stumpage \$101,162.48, against a total of \$152,294.09 for the previous year. In 1900 stumpage brought in a revenue of \$112,315.19, so that the increase for the following year is due to the sale of licenses. The highest price paid was \$300 per square mile for an area of 2½ square miles, but some sales were as low as \$8.00 and \$8.50. The renewal fee of \$4.00 per square mile, which is practically the same as ground rent, contributed \$38,808 to the revenue. The amount expended for scaling, collection and protection of lumber was \$8,567.87.

The use of trained bloodhounds as detectives was demonstrated at Trail, B.C., recently. A market gardener whose plot of land lies some distance outside the smelter town, missed a large quantity of rhubarb. Captain Devitt, chief of police at Trail, was notified, and he proceeded at once to the garden taking a brace of young hounds, which he has had in training for some time. After feathering a little, the hounds opened upon the scent, and then it was simply a procession from the garden to a shack occupied by a chinaman, about a mile away. Inside the building was a badly frightened celestial and some 400 pounds of freshly cut rhubarb. The thief confessed to the crime and was imprisoned, while the gardener gathered the rhubarb and took it to market.

The Lament of the Grizzly.

In a dark and dismal lair sat an aged grizzly bear,
 With a moribund expression on his face,
 And in language strenuous he expatiated thus
 To three attentive juniors of his race :
 "I was something of a dnb as a raw, unworldly cub,
 And I thought that I'd become an 'also ran,'
 If I did not recollect to expand my intellect
 And exist upon the Seton-Thompson plan.
 So I toned up on the lore of the bears who went before,
 Heard the sermons in the stones and running brooks;
 Studied botany and Greek (that which Arktos used to speak)
 Till I talked like one of Seton-Thompson's books.
 "I sought out the sulphur springs, found the roots and other things
 That were good for grip, neuritis and the gout;
 Learned with certainty to know by the foot-prints in the snow,
 The religion of the hunters who were out.
 Something in me would reveal the proximity of steel,
 I could always find and spring a lurking trap,
 And so much I came to learn that a fund of brains to burn
 I had always handy by me and on tap.
 "But as I to bearhood grew and meandered forth to woo
 All the lady bears I found fought shy of me.
 'Don't come round us,' they would say, 'with that educated way,'
 And they'd promptly vanish up the nearest tree,
 'For omniscience we don't care; what we want is just a bear,'
 Would come floating from the branches far above.
 'You distinctly will not do, you don't know how to woo;
 You should study less of Greek and more of love.'
 "Then, alas, it chanced one day as I journeyed on the way
 To the huckleberry pasture from my lair,
 That I met up face to face in a lone sequestered place,
 With a hulking ignoramus of a bear.
 Though I knew far more than he, of man, Greek and botany,
 And could not by traps or firearms be tricked,
 He could beat me out of sight in a common, vulgar fight,
 And he left me with my wisdom badly licked.
 "So you bears, who yet have youth, learn from me this simple truth :
 Do not let this Seton-Thompson turn your head;
 Let it be your only care to be just a common bear,
 Or you'll turn up some fine morning good and dead."

—Exchange.



Elephant killed by Mr. Marcel Hendricks, of Mossamedes, Africa, with a .303 SAVAGE RIFLE using the Expanding Bullet. *Le Sport Universel Illustré* contains an article with illustrations by Mr. Hendricks relative to the killing of the above.

KEEP UP WITH THE TIMES

Do not buy a Rifle until you have examined into the merits of the . . .

SAVAGE

WHICH IS THE
20th Century Arm

Every Rifle thoroughly guaranteed. Write for new Illustrated Catalog (32)
SAVAGE ARMS COMPANY, UTICA, N.Y., U.S.A.

Only Hammerless, Repeating Rifle in the World.

Absolutely Safe, Strongest Shooter Flattest Trajectory, Highest Development of Sporting Rifles.

Constructed to Shoot Six Different Cartridges. Adapted for large and small game. .303 and 30-30 calibers.

CONTENTS

June, 1902

The Kootenay River	3
Ontario's Game and Game Laws	5
The "Ross" Rifle	10
A Practical Darkroom	15
Fly Rods and Flies	17
The White Spruce	19
The Nepigon	20
An Unfair Advocate	24
The Volume of Standing Timber	26
The Indian's Spring	27
The Montreal Dog Show	29
The Choosing of a Puppy	30
Our Medicine Bag	34

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

The Official Organ of the Canadian Forestry Association.

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

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

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

H. B. Company's Nepigon Post



This "fort" is on Nepigon Lake, about 60 miles from the mouth of the river.

Have you wet a fly in the Nepigon? If not, listen to what General McNulta, U.S.A., says: "Having tested, by practical experience, some one or more of the head waters of every principal stream on both the Atlantic and Pacific slopes, from the most northerly settled limits along the Canadian Pacific line, to the most southerly point in Mexico, where trout are found, together with a test of most of the principal streams in Scotland and Ireland, I am still of the opinion that the Nepigon, from the standpoint of the high-typed sportsman, is the finest trout stream in the world."

The Nepigon has long been termed "the king of trout streams," and as civilization advances, and the older trout streams are practically fished out, we find the Nepigon still holding its own, and producing fish which would make any angler envious of the fortunate one who had selected it for his outing. Five-pounders are common, and there is a record of one weighing eight pounds two ounces, caught by Eugene Stevenson, of Paterson, N.J., in August, '95; numbers of doubles are caught, the largest by E. P. Williams, of Cleveland, O., on August 28th, '95, with a six-ounce rod, one weighing 6½ pounds, the other 4¾ pounds, in the aggregate 11¼ pounds. Many other records worthy of a first place, cannot, of course, be published here.

Lake Nepigon, the fountain-head, the producer of the brook trout for which this stream is justly famous, is also the home of the whitefish and lake trout, some of the latter having been caught with the rod weighing from 30 to 40 pounds. The lake is beautiful, being studded with numerous islands offering pleasant camping places, and many tourists who visit the Nepigon spend some time on the lake, which can be safely traversed in the large bark canoes used on the river. The climate here is particularly enjoyable: the delicious coolness of the air has wonderful recuperative powers, and refreshing sleep under warm blankets is the lot of all.

Nepigon station is on the main line of the CANADIAN PACIFIC RAILWAY, 65 miles east of Port Arthur and 929 miles west of Montreal.

Anglers may obtain all necessary information by applying to any office or agent of the

CANADIAN PACIFIC RAILWAY

or to the General Passenger Department, Montreal, Que.

STEVENS



THE CANADIAN woods will draw thousands of sportsmen this Summer. What is more beneficial than a few weeks life in camp? Wherever you go there will be a chance to do some shooting, and you of course want a *reliable* FIRE ARM. We manufacture a large and varied line of

Rifles, Pistols and Shot Guns

and they are recognized as STANDARD. Send for conditions of our \$1000.00 Rifle Contest. We offer this amount in 100 prizes for targets made with STEVENS Rifles by young people under 20 years.

Nearly all dealers in Sporting Goods carry our Arms. Don't accept something "just as good" but insist upon a STEVENS. Our catalog is interesting and will be mailed upon request.

J. STEVENS ARMS & TOOL COMPANY

365 MAIN ST.

CHICOPEE FALLS, MASSACHUSETTS

Ammunition

FOR RIFLE



SUPERIOR IN QUALITY FOR
SERVICE, HUNTING AND
TARGET PRACTICE

REVOLVER,



Its Mark

U.S.

AND GUN



MANUFACTURED BY

United States Cartridge Co.

Agencies { 121 Worth Street, New York
114-116 Market St., San Francisco, Cal.

LOWELL, MASS., U.S.A.