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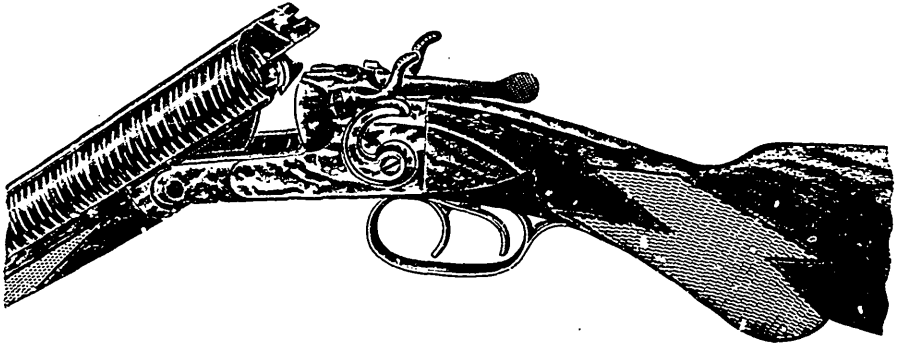
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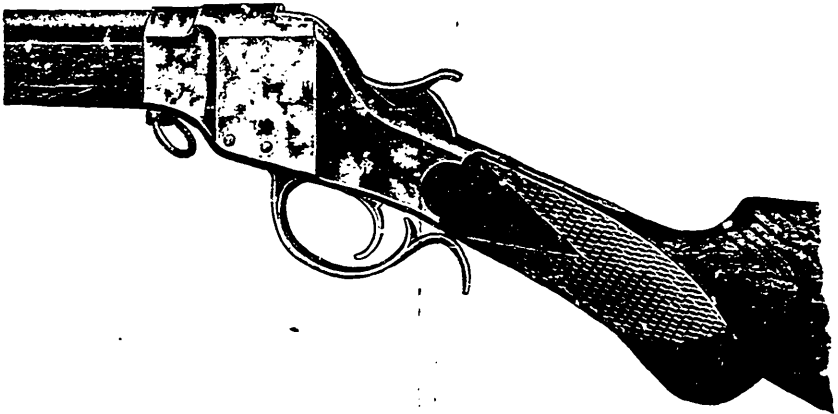




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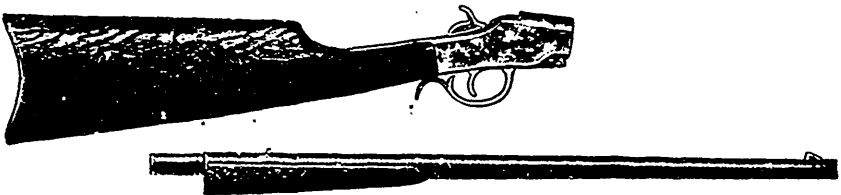
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# ROD AND GUN IN CANADA

VOL. V.

MONTREAL AND TORONTO, SEPTEMBER, 1903

No. 4

## The Upper St. John.

BY FRANK B. ELLIS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



varying beauties of nature. In freshest time, with the river a raging flood, the distance has been paddled in 14 hours and 45 minutes, and rafts have made the run, unaided except by the current, in a single day. It is figured that the descent of the river from Grand Falls to Fredericton is 298 feet, or an average drop of 2 feet 4 inches per mile—evidence in itself that the water must run pretty rapidly.

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

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

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

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



## Further Exploration.\*

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

(*Concluded from the August issue.*)

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

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

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

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

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

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

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

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

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

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

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

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

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

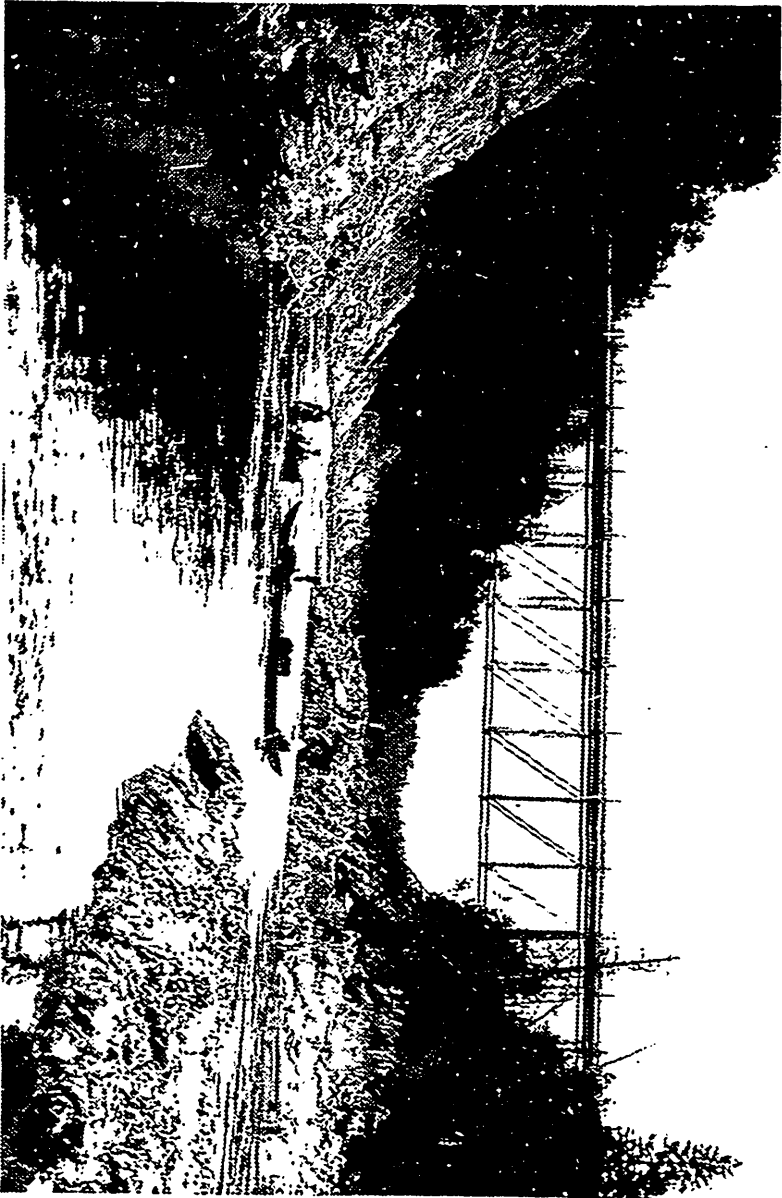
As it was out of the question to attempt to cut a trail along the side of the lake, our only alternative lay in sailing up on a raft. For a whole day Fred and Dave toiled with the axes, and we could hear the ceaseless chopping down to the water's edge. Then the weather turned wet, and the fire up the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

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

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

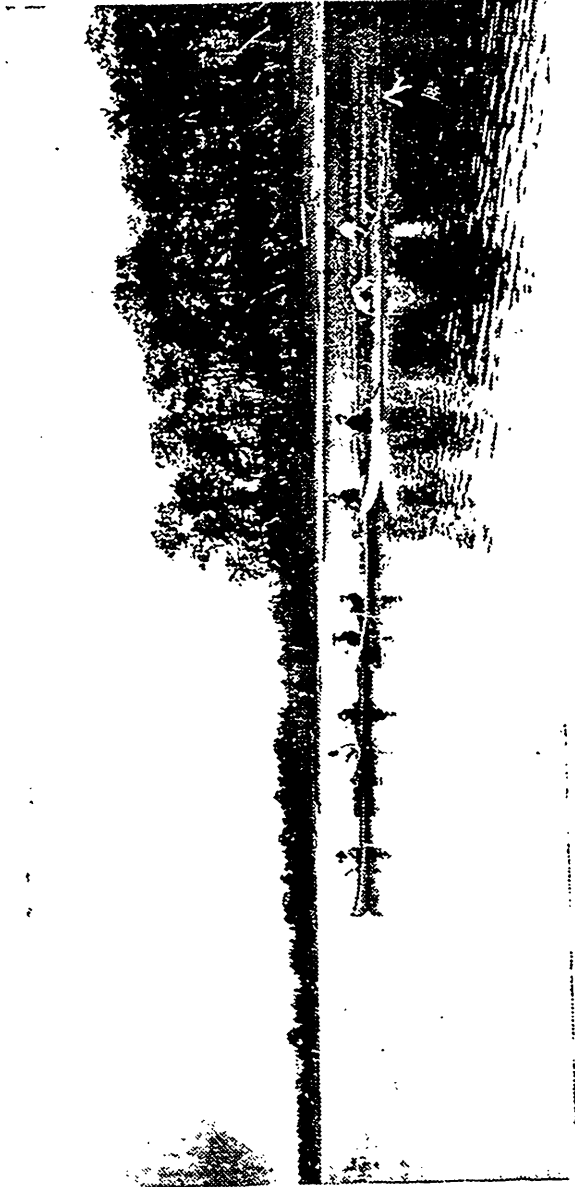
below. By ascending a lateral valley to the right this was avoided, and we ultimately reached the great plateau of snow which is one of the sources of the Saskatchewan.

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



ON THE TONGUE.

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



THE BROAD SAINT JOHN.

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

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

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

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

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

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

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

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

mains were found in the Cambrian quartzites.

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

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

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



## Pacific Coast Fishing.

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

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

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

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

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



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

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

#### THE SALMON.

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

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

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

#### THE SOCKEYE.

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

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

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

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

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

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

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

#### THE SPRING SALMON.

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

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

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

#### THE COHO.

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

#### THE DOG SALMON.

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

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

#### THE HUMPBAC.

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



## Forestry in Sweden.\*

BY ALEXANDER MACLAURIN.†

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

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

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

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

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

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

\* Contributed by the Officers of the Canadian Forestry Association.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

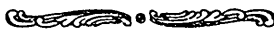
of cut. Time is given for the reproduction of the forest. It is under this system alone that the perpetual supply of forest products can be obtained and perpetuated. There is no middle course. No system of preservation will be perfect unless some such regulation is adopted and effectively enforced.

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

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

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

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





**WINDY POINT.**

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



ST. BERNARD, IVANHOE.

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



A GIANT MASCALONGE.

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



## A New Winchester.

BY C. A. B.

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

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

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

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

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

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

"The Winchester Model 1903 Automatic Rifle is made with blued trimmings, a plain walnut stock and forearm, not checked, and a 20-inch round barrel, fitted with open front and rear sights. Weight about 5¾ pounds. The stock is 13¼ inches long; drop at comb, 1¾ inches; drop at heel, 3¼ inches; length of gun over all, 36 inches. Fancy walnut stocks and forearms and plain or fancy walnut pistol grip stocks, checked or unchecked, are the only variations from the standard gun that will be furnished.

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

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

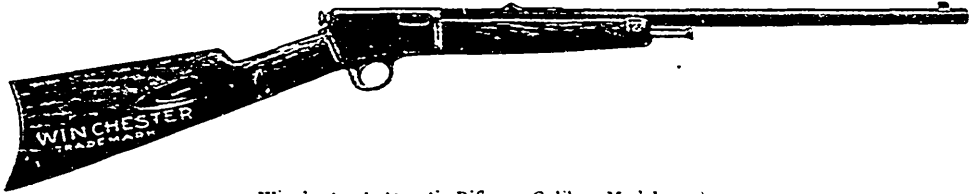
"To fill the magazine with the charger, insert the spring end of the charger into the magazine opening in stock at an angle which conforms to the opening in the stock. The front end of charger spring will rest on charger spring shoulder of magazine. Press downward on charger, and charger spring will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

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

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

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

"To clean the gun, take it down and



Winchester Automatic Rifle (.22 Calibre, Model 1903)

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

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

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



.22 Winchester Automatic Cartridge

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

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

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

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



## European Forestry.\*

BY MARCEL HOEHN, BERLIN, ONT.

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

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

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

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

\* Contributed by the Officers of the Canadian Forestry Association.

## In Siwash Land.

BY A. L. HENRY.

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

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

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

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

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

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

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



## The Fir.\*

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

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

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

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

\* Contributed by the Officers of the Canadian Forestry Association.

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

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

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

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



## On the Rideau.

BY M. D.

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

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

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



## The St. Bernard.

BY D. TAYLOR AND F. STUART.

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

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

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

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

#### HINTS ON ST. BERNARD PUPPIES

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

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

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

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

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

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

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





THE BALSAM FIR.

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



THE WHITE SPRUCE.

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

## Our Medicine Bag.

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

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

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



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

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

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

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

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

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

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



Buttstocks are 13½ inches long, with 1⅝ inches drop at comb and 2½ inches drop at heel. Special hand-made stocks, any dimensions, made to order at small extra charge.

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

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

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



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

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



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

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

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

	Weight of Bullet.	Muzzle Velocity.	Penetration in 7/8 in. dry pine boards at 15 ft. from muzzle. Soft-point bullet
.38-55	255 grains	1,321 ft. per second	13
.38-55 W.H.V.	255	1,593 ft. "	10
Trajectory			
100 yards.	20 yards.		300 yards.
Height at 50 yards.	Height at 100 yards.		Height at 150 yards.
2.91 inches	13.14 inches		34.43 inches
2.00 "	9.52 "		25.46 "

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

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

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

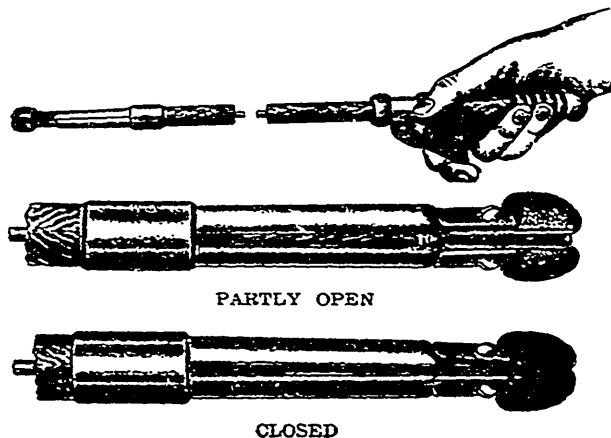
(Re-capper). Unfortunately Mr. Abbott has failed to include an index, which omission we hope to see remedied in the next edition—for no doubt a second edition will be called for by the dog-loving public. The publishers are the M. T. Richardson Company, New York. The price is not given.

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

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

The Velvet Clutch Garrison Shot Gun Cleaner may be recommended with confidence, as it has been thoroughly tested and never fails to act. The cuts accompanying this notice render a verbal description almost superfluous. The cleaning rod is in three joints, carrying

thickness of cloth about three inches square makes a perfect swab. The gauze pads are held in place by a turned-over hook at end of cleaner's fingers, and by a screw at rear, and are easily removed when necessary, but this should not occur more than once in several years.



within a moveable steel rod, acted upon by a lever at the handle end. The end of the rod has a cone which expands when the lever is compressed. The adjustment being under control, chamber, barrel or choke are cleaned alike. One

While the cloth pad removes all but the most obstinate rust and lead, a moment's use of the uncovered gauze will do it effectively. The makers recommend vaseline or gun grease as a lubricant.

The annual show of the Ottawa Kennel Club will be held from September 15th to 17th inclusive, during the Central Canada Exhibition. Good money prizes and a large number of valuable specials are offered, and intending exhibitors would do well to note that entries close on September 7th. The judges are Dr. C. Y. Ford, Kingston, Ont., and Mr. F. F. Dole, New Haven, Conn., and the position these gentlemen occupy in canine matters is alone sufficient to attract a large entry. Dogs sent direct from Toronto show will be well cared for free of charge until the close.

In a letter received from Hartney, Manitoba, the writer says: Not for many years have the prairie chickens been so plentiful as is the case this summer. The coveys are large and the birds nearly full grown. In every district the same conditions exist and sportsmen are anticipating a rare time when the shooting season opens. Ducks are also numerous and on every pond

large flocks of young birds accompany their mothers amongst the reeds. On Plum Lake many flocks of young wild geese are to be noticed, besides the ducks on the waters and the grouse on the shores.

Mr. James Lindsay and Mr. Arthur F. Gault, of Montreal, will judge terriers and collies respectively at the Sherbrooke show, which opens on the 2nd of September. Mr. Joseph Kennedy will take all other breeds. The prizes are \$3.00 and \$2.00, with a full classification, and there are lots of valuable specials.

Mr. E. T. D. Chambers has issued a new edition of his useful Angler's Guide to Eastern Canada.

This is one of those little hand-books that are indispensable to the salmon and trout fisherman, who does his angling in Eastern Canada. It is published by the author through the Chronicle Printing Company, Quebec City.



## The Royal Chinook.

(From the Portland Oregonian.)

Of the fish in fresh water there's never a doubt  
That the best of them all is the game little trout ;  
He's speckled and brilliant and loved of the  
cook,  
But he's only a mite to the Royal Chinook.

With the strength of a Sandow, the grace of a  
girl,  
From the sea the Chinook comes through  
current and swirl,  
And tough would the line be and well-forged  
the hook  
That would stay on his journey the Royal  
Chinook.

In the deeps he is taught by some wonderful  
rune  
That the river's in spate and the season's at  
June,  
And swiftly he flashes for river and brook,  
Till Columbia chokes with the Royal Chinook.

His strength and his swiftness there's nothing  
can let,  
Till he meets 'thwart his passage a wavering  
net,  
And then it's alas ! nor by hook nor by crook  
Is there hope of escape for the Royal  
Chinook.

We regret that King Salmon thus ends his  
career,  
But expectant the palate arrests the salt tear ;  
And when to the table we eagerly look  
We drink to both fisher and Royal Chinook !

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

The Official Organ of the Canadian Forestry Association.

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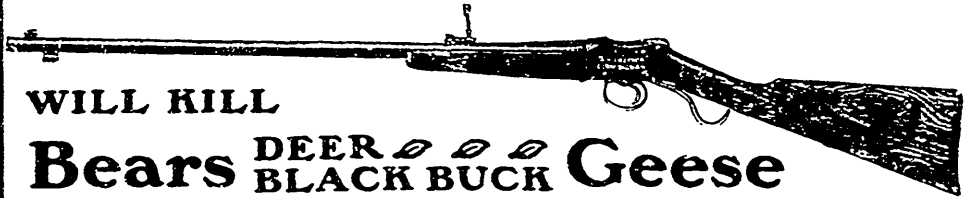


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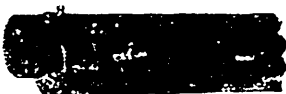
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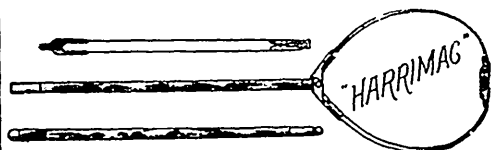
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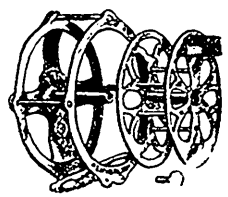
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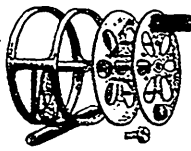
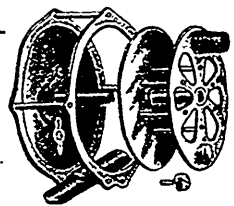


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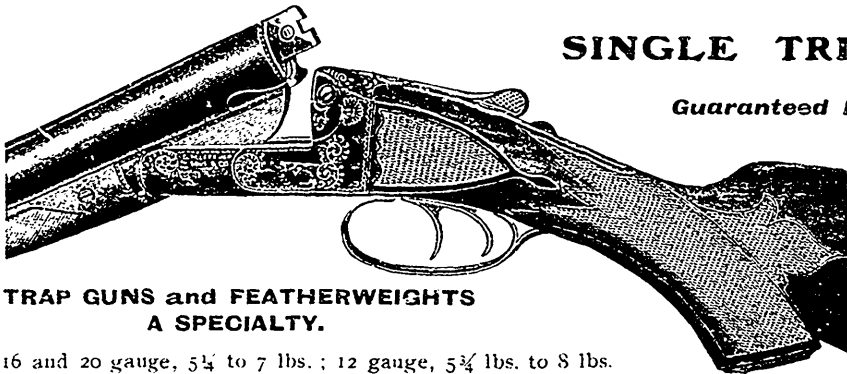
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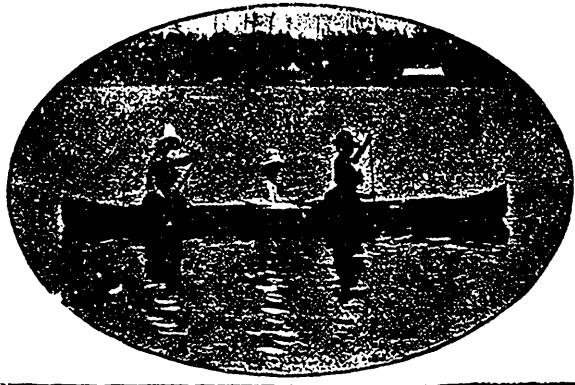
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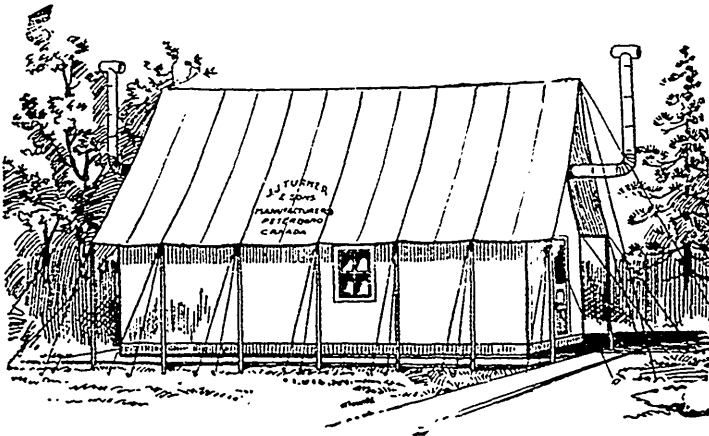
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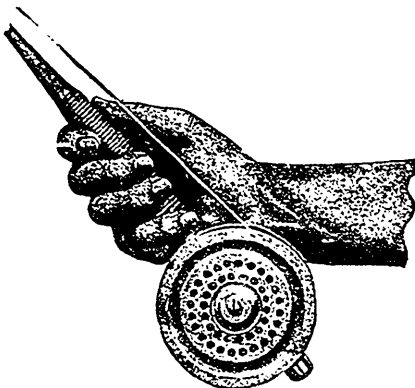
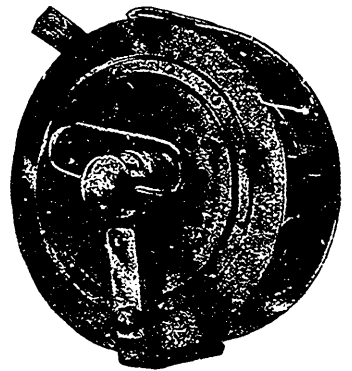
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