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ROD AND GUN IN CANADA



Mr. C. G. Cowan

A MAGAZINE
OF CANADIAN SPORT
AND EXPLORATION



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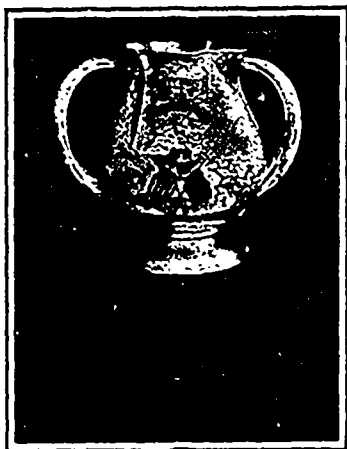
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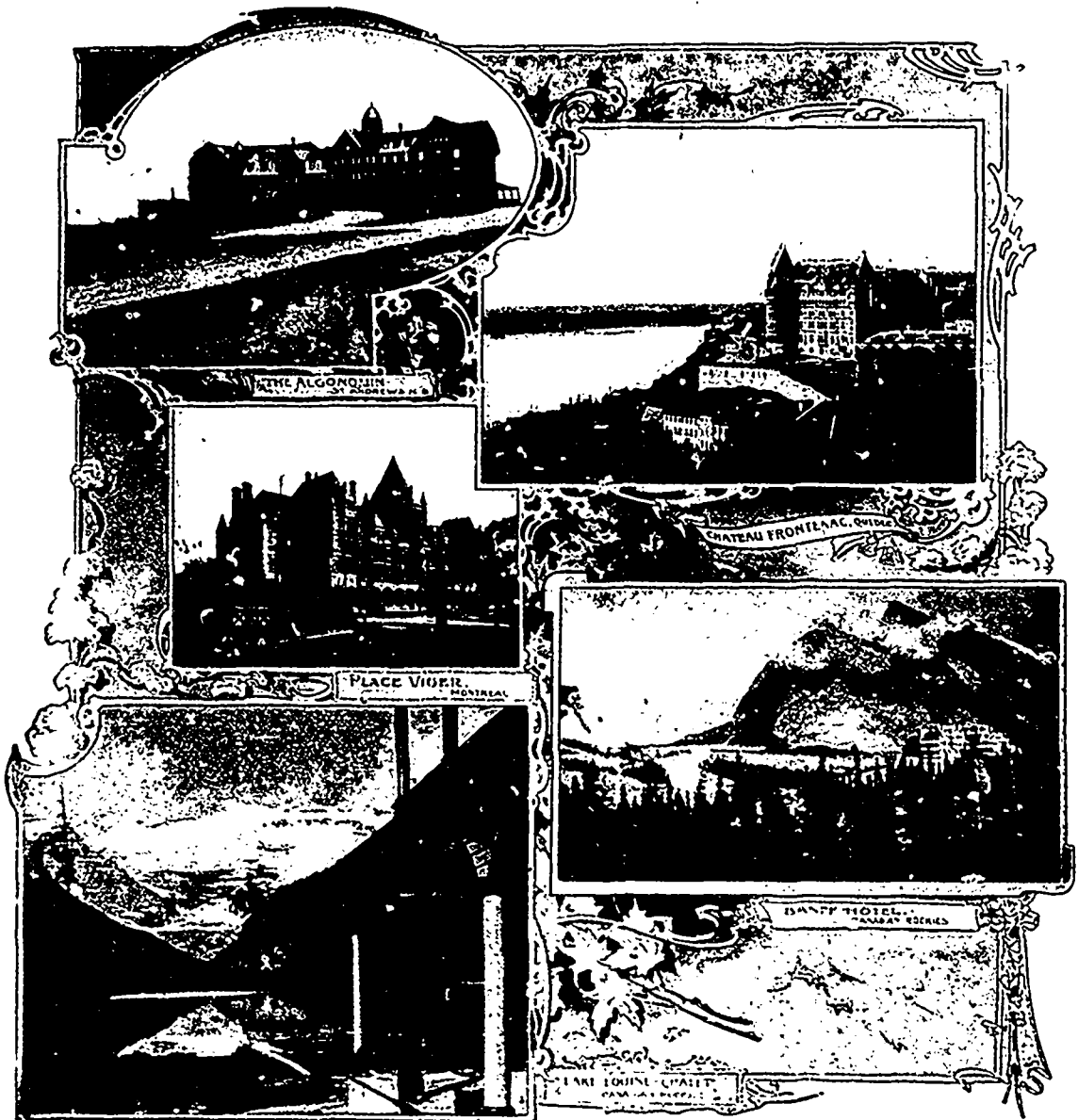
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Robert Kerr, Passenger Traffic Manager, MONTREAL.



AN ALBERTA MOOSE HEAD.

The bearer was shot near the Jasper House, Rocky Mountains.

Canadian Edition

ROD AND GUN IN CANADA

VOL. VI.

MONTREAL AND TORONTO, SEPTEMBER, 1904

No. 4

Glacier and Grizzlies

By C. G. COWAN.

Some time ago I was encamped with two Indians and their families on the Great Divide of the Rocky Mountains, three hundred miles north of the Canadian Pacific Railway, and at the source of two rivers, the Smokey and the south branch of the North Fork of the Fraser. The former eventually emptied its waters into the Atlantic, whilst the latter took its way to the Pacific. Between the rise of these two rivers there was a glacier of unusual size and appearance. For years I had heard of it from the Indians, tales were told of Indians that had gone to visit this "Mountain of snow and ice" and had failed to return. The natives now with me spoke of four grizzlies that made their home in this glacier; they had met them the year previous and called them the "Glacier family." They had as I afterwards found out, been within close range of these bears, and though they carried modern weapons at the time feared to discharge them at animals so formidable and "canny." Perhaps they thought of the Indian that never returned. At all events I could see they were not keen on remaining in this vicinity any longer than necessary. With me it was different. I had heard too much about this wonderful family of grizzlies to leave this valley without spending a few days in the endeavor to find them, and if possible "bag" at least one of the family. I commenced operations by killing two

caribou at different places. These animals were to act as bait. Four days after the death of the caribou I was crossing a small mud-flat, and saw the tracks of three bears. One was a full-grown animal, the others were apparently her cubs of last year. The tracks were so fresh I could not leave them. They took me out of the valley, high up on the ridge and over a steep knoll into another flat, where a small creek trickled through a thick cover of red willow, filled with ptarmigan, which rose with such a birr, as to fill me with a kind of trepidation as if I were in the very presence of the "Glacier family." A moment convinced me of my mistake and I returned to camp, keener than ever to become further acquainted with the mysterious Bruin family. Next day two of us visited the dead caribou. A wolverine and a wolf had eaten of the meat the night before. As yet no bears had touched it, perhaps it was hardly decomposed enough. Day after day passed. Early and late I was on the mountain sides amongst the berries and wild potato patches, hoping to forestall this family at their morning meal, but without success. One thing was certain, they were in the neighborhood still, as their tracks confronted us wherever we went. It was evident they "made their rounds" only at night. We decided to imitate them in that respect. One evening just as I was getting ready to visit the carcass of the

caribou, my Indian told me he had seen four bears cross the bottom of the glacier. It was but a short distance from our tepee to where they had disappeared from view. We hurried to the spot, peeped over the sky-line and saw about a hundred yards below us, the old bear, the head of the family. I had with me a 45.90 Winchester and was using soft nosed bullets and smokeless powder. The first shot struck him behind the shoulder, so he let us know, by tearing at the spot with his arm. I fired again and again, when he came down on the ice, roaring loudly, as he fell. Here he would have lain until the end came, but for the slope and the slippery ice, which took him a hundred yards or more at a furious rate, when he fell at last over a perpendicular drop of sixty feet, where we found him stone dead. The skin was very light in color, and measured ten feet without any stretching. His upper teeth were all gone and his age might be not less than that of the glacier he died on. Having disturbed Mrs. Bruin, I was afraid she might change her home and cross over to the next range of mountains, and prepare there a new habitat for herself and family, but with grizzlies that frequent glaciers, it is not usual to change their quarters; they love the old place, and even if they do leave for a time, they often wander back, like a disturbed hare to her fawn, preferring as it were to be shot at, and it may be, wounded again, rather than abandon the old and familiar haunts. It was so in this case, for days later we again ran across Mother Bruin and her cubs. Our nights were spent beside the dead caribou, which had now become really high and palatable to the grizzly. The third evening after I had killed the old bear I was sitting within twenty-five yards of the bait, anxiously listening and watching for sound or movement. The sun had gone down some time before, dulling the brilliant effect, which it had given to the glacier before me. Except for the trickling

of a small creek not a sound was to be heard. The moon rose at its full and shone brightly on the snow capped mountains which looked coldly white in the distance. The solitary and melancholy grandeur of the scenery round me was beyond description. Suddenly my Indian poked me and at the same time I heard a gentle rustling in the bushes to my left front. It came on towards me. Could it be the remainder of the "Glacier family"? What luck if it was! Whether it bore relation or not to the trophy that now lay in my tepee, it was a bear, and grunted freely as it approached the carcass of the caribou. As it came more into the light of the moon I could see it was no black bear. It was a heavy set beast, with color like that of the silver tip. As it moved up to the bait, its eyes glared hungrily and it growled savagely at the approach of another animal that I could not well make out in the dark, but later saw it was another bear. Then there came from the bush one more hungry mouth and all three fed ravenously from the dead caribou. My Indian was in such a state of excitement, I could feel him trembling beside me. I also had misgivings as to the ultimate issue of the scene before us. Here was the glacier family that I had remained three weeks in one camp, hunting day and night, to get a shot at. Here they were, all that was left of them, huddled together round the meat of my bait. Slowly we raised our rifles and almost simultaneously we fired at the old one. I thought she fell. We then fired at her young, who seemed utterly bewildered. One of them dropped, the other bolted into the bush. Then the old she rose, wriggled about until I fired again, and a third time, this giving her her quietus. Immediately out of the undergrowth and straight into the firing line walked the other animal that had bolted. My Indian seeing him first killed him instantly with the one shot, which I afterwards found broke the jugular vein.



The Boy Crusoe.

By MARTIN HUNTER.

(Concluded from the August Issue.)

"I know not how long I had been asleep when I was awakened by the most horrid sound I had ever heard. All was silent for a few moments and I sat up on my couch with hair erect and cold running up and down my back. I was straining my ears so intensely for that terrible noise to be repeated that I could actually hear my heart beat.

"Under the fear I then labored with, it was a relief to hear that mournful, blood-curdling sound repeated. I had heard a similar howl before from a husky dog at a Hudson's Bay Post I had visited with my father. My father had told me then that the husky dogs were part wolf, so this must be a wolf.

"As I thought this over, the howl was answered back on my beaver trap trail by another and another and yet others, and I realized that the fresh meat had drawn these savage brutes down on my camp, and I would in a few minutes be besieged by the band.

"I raked the embers together, and putting on some fresh pine knots, soon had a cheerful blaze, which helped to make me braver.

"The more I considered my situation, the less fear I had for my safety. Three sides of my hut were solid mountain, and the part I had built up was almost as strong.

"I had heard my father tell many wolf stories and I knew they could not climb. My door was stout and strongly fastened on the inside, so I calmly drew the charge of shot from my gun and rammed down a bullet in its place. I could hear the snarling of the brutes about the wood-pile, a few yards from the hut. I crept over to the door and peered out from a small slit I had purposely left as a look-out.

"The last quarter of the moon was just overhead and lit up the clearance. Two of the wolves were moving about in front, while I made out three others squatting on their haunches a little further back.

"I realized that unless I shot these sav-

age beasts I would never be safe away from the tent.

"Perceiving I had no time to lose, as once the moon got back of the mountain the valley would be in darkness, I pushed my gun carefully through the opening, sighted along the barrel and waited with my finger on the trigger till one of the moving wolves passed in front of one in the background, and at that instant I let go.

"One terrible howl went up and when the smoke cleared away I had the satisfaction of seeing both beasts jumping and rolling about on the snow. The other wolves seeing their friends acting so queerly pounced upon them and in a moment the whole five were mixed up in a tearing, fighting mob.

"I lost no time in reloading my gun and sending in another ball. One wolf only drew away after the shot and with the utmost speed I recharged and aiming steady for his beast, rolled him over dead.

"By this last one's manner he was just about to make off into the forest, where he would have been lost to me, and knowing he had escaped, would have always caused me alarm.

"The four appearing quite lifeless, I loaded my gun, made a fresh fire and turned in once more to sleep. When I awoke after a refreshing repose the sun was high up and a most glorious morning.

"Yes, not one wolf had escaped. The whole five lay where they had fallen. I took the skins off three and dragged the other two out on the ice, where they remained all winter."

Little Pierre got up off the log, said "Good-night" and retired to the men's tent.

The next day we got to Roberval, Lake St. John, and being high noon, the principal storekeeper of the village, Mr. Mener, asked my outfit and self to dinner before proceeding to the post at Pointe Bleue.

Mr. Mener was a man of about fifty-eight. He had come, in early life, to Lake St. John, to carve out a home, the whole of his possessions being, as he put it, "one

extra shirt and an axe." Other settlers followed the road he had opened and this was the beginning of Roberval.

Mener, by years of hard work and shrewd business abilities, was now one of the very foremost men in the village, had the best store north of Chicoutimi, and money lent amongst the farmers at, maybe, a little higher rate of interest than is collectable by law.

I informed him of how we came by little Pierre and told him it was not clear to me what disposal I could make of the boy, who was now an orphan.

Mener reflected for a few moments, and while rubbing his nose with the index finger of his left hand, suddenly clapped his thigh with his right and said: "I have it.

"You leave the boy with me. My wife and I have no children. From what you have told me of the boy I like him, and further I like his looks."

"Well, if you will do that, Mr. Mener," I said, "the boy will have a good home. He is quick to take notice and no doubt will become of great assistance to you about the store. But how about Mrs. Mener. Perhaps you will consult her before I speak to Pierre."

"It is not necessary," he replied. "The fact is, we have been looking about us for several years, with the view of adopting a boy. The reason we have not taken one is because the boys that are suitable have too many relatives and we never could bring the boy up as we would wish. This boy, Pierre, however, will just fill our wants, and if you will see him and let me know how he takes the offer, why we can settle the affair off-hand."

I found little Pierre outside with the men, and drawing him to one side, explained to him Mr. Mener's offer and told him how fortunate he would be to have a good home and assurance of plenty. I further explained that I could do nothing more for him, now that he was amongst *peuplè*.

The little fellow had sense enough to understand that to be adopted by Mr. Mener would be a good thing to happen and he said he was ready to stay and do all he could to make himself useful.

This settled satisfactorily to both par-

ties, my men and I started for the last stage of our journey, to the post at Pointe Bleue. There I remained, the business on which I was sent taking up eleven days of my time.

This completed, I sent my men back overland to the St. Maurice, while I went down to Chicoutimi, and took steamer from thence to Montreal. I passed a few days in that city, rewriting my report, and when this was handed in to the office I received orders to proceed to Winnipeg for a new appointment.

I must retrogress this much to say, on my drive from Pointe Bleue to Chicoutimi, I called at Mener's passing and found Pierre happy and contented.

My new charge was Jasper House, at the foot of the Rocky Mountains, and there I remained for fourteen long years.

At the end of this time I was recalled to Winnipeg and ordered to proceed to Pointe Bleue Post.

Proceeding from Quebec to Roberval by the Lake St. John Railway, we arrived there towards evening and as we steamed slowly through the town I saw from the car window, a notice over the door of an up to date general store:

PIERRE BELLEMORE.

After supper, I strolled into the rotunda of the hotel and with some trepidation accosted the gentleman (with expansive shirt front and diamonds behind the desk.)

Did he know the proprietor of the general store on east side of railway track?

"Ah! yes, very worthy fellow for a French-Canadian."

"Old man, Mener, who is dead, adopted Pierre years ago. When he died left him everything, apart from an annuity to his widow. Doing well. Up-to-date and so forth."

With this information, I was confident that my boy Crusoe and Pierre Bellemore were one and the same. So lighting a cigar, I wandered down to the store to make myself known.

Entering, I saw a portly, well-built and good looking man leaning against a show case, with thumbs in the arm holes of his

vest and a broad smile of satisfaction overspreading his good-natured face.

Immediately, on the entrance of a supposed customer, he came forward to wait on me.

I simply stood and looked fixedly at him. As I had always been clean shaven the change in my appearance was not very great.

Pierre's eyes had a puzzled look in them for a moment and then with a glad cry of recognition he held out his hand and said:

"C'est possible! que c'est vous Monsieur Hunter?"

Lighting a candle, with trembling hands he shot the bolt in the shop door, turned off the acetylene gas and preceded me upstairs where he lived. He ushered me into the parlor, turned on all the gas jets there and called in a loud voice: "Marie! Marie!" In a few moments a bright, intelligent, good-looking little woman came in, whom he introduced as his wife.

The best in the house was brought out for my refreshment, and it was past eleven o'clock ere I stood before the hotel door and said "good-night" to Pierre.

During the couple of years I remained in charge of Pointe Bleue I often drove down from the Post and spent the evening with Pierre and his wife.

Why prolong the story, as far as human ken can see, Pierre is one of the substantial pillars of the growing town of Roberval.

He corresponds with me twice a year, upon the date on which I found him in the bush and upon New Year's day.

The former letter is always charged with an endless string of thanks, and the latter calls down all the blessings and good luck that any mortal could possibly desire.

Thus I conclude my story, leaving a strong, sober, honest and upright man, endowed with all worldly blessings, who was once "The Boy Crusoe."

Forest Areas Wasted.*

The following report comes recently from Newfoundland: Severe forest fires raging in the interior at intervals for a month past have worked havoc with some of the finest forest areas we possess and these conflagrations have just culminated in the destruction of the lumber mill and settlement at Notre Dame Junction, together with the railway station and other buildings, the whole involving a loss of about sixty thousand dollars. The extent and gravity of these fires have caused the greatest apprehension among lumber men and others interested in our forest areas as to what the future of our timber industry is to be, inasmuch as that if these disasters are to continue the speedy extinction of that business is inevitable. Newfoundland stands differently in this respect, from its western neighbors. Every fisherman the island over exercises the right of unrestricted access to the woodlands for the purpose of cutting timber for fishery and other needs, and also

proceeds there when he wishes for trout or caribou, camping near the streams and sometimes leaving camp-fires half extinguished to revive and destroy immense areas. Local and foreign sportsmen err in the same way and many other causes conspire to make these conflagrations more extensive and frequent than elsewhere. An experienced lumberman, who "cruised" over wide areas of our country last summer estimated that fifty million dollars worth of usable timber had been destroyed in our interior by forest fires, while the destruction wrought this season must be immense. In all sections of the country these fires have been raging, and the lack of any rainfalls for nearly a month past has accentuated these adverse conditions, many settlements being threatened, and even St. John's itself endangered by one of the most recent outbreaks, which raged in the suburban areas and was quite visible to the citizens, so close to the town did it work its way.

*Contributed by the Officers of the Canadian Forestry Association.

Diminished Flow of the Rock River.*

This is the title of a bulletin recently issued by the Bureau of Forestry of the United States and gives the result of investigations made on the ground in consequence of an expressed desire on the part of citizens of the parts of Wisconsin and Illinois involved that the investigation of this question should be undertaken by the Bureau of Forestry. The local impression is that for some years past the Rock River has been decreasing in volume, or at least changing in the regularity of its flow. In summer the upper tributaries and smaller creeks have occasionally run dry. Should these changes continue, they would interfere with various industrial interests of the region. Numerous mills and other manufacturing plants in the towns along the river depend upon its water power. There are also dams and locks for slack-water navigation at the principal cities. A canal that extends across the State of Illinois from the lower end of the Rock River to the Illinois River draws upon the Rock River for a part of its water supply. Moreover, the agricultural interests of southeastern Wisconsin, including extensive cultivated and pasture lands situated among the numerous headwaters and smaller tributaries of the Rock River, rely to some extent upon these sources for sustained moisture in the soil, particularly during seasons of irregular or diminished rainfall. These various industries—manufactures, transportation, and agriculture—are closely dependent upon a steady water supply, and therefore upon the forest, which is an agency of the first importance to this end.

The greatest length of the Rock River Basin in Wisconsin is 85 miles and its greatest breadth 65 miles. The area of the basin is 3,635 square miles, the surface is moderately hilly, the rise from the interior of the valley is gradual and usually the hilltops are not more than 100 feet above the intervening valleys, with an average slope of about three degrees. The low uneven topography has led to the formation of an intricate tributary system,

with numerous spring-fed lakes, which under ordinary circumstances furnish excellent means for an ample water supply.

The principal source of the water supply within the Rock River drainage basin is the precipitation, and the economy of its distribution depends largely upon the character of the surface on which it falls. The soil conditions vary on different parts of the watersheds, according to the exposure of the different layers of rock. On a foundation of Pre-Cambrian crystalline rock are overlaid sandstones and limestones of the Cambrian, Lower and Upper Silurian and Devonian series, superimposed on which are the drift and morainic debris of glacial times. The glacial drift on the surface allows a very free percolation of the water. The sandstones underneath are also fairly pervious, while the limestones and shales offer no serious obstruction. The geologic conditions therefore may be said to be very favorable to a sustained and ample flow of the river.

This region at the time of its first settlement some sixty years ago was extensively covered with forests, which, like those now standing, were composed chiefly of hardwood species, including the bur, black, red and white oaks, basswood, hard maple, hickories, elms and ashes. On swampy ground grew tamarack, white cedar, spruce, and willow. The total area of the forest at that period may be estimated conservatively at 75 per cent. Allowing 5 per cent. for water surface, this would leave 20 per cent. to be divided about equally between prairie land and the low, marshy meadows bordering the creeks and small streams.

Since the settlement of the region some marked changes in the soil cover have taken place. A large part of the forest has been removed and the land brought under cultivation. Most of the prairie lands have also been converted to agriculture, and many swamps and sloughs have been drained and tilled. A considerable part of the 10 per cent. of marsh land, however, still remains. The proportion of land types and

*Contributed by the Officers of the Canadian Forestry Association.

water surface is estimated as follows:— Forest 30, cultivated land 57, swamps and uncultivated meadows 8, water surface 5.

Not only have the wooded areas diminished, but significant changes have taken place in the conditions of growth. Originally the forests contained a natural undergrowth of herbs, moss, tree seedlings, and shrubs, which preserved the moisture and aided in the formation of a rich, receptive mold. Some of the forests still retain this natural surface growth, but many of the farm woods have been given over to pasturage and have run to a dense matting of grass.

Since 1885 the rainfall for the district has slightly diminished, but in attempting to weigh the importance of this factor it should be remembered that the greatest fall from the average of 30.4 for any consecutive years was 3.3 inches. This does not appear to be a very serious loss considering the conservative tendency of the geology of the region.

The disturbance in the regulation of the water flow of the Rock River must be ascribed partly to the artificial drainage of cultivated areas, but chiefly to the changes that have taken place in the soil cover since the time of settlement. The custom of laying tiles and other drains and of cutting ditches to improve the condition of the fields prevails throughout this region and has resulted in a more rapid delivery of the rain water into the streams. Many of the swamps and sloughs that formerly helped to feed the smaller creeks and tributaries have likewise been drained to bring their rich soil under cultivation.

The forest has an important influence on the distribution of water supply. Investigations carried on for a number of years in different parts of Europe have proved that the humidity within a forest is greater than over open ground, while the temperature is lower during the summer months, both within the forest itself and in its soil. These conditions as well as the protection afforded by the leafy canopy against the rays of the sun, materially retard evaporation. It should be remembered also, that the forest protects the soil from the drying action of the winds, which in open areas constantly absorb the moisture

from the surface. As evaporation increases very rapidly with an increase in the velocity of the wind, the opposition offered by the forest is a means of protection of the first importance.

A very instructive study of soil evaporation within and without the forest has been carried on at the experiment station connected with the national school of France. The results of 33 years of observation, recently published, are thus summarized:

It appears, therefore, that during the months of November, and April, for which complete data are available, the instrument situated on open ground has always lost about twice as much water as the one situated within the forest. . . . During the summer the difference is much more striking, owing to the presence of foliage, and varies considerably, being very decided as the temperature rises. The proportionate amounts evaporated outside and within the forest are as 3 to 1 in May, 5 to 1 in June, July and August, 4 to 1 in September, and 3 to 1 in October.

In winter and early spring the forest is useful in preserving the snow cover, which furnishes a considerable part of the water supply of the ensuing season. This preservative influence is less in deciduous forests than in such as are composed of evergreen species; nevertheless, the trunks and branches of the trees and the dried foliage retained by oaks and several other species during a part of the winter protect the snow to a certain degree from the sun and wind. The leaf litter on the forest floor is also of some value, because snow that falls on it does not melt as readily as on bare soil. Scientific investigations have shown a decided difference in the preservation of snow on forested as compared with unforested areas, resulting in a more uniform and sustained flow of the streams where forests are present.

To appreciate the influence of a forest in all its aspects, the amount of moisture required for the growth of the forest itself should be taken into consideration; and the fact should also be noted that the crown cover of a forest intercepts some of the precipitation, which, therefore never reaches the soil. The loss occasioned by

the intervention of the crown cover, however, is not excessive, and may be offset in part by the effect that the saturated foliage probably has in retarding evaporation from the soil.

The other element of loss, namely, the amount of water consumed and transpired by the trees, has been repeatedly investigated, but the subject is extremely complicated. The consumption varies with the kind of soil and its physical condition, with the amount of the rainfall, with the condition of the atmosphere, and, in still greater measure, with the species of tree and character of forest. The figures resulting from these investigations consequently show very wide limits, and it still remains doubtful whether forests, as compared with field crops, require more water for their growth, or less.

A careful examination of local conditions shows that there are within reach feasible remedies which should at least mitigate the irregularity of water supply from which the community now suffers, and which can be secured without loss of productive power to the owners of agricultural land, but, on the contrary, with decided advantage to them. It is not proposed to turn good farm lands into woods, with the certain results of a net loss on the crop. But there is much land naturally better adapted for woodland than for agriculture. In many cases this now supports a sparse and inferior growth of timber, or none at all. A little care on the part of the owner would result in his having eventually a much more productive and valuable woodlot, and would at the same time help to

equalize the stream flow, and so would benefit the whole region.

In most of the wood lots of Southern Wisconsin and Northern Illinois the forest is, in bad shape. The leaf mold has been washed or burned away, or dried out by too much sunlight; the soil has become impoverished; the trees have had their vigor impaired by unfavorable conditions, or have begun to succumb to the attacks of insects and disease; undergrowth and reproduction have been destroyed; the ground has been trampled hard by grazing animals; and the removal from time to time of the best timber, leaving its place to be filled up by inferior growth, has tended to a steady deterioration in the quality and make-up of the forest. These effects are the result of long-continued use of the forest with too little care of it. In consequence the private owner loses by the smaller yield of timber, and the community loses by the impairment of the water-holding capacity of the soil. If woodland owners can be persuaded that it is a wise policy to restore normal forest conditions on their individual tracts for the sake of the resulting profit to themselves, a marked improvement in sustained stream-flow for the region should follow.

While expert advice is desirable, it is by no means necessary for the woodlot owner to consult a forester before he undertakes to improve his holding. Common sense and thoughtfulness in place of neglect will bring him a certain return. As soon as he has once awakened to the fact that wood is just as much a crop as hay, and that intelligent care will certainly bring a better yield and will increase the value of his property, the farmer will be in a fair way to become his own forester.

Conservation of Moisture in Soil.*

In the annual report of the work of the Experimental Farms for 1903 are given the results of observations on the conservation of moisture in orchard soils made by the chemist, Mr. Frank T. Shutt. The object of the experiments was to determine the

effect on the content of moisture in the soil which would result from different methods of treatment. The experiment was of course a local one, but the results are on the whole of general application. They have a special significance for those parts

*Contributed by the Officers of the Canadian Forestry Association.



BY THE ATHABASKA.
The Cowan hunting party in camp.

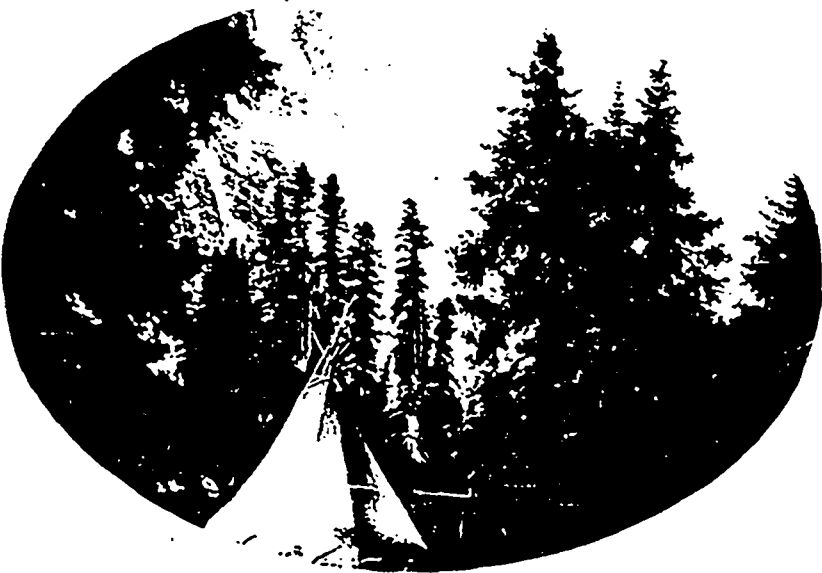


ON THE DIVIDE.
Hunters camp in the Yellow Head Pass.



JASPER LAKE

Mr. C. G. Cowan's pack train in the Yellow Head Pass.



CAMPING NEAR TIMBER LINE.

Mr. C. G. Cowan's tepee pitched near a glacier.

of the West where the rainfall is light, and emphasize clearly the advantages of cultivation of the soil, whether in the growing of orchard or forest trees.

The observations at Ottawa were made during the months of March, April, May and June, and the time was particularly favorable for such work inasmuch as the rainfall for that period during 1903 was much below the average. The precipitation was in March 1.96 ins., in April 1.15, in May 0.24, and June 1st to 5th, none, a total of 3.35 ins., while the average for

five previous years for that period was 11.30 ins. The soil samples upon which the determinations were made were taken to a depth of 11 inches and consequently the percentages and amounts of water given in the following table are those present in the soil to that depth. The plots adjoin one another, the soil throughout the series is of a uniform character, a light, saucy loam, and the moisture content after the autumn rain of the previous season, as determined in November, 1902, when the winter set in, was practically identical for them all.

CONSERVATION OF SOIL MOISTURE

Date of Collection.	Plot A. Cultivated 1902 and 1903.			Plot B. In sod 1902 and 1903			Plot C. In sod 1902; Cultivated 1903.		
	Per cent.	Pounds per acre.		Per cent.	Pounds per acre		Per cent.	Pounds per acre.	
		Tons.	Lbs.		Tons.	Lbs.		Tons.	Lbs.
1903									
May 14th	12.03	261	1218	5.32	107	982	11.85	257	327
May 23rd	12.05	277	89	4.78	96	60	6.51	133	431
June 5th	7.76	160	1880	3.03	59	1552	8.01	187	247

At the date of the first examination, May 14th, the analysis showed the amount of moisture in the soil of Plot A. to be 12.03 per cent, about three per cent less than it was in the previous November. Much of this loss might have been prevented by earlier cultivation, the first harrowing and formation of the earth mulch being only two days before the collection of the sample for analysis, viz., May 12. Nevertheless, the soil was quite damp, both to the touch and in appearance. So far as one could judge it appeared to be amply supplied with moisture for the requirements of the orchard trees.

Between May 14 and 23 the rainfall was scarcely more than one-tenth of an inch (.12). This probably was not sufficient at any time to thoroughly dampen the surface of the soil, for the precipitation occurred on four days of the interval and on no one of them exceeded more than a few hundredths of an inch. Practically speaking, it evaporated as soon as it fell, without benefiting the soil.

Now in spite of this adverse condition, this soil, by reason of its mulch, was able to hold its own; indeed, its moisture at

this date was some half a per cent. higher than it was nine days earlier. No doubt there had been loss by evaporation from the soil, but the loss had been more than compensated for by water brought up from the subsoil by capillary action.

Between May 23 and June 5, a period of thirteen days, but three one-hundredths of an inch (.03) of rain fell. During the latter six days of this period there was absolutely no precipitation. Under this condition we find the moisture-content of plot A considerably reduced. This soil now held but 7.76 per cent. water. Probably if it had been cultivated again in this period (the previous cultivation had been on May 12th) it would have had a higher water content. As it was, the drying out process had affected the soil for more than a foot. It still contained, however, over 160 tons to a depth of 14 inches.

Plot B, which by May 14th was covered with a heavy growth of grass, green and luxuriant, contained less than one-half of the moisture in A, viz., 5.32 per cent. This means that somewhat more than 150 tons per acre, to a depth of 14 inches, had been lost from B, by remaining in sod, lost by

the growth of the grass and the capillary action that had been set up by allowing the soil to remain unstirred. The earth of this plot was already assuming a powdery condition.

During the second period this plot continued to lose and showed $11\frac{1}{2}$ tons less moisture per acre than at the date of the preceding collection.

The final examination of this soil showed it to be in a condition of powder. It had no adhesiveness and had the appearance of a soil thoroughly dried by exposure to air. Its percentage of moisture had been reduced to 3.03, having lost 48 tons per acre since the date of the first collection three weeks previous. The grass was still alive, but showing very little vitality and no growth. The leaves of the orchard trees growing in the sod had begun to shrivel and fall. It was evident that unless rain came very shortly these trees would succumb. It is important to note that under these extreme climatic conditions the soil of Plot A. possessed 100 tons more water per acre in the surface 14 inches than that of Plot B., a very considerable amount.

In Plot C the sod had been turned under on April 13, one month previous to the date the first observation was made. Its moisture content was somewhat less than that of Plot A., but the difference is comparatively insignificant. The results of this plot give satisfactory evidence of the importance of turning under the previous cover crop at an early date in districts likely to be visited by a spring or early summer drought. By this means it is seen the moisture may in a very large measure be conserved.

The second examination showed that the

soil of this plot had dried out very considerably, losing almost half its waters. This was undoubtedly due to the fact that the turned over sod was not immediately disc-harrowed and an earth mulch formed. The drying atmosphere and winds freely permeated the heavy sod, abstracting its moisture. This points to the necessity of immediately discing and cultivating after the ploughing under a heavy sod, in order that capillary action may bring up water from below, and that a mulch may be formed that will prevent or retard its loss through evaporation. This plot was not disc-harrowed until May 29.

In the last period Plot C. contained 8.9 per cent. of water, an increase of practically 2.5 per cent. over that it possessed on May 23. This, it is considered, was owing to the disc-harrowing it received on May 29, followed by cultivation. By these means not only was surface evaporation largely arrested, but capillary action was set up, which enabled the surface soil to draw upon the water content of its underlying soil.

This drought had taught a very important lesson in orchard soil management. It has emphasized the very exhaustive character of sod as regards soil moisture. It has furnished proof of the immense value of cultivation in arresting the drying out of soils, and lastly the necessity not only of early ploughing under the cover crop in districts where drought is likely to prevail, but also the desirability of further working the soil by disc harrow and cultivator in order to again set up capillary action with the underlying soil, as well as to create an earth mulch to prevent surface evaporation.

A Canadian Canoe Trip.

By CHAS. J. CAMPBELL.

'Twas on a bright day in early June that we launched our three canoes in the waters of the Scugog at Lindsay, Canada, equipped for a two weeks' canoe and fishing expedition to Hollow Lake, about one

hundred and twenty-five miles to the north, in the Lake of Bays district.

There were six of us; two sons of the forest, Zack and his husky boy Beaver, of the Ojibway tribe; and four pale faces from the sky scrapers of New York. There

astute politician and official jollier of the party; "Cinders", agent for a patent rod for babies of all ages, "Gaffer", who kept with his new patent gaff guaranteed never to "miss 'em"; and "Cascar", who worked while others slept.

The Indians of course were expert canoeists, and "Guv" likewise was no stranger to the paddle. The rest of us, while more or less familiar with the paddle in our boyhood days, were utter strangers to the canoe. By earnest application to business however, we learned to work our passage.

We did no fishing of consequence until the late afternoon as we neared Fenelon Falls at the head of Sturgeon Lake, which is a capital spot for lunge. Just here Cinders hooked and engaged in battle one of those sturdy warriors of the water. Almost simultaneously with the strike he leaped clear from the water, and we saw he was a monster. All hands dropped everything and watched the fun, meanwhile, of course, yelling words of encouragement and advice to Cinders. To Cinders it was the fight of his life, and to the lunge a fight for his, a fact which both man and fish appeared fully to realize. Cinders finally coaxed him in near to the boat, only to see him turn tail and run till the bunch of line left looked dangerously small. "Give him the butt," yelled Zack, "or he won't stop till he gets to the other end of the lake." Cinders promptly obeyed orders, both rod and line doing duty in a way to make a fisherman's heart glad, and before many minutes master lunge was sufficiently played to enable him to be brought to the gaff. We weighed him when he went ashore, and he tipped the scales at nineteen and one-quarter pounds. It was our record fish, and Cinders, as he had a right to be, was certainly the proudest man in Canada that night. We caught some good bass, too, but they were totally eclipsed by the lunge.

After supper, and we had gathered sufficient cedar for our beds, we built what Dr. Van Dyke has so beautifully called a "friendship fire" around which we sat and swapped experiences until, wearied with the exertions of the day, we turned in and slept as only tired men can.

The following morning we were up and

was "Guv", Canadian born and bred, the away early, carrying our canoes over the locks at Fenelon Falls, and paddling smartly through Cameron Lake, in order to get some good bass fishing in the fine pool at Rosedale Locks before the sun got too high. We equipped Beaver with a minnow hook and he jerked them out so fast that he kept us all supplied. Cascar caught three bass in succession here, which aggregated ten pounds in weight. The largest weighed exactly four pounds. He was lured from a deep pool at the foot of some rapid water, which made it difficult to reel him in. Again and again Cascar brought him up only to have him take the bit in his teeth and run away. He was finally brought within reach, however, and finished his career and his last fight in the jaws of Gaffer's automatic gaff, a martyr to science and man's desire to kill.

The fishing was so good that we tarried here until dinner time, after which our flotilla proceeded on up the river into Balsam Lake, at the northwesterly end of the group, known as the Kawartha Lakes, and certainly not surpassed by any of them in the beauty of its scenery or the quality of the fishing. There was just enough of a breeze to make the trip across the lake delightful. Camping time found us on the Gull River just below Cobocouk. "There is a tavern in the town" here, and we attacked it in force for lemon soda the following morning. We asked the worthy gentleman who served us whether the soda was cold. "Wall," he said, "I don't just know, and I haint got no way o' tellin'." He looked surprised when we suggested ice. But we finally got the ice, and were thereby enabled to touch the necessary spot.

During the next hour we lived the strenuous life, and no mistake. For the three miles between Cobocouk and Little Mud Turtle Lake the Gull River is not exactly a flowing stream, but, rather, a gliding one. Cinders and Guv nearly had an upset in what a very famous angler might have described as "their excessive strenuousity against the silent force of nature," but we all finally reached the peaceful waters of the lake above, very much out of breath and entirely dry.

Between Little and Big Mud Turtle lakes there is another fine bass hole, in which

we tried our luck with good success. Gaffier caught a four and a quarter pounder here. Cascar tried his trolling spoon most faithfully in the pool, but only had his labors for his pains. He explained his persistency with a fish story for which Guv very positively vouched; so "dear reader", it must be true.

"I was fishing here a year ago for bass," he said, "when I got what felt like a perch bite, and as I started to pull in my line to see whether my bait was gone I had a strike which left me in no doubt as to what was on the other end of my line. My boatman was rather deliberate in his movements and I told him to watch out sharp for orders. I played that lunge for about ten minutes on my right rod and just as I was telling Guv to watch the artistic way in which I would bring him to the gaff, that monster started toward the boat—bent for election. I yelled to the oarsman to pull out lively, but by the time he got busy and under way my lunge got plenty of slack line, jumped clear out of water, waved his tail in a fond farewell, and was gone. I reeled in and found a five-inch perch with my hook completely swallowed. The lunge had never been hooked at all; he had just been hanging on by the skin of his digestive apparatus, so to speak. Two or three times afterwards either that or another lunge chased perch in quite close to the boat, but we never could get him, and we named it the Jonah hole. I thought my old friend might still be here, but there seems to be nothing doing."

That afternoon in the Norland River we encountered a log drive, which completely blocked the river. This meant either a 24-hour wait or a boat drive for us, on a hay wagon, over about three miles of rough road, to get around the logs. We voted no delay and the overland route at the end of which we camped for the night.

The following day, our fourth day out, we made a big run, going through Moore's Lake and up the river to Minden, with only one stop for fishing with indifferent success. At Minden we added a few things to our stock in trade, and wrote our less fortunate friends at home that this was to be our last post office and we should be

lost to the world until we emerged from the forest either there or at Dorset.

We portaged by wagon from Minden to Mountain Lake, about three miles, arriving at the last named place just at dark with a thunder shower fast approaching. The distance from the road to the lake was about one hundred yards, across a little clearing of pasture land, upon which stood a settler's cabin. Of all the people we encountered in that country these were the only ones who were not hospitable and generous. The mistress of this cabin was determined we should not cross her land. The Guv, with all his tact and wiles, could not procure her consent, and the shower was getting nearer and nearer. Zack proposed that we drown the woman. She interrupted our very serious consideration of this proposition by offering to allow us to cross upon payment of the sum of twenty-five cents. We had not thought to offer her money, never realizing that it was simply a hold up. She said we might also camp on her precious real estate for ten cents more. We squandered the money and accepted both offers. The next morning while selling us two quarts of milk for fifteen cents (most settlers up there would not take any pay for milk) she said:—"You're Americans aint you?" We pleaded guilty. She said: "Do you know John Rockefeller, the oil man?" We told her we did not belong to his Sunday school, but we knew of him. "Well," she said, "he is a second cousin of mine." Then in that hour were all things made plain, and Cinder's lightly nummed:

"Full many a flower is born to blush unseen
And waste its sweetness on the desert air."

The following day we covered Mountain Lake and Kashawigamog Lake and reached the portage to Lake Boshkong, about two in the afternoon. We had dinner before tackling the portage, which was about half a mile in length, and seemingly, a quarter of a mile in height. We were all over, bag and baggage, by four o'clock, and as a storm was imminent and we were all pretty tired, the motion was unanimously car-

ried to join the Ancient Order of the Sons of Rest for the balance of the day. We had just time to pitch the tent and stow our things away under the overturned canoes before the shower struck us. The rain ceased as suddenly as it began, in a burst of sunshine, and we posed for our photographic artist. You will observe that Guv is industriously engaged in tonsorial art, the effect of a little local (feminine) color we had observed moving about a settler's cabin across the narrow lake. He cheerfully volunteered, a little while later, to cross the lake and ask the fair damsel we had observed from camp whether she could spare a chicken for our supper. Of course he got a chicken; one which might properly be said to be in its second springhood. Gaffer carved it with an axe and asked Guv what part he preferred. "A little of the dark meat," said Guv. "And Cinders, how about you?" Cinders said he would have "a little of the light meat." "Now see here," said Gaffer, "you fellows will have to be more specific than that; how am I to know whether you want a leg or a wing or a piece of the breast? Can't you tell what blooming part of the animal you choose for your own? Would you say to your sweetheart, for instance, 'Won't you come and sit on my dark meat and rest your head on my light meat?'" We all agreed that his point was well taken and gave him no further cause for complaint.

We found Lake Boshkong to be long and narrow, with fairly high hills on both sides, and the wind which swept its waters into white caps that day gave us all we could handle to keep on top, let alone make much progress. However, by steady paddling, we finally reached its northern end and passed through the narrows, which are not over fifty feet wide, into beautiful Lake Sanora. In the middle of Lake Sanora on a rugged little pine-clad island, we found Dr. Humphrey's "shack", as he calls it, in reality a very comfortable camp. That genial gentleman was at home and welcomed us with the hospitality for which he is famous in that country. He spends a large part of his time on this little island, has stocked the lake with salmon and lake trout, and is a thorough sportsman. We learned from him

that our easiest way to get to Raven Lake, which was one of the chain on the route to Hollow Lake, was to go back to the head of Boshkong and get a settler who lives there to bring the hay rack into play again on the overland route.

On our way back through the narrows we saw a beautiful doe, of which Gaffer tried to get a snap shot, but before we got near enough for a picture, she took fright and bounded into the bush. We pitched our camp there and caught a few of Dr. Humphrey's salmon trout for supper. For bait we used live minnows on an "Archer Spinner," than which there is no better bait to be found.

The following morning early we started on the four mile journey through the woods, keeping well ahead of the wagon, and ever alert for a sight of deer, which are very plentiful through there. We saw many fresh tracks, but no deer. We reached Black River about eleven o'clock, and instead of turning to the right, as we should have done, and thus working into Raven Lake, we decided to try Black Lake, recommended by a guest of Dr. Humphrey. We got there in time for dinner and found an abandoned lumber camp. The camp would be an ideal spot for deer hunters, in fact we saw a fine buck across the lake just after dinner, but we satisfied ourselves that there were no fish of consequence in the lake, so we started out about four o'clock in the afternoon and by many portages and carries we managed before daylight was gone, to get our craft and outfit up the rapids and around water falls "to the point or place of beginning," as the lawyers say, where we unfortunately turned to the left in the morning. We were very tired and more than hungry and would gladly have camped then and there, but the black flies made it simply impossible, so we launched our canoes and pushed on, hoping to find a more hospitable spot, where the temptation to swear was less irresistible.

As we proceeded the river, which is really only a creek, developed into a swamp through which it became rather difficult to find the channel. This wound up at a log jam over which we lifted our canoes only to find a lot of dammed logs. There are times, on every extended canoe

trip, when one wishes he had an airship attachment, and this was one of those times. It was a night of difficulties. We eventually got to what we believed to be Wren Lake, from which we had been told a narrow winding channel led into Raven Lake. We spent an hour looking for the channel, which proved to be too shallow in two or three places to float us over. As we were wading along, dragging the canoes, Gaffer lifted his eyes heavenward, and inquired: "Oh why did I ever leave my happy home?" "Just for fun, old man," said Cinders, "and think what a lot of it you are having." One more short carry, over another dam, put us into Raven Lake, which was flooded with moonlight, and tired as we were, our spirits rose at the beauty of the scene. There was no swamp land here; no land at all, in fact, that we could discover; nothing but stone. We were finally fortunate enough at one o'clock in the morning to find an island of rock, which was flat enough to lie down on. We built a roaring fire, wrapped ourselves in our blankets, and lay down, feet toward the fire, with that rock for a bed and the heavens above for a roof, and slept the sleep of the just. We naturally felt a little rocky after that night, but a good breakfast and dry clothes and a bright day make a strong combination, and we bravely tackled the half mile portage to Gun Lake.

If it is your ambition to catch big fish, go to Gun Lake. It is angler's paradise. It is a mighty hard place to reach, as you have doubtless observed, but if this were not so it could not be a paradise in the very nature of things.

Our party caught salmon trout there all the way from three pounds up to eighteen. We hesitated to go in swimming, for fear they would eat us alive; they were so ravenous. We found bushels of huckleberries, too, and they were a most welcome addition to our food supply. The place proved altogether so attractive that Gaffer, Guv and Cinders decided to remain there, while Cascar and the Indians went on. They started about three in the afternoon and reached Hollow Lake about three hours later, the journey being easier and shorter than anticipated. They remained

there from Saturday evening until Monday morning, during which time they saw three bear and five deer, and caught about one hundred brook trout. It was late for brook trout, and most of the fish caught were small ones. Hollow Lake and the streams running into it are great trout waters, however, and are reached with comparative ease via Huntsville and Dorset.

On Monday afternoon our party, once more reunited, and loaded to the teeth with huckleberries, started on the homeward journey.

On our way back we took in a settler's picnic on Humphrey's Island, to which the Doctor had given us a pressing invitation, and while there Guv acted as starter, judge and peacemaker for a "double ladies canoe race, open to all comers, for a prize of twenty-five cents." There was some discussion in our party about double ladies canoe races, but Cinders said that was all right; that "you never saw a double canoe, all canoes are single, but all ladies are not single." We asked him if he had ever noticed any double ones, but he waved us aside.

In the early afternoon we resumed our homeward course. As the twilight deepened and the stars came out and the moon rose over the hill tops, all reflected in the smooth waters of the lake over which our canoes glided so silently and swiftly, the beauty of the scene baffled description. Mile after mile we paddled, in unison, with no sound other than the rhythmic dip, dip, dip of the paddles, until Guv's fine baritone voice rose in song, in which one after another joined. Then indeed we made the welkin ring, and the sounds that were echoed and re-echoed across those peaceful waters, must have startled the wild creatures which inhabit the hills on either side.

We reached Coboconk Thursday evening, and as we were a little behind our schedule, we decided to finish our journey on the steamer which plies daily between Coboconk and Lindsay, and we slept on board the boat that night.

When we reached Rosedale the following morning, Cascar and the Indians left us for one more fling for bass. He rejoined us that evening and told a tale of marvellous

luck, which filled our souls with envy, but that, as Kipling says, is another story.

We spent that last night together at Guv's home in Lindsay and on the following day returned to the land of the free

and the home of the hustler, with a splendid coat of tan and pleasant memories of a vacation trip well worth anybody's while.

The White Cedar.*

The Cedar is a well-known name, for besides its common use in Canada, it is frequently mentioned in ancient literature. The Cedar of Lebanon was the principal wood used in the far-famed temple of King Solomon at Jerusalem, and it had also special functions in connection with the offering of sacrifices. The temple of Diana at Ephesus, which was one of the Seven Wonders of the World, was constructed of cedar. This wood, therefore, occupied an important place in ancient times and its use was not confined to temples, but it also found a place in the construction of dwellings. Another important cedar is the Deodar of India, described as a tall and beautiful tree and corresponding more nearly to the ideal of the elevated language of the old chronicles in speaking of the cedar than do the present representatives of the Cedar of Lebanon. By the Hindoos it is venerated as a sacred tree. The word cedar is variously derived from Cedron, the name of a brook in Palestine, from kaio, to burn, referring to the use of the wood in sacrifices, and from the Arabic word for power.

In America there are two species of trees that are popularly known as white cedar. One is a southern species, which does not occur in Canada, but ranges from the southern part of the State of Maine to the Gulf of Mexico, and is known scientifically as *Cupressus thyoides* or *Chamaecyparis spherioidea*. The white cedar of Canada is, however, a different species, the scientific designation of which is *thuya occidentalis*. *Thuya* is probably derived from the Greek word *thyon*, a sacrifice, as the resin of the eastern variety was frequently used in certain localities instead of incense at sacrifices. *Occidentalis* means western.

An attempt was made by Michaux and others, but apparently without great success, to have the name white cedar confined to the southern species and to give the designation of *Arbor Vitae* to the northern tree. This latter name means "tree of life", but the reason for so designating the species is not known, unless it is from some supposed virtue of its berries. Gerarde, who had only seen the Canadian variety, said of it that of all the trees from that country this was "the most principal and best agreeing unto the nature of man, as an excellent cordial and of a very pleasant smell." He also states that it was sometimes called *Cedrus Lycia* and that it is not to be confused with the "tree of life" mentioned in Genesis. But then the distinguished author of the *Herbal* is not generally accepted as a high scientific authority.

The White Cedar grows usually in swamps or on cool rocky banks where the roots can reach water, although sometimes to all appearance it is growing on bare rock where there is no sustenance of any kind. The cedar swamp is a well-known institution in Canada. It has supplied fence posts innumerable, for which the lasting qualities of its wood make it specially suitable, and it has also furnished most of the poles necessary to meet the demands of telegraph and telephone companies. The wood is reddish and somewhat aromatic, and is soft and light. It is largely used for the manufacture of shingles, no other wood being used for that purpose at the present time in the districts in which it is found. As a railway tie it resists for many years the effects of contact with the earth and moisture, but it is not hard enough to bear well the

*Contributed by the Officers of the Canadian Forestry Association.

weight of the rail, or to hold a spike firmly and is never used on curves where naturally there is a special strain on the holding powers of the ties. The lightness induced the Indians to select it for the ribs and frames of their birch bark canoes and it is one of the materials now used for the construction of wooden canoes.

Thuja occidentalis belongs to the Order Coniferae, or the cone-bearing trees, but to the division designated as Cupressineae in which the cones are reduced to small dimensions and consist of only a few scales, having frequently more nearly the appearance of berries than of cones. In the *Arbor Vitae* the staminate and fertile flowers appear in spring, the latter developing into the somewhat ovoid, light green, clustered cones, which finally turn brown and open wide their scales, letting loose the seed. The true leaves are small and scale-like or awl-shaped on flattened branchlets, what are popularly called the leaves being in reality twigs. When bruised these twigs have a pleasant aromatic odor. They lend themselves readily to decorative purposes and wreaths and festoons are made from them for churches and houses at the Christmas season. The bark is gray outside and cinnamon red below. It is fibrous and may be stripped from the trunk in long, thin layers. As a consequence it was one of the materials used by the Indians to sew up the birch bark vessels which they manufactured for domestic purposes.

Usually the white cedar does not reach a large size in Canada, two feet being about the greatest diameter, but there are giants that have reached close to five feet in that dimension. The height does not, however, correspond to that of other species of similar girth, as the cedar tapers from the base much more decidedly than most other species and therefore does not attain the same elevation. This is a character that is distinctly noticeable and is one reason why the white cedar was seldom manufactured into boards or used for building purposes. It is a tree of slow growth and the reproduction of the now rapidly diminishing supply will demand a long period of time.

The cedar swamp perhaps does not recall to most people any great sensations of pleasure. To the farmer it brings up the

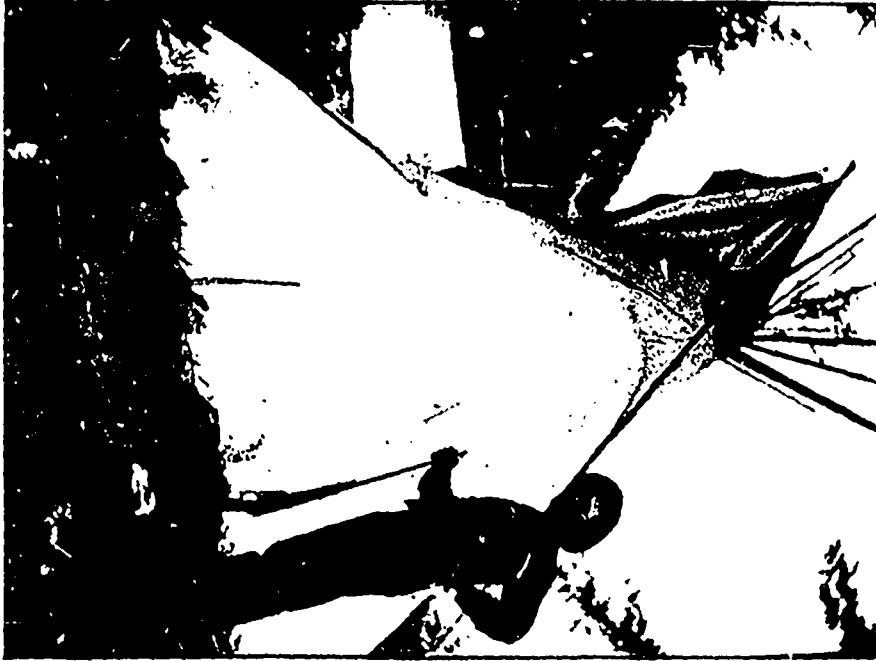
memory of hard labor at getting out posts and fencing, to the person who may have to traverse it in summer a mixture of uncertainty as to his footing and of exasperation at the obstacles in his pathway. Sad memory recalls the day when the writer attempted the feat of passing through a close growth of small cedar with an extended fishing rod. The rod had a will of its own and frequently chose its pathway without regard to the wishes of its owner; it flirted with every twig and attached itself to every bough, while the dead branches snapped back in his face and the mosquito sang its pean of triumph in his ears. Truly the situation was an exhilarating one. Heat and perspiration and strenuous remarks abounded. The smoke that ascended was not that of incense nor was it calculated to bring down blessings on the groves. Prejudices may thus be formed which are not easily broken.

But the white cedar has beauties peculiarly its own and particularly in contrast with other trees. The shades of green in the coniferous trees vary with the species and the *Arbor Vitae* is the lightest of all. The dark pines and the glaucous white spruce, the sombre hemlock, the red cedar, these and others, each has its peculiar tint and the lighter shade of the white cedar relieves with a touch of brightness the more sombre coloring which its darker relatives give to the landscape, and helps to complete such a picture in one color as only Nature itself can produce.

Thuja occidentalis is almost unknown in Nova Scotia, but is plentiful in New Brunswick and farther west. Its northern limit is about James Bay and the Albany River and it is found as far west as Lake Winnipeg with an outlying tract at the mouth of the Saskatchewan River and at Cedar Lake.

The Western White Cedar, *Thuja gigantea*, of British Columbia, is another species of this genus, and although generally designated Red Cedar is scientifically classed with the *Arbor Vitae*. On account of the sharp pointed short fronds it is impossible to grasp the foliage with the naked hand, and this renders this tree easily distinguished.

It is thus described by Professor Macoun: This is one of the finest trees of Western



A TEEPEE AND GUIDE.
A combination that worked well in the Rockies last year.



DOYLE ASHLEY'S TROUT.
Weight 24 lbs., length 42 in.; taken in Lake Minnewanka.



IN THE ROCKY MOUNTAIN PARK.
A point on the south shore of Lake Minnewanka, 16 miles from Banff.

America, both as regards height and diameter. On the line of the Canadian Pacific Railway it first appears as a shrub on the mountains about Kicking Horse Lake. at an altitude of 6,000 feet, going westward down the valley of the Kicking Horse, it soon becomes a small tree, but in the Columbia valley is rather scarce until about ten miles below Donald, where it forms large groves, and in the valleys of Beaver Creek and the Illecillewaet in the Selkirk Mountains, it reaches a height of over 150 feet with a diameter of frequently over ten feet. It occurs abundantly, and well grown in the lower parts of the lateral valleys of the Columbia-Kootenay valley on the northeast side, south of the Kicking Horse, but does not descend into the last named great valley which has a comparatively dry climate. In British Columbia this tree abounds along the coast and lower parts of the rivers of the Coast Range, northward to Alaska,

but is unknown in the dry central plateau, yet it appears abundantly on the slopes of the Selkirk and Gold Ranges.

On the coast the Indians manufacture their large canoes by hollowing out the trunks of these trees and such canoes sometimes show a depth of six feet from the level of the gunwale to the bottom.

One of its chief uses is in the manufacture of shingles and the larger proportion of the supply of the west comes from it. Naturally there is no difficulty in having them any width that may be required. Some of these shingles have already reached the East and it may be expected that as the eastern supplies diminish this will be more frequently the case and if values and freight rates reach anything like a reasonable proportion even the long rail haul may not prevent such a trade being established. The east must look to the west for more of her needs in the future.

A Satisfactory Tent.

By N. CAUCHON.

The following notes regarding a very serviceable form of tent may prove interesting to the readers of Rod and Gun. The tent in question was originally designed, and then made, for use during explorations in the Rockies—where transport was by pack horse, when not, as was frequently the case, limited to man power.

The requisites sought were lightness and the greatest available amount of space. The writer made the first tent for use during the summer of 1894, which he spent in the Kicking Horse Canyon; this was of white, 8-oz. duck and weighed twenty-two pounds with its ropes. Subsequently, a tent of brown duck was made, the change in color being deemed advisable for several reasons. Firstly, when using pack horses the tent is the last thing to go on the load, before the Diamond Hitch is thrown. It covers the load, but as the pack is high and the tent "floppy", you have, in putting it on, to give it a toss in the air, so that it will drop into place well

spread on the load. This necessary flourish frequently gives your pack pony an excuse for a case of "nerves", and your freight is bucked off and scattered up and down the hillside, or along the trail as the case may be. The pack horse is not so liable to see ghosts when brown duck is used instead of white as the material for the tent.

Secondly, the writer, being a photograph fiend, found that brown duck shuts out more light than white, and so permits the use of the tent for dark room purposes, when it would, otherwise, be impossible to use it. Moreover, and do not think me lazy in saying this, it permits one to sleep a little longer, and bed is often a good place to be in when there is no particular rush on.

As regards size: my tents were made of five strips of canvas, a width in the centre on one side being removed, the doorway being covered by a flap two widths wide, with a double row of rings and straps

to make the overlap tight when desirable.

Having the door at the side presents many advantages. In bad weather it can be propped up as a porch, and I eventually evolved wings that snapped on either side, joining it to the slope of the tent and cutting off wind and rain when in place. On a fine cold night, with a fire in front of the doorway, the flap may be thrown back over the ridge pole and the tent itself opened back allowing all the heat to penetrate and be reflected from the back wall. It is eminently a sociable tent; much more so than the usual "A" pattern. It has two further advantages, one is that it has more available room for the same size than those of the "end door" species, and, consequently, that in bad weather the beds need not be disturbed, as they are on either side of the aisle, which runs beneath the ridge pole; beds are made up with feet to the door and heads to the end of the tent, so that one can get up and go out without stepping on the beds.

The writer had a tent of this kind out with a party of four all cold, and was away three months, with eight pack horses and saddles, about 1500 pounds of baggage,

during a journey of 350 miles through the roughest ground in British Columbia, ground which necessitated the cutting of 60 miles of new trail, and the tent answered every requirement and gave the greatest satisfaction. One of the practical features of the pattern is that you may pile your saddles, packs, and ropes in the aisle over night, thereby keeping them dry, and anyone who knows the difference between using dry and wet ropes for packing will appreciate this feature. With a wet rope, no matter how well the Diamond Hitch may be thrown, the packs will work loose often more than once, causing great delay to the pack train.

This form of tent is also very easy to put up by one man, even in half a gale, and in big timber, where there are no small poles available, a rope strung between two trees answers as a makeshift ridge pole and support.

I have already given the length of the tent, the ends are equalateral triangles of seven and a half feet side. The ridge pole should pass out through the ends of the tent by circular openings, the supports being outside the tent.

A Lake in the Far West.

By VIOLET L. ASTLEY.

Away out in the far west in a part known as the National Park of Canada lies a lake deep down in the valley with mountains rising on either side of it to a great height.

This lake is known as Lake Minnewanka or "Devil's Lake". It measures twelve miles long and one mile wide in the widest parts and about three-quarters in other parts. In places it is about three hundred feet deep.

In the deepest parts this lake is of a very deep blue outlined with a ring of green and in the shallow part along the shore it is a dark brown. These colors cannot always be seen so rich as at other times. When the sky is very black and a storm coming up the colors are very rich (the blue being deeper than the sky ever is

in these parts) but when the sky is blue and the sun shining brightly the water is of a brownish hue.

At the western end of Lake Minnewanka, situated about two hundred yards from the water's edge, is a nice comfortable chalet to which visitors are received with a hearty welcome. Often in the summer gentlemen and sometimes ladies go to this beautiful spot for fishing, some go for their holidays, others again for their health, but chiefly for fishing.

The fish caught in this lake are a kind of lake-trout or land-locked salmon, although that is about the only kind caught it is not the only kind there. A few years ago the government put some black bass in, but as yet none have been caught of this kind.

Very few sportsmen care for the fishing in this lake because the fish do not rise to a fly; they are trolled for. This is rather a slow way of fishing and does not make much sport in the end.

The bait used for this mode consists of a spoon (not too large) and two or three triple hooks with a little piece of fish wound round them. No fine gear is necessary, in fact more fish are caught with an old spoon and one triple hook tied to one end of a coarse fishing line than with a fine line and two or three feet of gut, with highly polished spoon and hooks trailing after it.

The largest fish that was ever caught in Lake Minnewanka weighed thirty-six pounds and the largest catch made in the last fifteen years is twenty-five in six hours.

This year (1904) a fish was caught in this lake weighing twenty-four pounds, by D'Oyly Astley (aged 13.) He caught it on an eight ounce steel rod, with line about the size of thread, which gave him great sport. After he had it on his line about half an hour he found it was too big for him to land by himself, and that it had towed his boat away out into the middle of the lake, where it was at least 200 feet deep.

There he knew he could not land it, and as he could not drop his rod to pull into shallower water, he had to call to his father to come and help him with it. When Mr. Astley got to him, he saw that it would be useless to try and land the fish in that water, as they would be sure to lose it, so he had to tow the boy's boat and the fish in to the beach to land it there, where he gaffed and killed it without any difficulty. This fish is now in the hands of the taxidermists in Calgary, and will shortly be seen in the government museum at Banff, Alberta.

Some three or four years ago two American enthusiasts from Fargo walked out to Lake Minnewanka from Banff (a distance of nine miles) to try the fishing. When they got there the proprietor of the Cha-

let told them it was rather late in the season to expect much of a catch, but that there was no harm in trying, so they hired a boat and tackle and left as soon as they could.

They rowed away up the Lake and out of sight of the Chalet, and remained so all day till about four o'clock in the afternoon; then they again appeared round the points and hurried back to land again as quick as they could.

When they landed they said they had caught two fish, one a lake trout, and the other was a different kind of fish altogether, in fact it was the first of its kind ever caught in that lake. This new fish had four legs and was a fur-bearing fish. It turned out in the end to be a wild cat, which they had caught on their way home.

The story they told was this. When they were on their way home, but still about three or four miles up the lake, they saw an animal on the beach some distance off watching them. When they drew nearer they saw that the animal was a wild cat. As soon as it saw they were coming towards it, it started to swim out to them. When it got to the boat, which was about one-hundred feet from land, it tried to turn it over with its paws, so as to get at the men, but they were too quick for the poor beast. They were up in arms in no time. One of them took an oar and hit him over the head three or four times. This of course stunned him a little. Then they pulled it into the boat and killed it, and rowed back to the Chalet as quickly as they could to show their prize.

It was very late when they landed, so they couldn't wait long; they just had some tea and bread and butter and started to walk back to Banff, carrying their wonderful catch on a pole between them.

They arrived at their hotel late that night and were very tired. The next morning they showed their wild cat to all in the hotel, who were very much surprised at this new kind of fish.

This is the only one of that kind of fish ever caught in this lake!



Our Medicine Bag.

A somewhat serious bush fire occurred in the Biscotasing district in Ontario in July, but no report was received of the loss. The locality was well patrolled by fire rangers, who did effective work in preventing the spread of the conflagration. The blaze was finally put out by a heavy fall of rain.

The Ontario Crown Lands Department has been informed by the rangers in Algonma Park that the capercaillie from Norway, which were placed in the reserve last year, have weathered the severe winter, and are becoming acclimatized. One nest, containing seven young birds, was found. The capercaillie is a game bird about the size of a wild turkey.

In the vicinity of the Crow's Nest Pass branch of the Canadian Pacific Railway serious forest fires are reported. There had been no rain in that district since the end of May and as a result a number of fires were started and seem to have got beyond the control of the fire rangers. It is hardly likely that the loss of valuable timber will be prevented.

We can make ourselves masters of the great forces of nature only by calling to our aid other forces of the same origin. Inert masses of masonry will never pro-

duce the same results as the millions of living entities, such as the trees, the bushes, the herbs, the mosses, the innumerable inferior organisms, animal and vegetable, of which the whole constitutes a forest.

Are there moose in the foothills of Alberta? The answer to this question will be found in one of our illustrations, which shows a moose shot near Rocky Mountain House by an Indian, and now in the possession of Mr. Jesse Stewart, Innisfall, Alberta, who, by the bye, is willing to part with it for a consideration. The head is a very symmetrical one and better than the Manitoba heads.

The "Queen" Book of Travel is a handbook of information upon travel, published by the great English woman's weekly. It has been compiled by the travel editor, and he has done his work well, so far as he has gone—but British lands beyond the sea do not seem to have been included in his scheme, so the book has no bearing upon our particular field. The publisher is Horace Cox, Bream's Buildings, London, E. C.

Reports from the State of Montana state that serious forest fires have been raging in several districts. Some towns and villages were threatened and a number of buildings were destroyed. A fire was burning near Dayton Creek, a heavily timbered section, and it was feared that the forests would be wiped out. The county was covered with dense smoke and the burning

Sheep dog trials will be run in connection with the Canadian National Exhibition bench show to be held in Toronto 6th, 7th and 8th. Dogs need not necessarily be pure bred. They will be used for actual driving; first prize \$10, second prize \$5.00 in each class, and on the last day of the show the championship will be decided for a silver cup. Each dog will be required to take three sheep from the fold, past obstacles and over a bridge in less than fifteen minutes. Obedience, activity, steadiness, wide working and penning will be considered in awarding the points. This is the first attempt at sheep dog trials to be held in Toronto. Entry fees \$1.00 for each dog.

The Winchester Repeating Arms Company has issued a big game hanger, that will challenge comparison with any heretofore issued. It is, we understand, a reproduction in color of a photograph taken in the Rockies. A hunter, of the frontiersman type, has made a successful shot at a fine bighorn ram, and is standing by it, with his Winchester (95 Model) showing with what weapon the deed was done. These hangers make capital decorations for the interior of a sanctum or den.

district was so extensive that the fire rangers could not control it.

According to a statement compiled by Mr. Geo. Johnson, Dominion Statistician, the number of mills employed in the manufacture of wood pulp in Canada during the year 1903 was 39, the output of which was 275,619 tons, an increase of 34,630 tons over 1902. Of this quantity, 187,871 tons were mechanical pulp, 81,808 sulphite and 2,940 soda. The total value of the output was \$5,219,892, of the amount exported \$3,013,441, leaving \$2,206,451 for home use. Of the export, Great Britain took \$865,826 worth and the United States \$1,890,448.

The Fish and Game Club comprising amongst its members the wealthiest and most influential men of British Columbia, met in extraordinary session recently in the Driard Hotel, Victoria, B. C., and unanimously passed a

resolution earnestly requesting the government to amend the Game Act so as to prohibit absolutely the sale of game of any kind in that province for three years. The club declares that unless this be done British Columbia will see the extinction of its game animals and birds, so fearful is the slaughter unceasingly perpetuated by the Indians.

Captain A. J. Kenealy is one of the better known writers on yachting in the United States, and, doubtless, needs no introduction to most of Rod and Gun readers, and they will be pleased to hear that his little work "Boat Sailing in Fair Weather and Foul", has just been re-issued in a sixth (and slightly revised) edition.

Boat Sailing has almost become a classic and a lengthy review of its contents would, of course, be superfluous—suffice it to say that no better 50-cent investment is open to the Corinthian sailor than this. The publishers are the Outing Publishing Company, 239 Fifth Ave., N.Y.

Catalogue No. 71 issued by the Winchester Repeating Arms Company of New Haven, Connecticut, U.S.A., contains a description of many novelties. The "405 Winchester Smokeless" is illustrated and described on page 48. A 300 grain bullet, driven by sufficient nitro powder to give it a velocity of 2150 feet second, must, naturally, have an extremely low trajectory and great smashing power, and an analysis of its ballistics show that these results have been achieved. At fifty yards, the height of the bullet is but 1.04 inches with the sights set for one hundred yards; and at 200 yards the trajectory at half range is but 4.86 inches. Moreover, this bullet and charge "holds up" well for the half range trajectory when firing at 300 yards is only 12.82 inches. The metal patched bullet will penetrate 48 dry pine boards $\frac{3}{4}$ inches thick at fifteen feet from the muzzle.

The 1903 Winchester Automatic Rifle .22 calibre is described and illustrated in this catalogue for the first time. We understand the demand for this little rifle has been phenomenal and that it is already a great favorite in Europe as well as in Canada and the United States. Ten shots may be

fired as fast as the trigger can be pulled. The recoil from the exploded cartridge ejects the empty shell, cocks the hammer and throws a fresh cartridge into the chamber.

Two new rifles will be ready by October 1. They are: a single shot rifle .22 calibre, much the same as the favorite 1902 model, except that it is fired by a thumb trigger and is listed at \$3.50; and a .22 calibre resembling the 1902 model, but with a longer, heavier barrel. This gun is stated by the manufacturers to be the biggest value ever offered in a weapon, whose list price is but \$6.00.

Since this catalogue was put to press, the Winchester Company has brought out yet another rifle, a modification of model 1895. It shoots the new rimless cartridge adopted by the United States government in connection with its new army rifle. The new cartridge gives a muzzle velocity of 2300 feet second, and a muzzle energy of 2644 feet distance.

This new catalogue and price list bears ample testimony to the success and remarkable energy of the company whose weapons are found in every land.

We are requested by the E. I. Du Pont Company, Wilmington, Delaware, to publish the following open letter to Mr. D. A. Plummer:—

“Mr. D. A. Plummer,

Dear Sir.—We wish to acknowledge receipt of your letter enclosing ten cents for a DuPont 1905 Calendar. However, you failed to tell us where to address you, and we trust you will enable us to “deliver the goods” by sending your full address.

Yours very truly,

E. I. DuPont Company,
Bureau of Advertising,
Wilmington, Del.”

In a recent issue we called attention to the very complete catalogue of rods, reels, flies and tackle issued by Hardy Brothers, of Alwick, England. Unfortunately there were one or two errors in our notice, and which we desire to correct. The catalogue is sent free to any part of the world—not upon receipt of a post office order for 1-6 (one and six pence) as was stated.

The types made us say that Hardy Brothers have contrived a steel “sinker”, instead of a steel “centre” for their built-up cane rods; moreover, neither they nor any other English rod maker had to borrow the split cane rod from America, for it was in fact an English invention, though our United States friends were the first to “catch on” and build these rods in large numbers. Messrs. Hardy build rods of cane, with or without steel centres. His Majesty the King of Italy has recently permitted this eminent British firm to use the Royal Italian Arms, and to style themselves “Manufacturers to His Majesty.”

Frances E. Herring is a very well known authoress whose previous works “Canadian Camp Life” and “Among the People of British Columbia,” have been well received. She now sends forth a third volume “In the Pathless West” which issues from the press of T. Fisher Unwin, London. The authoress deals with those early days

WINCHESTER REPEATING RIFLE MODEL 1895.

The Winchester Repeating Arms Co. announce that they have adapted their Model 1895 rifle, which for so many years has been recognized as one of the best big-game rifles on the market, to handle the new .30 U.S. Government cartridge. The Model 1895 as adapted to this cartridge is

round nickel steel 24-inch barrel, which makes it very handy for hunting purposes. The new cartridge, known as the .30 U.S. Government Model 1903, is a cartridge of the rimless type, carrying a bullet of 220 grains, developing a muzzle velocity of 2,300 foot seconds and a muzzle energy of 2,644 foot pounds, as against the muzzle velocity of 2,000 foot seconds and the



practically the same as the well-known Model 1895 for .35 and .405 caliber cartridges. The bore is .30 caliber, the same as the .30 U.S. Government cartridge, which has been used for the last nine years in the Model 1895 with such good all-around results, both for sporting and hunting purposes. The weight of this rifle is about 8½ pounds and it is fitted with a

muzzle energy of 1,952 foot pounds for the .30 U.S. army cartridge. The advantage of this cartridge becomes at once apparent because of its increased shocking power, and on account of the high velocity developed, the mushrooming quality of the soft point bullet is especially good. The list price of the Model 1895 as adapted for this cartridge is \$30 00.

when Colonel Moody and his Royal Engineers supported Judge Bebgie and preserved order among the sixty thousand red-shirted miners that swarmed up and down the Fraser in the early sixties, winning millions of gold from Hall's Bar, Boston Bar, Lightning and Willow Creek and other famous placers.

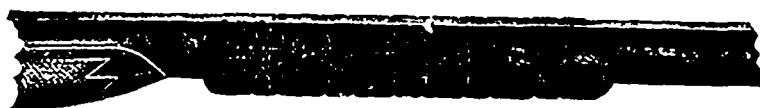
"In the Pathless West" is not a connected narrative of events, but a series of short vivid sketches of Frontier life in the good old B. C. days. Of course, the prosperous province of today is a long way ahead of the New Caledonia that once existed, yet a few there must be who regret the days that are not, for they were jolly in their way and the world went very well then; when the gray old-timers of today were young, lusty fellows with the wealth of a new world seemingly at their feet. The price of this book is six shillings.

The Ontario Crown Lands Department has received a report showing the amount of timber cut during last winter on the lands of settlers in the Timiskaming District. Among the three hundred settlers no less than \$232,788 was divided, the purchasers being J. R. Booth, the E. B. Eddy Co., and the Rideau Lumber Company. The detailed figures of the cut, with the value of the timber, are as follows:—

Pine, ft. b. m.	2,608,894	526,088.54
Spruce, ft. b.m	4,089,000	32,712.00
Tamarac, lineal	483,934	16,937.69
Cedar, lineal	3,611,212	91,030.19
Pulpwood, cords	13,232	36,388.00
Tamarac ties	202,029	24,243.48
Cedar ties	35,558	4,266.96
Jack pine ties	4,055	486.60
Cedar posts	10,572	634.32
		\$232,788.18

This shows the assistance which the lumber industry gives to settlement. It provides a market for the settler for the timber required to be cut in clearing his land, and after it is cleared he may still dispose of the products to the lumber camps. There are many parts of Canada where settlement would have been practically impossible or where at least its hardships would have been greatly increased if lumbering had not been carried on concurrently.

It is rarely that a bull moose is weighed, and estimates as to the probable weight of a moose in his prime vary startlingly, even among old hunters. Many think that a moose hardly ever goes above five or six hundred pounds; others feel sure that moose that have fallen to their own rifles weighed, at least, twelve hundred pounds



The J. Stevens Arms and Tool Co. of Chicopee Falls, Mass., write: We believe it will be of interest to your readers to learn that we have just brought out the "Stevens Hand Shield" which is intended as a protection against excessively hot barrels on Single Barrel Trap Guns.

This Hand Shield is especially adapted to our Single Barrel Guns Nos. 185, 190 and 195, with top ribs, as illustrated on page 69 of our catalogue No. 51. It is made of black walnut, nicely scored at intervals, so as to afford a good grip, and is bored with a taper so that it fits firmly to the

barrel. The top of the Shield is open and is held securely on the barrel by friction against the sides of the top rib. The shield is very light and adds practically no weight to the gun.

At present it is made only in one size, for our 12-gauge shot gun, and is about 7 inches in length; with an outside diameter of 1 3/4 inches, the inside diameter tapering from one inch to 15-16 inch. The width at the opening at top, where friction against the rib holds the Hand Shield to the barrel is 3/4 inch., tapering to 11-32 inch. The price of same is \$1.50.

It is satisfactory, therefore, to be able to give the exact weight of a big Alaska moose that was shot by Mr. David T. Hanbury, the English explorer and hunter, whose work on the Barren Lands has just been published. Mr. Hanbury shot a very large bull moose on the Kenai peninsula, which weighed as follows:

	lb.
Hide, paunch, intestines, lungs, liver and blood	275
Rump and part of back.....	180
Neck and forepart of back	215
One forequarter (without hoof)	115
The other forequarter	112
One hindquarter (with hoof)	135
The other hindquarter ..	134
One side of ribs.....	50
The other side.....	55
Brisket.....	50
Kidney and fat.....	30
Scalp, fat, forefeet, and extras.....	170
Skull and antlers.....	115

Total number of lbs.1636

The animal measured 7 ft. 2 in. from the withers to the ground, and 11 feet, following the curves of the body from the nose to the root of the tail. The horns spread 70½ inches. This moose is said to have been a large one even for Alaska.

Sportsmen of "All Sorts and Conditions" will find a plentiful store of interesting and informative matter in the August number of Baily's Magazine of Sports and Pastimes. The range of subjects covered is as usual, very wide, and it is noticeable that the policy of making a freer use of

King's Patent Triple Bead Front Sight, is a contrivance for giving the choice between a white bead, a black bead, and a gold bead. The King sight is changed instantly. The heads are made of tool steel, the bases of machine steel, the pins of stub steel, and the springs of the finest spring steel obtainable. The white ivory bead, is best for ordinary use, the black bead for snow or target shooting and the gold bead gives excellent results in timber and in a poor light. The price is \$1.50 and the maker, D. W. King, jr., 1417 Lawrence street, Denver, Colorado, U.S.A.

illustrations, to which attention was drawn last month, is adhered to. This feature adds very materially to the value of the periodical. The biographical sketch this month deals with the career of Mr. R. H. Rimington-Wilson, of whom a portrait appears as a frontispiece. He is the owner of the famous Yorkshire Grouse Moor, Broomhead, and some interesting details are given of the sport obtained thereon, during the season. When other English shootings fail, Broomhead may usually be relied on to afford what elsewhere would be deemed first-rate sport. The nature and

The name of Jaeger is known everywhere as standing for Purity and Excellence in the goods that bear it. To the farthest North with Nansen, through the dark continent with Stanley, to the Antarctic with Borchgrevink, their fame has been carried, and on the plains of India and the icefields of Greenland. Jaeger goods are known and relied on for absolute safety, comfort and protection from chill, whatever the climatic changes may be.

In Canada where the temperature varies from Arctic cold to sub-tropical heat, it is absolutely necessary to wear clothing which is adapted to great extremes, and this can only be secured by wearing Pure Wool throughout. The body being clothed in Porous Annual Fibre only, the skin is able to breathe and get rid of superfluous water and fat, which, under unsanitary clothing such as linen and cotton, it could not exhale, and the retention of which is a frequent cause of many supposed chronic disorders of the respiratory and digestive organs, rheumatism lumbago, etc. Under the Jaeger Covering, the flesh becomes literally hardened, acquiring greater specific weight, and the body is far better fitted to resist the attacks of disease.

The great variety of goods shewn by Dr. Jaeger's Co., 2206 St. Catharine St., Montreal, should be seen to be appreciated. Their illustrated catalogue (No. 1) however, gives some idea as to the various lines and will be sent by them free on application.

Dr. Jaeger's treatise on "Health Culture", a handsome cloth-bound book 200 pages can also be had for the asking.



AFTER THE SHOWER.
Damp but very happy.



IN FLY TIME.
On the portage.



A MINED BAG.
"Zack," "Beaver" and "Cascar."



OUR FIRST LUNCH.
No table but famous appetites.



CAMP GIBRALTA.
By Raven Lake, Ont.



DR. HUMPHREY'S CAMP.
By the shores of Lake Lanora.

situation of the ground are favorable for grouse, but we realize that the excellent results obtained are mainly due to skilled experienced management, extending over a long term of years. With "The Twelfth" so close upon us, an article on "Grouse Driving" will be read with special interest. A charmingly written article on "Summer Trouting on the North Country Rivers" by Mr. W. Carter Platts will appeal to all, and to anglers in particular. Mr. G. S. Lowe furnishes an interesting account of the horses and hounds at Peterborough. The Racing, Polo, Cricket, Fencing, Aquatics and other sports and pastimes of the month, are dealt with in separate articles or in "Our Van." These then are some of the features of an excellent number.

English shooting differs in many respects from Canadian, and it is not always safe to follow blindly the lead of the motherland, but when conditions are somewhat similar the results arrived at after profound study and prolonged English experiment may often be most valuable to us. Most winged game in the British Isles is now killed by guns that are in butts or

rides over which the birds are driven. A light, handy gun, bored to give an excellent pattern on the 30-inch circle at thirty yards, a fairly heavy charge of powder, and a light one of shot, have been found to give the best results on driven game.

The latest development in powders is the "33-grain nitro", so-called because 33 grains fill a measure set to hold a neat 3 drams of black powder. For a 12-bore using the 2½ inch or 2¾ inch. case, the charge is 33 grains and 1 oz., 11-16 oz. or 1¼ oz. shot, while a 2¾ inch. or 3 inch. case should be loaded with 37 grains or 39 grains powder and 13-16 or 1½ oz. shot. Experienced hands, usually select the 33 grain—1 oz. and 37 grain—1—3-16 oz. loads respectively.

The latest and undoubtedly one of the very best of these 33-grain nitros, is the smokeless "Diamond" sporting gunpowder, manufactured by Messrs. Curtis & Harvey. In a communication recently received, the makers of this new explosive say:

"The charge of 33 grains and 1 oz. is recommended as the most suitable one for this gunpowder in 12 bores, but there is no risk in making a difference of two or three grains either way. In fact for driven game, a charge of 35 grains and 1 oz. shot



This new Winchester .22 caliber take-down single shot rifle is the biggest value in a gun ever offered. It has a 21 inch heavyround barrel, adjustable rear sight, head front sight, with a bright alloyed tip which will not tarnish, a handsome highly finished Schuetzen shaped butt stock 13¼ inches long with a blued steel rifle butt plate. A well-shaped blued steel trigger guard affords a good grip and adds to the attractive appearance of the gun. The length of the gun over all is 37½ inches, with a drop at comb of 1¾ inches and drop at heel of 3¼ inches, and its weight is about four pounds. The action used on this

gun is of the widely imitated Winchester bolt type, and is exceedingly simple, consisting of very few parts. When the gun is cocked, the action is locked against opening until the firing pin falls. This permits carrying the gun cocked without liability of the action jarring open. The gun is cocked by pulling rearward on the firing pin, which is made with a curled head to afford a good grip. The gun will handle .22 short and .22 long rim fire cartridges. In appearance, balance, outline, and finish it compares very favorably with many much higher priced guns. The sights are accurately set by shooting at a target

will be found to give most splendid shooting, the velocity being very high, the pressure low, and the pattern well maintained. Anyone using this charge will immediately recognize its advantage, as the shot reaches the game with extraordinary rapidity, and the amount of forward aiming allowance is thus reduced to a minimum."

Capt. Ed. S. Farrow, late instructor of Tactics at West Point, and formerly a commander of Indian scouts, has produced a couple of works that should appeal with particular force to the readers of this magazine. One of them, "American Small Arms," is a perfect encyclopaedia, and is illustrated with upwards of five hundred engravings. We do not think that a more useful work on American rifles has ever been published, and it brings the work of the late A. C. Gould up to date. The theoretical side of the subject is not dealt

with very deeply. Capt. Farrow has preferred to give greater space to the practical and mechanical side of his subject. This was undoubtedly wise on his part, seeing that so many treatises have been written on the theory of explosives and projectiles. No matter how extensive a man's knowledge of American small arms, it is almost certain that he will find many rifles and shot guns described in this book that he has never heard of before, and moreover, they are all described intelligently and in plain understandable English. The publishers are the Bradford Company, New York. American Small Arms is issued only to subscribers, the price being \$5.00.

The second book, of which Capt. Ed. S. Farrow is the author, has been entitled "Camping on the Trail." Here the experience of the old campaigner shows up in every page, and we counsel our readers to procure a copy of this capital book if they ever have to go far back into the moun-

MARBLE'S IMPROVED REAR SIGHT.

After years of patient experimenting we now offer a rear or peep sight with special details of mechanical construction, which we believe will be appreciated by every one who has or intends to use a peep sight.

Instead of one threaded sleeve for elevating the disk stem we use two. The bottom sleeve acts as a lock nut to prevent the elevating sleeve from being accidentally turned, thus altering the elevation. The shoulders at the top of slotted stem sock-

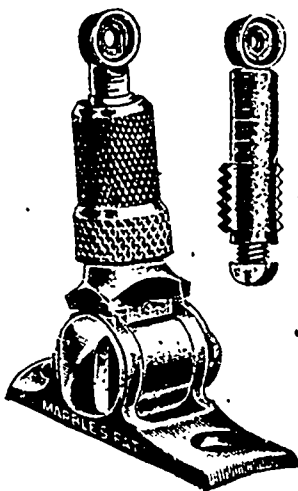
ets are tapered downward and the bore at tip of sleeve is counterbored to match, so that the action on the stem is similar to a drill chuck or bit brace. Thus the stem is rigidly held at any elevation and any lost motion that might occur by continued wear is readily taken up. No matter how worn the parts may become, the disk stem is always held in perfect alignment.

Another very important feature is the flexible hinge joint. When the sight is up in position to shoot, it may be pushed forward to the tang or rearward to the tang, but will return automatically and precisely to the correct position for shooting. To fasten the sight down, it is only necessary to fold it rearward to tang and push the locking button rearward until it engages with recess in bottom of standard. It will remain in this position until released, and only at the will of the user.

Another improvement is the screw at bottom of disc stem for adjusting sight to point blank range.

Can be used with any front sight, but used in combination with our improved front sight it is perfection itself.

In ordering always mention make of rifle, caliber and model. Price, perpaid, \$3.00.



tains. Chapters are devoted to The Horse, The Rifle, Medical and Surgical Hints, Equipage Supplies, Pack Mules and Packing, Marching, Camping, Indian Character and Chinook Jargon. This jargon is really a most interesting thing, although its vocabulary does not exceed some six hundred words, in fact scarcely more than two hundred words are commonly employed. In addition, however, many Cree words, Canadian French words, and, of course, numberless English words are introduced. One of the chapters that will appeal with special force to the big game hunter and explorer is that on cooking. It is surprising how little the ordinary backwoodsmen knows about the culinary art. It is all very well to take a cookery book into the woods and it encourages the hope that one is going to live famously, but when you find recipes that call for a whole lot of things that are never seen in camp, you begin to lose confidence in your book, and probably end by using it to light the fire, some day

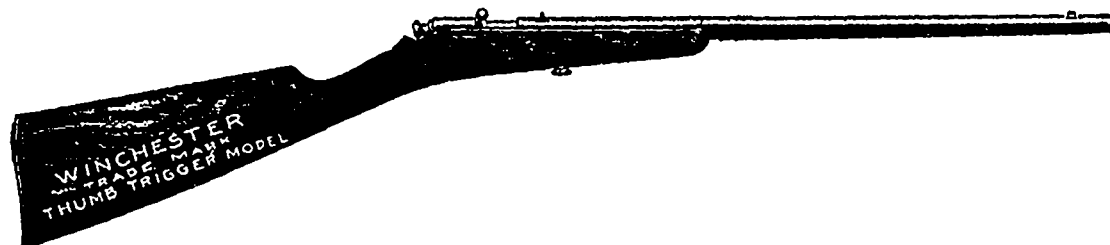
when the wood is damp and there is no birch bark to be had. The methods of cooking recommended in this book are practical and such as United States soldiers use when scouting and travelling light. "Camping on the Trail" is published by the American Arms Publishing Company, Lippincott Bldg., Philadelphia.

It is well known that under the magnificent protection afforded them, moose, caribou and deer are increasing rapidly in New Brunswick. The following from the St. John Globe of August 9th proves beyond a doubt that there will soon be excellent moose hunting within the precincts of St. John city:

"St. John people had the opportunity of witnessing an unusual spectacle this morning. This was a moose quietly stalking through a number of the principal streets, nibbling some of the bushes in King Square, and calmly gazing at shop windows and at passers-by, many of whom

The Winchester Thumb Trigger Model is a novelty in .22 caliber rifles. It has the same simple and reliable bolt action which made the Winchester Model 1902 such a popular gun and caused it to be so widely imitated. When the gun is cocked, the action is locked against opening until the firing pin falls. This permits carrying the gun cocked without liability of the action jarring open. The gun is cocked by pulling rearward on the firing pin, which is made

the shooter is not so apt to throw the gun off the object aimed at in pressing down the trigger as when pulling it in the old way. The Thumb Trigger Model is made with a rebounding lock. It is a take-down and is made with an 18-inch round barrel, and has a 13½ inch highly finished straight grip stock, having a drop at comb of 1½ inches, and a drop at heel of 2¾ inches. It is fitted with a checked rubber butt plate



with a muled head to afford a good grip. The Thumb Trigger Model will handle either .22 Short or .22 Long rim fire cartridges. As its name indicates, the trigger, which is located on the upper side of the grip at the rear of the bolt, is operated by pressing down with the thumb. Simplicity and quickness of action are features of the thumb trigger. It is also claimed that it is an aid to accurate shooting, as

attached with fancy screws. The length of the Thumb Trigger Model from muzzle to butt is 33½ inches. It is furnished with an open rear sight and with a Winchester patented front sight having a bright alloyed tip, which will not tarnish. The sights are accurately set by shooting at a target. Notwithstanding the low price at which this rifle is offered, it is made with the same care as our other models.

were evidently much more disturbed at the presence of the moose than was the animal itself at the sight of so many strange objects. On Monday evening a large moose made its appearance in Pokiok. This morning it crossed to Milford and was seen by several persons. Later on it took its way down the river and about half-past six it landed on the Strait Shore, passed up Sheriff street, down Main street and along Paradise Row. Needless to say it soon had a large crowd in its train. For some time it hung about Spring street and other thoroughfares in that vicinity, still attended by a curious crowd. At last it tired of that section of the city, and Charlotte street merchants were soon greatly astonished to see a full sized moose passing along in front of their stores. King Square was its next stopping place, but evidently anxious to get away from its unusual companions the animal trotted down Sydney street. This was shortly after nine o'clock and until half-past twelve the visitor wandered around the lower part of the city. At the latter hour, tired out and dripping with perspiration, it sought rest at the foot of Queen street. Here a crowd soon gathered and some of its members ill-treating the creature, Mr. Patrick Mooney had one of his teamsters place it upon a cart and drive it out to the country beyond Rockwood Park, where, free from dogs and its human tormentors, it is doubtless now reflecting upon its strange experiences. Mr. Mooney secured several pictures of the animal, which was a female, before having it removed.

As was to be expected, a number of different stories are now floating about. A moose was seen, so it is said, on Queen Square at an early hour this morning; one was seen swimming across the harbor from the east to the west side about six o'clock; two wandered about the streets during the night, while still another tale is that a splendid appearing bull moose disported himself on Navy Island during the early morning. It is hardly probable, however, that more than one of the creatures explored the neighborhood as closely as the rumors would indicate. It is nevertheless a fact that two deer visited the city on Monday evening and early this morning,

and were seen in the neighborhood of Winter street by several persons.



A meeting of the Lumbermen's Association of Western Nova Scotia was held at Bear River on the 21st and 22nd of July last and was attended by the leading lumber firms in Western Nova Scotia and the Chief Fire Rangers for the western counties. The chief matter discussed was the working of the Fire Ranging system as established by the Act of the last session of the Legislature.

The reports received by the Government from the nine Chief Rangers up to the present time have been of so satisfactory a nature that the Attorney General, Hon. J. W. Longley, was able to say in a very pleasing and able address at this meeting, that the rangers appointed by the Government were constantly reporting upon their duties and that they had succeeded in staying more fires that might have been disastrous than the public would ever know of, and the system was working splendidly in all the counties where chief rangers had been appointed.

Taking one county, the outline of the report is as follows: The first part of the season was favorable as there were frequent rains. This, however, was followed in May and June by extreme dry weather, and when fires happen to get started in the woods they soon spread over a large area if not stopped. Up to date in this county twenty-five fires have been found and put out under direct official instruction, and outside of some cordwood burnt early in the year, the damage has been nominal. About thirty-five acres were burned over and in that about half an acre of fair timber was partially destroyed. One fire was set maliciously, but the greater number of those started were from the carelessness of fishing parties. In this county last year 45,000 acres of timber land was burnt over and it is believed that with the present system in force no such conflagration would have occurred.

All of the Fire Rangers at the meeting agreed that the work they were doing as officers of the Government under the present Act was beneficial. The posting of notices and going among the settlers and

explaining the law regarding the setting of fires and the penalties entailed, has had the effect of preventing the numerous fires that spread so disastrously last year, from the indiscriminate burning of brush and meadow land. The organization is only now getting under way. This first year's work entails extra labor and time, in giving information and making proper appointments. A plan is being generally adopted to divide a county into sections under the charge of a sub-ranger, and the principle of the work is to prevent, check and put out a fire before it gets beyond control. It was a very pleasing feature of the discussion to find that the residents of the districts under supervision, that is to say, those living in the settlements, and where forest and wood surround them, cheerfully gave their appreciation of the working out of this new system for preventing forest fires in Nova Scotia.



One of the larger New York dailies published a newspaper article pretending to describe the low price and artistic artificial flies to be procured in Japan. The editor of Rod and Gun sent this article to a friend in Japan, who replies as follows:

"I have duly received your favor of the 20th ulto., enclosing newspaper article in regard to the cheap and excellent artificial flies made in Japan.

"I have already received a similar enquiry on this subject, enclosing the same article, and I hope if you come across the writer you will quietly push him overboard, or dispose of him, so that he will not write any more fairy stories of this kind.

"I am sorry to say there is no fly fishing to be had in Japan, as we know it at home and consequently no flies.

"I enclose copy of a letter from a friend of mine in Tokyo, who is the best authority I know on the subject, and I think his remarks dispose of the question so fully that there is nothing further to be said, and his suggestion to send to Aberdeen or Glasgow is the best that can be made.

"I am sorry that I cannot procure for you anything that would be of service. The small fly that is mentioned in the letter,

made up in imitation of ants, would be of no use in home waters."

(Enclosure.)

27th June, 1901.

"That printed matter about Japanese tied flies is all "rot." The only hooks tied in Japan are in imitation of "ants", all the other specimens any of your friends may have seen in this country are copies of foreign flies. Japanese do not fly fish. One or two may have been taught by some resident or G. T., but as a pastime or sport, Japanese know nothing of using the fly "Ai" and a small fish called "Haya" are caught by floating a string of five or six representations of a sort of "Ant", but this is the only attempt I have ever seen as a Japanese sport and I have been in Japan for over forty years and am a "mad" fisherman.

"Nakamura's information can entirely be relied on, as he is a very keen fisherman, and has often borrowed my "flies" and minnows and spoon baits to copy. He used to import "flies" from Glasgow to sell to visitors. I have often bought from him, but all the flies had been imported with the exception of a few imitations made by Nakamura, which were very clumsily dressed.

"Parlett of the British Legation, can give you the most reliable information about fly fishing. I think some of the Japanese fishermen at Yumoto near Tsuzenji, make their own flies for trout fishing in the river, but no one that I know makes foreign hooks for sale.

"You can't buy Japanese made flies, unless you specially order them to be made and give samples to copy.

"There is a great friend of mine at Sapporo, who makes all his own salmon and trout flies, but only for his own use. Tell your friends to send to Aberdeen or Glasgow for flies, etc., if they want any good ones."



The days of the automatic weapon are upon us and clear as sunlight is the conviction that within the next decade automatic rifles, shot guns and pistols will render all other systems almost valueless. The King is known to have been most favorably impressed with a Danish automatic rifle, and no doubt his influence is being

used to keep back the manufacture of the new Lee-Enfield, which is an admirably wise procrastination, if there is a possibility of the British services leading the world in automatic rifles.

The Austrian-Hungarian Ordnance Department has for some time been testing the Mannlicher, Luger and Roth automatic pistols, the later patterns being .38 and 40 caliber.

In automatic guns we already have the Browning, which although moderately successful, still "leaves to be desired," but according to the reports of the American and British patent offices, an apparently

much better arms has been designed, and no doubt it will be manufactured ere long.

Yet in spite of this evidently progressive spirit, there are some well-meaning persons that would prohibit the use of automatic weapons. Because—some gunners might kill too much game. What a neat compliment to the automatic and what a poor one to the self-respecting sportsman!

The sportsman visiting Manitoba is restricted to fifty geese and twenty-five ducks a day. In the East he is perforce contented with about that number of geese in a year, even down the Gulf of St. Lawrence.



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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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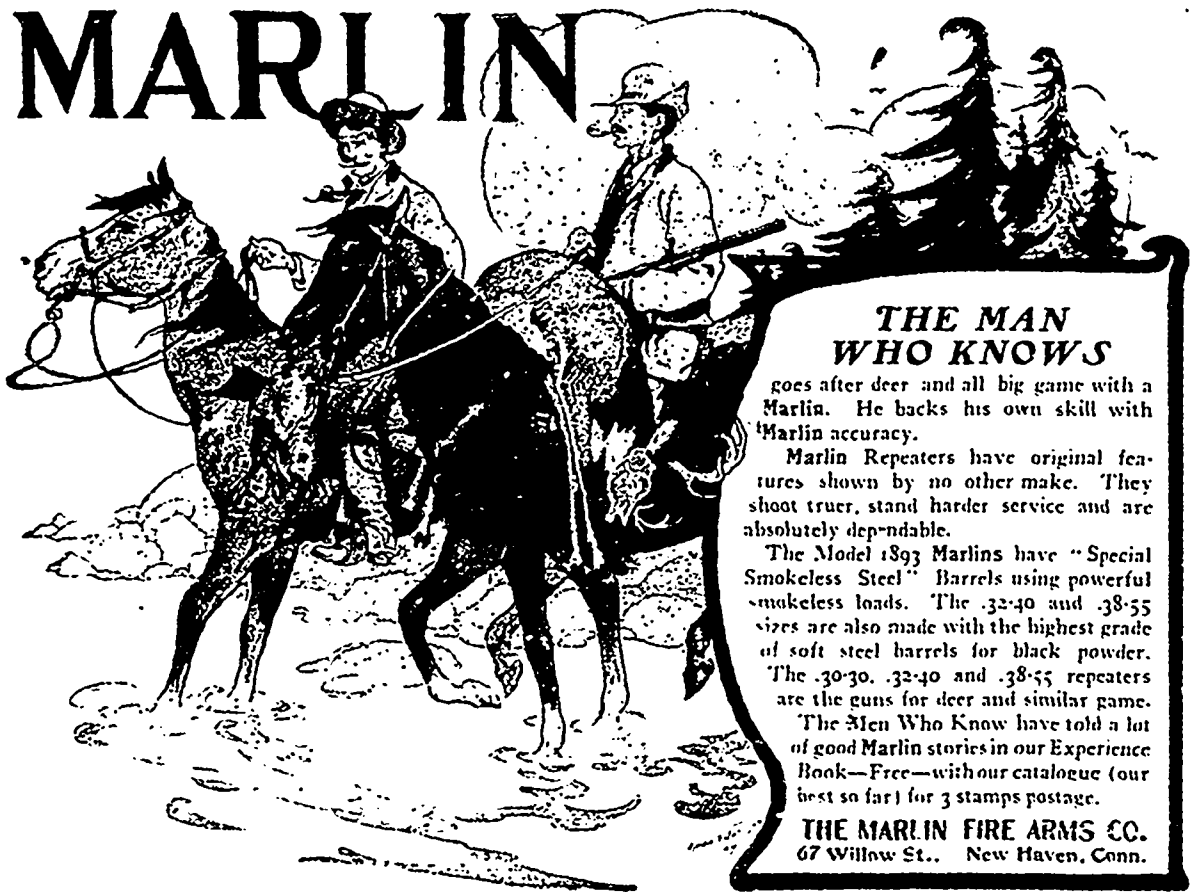
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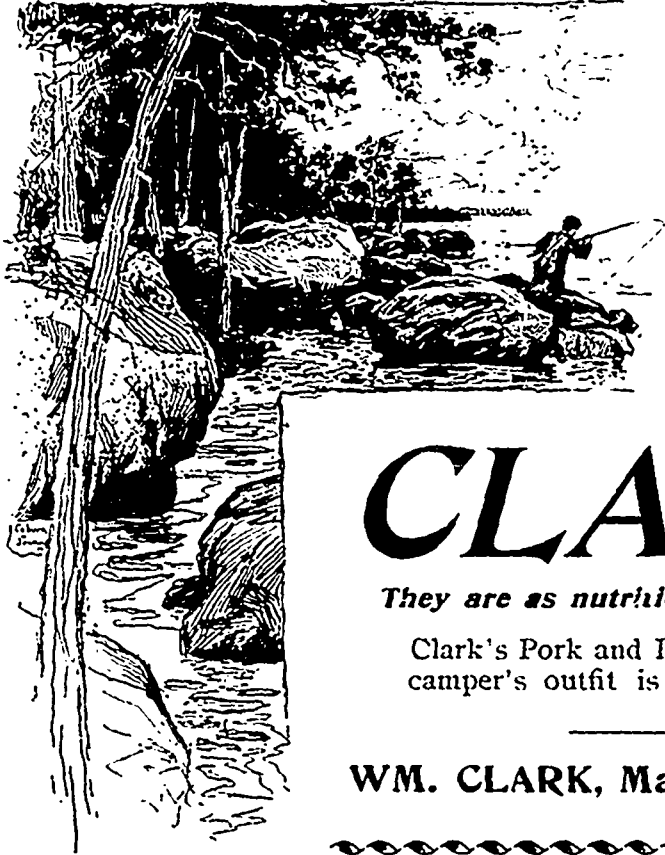
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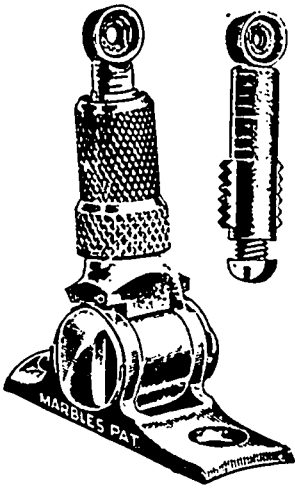
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When proper elevation has been attained by turning the upper sleeve, a half turn of the lower sleeve locks the upper one and prevents it from being accidentally turned, thus altering the elevation.

These two sleeves, in combination with the shoulders on the slotted stem socket, act like a bit brace and hold the disc stem perfectly true and rigid even at the highest elevation, no matter how old or worn the parts may become.

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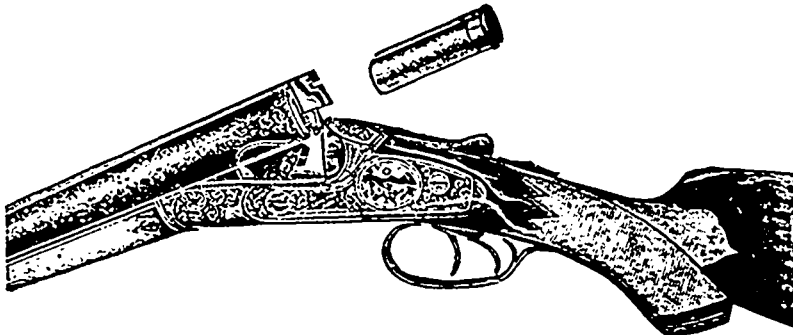
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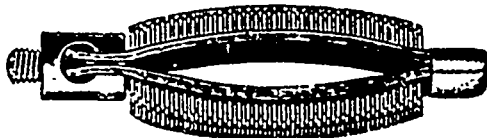
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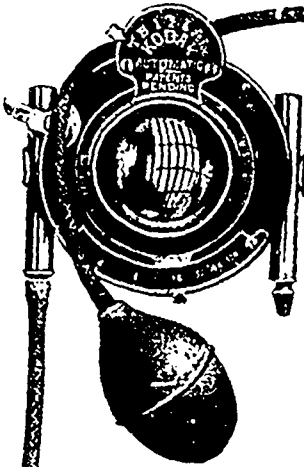
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Increase of Assets During year	\$1,234,237.27
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Percentage Increase in Assets during the year	19.75%
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The figures need no actuarial comment.

They tell their own story, a story of ever increasing public confidence, prosperity and financial solidity.

1st January, 1883, \$2,967.93; 1st January, 1884, \$10,817.65	
Increase in 12 months	\$7,889 72
1st January, 1886, \$29,802.42; 1st January, 1887, \$53,881.28	
Increase in 12 months	\$24,178 86
1st January, 1889, \$117,821.96; 1st January, 1890, \$188,130.36	
Increase in 12 months	\$70,308 40
1st January, 1892, \$408,738.26; 1st January, 1893, \$580,707.81	
Increase in 12 months	\$171,799 65
1st January, 1894, \$838,817.88; 1st January, 1895, \$1,187,225.11	
Increase in 12 months	\$328,367 22
1st January, 1896, \$1,560,373.46; 1st January, 1897, \$2,015,481.38	
Increase in 12 months	\$455,110 92
1st January, 1897, \$2,015,481.38; 1st January, 1898, \$2,558,822.78	
Increase in 12 months	\$543,348 40
1st January, 1898, \$2,558,822.78; 1st January, 1899, \$3,186,770.36	
Increase in 12 months	\$627,937 58
1st January, 1899, \$3,186,770.36; 1st January, 1900, \$3,778,503.58	
Increase in 12 months	\$592,133 22
1st January, 1900, \$3,778,503.58; 1st January, 1901, \$4,477,792.22	
Increase in 12 months	\$699,288 64
1st January, 1901, \$4,477,792.22; 1st January, 1902, \$5,214,744.58	
Increase in 12 months	\$747,052 36
1st January, 1902, \$5,214,744.58; 1st January, 1903, \$6,000,011.17	
Increase in 12 months	\$999,266 59
1st January, 1903, \$6,000,011.17; 1st January, 1904, \$7,433,268.14	
Increase in 12 months	\$1,234,236 97



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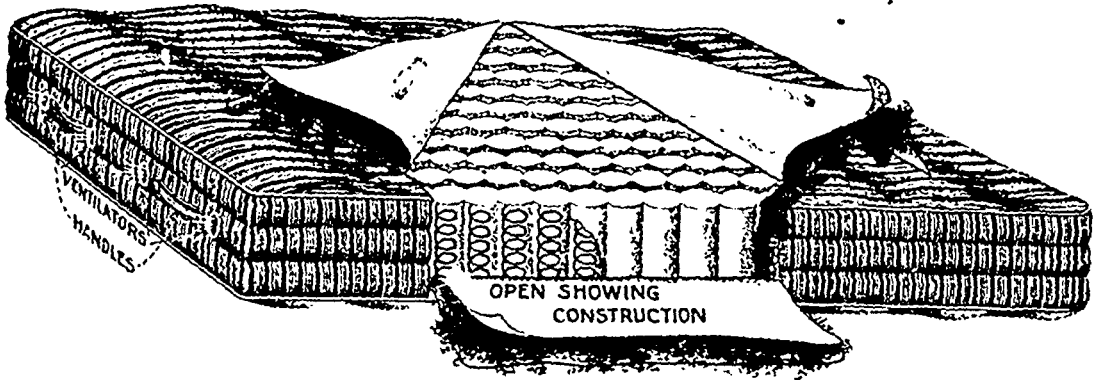


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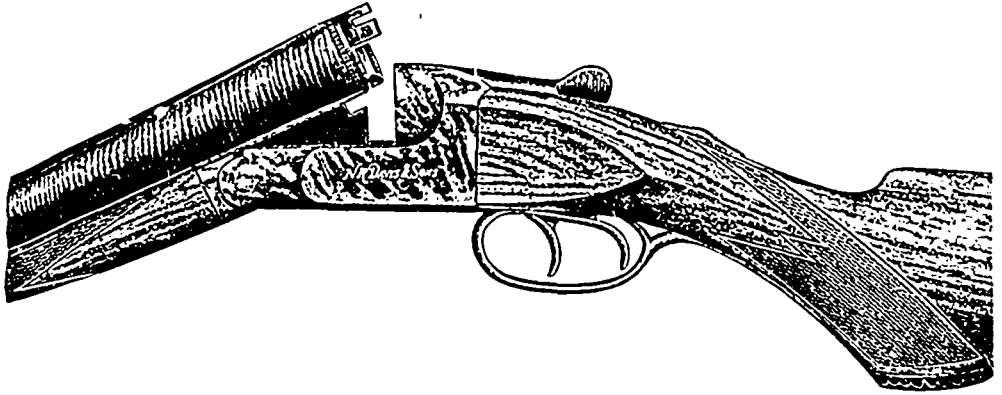
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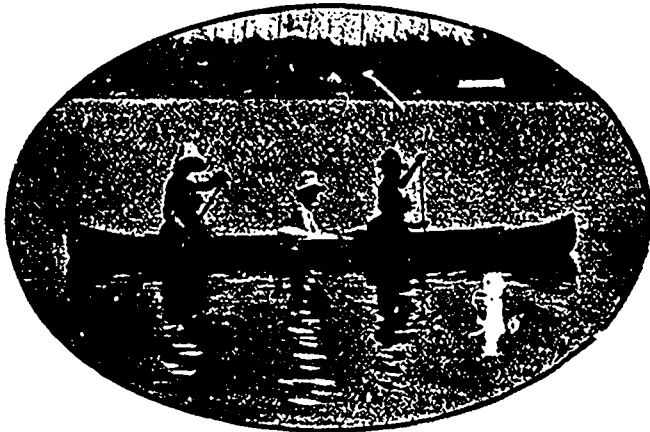
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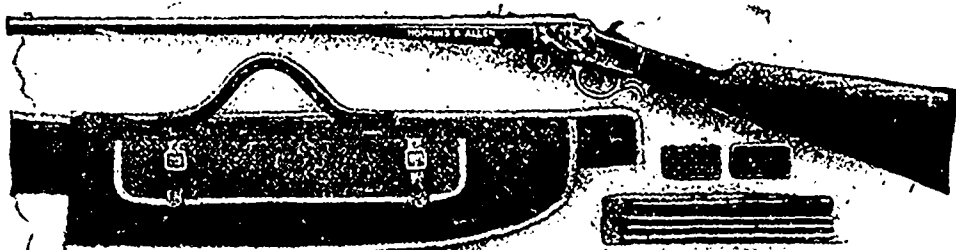
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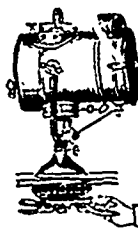
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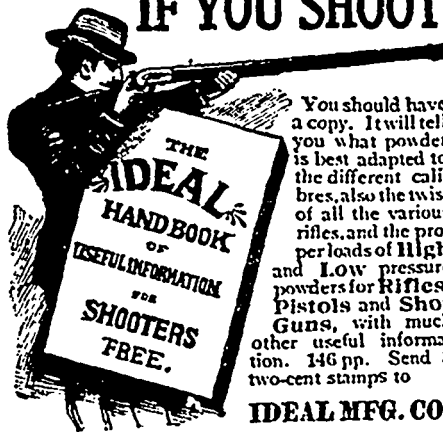


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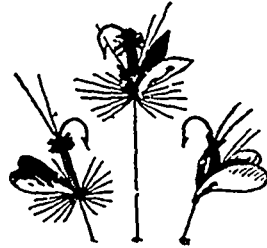
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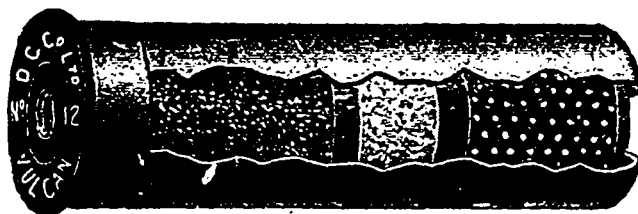
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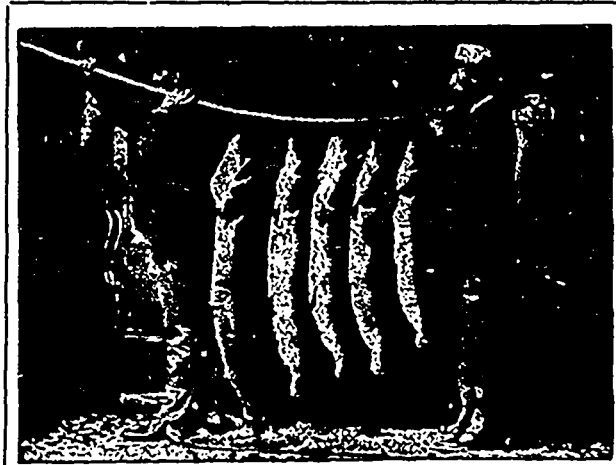
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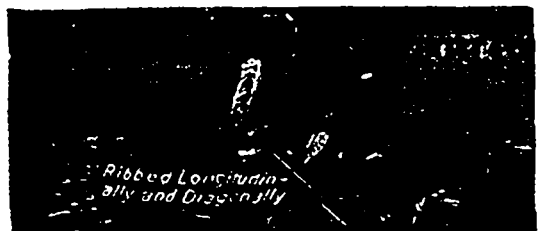
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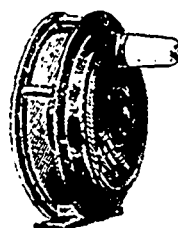
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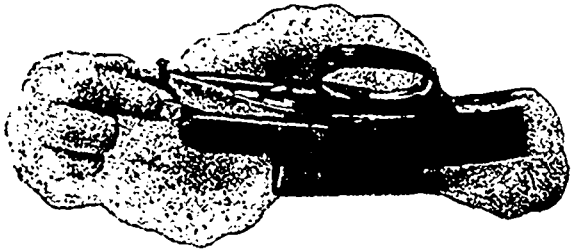


Fig. 1.

Note the absence of SCREW or pin-heads on the side of the gun.

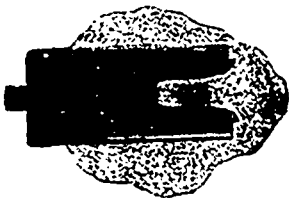


Fig. 2.

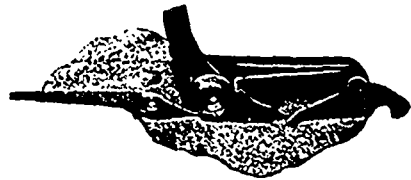


Fig. 3.

Fig. 1 shows the simple manner in which the lock is detached or replaced. Fig. 2 shows the bottom cover plate with spring catch at end to secure it in position. Fig. 3 shows the detachable lock, containing hammer, mainspring spring, sear, sear spring and cocking lever.

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