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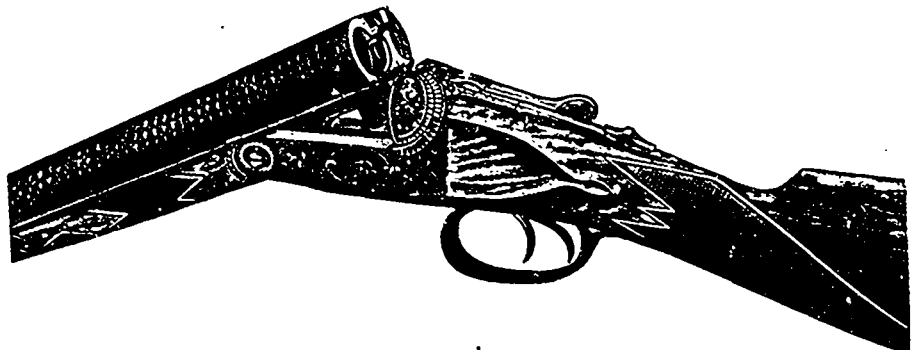
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## THE HABITS OF THE OTTER.

By the late Frank H. Risteen.

A prime otter skin is worth from \$10 to \$15, and as it is so much lighter and easier to handle than the bear skin, it is really the best prize that rewards the eastern trapper's toil. The silver grey fox doesn't count, for it is many years since a genuine specimen was taken in New Brunswick. A veteran Miramichi trapper who has stretched more otter pelts than any of our local woodsmen lately, thus describes some of the habits of the otter and the most approved methods of capturing him:

"Unlike most fur animals the otter is a poor house-keeper and seldom builds a house of his own. Being unable to lay up any large amount of food for himself he becomes a sort of tramp, rambling about through the woods wherever lakes and streams abound and levying toll on the way. When he needs a shelter he usually appropriates some old muskrat or beaver house, especially the burrow of a bank beaver. He will not hesitate to turn a muskrat family out of doors, in fact they will be lucky if they do not figure on the otter's bill of fare. The animal has usually a number of wayside resorts in the shape of holes and burrows at which he carries in his travels. If the menu isn't up to the standard the otter moves on. He knows how to build himself a snug, warm bed and that is about as far as his domestic instincts go. When the snow is deep in winter he sometimes makes a temporary den by burrowing. In the dead of winter I have known an otter to remain at a lake for a month, but that is unusual; he is most always on the move, gliding over the ice-bound streams and lakes, or worming across the intervening ridges. The fact that he is so constantly in motion makes him a very difficult animal to trap. I have never caught over twenty of them in a single season. They are found more commonly on small lakes than large ones.

"At all seasons of the year the otter's main item of grub is fish, with muskrats, frogs and mice on the side. He has a decided hankering for rabbits, but bunny has too much speed for him. On stormy or windy days I have known an otter to still-hunt a fox and pounce upon him like a flash. The only show reynard has then is to exercise the functions of his feet. As soon as the woodland lakes are well snowed under, the heat from the water opens one or more air holes in the ice, either out in the middle or along the shore. These are a great help to the otter in his winter fishing. Lightning swimmer though he is the otter often misses his mark. The capricious trout and the reminiscent chub keep both eyes peeled for him and dart under rocks and roots beyond his reach. Still the otter is a

very successful fisherman and very destructive to all members of the finny tribe found in inland waters, up to salmon five pounds in weight. One of the few virtues possessed by the otter is that he wages unceasing war upon the eel. When an otter meets a big eel the policy of the otter is one of benevolent assimilation. The sucker, too, often supplies a dinner for the otter. About the only chance he has to fool the otter is to make a previous deal with some friendly kingfisher. The ultimate result, in either case, is about the same so far as the sucker is concerned.

"The biggest otters I have ever taken have weighed about fifteen pounds. As a fighter the otter is more than a match for a dog of twice his weight, as he is as lively as a cat and can bite ten times to the dog's once. His jaws work as slick as a sewing machine and this makes the dog howl. I have on several occasions seen an otter on coming out of the water start after a dog just as if the dog was his meat. There seems to be no limit to his pluck. I was once going over my line of traps on Bathurst waters in the month of February when I heard something that sounded like one of these portable mills squalling and squawking on a little pine knoll a few rods ahead. I hustled up the hill and arrived just in time to see two otters running off that had actually tackled a lynx in a trap. There was almost enough fur scattered round on the snow to pack a pillow case, most of which belonged to the lynx, who was still fanning the air with all the loose paws he had. I gave chase to the otters and managed to nail one with my axe under a blowdown; the other got away. When I got back to the lynx he was dead. His skin was worthless, being torn and bitten through in more than twenty places, while the otter skin hardly showed a scratch. So I lost \$1.50 on the fight and made \$10.

"I never knew but one case of a fight between an otter and a beaver. A family of beavers had plugged up the gateway of an old driving dam on the Dungarvon, making the dam water tight and flooding the pond to a depth of four or five feet. This was about the latter part of October, I had seen an otter fishing in the pond, so thought I would try the effect of letting down the dam. The water ran out rapidly and in about half an hour there was not more than six inches of muddy water left in the pond. The otter started to run through the gate, but when he saw me standing there he whirled about and darted upstream and into the beaver house that stood about twenty rods away on the bank of the pond. The house had been unoccupied during the summer and I guess the otter didn't know the beavers had returned. Anyway the otter came out of that in less than ten seconds with his head almost

bitten off. One old beaver then came out and dragged the corpse through the mud out into the centre of the pond and left it there. I found out afterwards that the house was occupied by two big beavers and a pair of kittens. Two nights later the beavers had the dam repaired and the pond restored to its former level.

"The female otter brings forth her young about the latter part of May or first of June. I have heard of six kittens being found in a litter but have never seen more than three. I should judge that their mating time is in October or November, as I have often seen the trail at that time of five or six big otters travelling together. While the otter is a playful, affectionate animal, he is very unsociable at times. The old males will often be found alone, while the female, accompanied by last year's cubs is left to shift for herself. The otter is one of the easiest animals to tame in the world. After he has concluded that he belongs to you he will follow you around everywhere, until he becomes a thorough nuisance. The male otter is slightly larger than the female. Their pelts, like those of all small fur-bearers, are at their best in the winter and early spring.

"The nose of the otter is fully equal to that of the fox. I have seen their tracks in the deep snow, where they have turned about and made off on account of catching the scent of my trail two hundred yards away. Where they have been much hunted an otter will travel a long way rather than cross a human trail. Where they have not been disturbed the trail excites their curiosity and they will follow it quite a distance. I was going up the ice on Renous one winter's day, the wind blowing down stream, when I saw an otter a few rods ahead of me acting in a very peculiar manner, running up on a snow-bank, sniffing the air and finally diving plump into an air-hole. There was a second air-hole further down stream and, thinking it likely the otter would make his appearance there, I laid for him and shot him with a rifle as soon as he came out. Resuming my journey up stream I met my partner, Pringle, half a mile above, coming down the ice, so I concluded that the otter had smelt him when he must have been about a mile away. I suppose everybody is aware of the funny habit the otter has, in the course of his travels, of coasting down the bank of a lake or stream. It seems to be a sort of picnic they indulge in to add variety to their long journeys from place to place. I have often seen them amusing themselves in this way. They will roll around awhile on the bank sparring and tumbling over each other, then sliding down the chute on their bellies, one after the other, and splash in the water. This is their favorite sport as long as the lakes and brooks remain open. They hardly ever ascend the slide, generally climbing the bank perhaps a yard or ten feet to one side of it, where it is easier to get up. Then they will gambol about again previous to taking another slide. I have seen the whole family of old and young ones playing in this way for five or ten minutes.

"Some trappers set their traps at the head of the slide, carefully covered with earth or moss, or else under the water at the point where the otters start to climb, care being taken to place the trap a few inches to one side of the centre of the trail, because the otter's legs are very short and planted seven or eight inches apart on the body. If the trap was placed in the centre of the trail it would be sprung by the otter's body and he would surely escape. When coasting down the slide the otter's legs hang limp by his sides, so it is no use to set the trap at the bottom of the slide. I have never found it profitable to set my traps at or near the slide. You have got to disturb

something in doing the work and as otters are nowadays mighty wide awake they will be sure to notice it. Up on my grounds, which are as good as any in the province, if any change is made in the vicinity of the slide—such as the displacement of a stick, or even the blazing of a tree, the otters will go shy of that particular slide. When a trap is located at or near the slide no bait is necessary, except to rub a little castoreum on a stick or sliver placed a few yards away up the bank, with the scent side down, so that it will not be washed out by the rain.

"If a man knows his ground he can figure out pretty closely the otter's line of travel up or down the stream. The best plan is to select some place where there is a run of moderately deep water and where a root or rock projects from the bank. Place your trap alongside of that, using the castoreum in the ordinary way and also some stale fish for bait hung a little to one side of the trap, so that when the otter turns about to see what it is he will spring the trap with his foot. The trap, as well as the pole to which the chain is attached, should be placed under water, and so rigged that it will swing the otter out in the stream and keep him there, where he is soon drowned by the weight of the trap. He will keep afloat for a little while but will sink as soon as he gets tired. The question of where to set your trap is even more important than that of how to set it. With the sliding pole, used so much by old-time trappers, I have had very poor success. It is always a suspicious looking object. If you catch a beaver he is very likely to nip off the pole and get away. Otters can some times be taken through holes in the ice by setting the trap on what is called a crow's nest, that is a stick with three projecting prongs. But an otter that is up to snuff will not go near so clumsy a rig as that.

"I once knew of a yearling otter being caught in a most remarkable way. A Frenchman named Damien Gutro was fishing for sea-trout on Bathurst river when a big fish carried away his line. The trout went downstream about half a mile where the line became fast to a snag. An otter came along and made a grab for the trout but the hook in some way worked through the gills of the fish and entered the otter's neck. He splashed around at a shocking rate for a spell, finally winding himself up on the snag, where he was drowned. Gutro coming downstream in his Micmac canoe, noticed the rumpus in the water and recovered his line as well as the otter and the trout.

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## EXPLORATION IN NORTHWESTERN CANADA

By H. G. Tyrrell, C.E.

In the early summer of 1885 I had made preliminary arrangements with my brother Mr. J. B. Tyrrell, of Ottawa, to accompany him on a Geological Survey expedition to the Canadian Northwest. The country that we proposed exploring was that lying north of the Canadian Pacific Railroad for a distance of one hundred and fifty miles, and bounded on the east and west by the fourth and fifth principal meridians.

The starting of this and other survey expeditions had been delayed a month or more on account of the Indian rebellion that was then going on. Riel, the leader of the uprising, had not yet been captured, and the troops were still in camp, awaiting the settlement of affairs. But after the battle of Batoche, which seemed to be the final defeat of the natives, it was decided that exploring parties might safely proceed to the field.

After an interview with my brother at the Rossin House in Toronto, I took a train from that city at noon on June

4th for Calgary. The journey of eighteen hundred miles or more across the continent was but an ordinary one, and need not be dwelt on to any extent. The route lay by way of Owen Sound, up Georgian Bay, through the Sault Canal, across Lake Superior to Port Arthur, and from there on to Winnipeg. We spent two days and nights in crossing the lakes, and arrived at Winnipeg at three o'clock on Sunday afternoon, June 7th. Here we fell in with Prof. McCowan and Mr. McConnell, also members of the Geological Survey, who were going westward on their summer trips.

Early Monday morning a start was made westward across the plains and shortly after noon on Thursday, June 11th, arrived at Calgary. The journey by boat and rail had thus occupied seven days and two hours. Besides Mr. J. B. Tyrrell, the leader of the expedition, and myself, the party contained four other members. Mr. Harry Hamilton, a recent graduate of McGill College, Montreal, served as geological assistant, and Mr. J. J. McKenzie, an undergraduate of Toronto University, assisted in making the zoological and botanical collection. The writer was engaged as topographer for the expedition. Mr. Henry Granger, a Scotchman who had recently gone to the Northwest and who had served many years in the English artillery, was cook, and Thomas Maloney, a well known man from Ottawa, who was then roughing it in the west, was teamster to look after both horses and supplies. These six men composed the party.

The costume worn by the mounted men was similar to that used by cow boys in the west. A tight-fitting buckskin jacket girdled around the waist and ornamented on the front and arms with fringe, falls loosely below

the belt, over a pair of corduroy riding breeches, which with leather leggings, protect the lower limbs. From a belt that is stocked with cartridges, hangs on one side a hunting knife, and on the other a long barrel revolver.

A delay of six days was caused at Calgary in getting an outfit together, purchasing horses and wagons and making all arrangements for an absence of three months or more. One large double wagon, built extra strong for prairie service and provided with a canvas top, a buckboard and a cart, were found sufficient to transport our supplies. A portable canvas canoe to assist in crossing streams and later for descending Battle River was also taken. This canoe was built in such a way that the bottom boards and gunwales could be removed and the whole compactly stored into canvas bags. There were in all seven horses, three for harness and four for the saddle.

Much amusement was afforded the other members of the party by the efforts of Henry Granger to ride a western horse. These horses were selected from a corral outside of Calgary, and Granger, who boasted of his skill in horsemanship from his long experience in the artillery, was invited to choose his own beast and break it in. He had been in the western country only a short time, and had expected to find the horses there somewhat similar in nature to those in England. Having selected one that appeared to suit him, he bravely mounted its back, and for the next few days carried his arm in a sling as the result of the broncho's bucking. He was hardly seated in the saddle when the beast hunched up its back and threw Granger to the ground. It was the intention at first that Granger should be the horseman of the party but this incident



*A Catch of Trout near Mattawa*

led us to change our plan and henceforth he was the cook. Maloney now took his place and for the rest of the summer was responsible for the horses. One or two of these had been used by my brother during the previous summer, but the rest were all new to him and as will presently be seen, it took a few days for horses and men to become acquainted.

The second day out from Calgary one of our horses showed signs of balking. For some time he stood still in the harness, but on applying a black snake whip he lay down flat between the shafts and refused to rise. Many forms of persuasion were tried; food held before him; but still he would not move. Another horse was hitched before him; but the stubborn beast only allowed himself to be dragged along the ground. In desperation a fire brand was repeatedly applied to the horse's belly and haunches, which finally brought him to his feet. One of the men now mounted his back and holding the

heaviest revolver above the horse's head discharged it several times, thinking in this way to scare the animal into action, but instead of this he again lay down and was dragged along the trail by another team hitched ahead of him. It became evident that the balky Indian pony would die before he would again pull the load, so after three hours delay he was taken out and saddled, one of the other horses being put in his place. This one, however, did not prove much better than the last. It was thought unwise to punish this spirited beast too much for he had already broken the cart shafts twice. Thinking that persuasion might succeed, he was left alone with his driver and load while the rest of the outfit moved off. When finding himself alone we hoped he would follow, but not a step would the pony move. My brother's saddle horse, Jack, a fine roan, was then hitched to the cart and with a jump away he went down the trail, Maloney and I following on horseback. Near the top of the hill a bag of pork was found and further on another, while just over the summit a little off the trail lay the broken cart. The buckboard and wagon were by this time far ahead, and after them Maloney was sent on horseback with instructions to overtake them and bring them back. Stretching a rubber sheet to shade us from the blazing sun, my brother and I opened a can of fruit and another of tomatoes, both of which were eagerly devoured without either plate or spoon. I then mounted my horse and started back over the trail for the sacks of pork but Jack becoming nervous on finding himself alone, with a plunge pulled up his picket and made off down the trail at full gallop back towards Calgary. Although much exhausted, my brother followed him on foot, overtaking him about two miles away in company with a government freight team, on its way north with supplies for the troops at Edmonton.

It was decided now that some one should return to Calgary for another cart, and this errand my brother selected for himself. One of our balky saddle horses he traded for another trained to pull in harness, and taking the cart harness with him he started back to Calgary. On the return of Maloney and the outfit the contents of the broken cart were transferred to the buckboard and the wagon, and we again started northward, making eight miles or more before nightfall.

The next day being Sunday was spent in camp, and a relief indeed it was after the excitement of the one before to have a day of rest. Several times through the afternoon I rode to the top of the nearest hill, looking for our returning cart, but it was not till after nine at night that my brother came, tired out and sick from exhaustion. Inside of thirty hours he had ridden back to town, selected and purchased a new cart and harness and returned again to us, covering in that time a distance of fifty-eight miles.

About noon on Monday, on reaching the summit of a little hill, we saw before us in the valley what appeared to be a ranch of cattle. It was, however, a prairie caravan camped for lunch. The sixteen covered wagons were fastened together in twos, each pair of wagons being drawn by nine yoke of oxen. There were eight teams of eighteen oxen each, making in all one hundred and forty-four oxen, to pull the sixteen wagons. These wagons were heavily built, especially for prairie use, with wide wheels to prevent their sinking in the soft ground. They were also provided with breaks, for use in going up and down steep hills and were covered over with canvas tops. They belonged to Mr. I. G. Baker, a large store-keeper and trader, who was going southward for a new supply. The average ox, I was told, would dress about one thousand pounds, and many

of them weighed eighteen hundred pounds or more. They were indeed fine powerful looking animals, and were worth a hundred and fifty dollars each. Thus the oxen alone of this caravan were valued at about twenty-one thousand dollars. After lunch was over it was very interesting to watch the oxen and see each one walk intelligently to its proper position in the team. The heavy yokes were then adjusted to their necks and all made ready for a start. The whip carried by the driver had a lash forty feet in length, fastened on a two foot handle. It was interesting to observe the slow deliberate movement of the oxen. Up hill or down hill, their speed was the same, about two and a half miles per hour. When crossing brooks, or other difficult places, with wheels sinking to the hubs in mud, where horses would become excited, plunge and pull by jerks, these cool-headed oxen proceed with the same deliberation as they would on hard or level ground. The cracking of the wagon wheels as they moved away could be heard far in the distance.

Towards evening we reached a place called Forty Mile House, a log shanty of one room, where we found the Edmonton mail coach stopped for the night. I took this last opportunity of sending out one more letter to civilization. Leaving the trail here we turned westward towards the foothills of the mountains, passing through a country thickly grown with willows and coursed by frequent coulees. While at lunch camp two of our horses became frenzied from the incessant attacks of mosquitoes and bull dog flies, broke their ropes and galloped off through the bushes. One was found that night, caught by his picket rope in the woods, but the other remained away for several days. A smudge was made, not only for the comfort of the remaining horses, but to attract the lost one in. It was pitiful to see the horses in bull dog season. Men could cover their heads with netting, and smear their hands and face with mosquito oil, but the horses having no protection, would stand around the smudge, till their skin was scorched, and one young pony actually laid himself across the fire till his flesh began to burn. This poor brute was so tormented with the flies that for a week or more he was unfit for work, running idly behind the wagon.

The country at this season of the year was in many places very beautiful, wild roses and other flowers covering the ground everywhere in great profusion. Down in the coulee bottoms, streams were often found and sometimes open places free from bushes, while lakes scattered here and there give great variety to the landscape.

On the evening of June twenty-sixth we reached the Little Red Deer River, which runs through a thickly wooded valley. The banks at this place were very steep, so steep indeed that the cart and wagon were lowered down by means of ropes, a height of eighty-five feet or more. A camping place was found among the spruce trees in the bottom, and here we pitched our tents. An amusing accident happened on the following day to the cart, while travelling on a sloping hillside. It was loaded with about nine hundred pounds of baggage and provisions, including two boxes of canned goods, when suddenly the down hill wheel dropped into a badger hole, upsetting the cart and rolling the cans down hill to stop only when they reached the bottom. There lay the horse on his back, between the shafts, pawing the air in his effort to regain his feet. Fortunately no great harm was done, though both horse and driver were somewhat shaken up and frightened.

Near the foothills of the mountains it frequently occurs that storms come up more quickly than they do in the open

country, and on the afternoon in question no sooner had the cart been righted and started on its way, when black clouds rolled up from the horizon and indications of a severe storm appeared. A tent was pitched, but not before a storm of hail had broken over us. The morning had been extremely hot, and this sudden hail storm was indeed a great surprise. It came along with a driving wind and after it had passed I found beside my tent a pile of hailstones enough to fill a large sized cask. This was kept in a shady place under the wagon, and for a day or two, camp was provided with luxurious ice-water.

A few miles further on we reached the valley of the Red Deer River, and as my brother planned to make a week's trip into the foot hills the rest of us encamped, where we remained for five days. Maloney accompanied him on his trip and beside two saddle horses, they took another, loaded with provisions. These five days I spent principally in making a survey of the surrounding district, while some of the others fished and hunted. At the end of this time we again turned east to the Calgary-Edmonton trail. Over this we travelled for several days, passing Red Deer village and arriving at the valley of the Battle on July fifteenth. From here eastward, for a month or more, the party would be divided. Two were to descend the Battle river by canoe, while the balance of the outfit would proceed overland, meeting us at a point where this river crosses the fourth principal meridian, a distance of about two hundred and fifty miles to the eastward.

On the afternoon of July 7th, 1885, our little party, quitting the Calgary and Edmonton trail, over which we had been travelling for several days, embarked with our necessary outfit in a canoe, and started on our long voyage down the Battle River.

Were the reader standing on the river bank he might have seen to the southward our approaching party, the white top wagon standing out conspicuously on the landscape. As we reach the river a halt is made, and the leader after surveying the crossing, gives orders to the men to prepare for dinner, while he, with others, selects from the wagons a supply for the river party. This supply must be as small as possible. It consists of such things as blankets, provisions, a few cooking utensils, arms and ammunition, scientific instruments, and some personal baggage. Two bags containing the portable canvas boat are taken out and carried to the river, where the pieces are fitted together, and the canoe launched in the water.

About four o'clock in the afternoon the rain cleared away and all arrangements being made for meeting at a point two hundred and fifty miles to the eastward, where the river crosses the fourth principal meridian, we gave a cheer to the men and shoved off to penetrate the unknown country.

To all appearance the recent Indian uprising had been subdued. The last encounter between the militia and the Indian, fought at Batoche about a month before, had resulted in the loss of many lives on both sides, and the utter defeat of the natives; and yet, doubtless, there were many roving bands of red men ready for revenge.

The Battle River was so called from its having been, many years ago, the scene of a bloody battle between the two great Indian nations of the north, the Crees and the Blackfeet. It lies almost entirely within the territory of the Crees, the Neutral Hills being an approximate dividing line between their countries. It rises in that swampy region surrounding Pigeon and Battle Lakes, two hundred and fifty miles north of the national boundary, and eight from the foot of the Rocky Mountains. Between its source and the mountains, flow the

Saskatchewan River to the north, and Red Deer to the south, intercepting all mountain streams and compelling the Battle to be entirely of prairie origin. But the low lying, boggy country surrounding its head waters, into which the surveyor can penetrate only when the frost of winter has formed him a solid footing, is of itself sufficient to produce a fair sized river. After flowing through three hundred and fifty miles of valley it enters the Saskatchewan at Battleford, and by way of Lake Winnipeg and Nelson River, its waters flow into Hudson Bay.

The crossing of the River with the fourth principal meridian where our voyage was to end, is about fifty miles from the Hudson Bay Company's trading port, Fort Pitt, thirty-five miles from the reservation of Chief Poundmaker on whose ground the battle of Cut-Knife Creek was fought, and sixty miles from Battleford.

How pleasant it was after jolting in a wagon across the plains or riding a half-trained broncho, to sit in the bottom of a canoe and glide quietly over the water. Yesterday on the open prairie exposed to the heat of a scorching sun; to-day floating in the shadow of the overhanging evergreens, on the bosom of the quiet river.

On the afternoon of the day following our departure we neared a neat-looking little log house, and from its general appearance concluded that its occupant was no Indian or half-breed, but a white man. On climbing the hill we were very kindly greeted by the Methodist missionary to the Stony Indians, who was busily engaged in repairing and rebuilding his house after the Indian raid a few weeks before. He had escaped, with his family, to a place of safety only a few hours when Bob Tail's band came down, pillaged his house, drove his horses and cattle away, and after exhausting their means of destruction, rode away, leaving the place a complete wreck. Three years had Mr. Glass spent in building this rude little home in the wilderness, and in as many hours the result of all his labor was destroyed. Any article of particular value was made the target for a bullet. His handsome collection of books were to be found anywhere within a hundred yards of the house. Things that would not break were otherwise destroyed. His winter supply of potatoes in the cellar had been carried down the hill and emptied into the river. Under a clump of trees, down by the water's edge, my eye chanced to fall on a piece of broken iron, which, when pointed out to Mr. Glass, he recognized as part of his wife's new sewing machine. A beautiful marble clock that had graced the mantle piece of the sitting room had shared the fate of other things, and was now lying in pieces on the floor. How they grieved at the loss of their favorite timepiece. It had already marked off ten years of their married life, having been given on their wedding day by friends in New England. During our stay of a few hours here a friendly chief, Sampson, rode over to the missionary's, telling him to make no further repairs, that later in the autumn there would be a general uprising of the Indians. It was talked of, he said, not only in his own tribe, but also among the Crees and Blackfeet. The prospect now of starting off with so small a party to penetrate a hostile country did not seem the most inviting. Our plan, however, was for peaceable relations with the Indians as far as possible and at the same time it was considered a wise provision to be well armed. It was very gratifying to Mr. Glass to know that these outrages had not been committed by the Stony Indians. His own teaching, as well as that of the beloved George McDougal, had shown its good effect. I found through all the Indian uprising the Stony Indians had taken no active part.

On the afternoon of the 19th we reached one of those large swamps frequently found on the low-lying prairie. The mosquitoes here were so numerous that they resembled clouds floating above us. We worked hard at the paddles to try, if possible, to part company with them, but they seemed pleased with their eastern friends, and suited their speed to our own. From a dead pine tree on the river bank I took an observation, but returned, having seen nothing but a vast stretch of swamp, grown up thickly with water willows. Six, seven and eight o'clock came, and yet no dry ground had been seen. Still on and on we went in the darkness, till the river opened into a shallow lake, so shallow that sometimes the canoe would drag along the bottom. It was one of those loathsome places, the home of snakes, lizards, and all sorts of water fowl. At every dip the paddle would drag up from the filthy water a mass of weeds and leaves, making our progress very slow. Yet continued efforts of paddling and poling brought us to the



CHAT'S FALLS

These superb falls are capable of yielding 111,000 horse-power, being, however, but a small component of the 900,000 horse-power available within a radius of fifty miles of Ottawa.

further shore in a cold and drenching rain. The darkness was intense, and the continued howling of prairie wolves made our condition still more uncomfortable. It was ten o'clock, and we were in a thick woods, groping our way among the fallen timber and through the drooping branches. Add to this the effect of being cold and wet and without food, and the condition of the travellers can be imagined. By the light of a fire of wet wood a tent was pitched, and then the weary ones lay down to rest. How little do those who always stay at home know of such an experience as this!

(TO BE CONTINUED)

Mr. I. G. Ogden, of the Canadian Pacific Railway, has been having great sport at Rideau Lake, Ont. One day last month he showed a creel of black bass, several of which weighed upward of 5 lbs. Mr. Ogden is president of the Anglers' Club.

## AN EXPLORATION TO THE HEIGHTS OF LAND.

By St. Croix.

That elevated, lonely region, which divides the waters flowing into the St. Lawrence from those feeding the icy tide of Hudson's Bay, has always had an irresistible fascination for me. Last autumn I was almost on the divide, at a point north-north-east of Kippewa Lake, but this summer I had an opportunity of visiting this same boundary further west.

That I stood, eventually, where the waters flow each way, was really rather the result of a happy chance than of any deep laid plans of my own. On August 8th, I left the head of Temiskaming, accompanied by one Indian and his fifteen-year-old boy, with the intention of going up the White River, portaging over into the Montreal, halting a day or two at Matachewan, and then making my way up the south branch of the said Montreal river, returning to Haileybury by way of

Gray's River, Lady Evelyn Lake, and the Mattawabika. This was the programme, but owing to a prolonged spell of dry weather, the White River was so low that I found it almost impossible to get across from the head of its south branch to the Montreal River, and, somewhat reluctantly, I turned the canoe's bow up the north-east branch, determining to explore the tract of land lying immediately westward of the interprovincial boundary. Now I am glad that my original plan was not carried out, for I never found myself

in a more interesting country, nor one about which less is known to the outside world. No land surveyor had ever been through it, and on the large scale map of Ontario issued last year by the Crown's Land Department of that Province the country I visited is represented by a blank space.

But to begin at the beginning. I left Montreal by the Soo Express on the night of Aug. 31st. Picturesque, sleepy Mattawa was reached in due time next morning, and the only fact of interest that I remember connected with it was that there I ate a breakfast of which I was sorely in need. After a couple of hours' run over the branch line leading to Kippewa I alighted at the platform of the Bellevue Hotel, and so keen is this northern air that I found myself in admirable condition to do justice to an early dinner. Some of my readers may think that I am giving too much prominence to these matters, but I do not think so. I have always found that in the Canadian bush one's appetite is always with one; it is a friend to be



cherished, and very often it is the only friend you have in the world, so that it would be unpardonable egotism to leave it out of the story.

The new manager of the Bellevue is a Mr. White, and his treatment of his guests seems to be of the whitest description (please pardon the pun, but I want to get even with him for his kindness during my short stay, and this seems to be the only way to do it).

I forget the hour at which the gallant S.S. Meteor was advertised to start, but no matter. In course of time she did actually get off, and not only so, but she made such satisfactory headway that we anchored off Ville Marie, forty-eight miles from the foot of the lake by dusk. She was as usual crowded to the gunwale, the tide of tourist travel being in its flood, and the rush to the lumber woods having already begun. Of course a stateroom was out of the question; even if one had been long-headed enough to have secured such a thing in advance, it would have been impossible to have kept it, for there were many women and children on board whose claims could not have been overlooked. However, the old traveller becomes very crafty; his wisdom is as the wisdom of a serpent. So it came to pass that at 10:30 p.m., just as the northern lights were getting in their fine work, and turning the heavens into a tapestry of golden and coloured threads, I possessed myself quietly of the bag which held my blankets, and shunning observation, reached the pilot house unobserved. Thus I escaped passing the night beneath a table in the saloon, and slept most soundly until the noble Norseman who holds the proud office of first mate of the Meteor jerked the rope of the steam whistle sharp at 5 a.m. next morning. I never hated a steam whistle so much in my life; but there was no help for it, and I had to bundle out and make way for the man at the wheel.

Shortly after leaving Ville Marie we came to a halt off Brown's Castle, the residence of a gentleman whose name it bears, a sportsman and lover of unsophisticated nature, who comes from far away Philadelphia each year with the swallows—of course I don't mean to say that he travels in company with the swallows, because I would not be so understood for one moment. What I wish to make plain is, that he leaves the city of Brotherly Love just about the time all other wise people, whose bank accounts permit it, are doing the same thing; only wiser than they, instead of going to some dusty, glaring summer resort, he proceeds without loss of time to his castle on the shores of noble Temiskaming, and fishes and enjoys life during the long northern summer.

And now my old enemy the steam whistle is making the welkin ring—that is, supposing there are any welkins so far north—and every citizen of Haileybury, who is neither absent nor bedridden, is flying madly down to the beach. There they are, all of them. Almost a whole year has passed since I last saw them, but the men are apparently just as brave as ever, and the young women, if possible, even more beautiful, and three minutes after landing I feel as much at home as if I were a registered voter of the place.

I have a very warm corner in my heart for the inhabitants of this enterprising little Ontario town, because I have always been received there with the greatest hospitality, and everybody has helped me to the extent of his power in getting my outfit together. Of course, by so doing they were really performing a kind action towards themselves, as evidently the sooner I got my modest wants satisfied the sooner I should take myself off. But if they wanted to get rid of me they certainly disguised their feelings admirably, and my experience

has been that whether you arrive at Haileybury spick and span from the centres of civilization, or wondrously unkempt and travelled stained from the wilderness which doesn't howl, it makes no difference to the people of Haileybury, who one and all unite in welcoming the coming and speeding the parting guest.

After a hasty consultation with Mr. Paul A. Cobbold, without whose assistance few undertake to penetrate the unknown north, I decided to continue on to the head of the lake in the Meteor and secure my canoe men, as there was a decided scarcity of the genuine article, "the silent, smoky Indian that we know," owing to a large influx of tourists, who had hired nearly all the available smoky manhood of the place.

The distance from Haileybury to North Temiskaming, where a large village of the silent, smoky ones exist, is about twelve miles. In the ordinary course of events this should not have taken more than two hours, but the same low water which was to cause me so much trouble later on interfered with us here. The White River is well named, for even at the end of a dry summer it discharges a chalky flood into the lake, and I can quite believe that in spring time its waters are about as limpid as the contents of a can of preserved milk. This stream is gradually filling up the head of the lake, and in course of time may eventually turn the whole of Temiskaming into a site for market gardens, but that will be long after our heads have done aching, if ever. The present effect is that the narrow channel caused by the current of the Quinz river is being continually silted up by the mud brought down by its sister stream, so that even the Meteor, with a modest draught of six feet or so, cannot always get in to its wharf at North Temiskaming. We proceeded gaily, though cautiously, until we reached the first of a long, sinuous line of tree-tops placed to show the channel by some of the silent and smoky young men of the village. Then we ran aground, and the prospect seemed good of passing the night on board—and I had left my blankets in Haileybury! However, after many complicated nautical manœuvres, and much prodding of the bottom with long poles, which stirred up such quantities of white mud that all the fishers in the neighborhood must have had a bad time, we wriggled over the bar, and as the sun was slanting in the west, tied up alongside of the wharf at North Temiskaming.

(TO BE CONTINUED)

We publish in this issue a little fishing scene, for which we have to thank Dr. C. W. Henschel of Mattawa, Ont. It shows the result of a morning's fishing for speckled trout near his home. The doctor, himself an ardent sportsman, was accompanied by Mr. W. C. Leheup, also of Mattawa, a taxidermist of more than local reputation. Mattawa is the centre of an excellent fishing region, and such baskets as here shown are the rule and not the exception. In order to enjoy fully, however, Mattawa fishing the fisherman should camp out and arrange for an absence of two or three days from headquarters.

The annual report of the Board of Regents of the Smithsonian Institution for the year ending June 30, 1897, has been issued. It is, as usual, a deeply interesting volume, being in fact a *précis* of the advancement of human knowledge during one year. Those papers likely to particularly interest the readers of ROD AND GUN are: The Truth about the Mammoth, by Frederick A. Lucas; Have Fishes Memory, by L. Edinger; On the Sense of Smell in Birds, by M. Xavier Raspail, and the description of the United States National Zoological Park.

## FISH AND FISHING

Wonderful tales of the fearlessness and greed of the pike are common in Europe, as well as in this country, but a case in point happened the other day which lends probability to many of them. A fisherman trolling in one of the lakes on the northeast branch of the White River—an Ontario stream which runs from the height of land to Lake Temiskaming—hooked a pound and a half doré, which in its turn was seized by an enormous pike, the latter fish being almost secured owing to the bull-dog tenacity with which it held its prey.

The angler who had this remarkable experience tells the tale as follows: "I had caught several doré, none of them weighing more than two lbs., without anything extraordinary happening, but as I was pulling in another I felt a sudden tug at the line, so powerful that I thought at first I had hooked the elastic limb of some waterlogged tree. However, it turned out to be a fish, and a big one into the bargain. As I reeled him in I could tell by the play that I had on a very heavy pike, and as soon as he came into view we were delighted to see a fish whose length, in the water, appeared almost gigantic. Just as we got him up to the canoe his hold gave way, to our sorrow. I had on my hook a doré weighing about a pound and a half, almost cut in two by the jaws of the big pike, which had taken him as I was reeling in. Knowing that a fish of such fearless determination might have another try if given the opportunity, I let out a long line, the doré still at the end of it, and we paddled slowly back over the same ground. Sure enough, the pike came at the bait with a rush once more, and this time I worked him up to the canoe, and although his head was at one time raised above the water by the strain of the line, he showed no indication of letting go his grip. The Indian slipped a landing net under him and lifted him almost into the canoe, but unfortunately we were not prepared for so big a fish, and the landing net, though eighteen inches in diameter, and proportionately deep, would only take in the head and shoulders of this pike, leaving the heavier portion of the fish outside the rim, so just as he reached the gun wale his slimy body slipped back again into his native element, and as he had by this time opened his jaws, we lost him for good and all. At no time had this great fish been touched by the hook, yet we had nearly secured him, owing to the tenacity with which those long, curved teeth had held on to their prey."

\*

It is not often that even in Canada that we hear of the capture of a trout of twenty-two and a half pounds, that is to say with the exception of specimens of *Salvelinus namaycush*, so that the following description (which we extract from the London Field) should prove of interest. The fortunate captor was Mr. Walter Langley, an English gentleman now living in British Columbia. The fish was of course a rainbow trout:

"A road leaving Ashcroft (a station on the Canadian Pacific Railway) in British Columbia passes northwards up the valley of the Bonaparte river for fourteen miles, when it turns to the west up the valley of Hat Creek. Some fourteen miles further it enters a most picturesque pass known as the Marble Canyon, traversing a mountain range, which otherwise would

block the way. This Marble Canyon, so called because of the limestone rock and quartz cliffs which tower almost perpendicularly above the road to a height of some 2,000 feet, affords one of the most beautiful sights to be seen even in this land of magnificent landscapes, and nothing can exceed its beauty on a summer's day morning when the early rising sun first gilds and brightens the summits of the cliffs; and in the valley lie two lovely lakes. The first and smaller one is fed by a waterfall of perhaps 250 feet in height, which pours in one bright stream almost perpendicularly into the lake. This lake has no surface outlet, but probably its waters flow underground into the next and larger lake, which (some six miles in length), in the transparent purity and peculiar colouring of its waters, offers one of the prettiest sights imaginable. Many years ago both of these lakes, being fishless, were stocked by the late Capt. Martley, whose residence was near by, with small trout taken from the Hat Creek. In the smaller lake they thrived and multiplied exceedingly and its waters are now full of them. From the larger lake all the fish escaped down its outlet to the Frazer river, but subsequently, a mill being built upon the stream, a dam was put in, over which, by the use of wire netting, the escape of fish might be prevented. So Capt. Martley repeated his experiment of stocking the lake with Hat Creek trout, and this time successfully. For some years past many and large fish have been taken from the lake.

"The fish of Hat Creek, from which this lake was stocked, are little fellows, the largest of which seldom attain to half a pound in weight. They are dark in colour, with many spots, and would invariably be classed here as 'brook trout.' Some of them are transferred to this unstocked lake, and in a few years enormous trout are taken from it, utterly unlike their progenitors in every particular. The fish taken from the large lake are bright and silvery as a fresh run salmon, have the well-defined pink line running down their sides, and are, in fact, what is known here as the 'rainbow' trout. So with the fish from the smaller lake, but still they are again quite unlike those from the larger lake, and both are in every way distinctly different from the trout of Hat Creek from which these lakes were, as I have described, originally stocked. So we may note what a change of locality and a liberal supply of food will do for trout, and we may take it as an assured fact that no mere difference of outward appearance will stamp trout as of different sorts, and that, unless some structural variation can be shown, they may all be considered of one kind only. I have fished much in British Columbia and in other parts of the world, and nowhere have I noted such variations in outward appearance as there is here in fish taken from different lakes and streams, although in many cases such lakes and streams are separated from each other by only short distances. The fish are identical in kind, though varying in outward appearance, in size, and in edible value."

=====

Mr. Thomas Donley, of the Grand Central Hotel, St. Thomas, Ont., will hold his fifth annual tournament on October 9, 10 and 11. Live birds and targets.

\*

In the Montreal Gazette of Sept. 5, a paragraph appeared, under a Toronto date line, telling how a certain pair of "sports" (not sportsmen, had taken 83 bass in less than two hours at Henry Harbour. It was headed "Sport or Destruction." We fancy most of the readers of ROD AND GUN would have cut that title down to one word.

## CORRESPONDENCE.

## Some Requisites for Canadian Shooting.

Perhaps the simplest way to make out a list of requisites for a hunting trip into the Canadian bush, would be to check off the articles in some of the awful outfits taken by tenderfeet into the woods, making up one's own kit from the few articles they had omitted. As a matter of fact nine-tenths of the things taken by nine-tenths of the sportsmen into the wilderness are superfluities. No wonder that the poor guides often come to look upon their employers, or perhaps we ought to say their task-masters, as belonging to a race of idiots. I have seen with my own eyes cooking stoves, iron coffee grinders, cane bottomed chairs and all sorts of other rubbish taken into a country where every foot of progress had to be won by the hardest muscular effort. So thoroughly do such employers handicap their men, that voyageurs who think nothing of reeling off their 35 or 40 miles a day, when travelling light, are barely able to cover five miles in a dozen hours with the most tremendous exertion.

This subject is a big one, and it has been estimated that a series of volumes equal in content and number to those of the Century Dictionary would not exhaust it. Therefore, I only intend to touch upon a few elementary facts. Most men begin by discussing the rifle a man should take into the forest; I prefer to begin at his boots. Almost any rifle will do at a pinch, but in the way of boots you don't want any pinching, in fact you are looking for something easy and comfortable. Now the perfection of footgear, as soon as you get away from pavements and macadamized roads is the moccasin. "Oh! but," say you, "my feet are too tender for that sort of thing. I should be lame for a week were I to take a short walk over stony ground with nothing but a thin moccasin on my feet." You only think so; don't you remember my friend, when you were a small boy, and your indulgent parents took you to the seashore during the holidays, with what impunity you learned to walk over the rough, barnacle-covered rocks? A foot which has been allowed to become tender may be nursed up to the requisite hardness in about two weeks. After that you could tramp about in moccasins all day without your feet paining you. For canoeing there is nothing like the moccasin. And it is almost equally indispensable when still-hunting, and, of course, you could not snowshoe at all in any other foot-gear.

But if you must wear boots (English) or shoes (American) for goodness sake have them cut off at the ankle. What, in the name of common sense, is the use of weighting yourself with a lot of superfluous leather all the way up to the knee? If you do this thing you will be almost as foolish as the British War Office, which swaths the calves of its soldiers in long strips of woollen material, yecept puttees, for the sole purpose, apparently, of handicapping as much as possible that unfortunate person, the British soldier. If you have been wearing high, heavy boots take the advice of a friend, and have a pair of shoes made according to the following specifications: uppers to be light and pliant, lacing up to the ankle: a broad sole with a low flat heel, the sole to be only just thick enough to carry a few Hungarian nails. Don't try and keep your feet dry, for that is quite impossible in the wilderness, as in any case your socks will be wet through before nightfall, whether it be by water or perspiration. If you change on reaching camp, or if not able to change, you unloose your shoes and dry your feet at the fire; you will never take any harm. I think that a man whose feet have been properly hardened to the work will

walk thirty miles in moccasins as easily as he will walk twenty in ankle jacks, or ten in high boots, and he is far less likely to be lame next day.

Another matter about which I should like to say a few words is the supply of underclothing and shirts necessary for a trip of somewhat long duration, say a month or two. I don't consider any man who takes his sport seriously need be bothered with more than two suits of underwear, two flannel shirts, and three pairs of socks. This is really a very generous allowance, because, as a matter of fact, by choosing a nice warm day on which to do your washing you could get along nicely with one flannel shirt, and one suit of underwear. But I would never go with less than three pairs of socks, and I want them all wool, though not necessarily a yard wide.

I look upon the man who discovered the overall as one of the greatest benefactors of the human race. This marvellous garment is equally adapted to summer and to winter wear, in the former season it may well be worn sans culottes, and in the winter drawn over that garment which the Highlander does without. Then, the overall is moderate in price, ordinary brands not costing more than 65c. down by the docks, while even the most fancy articles, bought in an extortionate up-town store, cannot possibly retail at over \$1.25. In summer they are light; in winter almost windproof, and although sopping up wet like blotting paper, may be dried by five minutes' exposure to the camp fire.

Perhaps the most useful garment that the wilderness traveller can own is an all-wool sweater. Personally, I prefer a light, openly knitted one for summer and autumn work, as the others are almost too warm, except in the depth of winter. I should never think of going to the bush without one of these kitted jerseys.

Almost anything in the way of a coat will do. Those I wear are generally old ones that have seen better days, and it is many years since I was recklessly extravagant enough to spend money on a regular shooting coat. I find it better, and more satisfactory in every way, to do the shooting and let the coat look after itself. But of course, as the waiter said, some likes beef and some likes onions, and if a man feels that his happiness is increased by perambulating the northern forests in a well-cut garment, having innumerable cute little pockets, by all means let him have one made according to his soul's desire; only let me tell him that the Indians are poor judges of fashion, and the bears, and moose, and caribou won't look at him long enough, if they can help it, to tell whether his coat was built by a first rate-tailor or is merely a cheap hand-me-down garment. I trust that these few hints will be accepted in the spirit in which they are tendered, and that no exasperated outfitter will wreak vengeance upon me for what I have written.

Montreal, P. Q.

ANGLO-SAXON.

An old Maine woodsman thinks he has discovered the secret of "bird's eye" maple. He noticed that where the woodpeckers had been striking into the trees in his sugar bush small red spots were left after the scars had healed. If the trees had suffered badly the marks were more numerous while there was no trace of them on trees the woodpeckers had not visited. He therefore has determined to experiment on the question. His plan is to make a paste of the ants on which these birds feed with pulp made from elm bark and smear it on thrifty maples, with the expectation that the birds when obtaining food will at the same time be transforming ordinary hard maple into bird's eye maple.

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Some months ago the opinion was expressed editorially in these columns that the Lee-Enfield was a better rifle than it is thought to be by those whose conclusions have been influenced by the daily newspapers. This opinion has been vindicated in a striking manner by the success of our Canadian riflemen at Sea Girt last month. Armed with the service rifle they inflicted defeat upon the eight picked shots selected from the riflemen of the United States to defend the Centennial Palma Trophy. The ranges were 800, 900 and 1,000 yards, and out of the 28 points by which the Canadians led at the finish, 21 were put on at the longest range. A day or two later the Dominion shots met and defeated the team of the Ulster Rifle Association, which in its turn had just beaten the New Jersey State Rifle Association, so that indisputably the Canadian riflemen carried off the honours of the meeting.

The Americans shot with the Krag and the Irishmen with the Mannlicher, each a later pattern rifle by a good many years than the Lee-Enfield, yet the latter rather more than held its own. Our men say the American sights were, however, undoubtedly superior to those on the British service rifle, as they had a Vernier and sliding bar attachment, with an aperture sight, so that the ballistic qualities of the Lee-Enfield must be better than those of the Krag, and cordite has shown itself quite the equal of the U. S. service powder, the Peyton. Cordite may be a trifle rough on the inside of the bore, but it gets there just the same; moreover, the German powder in the Mannlicher cartridge is even more destructive, the accuracy of a barrel, when it is used, being but 300 shots.

\*

Another good man has been called away. A. N. Cheney, State Fish Culturist of the State of New York, died suddenly of heart failure at his home, Glen's Falls, that State, in August. The September issue of Rod and Gun was in the printers' hands when the sad news reached us, so that no mention of Mr. Cheney's death could be made last month.

Mr. Cheney was the most pleasing writer on fish and fishing that the United States has yet produced; moreover, he was, toward the end of his career at least, a practical fish culturist, and when he received the appointment he held up to his death, he soon proved himself the right man for the position. He had found his life's work at length, but pity it was he found it so late.

Several of the American sportsman's papers have been filled with correspondence discussing the killing powers of the high velocity small bore rifles. To those who are practical sportsmen and have used these weapons on American game, some of these letters appear very absurd. The truth is that the modern small bore is sufficiently powerful to kill any American animal in workmanlike fashion. This statement is made deliberately, after having seen the effect of its bullets upon the toughest and largest game we have in Canada. For eastern shooting the 30-30 Winchester is an admirable gun. It will kill moose, caribou, deer and black bear with a single shot at any sporting range, if the animal be hit in a vital spot. More than this no rifle short of the calibre of a small cannon should be expected to do. Even when the game is hit in the flank, at long range, the terrible, soft-nosed bullet is fully as likely to pulverize a bone as the larger bullet from a 45 or 50 calibre, and its chances of reaching the vitals of an animal are very much better. Moreover, owing to its lightness, accuracy, and freedom from recoil, it makes the pursuit of big game a pleasure instead of a toil. If men would only shoot at sporting ranges, and not blaze away at impossible distances, they would be perfectly satisfied with the effect of a 30-30 Winchester upon game. Those who contend that the 38-55 is a better rifle for any of the deer tribe are simply advertising their own ignorance. Each year sees a larger proportion of 30-30's used in the northern forest, and we believe that in another ten years or so, the black powder rifle will be rarely seen in the hands of a sportsman.

For western shooting the 30-40, or the .303 British, are better cartridges, and so firmly is their merit recognized in the Rockies that the best Indian hunters, from the international boundary to the Arctic Sea, are replacing their 45-90 and 45-70 rifles with the more modern high velocity small bore.

While all members of the Salmonidae make fit sport for a king's fishing, none of the species found in fresh water excels the rainbow trout, to our thinking. Of the strictly river trouts it is undoubtedly the gamest. The rainbow has this further advantage, that it grows to a huge size and without losing any of its gameness as it increases in weight. Although an American fish, its native habitat being west of the Rockies, Englishmen seem to have appreciated its merit more than ourselves. In a recent issue of the London Field, mention is made of a rainbow trout weighing 19½ lbs., which was taken in Rotorna Lake, New Zealand. This noble fish was 33 inches in length and 2½ inches in width. The gentleman who sent the information to the Field states: "They are a superior fish in every way to the brown trout, especially in the matter of their sporting qualities, for they fight like salmon." Another correspondent, writing from Mold, North Wales, tells how two years and a half ago he turned 150 yearling rainbow trout into four small ponds covering, perhaps, half an acre. Notwithstanding that a more unfavorable looking place for trout could hardly exist, this summer he caught six trout in less than an hour, the combined catch weighing 6½ lbs. A third correspondent relates how he caught, in a Gloucestershire stream, five rainbow trout, the heaviest of which weighed 2½ lbs. and the lightest 1½ lbs. These fish were turned in as yearlings last February year, of an average weight of less than a quarter of a pound at that time.

It is to be hoped that the day is not far distant when this superb fish will be planted in all suitable waters in eastern Canada. When this shall have been done our already unrivalled fishing will be even better than it is to-day.

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## KENNEL DEPARTMENT

Conducted by D. Taylor

During the past month there has been a plethora of dog shows. First we had the Pan-American at Buffalo, then Chatham, N.Y., and Toronto (concurrently), Sherbrooke, Burlington, Vt., St. Thomas, Ont., Rhode Island Kennel Club, etc., which gave handlers and fanciers a busy time. In point of time and importance comes the

### Pan-American.

This was a most successful affair, and crowds of people who never saw a dog show before took advantage of the free exhibit, which was not the least attractive feature to sight-seers of the many to be seen at the great Exposition. The weather was extremely hot, and judging in the melting rays of the sun had some disadvantages. However, the rings were extremely well-served by a most energetic corps of ring stewards, whose duties were made more difficult from the fact that the attendants were unused to the work, and the distance of the rings from the three barns which were occupied by the dogs.

The high quality of the exhibits in nearly every breed was frequently remarked and this was especially the case with Pointers, Setters, Bulldogs, Fox Terriers and the different breeds of toy dogs. For the latter the Swiss Mountain Kennels were mainly responsible, while the excellent exhibit of Pointers, Setters and Bulldogs of the Vancroft Kennels made such a display as was never before accomplished by individual owners, the entries of these two formidable kennels reaching the neighborhood of two hundred.

Several local exhibitors figure in the prize list, amongst them being Mr. D.W. Ogilvie, with his now famous wire-haired fox terrier Bank Note, which won everything in his classes and was only beaten for the best terrier in the show by Ducky Don II, an imported smooth terrier. This order was kept at Toronto. In Skyes, Mr. Geo. Caverhill was pre-eminent and Mr. Reid's King Edward VII (shown very much out of coat) was placed third.

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### Toronto Show.

The usual fall show under the auspices of Toronto Industrial Association was held September 2, 3, 4 and 5, and as usual

was a prominent feature of the big fair. The entry list was not quite up to that of 1800, which was a record one, but the quality of the exhibits was uniformly good and equal to anything ever seen at this annual function. The interest taken in the show by visitors to the exhibition—as evidenced by the large number who paid for admission. As usual, under the direction of Mr. W. P. Fraser, the ring service was all that could be desired. The following are some of the prize-takers in Montreal district:

St. Bernards, bitches, open—1st. F. & A. Stuart, Montreal, Lady Hereward.

Russian wolfhounds, limit, dogs and bitches—3rd, E. C. Short, Montreal, Sir Roswald.

Gordon setters, open, bitches—1st, E. Bjorkelund, Compton, Que., Nellie.

Rough collies, novice dogs—2nd, W. H. Gibson, Beaconsfield, Que., Minto.

Rough collies, open, sable and sable and white—3rd, Jos. Reid, Montreal, Logan's King Edward VII.

Rough collies, novice, bitches—1st, W. S. Elliot, St. Lambert, Blair Athol Lassie; also third in open class for bitches of any color other than sable or sable and white with Blair Athol Patti.

Rough collies, open, bitches—1st, Joseph Reid, Logan's Farm, Heather Blossom. She was in half coat and was only beaten as the best collie in the show by her sire, Woodmansterne Conrad, who was shown in the best of condition and in full bloom as to coat. Heather Blossom's winnings besides the open class are: Collie Club Trophy, value \$500, for best American bred collie; Industrial Exhibition Association's medal for best collie bitch in show.

Bull terriers, puppies, dogs—1st, Sidney Britcher, Montreal, Newmarket Bendigo; 2nd, R. H. Elliott, Ottawa, Gen. Grant.

Bull terriers, novice, dogs—1st, Newmarket Bendigo.

Bull terriers, limit, dogs, under 30 pounds—1st, Sidney Britcher, Newmarket Baron II.

Bull terriers, limit, dogs, 30 pounds and over—1st, T. A. Armstrong, Ottawa, Ottawa Major; 2nd, Newmarket Bendigo; 3rd, W. Rankin, Ottawa, Lord Stratheona.

Bull terriers, open, dogs—1st, Ottawa Major; 2nd, Newmarket Bendigo.

Bull terriers, puppies, bitches—1st, Mrs. J. O. Walters, Ottawa, Golf Queen; 2nd, Sidney Britcher, Newmarket Baby.

Bull terriers, novice, bitches—2nd, C. D. Carriere, Ottawa, Edgewood Dawn.

Bull terriers, limit, bitches, under 30 pounds—Sidney Britcher, Newmarket Baby.

Bull terriers, Canadian class, dogs—1st, Sidney Britcher, Newmarket Baron II.

Airedale terriers—1st, Joseph Laurin, Montreal, Dumbarton Lass.

Boston terriers, open, bitches—2nd, J. H. Smith, Montreal, Cricket.

Skye terriers, puppies, dogs and bitches—1st, Geo. Caverhill, Montreal, Moorland Lad.

Skye terriers, limit, dogs and bitches—1st, Geo. Caverhill, Silver Queen; 2nd, Geo. Caverhill, Highlander; 3rd, Geo. Caverhill, Prince Royal.

Skye terriers, open, dogs—1st, Geo. Caverhill, Moorland Lad; 2nd, Highlander.

Skye terriers, open, bitches—1st, Geo. Caverhill, Silver Queen; 2nd, Geo. Caverhill, Diamond Queen.

### Dog Show at St. Thomas, Ont.

The Dog Show held by the St. Thomas Kennel Club on September 10, 11 and 12 was a very successful one both in point of entries and attendance. Mr. H. W. Lacy, of Boston, was judge, and A. McDonald, of Deer Park, Toronto, ring steward. The committee having charge, and to whose efforts the success of the show was due, was composed of W. T. Collins, superintendent, Joseph Ferguson, Walter Ross, J. H. Price and Dr. King.

John Phelan, of Toronto, showed a fine lot of Yorkshire terriers, among them Brandy, the sire of a number of prize winners.

The string of wire haired fox-terriers and red and black cockers shown by J. Herbertson, of Detroit, were a fine looking



POWELL RIVER

A typical British Columbian mountain stream. These sparkling torrents are the home of the game rainbow, the peer of any trout in the world. Fishing amid such scenery has a charm old Izaak Walton never knew.

lot. Mr. Theodore Coleman showed a nice lot of Bedlington terriers, among them six puppies. Geo. Bell, of Toronto, had a good exhibit of black and red cocker spaniels and Boston terriers. Among the noted dogs were Bayview Baden-Powell (St. Bernard), a winner at the Pan-American and Toronto; the great Dane, Fordham Cyrano; Russian wolfhound Rezada; and Director, a prize winning greyhound. The pointers were well represented.

Cocker spaniels were many and the quality good, among them were Perfection, winner at Chicago last spring, Tick Tick and Standard.

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### Burlington, Vermont, Dog Show.

The first annual dog show of the Champlain Kennel Club was held on Wednesday, Thursday and Friday, 11, 12 and 13 September, in the Green Mountain Rink, Burlington, Vt., and although the entries were not as numerous as might have been expected, the quality of the dogs that were on exhibition was of a very high order. This was made apparent to the veriest tyro in canine knowledge when the special prize offered by the club for the best specimen of any breed was being judged. A collection composed of the winners in the different breeds at this show made a group of high-bred dogs that were unusually attractive and would have been a credit to a much older organization than the Champlain Kennel Club. The judging, which was done on schedule time, was watched with the keenest and most intelligent interest by those who ventured out in the cold, drizzling rain which marked the afternoons of the first two days, and the spectators did not hesitate to manifest their approval when an award was made that was in accord with their particular fancy; especially was this the case when Mr. Jarrett's Collie, Wellesbourne Hope, was awarded the special for the best specimen of any breed.

The officers of this latest addition to the American Kennel Club are:—Dr. H. Nelson Jackson, president; Robert Noble and Miss Amy Proctor Bingham, vice-presidents; Chas. H. Mower, secretary; Robert J. Ross, assistant secretary, and E. J. Spaulding, treasurer.

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Amongst the aftermath of the Montreal show is a protest—considered at a late meeting of the Canadian Kennel Club—from Mr. A. M. Duckworth, against the award of a special prize in the Irish terrier classes, which read: "for the best local specimen shown by a lady." The meeting, while expressing the opinion that there might have been less ambiguity about the conditions, upheld the secretary in his disposition of the award.

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Turf, Field and Farm says: There are rumors of queer doings in connection with the Chatham show, and Toronto is said to be the loser thereby in entries. Cutting entry fees and paying transportation from Buffalo and hotel bills for handlers is some of the things credited to Chatham which we trust the Bench Show Committee can refute.

\*

At a meeting of the Council of the L. K. A. of America, held on September 11, there were present: Mrs. Kernochan, Mrs. Smyth, Mrs. Mayhew, Miss Bird, Mrs. Vatable, Mrs. Foote, Miss Shippen. Mrs. D. W. Evans was appointed delegate to the Council. At the regular meeting held on the same day, the secretary reported that since the last regular meeting it had been decided by the Council to hold a bench show, during the week beginning December 15, at the Madison Square Garden, with Mr. Mortimer as superintendent, that all classes should have prizes of \$15, \$10, \$5, excepting winners, in which the Association's medal would be given, and that there would be team prizes of \$20 for the best four in each breed. Specialty clubs heard from have been very generous in the offering of their specials, and that it was hoped that the show would prove most successful both as to size and quality. The secretary-treasurer's report was read and approved.

## Rhode Island Kennel Club Show.

Labor Day was a flyer for the Rhode Island Kennel Club. The third annual one-day summer show was held at Crescent Park, the star resort of the many shore places on the Providence River. The many attractions brought to the Park an unusually large number and it is estimated that thirty thousand people were on the grounds. The weather was grand, as were the dogs in point of quality. The novel method of chaining them to the building where they could lay down on the spacious balcony was to the dogs a heaven, being cool, shady and free from flies. The judging began on time and the rings were never better served.

The judges were: Mrs. A. L. Evans, Brockton, Mass., St. Bernards and Mastiffs and Great Dames; Nelson McIntosh, Setters; J. H. Phelan, Pointers; Thomas Shallcross, Beagles, Fox-hounds and all other hounds, J. H. Phelan, Collies and Spaniels; P. J. Brickley, Boston, Boston Terriers and English Bulls; W. C. Codman, Fox Terriers and all other terriers, French Bulldogs and miscellaneous classes.

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Mr. James Mortimer, Hempstead, L.I., spent a very pleasant day in the city last month on his way to judge at Burlington. In recording his visit Mr. Mortimer says: "A drive over Mount Royal and then to the Montreal Hunt's famous club house and kennels made the time pass very pleasantly. The Montreal Hunt is fortunate in having a thoroughly skilful huntsman in William Nichols. The kennels, sleeping apartments and cook house were as clean as a new pin, and the hounds were in excellent working condition."

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## Manitoba Field Trials

The running of the trials began Wednesday, 11th September, with the Derby stake, for which the drawing was made on Monday night. Of the eighty nominations which had been made in this stake, twenty-four qualified for the start, nine of these being pointers and fifteen setters. The first series of thirty minutes heat was run through the first day, but owing to a rainstorm during the forenoon of the second, which delayed the starting until afternoon, the stake was not completed until the evening. While much of the work done by the puppies was of an unfinished character, the class and quality of the stake when judged by the natural qualities shown, were very high indeed, and it is very certain that many of the starters who ran unplaced in this, will lay claim to the more honored position in stakes of later dates. As it was there was no perfectly clean work done and a decision had to be reached by comparison. The judges handled the stake very skilfully and so well-recognized was this fact, that there was little or no difference of opinion from them—none at all so far as the winner of first place was concerned, though there were some, possibly, who had not followed the work so closely, who thought some of the minor places might have been changed to advantage. But those who did not agree with the judges in these places were decidedly in the minority. Winners: First—Pretti Sing; Second—Nebraska Ben; Third—Rob; Fourth—Tankas.

On Saturday, after being delayed by the rain, the last brace of the first series of the All Age Stake was completed, the second series immediately following. Twelve were carried over—Prime Minister with Dick Stamboul; Pink's Nellie with Silver Lace; Clip Wind'em with Cam; Tony Man with Zuleika; Star Bondhu with Uncle B; Dum Dum with Verona Wilhelmina. All except the last brace were run off

before noon, when rain again delayed the running till late. So many failed to maintain their records during the second trial, only four were carried into the third series—Pink's Nellie with Tony Man, and Prime Minister with Zuleika. After these two heats the winners were placed, Prime Minister, first; Pink's Nellie, second; Zuleika, third; and Tony Man, fourth. The decision gave good satisfaction.

Monday morning, in the face of a very strong and cold wind, the champion-hip stake was begun with eighteen starters—Tony Man with Nebraska Ben; Verona Cap with Zuleika; Uncle B with Clip Wind'em; Pink's Nellie with Clyde; Harwick's Nellie with Manitoba Blythe; Prime Minister with Verona Diablo; Senator P with Peach Blossom, Dum Dum with Sioux; Dot's Roy with Cam. Owing to the high wind and the cold little bird work was anticipated, but in this all were greatly surprised, as much very superior work was done, Prime Minister, Clyde, Howick's Nellie, Pink's Nellie and Tony Man standing out the most clearly.

The championship stake and the trials were ended at noon Tuesday, 17th. This day was also cold and mostly cloudy, with some snow in the air. The running began with the commencement of the second series; Pink's Nellie with Harwick's Nellie; Prime Minister with Clyde, and Tony Man alone. At the conclusion of these braces a third series was found necessary, Pink's Nellie running with Prime Minister, and Clyde with Tony Man. The different braces were all thoroughly tried out, both on birds and for range and speed as well, and at the conclusion of the running, the Judges, on account of his consistent range and speed as well as his performances of birds under most trying conditions, gave the run to Clyde. The judging of this stake was done by S. C. Bradley and Dr. W. H. Hutchings, and their awards gave very general satisfaction.

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At the Chatham, N.Y., show, Mrs. A. Belasco, of Prince Arthur street landed a first and second with her St. Bernard, Prince. She also got first in the puppy class with a seven and a-half month' old son of Prince—Lord Mount Royal. He is a grand fellow for his age, weighing 115 lbs. and is perfectly formed and marked. There was a large entry list, some three hundred and fifty, but a good many were for exhibition only. The show was under the auspices of the Columbia County Agricultural Society, so that large crowds were at its exhibition and of course went to the dogs. Mr. H. W. Lacy was judge.

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Everyone interested in Collies will hear with sorrow of the serious illness of Mr. T. H. Stretch, at Vine Cottage, Ormskirk, Eng. The dogs he has bred are all of the finest quality. At least three continents can boast of representatives from the famous Ormskirk Kennels, whence came Ormskirk Emerald, Southport Perfection, Ormskirk Commander and many dogs of fame bearing the honored prefix Ormskirk.

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A meeting of the Sporting Spaniel Club was held the first of the month, at the Toronto show, and the following officers were elected: H. Parker Thomas, Belleville, hon. president; Geo. Douglas, Woodstock, president; C. T. Mead, Toronto, vice-president; Harry Tremble, secretary and treasurer. Executive Committee—Geo. Bell, Toronto; F. T. Miller, Trenton; Geo. Dunn, Woodstock; Allison H. Irwin, Montreal; L. Farewell, Toronto. The club is in possession of several valuable cups and the treasury is in good condition.

## AMATEUR PHOTOGRAPHY

Conducted by Hubert McBean Johnstone

### ON HAVING FIGURES IN OUR LANDSCAPES.

H. McBean Johnstone.

The last annual exhibit of the New York Camera Club could hardly have failed to convince the observing onlooker of the fact that figures ought to play a much more important part in the make up of the landscape than appears to be the case. In all the landscapes displayed (and when one considers that the



RABBIT POINT, RABBIT LAKE, ONT.

Rabbit Point is one of the most beautiful spots on the canoe trip from Temagaming to Temiskaming. This view was taken from it late one September afternoon. The famous Rabbit Rock is near by.

American is the school of portrait photography, there were a surprisingly large number) there were very few indeed that could be said to owe their interest to the introduction of a figure. The few that did have figures in them were of such a nature that the figure was either the subject of the photogram or was all dwarfed out of proper proportion to the view. In the first case it could hardly be called a landscape with figures, but rather a portrait, while in the second, it would appear that the artist was afraid of his ability to properly pose the subject and so had the model stand a goodly distance from the lens.

Suppose we deal with the subject under three heads, viz:—Why, Where and How.

Now for a start at number one, *why* have a figure at all? Surely it may be possible that our picture possesses a charm that lies entirely apart from human interest, so that if admitted at all, a figure is apt to detract from the result, and if admitted must be of entirely secondary importance and subordinate to the principal idea. In this case a figure may often be employed to advantage in intensifying the meaning of the subject and bringing out more clearly the idea that it is intended to impress, as for instance a man depicted struggling before a storm will convey the idea of a fierce gale of wind. Much can be learned on this point by a study of the engravings of paintings by Turner.

Passing on from this point, which can only be decided by the artist himself, we come to the query *where* is the figure to be placed? Here, intuition is oftenest looked to as a guide,

in spite of the fact that the artist is so badly handicapped by the relative value of the objects being miscalculated on the focusing screen. In addition to this the object being upside down, makes this means of determining the position of the figure a very uncertain one. A suggestion has been put forward from time to time in the photographic press, that the landscape be photographed first by itself and a print taken, which could then be examined at leisure and the question of just in which spot the figure should come, be thought out. While this plan is troublesome, it will nevertheless prove very efficient and give to the operator an opportunity of showing of just how much or how little of the artistic temperament he is the possessor. The worst place for a figure, the spot in which it will bear the very least weight and at the same time the spot most used by those who know no better, is the very middle of the picture, for the result is that the field

is too finely balanced on either side. In order to find the most expressive parts of a picture divide it into equal squares by two horizontal and two vertical lines and the points where these lines intersect will always be more easily composed and always expressive. The placing of an object in the centre raises, so to speak, a conflict of interest on both sides, so much that if there be an object of interest on either side, the eye is tortured and distracted. By having the lines referred to, drawn on the focussing screen, the photographer is enabled to place the intersection on the part of the scene that he most desires to and so give point to his principal object. The best place for the figure is between the mid-distance and the near foreground of the landscape, though a



figure in the distance, if judiciously introduced, may often be the making of an otherwise pointless scene. For instance, the picture of a man in the extreme distance on a country road is frequently the making of a photogram. You will usually notice, however, that the photographer seems to be afraid to allow his figures to look larger than dwarfs. Surely this cannot be because there are technical difficulties in the way, for if you think so all that is necessary is to turn to the work of the late H. P. Robinson, (almost the chief care of whose work lay in the figures which he introduced), and to look at the size of them. You will find that in almost every instance they are of a fair size, the size being of course relative to the size and topic of the picture.

Then we come to the question of "How" which is really after all a part of the preceding paragraph. In posing your models don't over do it; in fact don't do it at all, but rather learn to know the power of restrained suggestion and simplicity and aim to always leave something to the imagination of the spectator. But by this it is not to be inferred that you may let anyone who happens to be at hand wander into the view and stand with his hands in his pockets and stare directly into the camera or gape about as though to give emphasis to the fact that there is a fine prospect spread before him. It is quite possible to create an idea in this manner, but in nine cases out of ten, unless the figure is specially posed for the subject in hand, the effect will be detracted from rather than improved. However, in defiance of the fact that so very little is said on this extremely important matter, the sins against fitness are daily becoming fewer and anything that can be really said to be vulgar is extremely rare, for almost all those who are capable of producing work that is up to the average in other respects, are sufficiently endowed with good taste to prevent the making of any very serious error along this line. You are going to find that as a rule you will have considerable trouble in the instruction of your models, though it is true there are some who will at once grasp your ideas and at once get about putting them into execution. But whatever you do you must avoid the commonplace and try to instil into your pictures some individuality of yourself that will attract attention and distinguish them from the mass. Do not try to tell all of your story in the photogram, but rather let your object be to provoke a certain amount of enquiry and curiosity and depend upon it, your pictures will produce a fascination. Seek for simple and unaffected positions for your figures and make a study of variety in the posing of your models, letting the models rather, so to speak, pose themselves at your instruction. They are then more apt to strike an easy and graceful position and will wear less of a look as though the artist had said "stand so," or "pose yourself this way," accompanying the order by grabbing the head or arms and putting them into some strained and unnatural position. Remember that if you want your figures to be supposed to be in motion, it will be necessary that you leave the greater amount of space behind them. In concluding this paragraph, let me say to shun the conventional and to remember that a sympathetic model is alone the kind to employ, and that in the posing that if the position is easy it will be graceful. With these points firmly impressed upon your mind so that you will have them to fall upon when you need them, you cannot well go astray.

The main point in studying the introduction of figures into a landscape, is to try it on half a dozen different plates in different positions and decide for yourself what is right and what is wrong. If for any reason you are unable to do this,

or even if you are able to do it, you will find it an excellent scheme to fall back on a study of the works of eminent painters and cultivate yourself by a study of the works of fire and love and gentleness, that the great artists have wreathed about their ideas. Hours spent in such study are far from being wasted, and though maybe you will not see at the time that you have gained anything by ten minutes spent in looking at some well known picture, you will find that the impression made during that short time, will have taken a root upon your sub-conscious mind that will blossom forth in your next production, with work full of energy and originality.

Now, in conclusion, the question, "Are figures beneficial to the appearance of a photogram?" has not been asked. They almost invariably are. But the reason that so many landscapes are spoiled by them is owing to a lack of fitness perhaps in the position or dress of the model. These are the two prime factors to be considered and once they are thoroughly understood, you have opened up a way by which it is possible for you to give life and feeling to what would otherwise be dead and pointless mechanical productions.

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#### Correspondence.

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

M. R. G.—Bromide of Potassium and Sodium Carbonate need no special precautions in keeping and will not deteriorate in solution. Sodium Sulphite if kept in a full tightly corked bottle will last some time. Perhaps two or three months. The best temperature is about 60° F.

Boy Blue.—Iron or lime in developer is injurious to plates or films. Pure water is a necessity. Filter the water before using it.

Photogram.—Half-tones take their names from the fact that they show the gradation between the high lights and shadows. Other kinds of photo-mechanical processes do not.

Broken Glass.—To make a ground glass when it is impossible for any reason to secure one, coat a piece of plain glass with the following: Sandarac, 8 gr.; Mastic, 4 gr.; Ether, 200 minims; Benzole, 80 to 100 minims. It is better to use the genuine article when it is possible to secure it, though this makes a very fine grain and is excellent for fine focussing. Coarse ground glass is almost worthless for fine work.

Magic Photograms.—I gave a way of making magic photograms in *ROD AND GUN IN CANADA*, in the issue of Feb., 1900. I repeat it. Make a print in the usual way on albumen paper, fix and wash thoroughly without toning and then immerse in a saturated solution of bichloride of mercury until the image disappears, after which wash and dry. To make the invisible image appear place the photogram in contact with a moistened piece of blotting paper, previously soaked in a saturated solution of hypo-soda. The image will reappear in all its pristine vigor as if by magic.

George R. Ansell.—If you want to photograph ducks in motion it is going to be necessary for you to invest in a shutter and give up exposing by hand. Your lens may not be fast enough either to admit of your using a fast shutter and it would be well for you to ascertain just how fast it is before you go to any expense. I would suggest that you aim to use a fast lens and rapid shutter rather than try to use a fast plate. If you use a plate of medium speed your results will be considerably better.

Thos. G. Reynolds.—To take a photogram of a room of the size you mention, i. e., that of a concert hall, you will require a charge of flash powder at least four times as large as the packages put up by dealers for an exposure on an ordinary room. In fact if I were you, I would use a charge *eight* times as large.

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### The Scrap Bag.

ON REMEMBERING THE NAMES OF PHOTOGRAPHIC CHEMICALS.—I never could remember the names of half the chemicals that are employed in the various processes in photography. Don't think that any one else can either. But it's getting worse and you will all do well to join me in laying up a store of sympathy for coming generations of photographers, for in the American Chemical Journal I learn that Prof. Holmes has discovered and named a new acid by the alluring title of "paranitrobenzoylureaortho-sulphonic." I am hoping that this will not reach the Professor's eye, for I may have misplaced some of the letters. In commenting on the name, Anthony's Bulletin says that it is quite possible that it may enter the dark room, being as it is, composed of silver, potassium, sodium, etc. The silver salt will then masquerade under the appellation of "parantiroben—(No, hold on, I've got it wrong.) "paranitrobenzoylureaortho-sulphonate of silver." I offer a valuable cash prize to the first man to say it correctly (and prove it is correct,) barring only the Professor, who has had a head start.

A FINISHING TOUCH.—It is remarkable how a little thing will often create a vast improvement in a photogram. For instance, only the other day, my attention was called to a simple little scheme whereby a print mounted on a piece of plain white cardboard might by a few seconds easy work be made to look a hundred per cent better. It consisted in taking some blunt instrument, as, for instance, the smooth point of a nail, and drawing a line round the print and about a quarter of an inch from its edge. The indentation thus made was a most excellent set-off for the whole thing.

A GOOD SCHEME.—Mr. R. W. Paul, of London, England, has recently issued a little leaflet for the use of photographic tourists who visit that city and whose time to hunt up the historic and interesting scenes is limited. The subjects are arranged in groups, each representing work that may be done in about a day. The idea is a most excellent one, and may be followed to advantage in other cities. Why not get the camera clubs to take it up, each club in its own city, for the benefit of others from other clubs who come to visit them. The trouble with our photographic societies in this country is that there is too little of a feeling of fraternity among them. In connection with this idea I might just mention that under the head of "Canadian Beauty Spots" ROD AND GUN IN CANADA tried a short time ago to induce the various amateurs throughout the country to write up their own districts, with their picturesque portions, for the help of others who have only a short time in the locality and who desired to reach the best that is to be had in the short time. Each man would thus be helping his neighbor. Sorry to have to say that we were obliged to give it up for lack of support. Everybody likes to get the good out of a thing of that kind without giving any assistance to it.

COMPOSITION.—Allow plenty of margin around the edge of your future picture. Compose only as far as the general motive and main objects are concerned. Leave questions of shape and size till later on. This came out in "Photography" a while ago. It is a good thing and worth remembering.

THE LATEST THING IN MOUNTS.—Some of the leading photographers are showing in their windows a mount that ought to be extremely useful to amateurs for Easter or Xmas cards. The mount is a cream-tinted, thin, pliable board with a vellum finish, and is made folded in the middle so that the print is inside a cover. Of course it could be produced in other colors, but professionals seem to be running on the cream at present. A pretty little landscape or portrait mounted in this way would be a dainty gift for a friend.

THE LARGEST IN THE WORLD.—The largest photographic dry-plate in the world was recently manufactured at "Papa" Cramer's dry plate works in St. Louis, Mo. The plate, which measures eight feet in length by four feet eight inches in breadth, is to be used to make a photograph of the cities of St. Paul and Minneapolis from a balloon. It is to be hoped that the first shot is a success for to have to make many "sittings" with photos of that size would soon bring anyone but a millionaire to the verge of bankruptcy.

PAN-AMERICAN PHOTOGRAPHY.—A striking instance of the advances that the art of photography has made within the past eight years is to be seen in the small attention that is paid to the wonderful photographs of the electrical display that are on sale at the Pan-American exposition. Had these pictures been shown at the World's Fair of '93, they would in all probability have been heralded by the photographic press as the beginning of a new era in the art-science. As it is, almost no notice is taken of them as anything out of the ordinary and they are reproduced with as little comment on their making as would be the commonest landscape, all of which is due to the little short of marvellous strides we have been making.

### AUTUMN MORN.

The serried lances of the light  
Are marshalling 'neath the morning star;  
They charge the sombre hosts of night,  
And hurl their shattered ranks afar.

Then while the skirmishers of morn  
Sweep westward on their silver way,  
With flaming swords before him borne,  
In triumph comes the Lord of Day.

A moment on the mountain head  
He cast a crown of gleaming gold;  
Then flung his mantle, warm and red,  
Adown the hill-sides, bare and cold.

O'er frost-decked barrens rolling east,  
Like silver altar cloths, he shone  
Till each tall bush, a mitred priest,  
Swung sapphire incense to the dawn.

Up from the brake curled the white mist,  
Quivering over down and dale;  
And lo, the lake by sunbeams kissed,  
Smiling drew back her shining veil.

The hunter rouses from his dreams,  
Breathes deep and strong the dawn wind cool;  
And, bending where the soft light streams,  
Bathes his flushed face in sparkling pool.

His hounds, sniffing the bracing air,  
Impatiently pace back and forth,  
Eager to track the timid deer  
In the lone runways of the north.

Shelburne, Nova Scotia.

—COLIN MCKAY.

# FORESTRY

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

Edited by the Officers of the Canadian Forestry Association.

## THE RISE OF FORESTRY IN EUROPE.

(C. A. Schenck, Ph.D., Biltmore, N.C.)

To the student of American forestry, no literature can be more interesting than that dealing with the early stages of European forestry.

Primeval forests are not found any more in any of the East European countries, save Scandinavia. In Germany and France, the virgin forest has finally disappeared from the lofty mountain heights, where it had found a last refuge.

At Cæsar's and Tacitus' time, the forest in Germany must have closely resembled the American Appalachian Forests of say 1820. The undergrowth was impenetrable during summer, the corpses of gigantic oaks and beeches lay on the ground. The swamps—which have now disappeared from the section in question—were passable in winter only. Game was abundant. No economic use was made of the woods, and still the woods were furnishing all that the inhabitants required.

A few centuries later, the monasteries spread Christendom and agricultural knowledge over the country. Fire and axe extirpate the woods, where the soil is fit for agriculture. Still it does not seem that fires were ever allowed or ever had a chance to destroy vast forest tracts.

The forest was furnishing, at the time of Boniface, pasture for large herds of swine feeding on beech nuts and acorns. In addition, we read of the importance of wild-bees-industry, supplying the monks with wax for candle sticks, and with sweet honey for such earthly pleasure, of which monks are said to be pre-eminently fond. Charlemagne began to set aside, as imperial forests, huge tracts unclaimed by anybody. Some nobles were appointed as foresters, their duties consisting mainly in keeping hounds and falcons in good shape for their imperial master's pleasure. There was no possibility of forestry, because trees had no value. Forestry could be established only when timber got scarce. One of the first vestiges of practical forestry is reported from near Erfwit, in 1400, an important mining centre. When the miners had consumed all nearby timber for charcoal and for props, the value of a tree rose rapidly, and it was found remunerative to reproduce them. This the monks controlling the mines did, by dividing their woodlands stocked with second growth hardwoods into twenty coupes, of equal size, and by annually making a clean sweep with one of them, allowing it to reproduce, in the course of twenty years, from coppice shoots a forest of similar composition.

In the mountain forests, the backwoods, nobody thought of forestry until, say, the time of Frederick the Great. Working plans were prepared for the forests owned by the crown. The leading idea pervading these plans was invariably: "Cut no more timber annually than the amount annually produced by the forest." In many a case, however, reckless

lumbering was permitted, as in the Black Forest by the Dukes of Wurtemberg where the stumpage, on large tracts, was leased to Dutch lumber dealers who floated the logs down the Neckar and Rhine into the Netherlands. In the Spessart Mountains, the Archbishop of Mayence allowed Bohemian glass makers to invade the woods, who, fortunately, had no use for the oaks of the virgin forest, of which a few hundred thousand are still left, each tree worth standing in the woods from \$50 to \$300.

The scare of a fuel famine was what drove Europe, in 1790, rapidly towards high stumpage prices and hence towards conservative forestry. At the leading universities, notably Mainz, Leipzig and Heidelberg, forestry began to be taught by botanists and economists. The introduction of quick growing timber species, notably of the American Black Locust, was strongly recommended. Laws were enacted preventing private wood owners from converting forests into farms. In addition, afforestation was indulged in by states and towns.

Towards 1820, the scare of a fuel famine had vanished. But the idea of conservative management had impressed itself so firmly on the ruling minds, that the main principle of forestry could not be shaken any more.

Additional help came when the royal or princely forests, under the pressure of public opinion, were ceded to the people by the ruling "monarchs," under conditions which made any extravagant use of the forests thereafter impossible.

The German nation cannot claim that the existence of forestry is solely due to their—or rather to their ancestors—sublime wisdom and foresight. A number of lucky circumstances—the absence of forest fires—introduction of railroads after that of forestry principles—large forests owned by families, towns, institutions in place of short-lived men—is that which has preserved their forests, aside from the undeniable fact, that the far-looking paternal forethought of government is nowhere more cheerfully accepted as forming a necessary part of governmental functions than in Germany.

Since 1820 forestry has expanded gradually at a rate exactly coinciding with that at which public roads (stone and clay roads) and railroads were developed, simply because cheapened transportation of timber means increased prices of trees,—and hence of seedlings and saplings, which are the trees of the future and which henceforth have a prospective value. When this condition of affairs arrives, money invested in second growth is remuneratively, and—with proper protection from fire—very safely invested. Then, and only then, forestry feasible on a large scale, be it on private or public account.

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### The World's Timber Supply.

The International Congress of Sylviculture was one of the first of the long series of International Congresses which took place at the great Paris Exhibition, and it is, it is hoped, to be the first of a long series of important Forest Congresses to be held at short intervals in the future. There were delegates present representing most of the countries of the world, but, naturally, the great majority of those who followed the discussions were French, mostly gentlemen connected with the forest service.

The proceedings of the Congress opened with an introductory speech by M. Jean Dupuy, the Minister of Agriculture. He began with a welcome to the foreign members, and then proceeded to discuss the position of the Exhibition as "not only a marvellous spectacle offered to the world, but also presenting, for all civilized people, a powerful interest as being the resumé, the synthesis, the relief map, so to speak, of human

progress." He then proceeded to show how Sylviculture, so important in the economy of nations, could not fail to take a place, a great and honorable place, in the Exhibition. The Minister was followed by the Director-General of Forests, who, after thanking him for presiding and opening the Congress, pointed out the importance of an international understanding on this subject, so as to take stock of the forest resources of the world, in view of the probable wood famine which, before long, may be expected to be a serious difficulty.

These preliminaries were followed by what was the most important paper read before the Congress, that by M. Mélard, Inspector of Forests, on the insufficiency of the supply of building timber in the world. In an able discourse, he pointed out that the supply of such timber was already diminishing, that most countries actually at the present day were importing more timber than they exported, and that in those few countries where the exports still exceeded the imports, there were serious signs of the supply falling short before long. Taking the nations in order, he discussed the question as regarded each of them; and gave statistics, both of the quantity of material imported, and of the value of the excess of one or the other. The following average figures of the values will be found interesting. They are in millions of francs:

	Excess of Imports.	Excess of Exports.		Excess of Imports.	Excess of Exports.
Great Britain.....	471		Sweden.....		198
France.....	99		Finland.....		89
Germany.....	344		Russia.....		134
Belgium.....	102		Roumania.....		5
Holland.....	18		United States.....		100
Denmark.....	31		Canada.....		127
Spain.....	30		British India.....		14
Portugal.....	5		China and Japan.....	4	
Italy.....	31		South Africa.....	9	
Switzerland.....	15		Mexico.....	12	
Greece.....	3		Argentina.....	26	
Bulgaria and Servia	3				
Austria-Hungary ..		199		1193	913
Norway.....		47			

He went on to point out how the excess in Austria-Hungary, Russia and the United States was much threatened, partly by increase of population and partly by industrial development; and how the excess in Norway was menaced by the deterioration of the forests; so that there only remained three countries where the forest resources were capable of helping in the future, viz., Sweden, Finland and Canada, but that what they could produce was quite insufficient, in presence of the increase in population and the development of industrial work, not only in Europe and America, but in China, Australia, South America, and South Africa, so that it was clear that we were on our way to a timber famine. He gave us fifty years only before such a catastrophe should take place. His recommendations were: (1) that the destruction of forests should be stopped, partly by strict legislative measures on the part of governments, partly by making private forest owners understand that their interests lie in taking care of the capital stock, and only exploiting so much as may be calculated to be the interest on it; (2) that forest property should be helped by not being too heavily taxed; (3) that measures should be at once taken to utilize all available waste land by replanting and restoration.

From this survey of the wood supply of the world it appears that Canada is looked to to assist in making up the

deficiencies which exist in other countries and therefore the probability, indeed we may say the certainty, is that the demands upon our forests and their monetary value will increase so that the forest resources of this country will become more and more one of the most valuable of its assets. How long a time will elapse before lumber in Canada reaches the value which it now has on the Continent of Europe may not be easy of exact estimation, but the time cannot be far distant when the full productive possibilities of our forests will not be any too great to meet the demands upon them, and when that period arrives values must inevitably rise. Various estimates have been made as to the time when the supply of trees for lumber in particular countries or in general would be exhausted, but most of these have been falsified by the event, as either the increment of growth or some other necessary element to the calculation was not given due weight, or else a subsequent change in conditions or a more accurate survey of the existing forests has changed the whole basis for the formation of an estimate. A change has sometimes been made in the conditions by the opening of new fields, as when teak was discovered to be a very satisfactory substitute in ship building for oak, the supply of which was becoming very scanty, or by a change in manufactures, as when iron displaced wood so largely in the building of vessels. The cutting of smaller logs has also in recent years very much increased the available supply. There is not now, however, with our present knowledge of the resources of our globe, any likelihood of hitherto unknown tree wealth being discovered, and the development of manufactures is now in the direction of making a much larger use of forest products, of which the pulp industry is a specially prominent instance; while the cutting of the trees has generally been carried well to the limit and sometimes much beyond the limit which must not be passed if reproduction is to be provided for.

However the question may be viewed from special aspects there is no possibility of denying that, while the demands on our forests are bound to increase, on the whole their capability of meeting these demands is steadily decreasing, while at the same time there are large areas of land which are practically useless except for the growing of trees and which are now entirely unproductive. Our present resources may be sufficient for present demands, but what will the condition be in thirty, forty or fifty years, or more? That is the question the forester has to answer and provide for. However varied the answer may be, there is one aim that should be always kept in view—that is, to make our timber lands which are useless for other purposes produce the largest possible quantity of the most valuable material, the same thing that we are striving for with so much care in agriculture. Surely no one can object to the reasonableness of such a proposition, or to the Government's taking the steps which may be possible or necessary at the present time towards the attainment of that object.

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#### Physiology of Tree Growth.

From "Forestry for Farmers" by Dr. E. S. Fernow.

Root and Foliage are the main organs of the tree. The trunk and branches serve to carry the crown upward and expose it to the light, which is necessary in order to prepare the food and increase the volume of the tree, and also as conductors of food materials up and down between root and foliage. A large part of the roots, too, aside from giving stability to the tree, serve only as conductors of water and food material; only

the youngest parts, the fibrous roots, beset with innumerable fine hairs serve to take up the water and minerals from the soil. These fine roots, root hairs, and young parts are therefore the essential portion of the root system. A tree may have a fine, vigorous-looking root system, yet if the young parts and fibrous roots are cut off or allowed to dry out, which they readily do—some kinds more so than others—thereby losing their power to take up water, such a tree is apt to die. Under very favorable moisture and temperature conditions, however, the old roots may throw out new sprouts and replace the fibrous roots. Some species, like the willows, poplars, locusts, and others, are especially capable of doing so. All trees that "transplant easily" probably possess this capacity of renewing the fibrous roots readily, or else are less subject to drying out. But it may be stated as a probable fact that most transplanted trees which die soon after the planting do so because the fibrous roots have been curtailed too much in taking up, or else have been allowed to dry out on the way from the nursery or forest to the place of planting; they were really dead before being set. Conifers—pines, spruces, etc.—are especially sensitive; maples, oaks, catalpas and apples will, in this respect, stand a good deal of abuse.

Hence, in transplanting, the first and foremost care of the forest grower, besides taking the sapling up with least injury, is the proper protection of its root fibers against drying out.

The water, with the minerals in solution, is taken up by the roots when the soil is warm enough, but to enable the roots to act they must be closely packed with the soil. It is conveyed mostly through the outer, which are the younger, layers of the wood of root, trunk and branches to the leaves. Here, under the influence of light and heat it is in large part transpired and in part combined with the carbon into organic compounds, sugar, etc., which serve as food materials. These travel from the leaf into the branchlet, and down through the outer layers of the trunk to the very tips of the root, forming new wood all the way, new buds, which lengthen into shoots, leaves, and flowers, and also new rootlets. To live and grow, therefore, the roots need the food elaborated in the leaves, just as the leaves need the water sent up from the roots.

Hence the interdependence of root system and crown, which must be kept in proportion when transplanting. At least, the root system must be sufficient to supply the needs of the crown.

The growing tree, in all its parts, is more or less saturated with water, and as the leaves, under the influence of sun and wind and atmospheric conditions generally transpire, new supplies are taken in through the roots and conveyed to the crown. This movement takes place even in winter, in a slight degree, to supply the loss of water by evaporation from the branches. In the growing season it is so active as to become noticeable; hence the saying that the sap is "up" or "rising," and when toward the end of the season the movement becomes less, the sap is said to be "down." But this movement of water is always upward; hence the notion that there is a stream upward one season and in one part of the tree, and a stream downward at another season and perhaps in another part of the tree, is erroneous. The downward movement is of food materials, and the two movements of water upward and food downward take place simultaneously, and depend, in part at least, one upon the other, the food being carried to the young parts, wherever required, by a process of diffusion from cell to cell known as "osmosis."

These food materials are, by the life processes of the active cells, changed in chemical composition as need be, from sugar, which is soluble, into starch, which is insoluble, and back into sugar, and combined with nitrogenous substances to make the cell-forming material, protoplasm.

In the fall, when the leaves cease to elaborate food, both the upward and downward movement, more or less simultaneously, come to rest (the surplus of food materials, as starch, and sometimes as sugar, being stored for the winter in certain cell tissues), to begin again simultaneously when in spring the temperature is high enough to reawaken activity, when the stored food of last year is dissolved and started on its voyage. The exact manner in which this movement of water upward and food materials downward takes place, and the forces at work, are not yet fully understood, nor is there absolute certainty as to the parts of the tree in which the movement takes place. It appears, however, that while all the so-called "sapwood" is capable of conducting water (the heartwood is probably not), the most active movement of both water and food materials takes place in the cambium (the growing cells immediately beneath the bark) and youngest part of the bark.

The deductions from these processes important to the planter are: That injury to the living bark or bast means injury to growth, if not destruction to life; that during the period of vegetation transplanting can be done only with great caution; that the best time to move trees is in the fall, when the leaves have dropped and the movement of water and food materials has mostly ceased, or in spring, before the movement begins again, the winter being objectionable only because of the difficulty of working the soil and of keeping the roots protected against frost. All things considered, spring planting, before activity in the tree has begun, is the best, although it is not impossible to plant at other times.

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#### The Maple.

The maple is the tree which has been chosen as the emblem of Canada, and there could have been no fitter choice. The beauty of a grand old maple standing up proudly against the sky, and spreading its sheltering leaves abroad, the glory which this tree gives to the autumn woods, and the contributions which it has made to the pleasure and comfort of the Canadian people, whether crackling cheerily on the hearth in winter, or yielding up its store of sap in the springtime to be converted into maple sugar, have given it a pre-eminent place.

The scientific name for the maple genus is *Acer*, being the older classical name, and it belongs to the order *Spindacae*, an order which is largely tropical, and takes its name from *Sapindus* (Indian Soap) or Soapberry, growing in Florida and South America, the berries of which were used as a substitute for soap. The genus *Acer* includes a number of species, but the maple of Canada is the Rock, Hard or Sugar Maple (*Acer Saccharinum*, Wang). The specific name requires no explanation to those who have had opportunity of testing its appropriateness by tasting the delicious maple sugar which this tree produces.

The maple may be easily distinguished by its five-parted leaf and double fruit or samara, and the hard maple is clearly differentiated by the sinuses or indentations in the leaf being rounded and the edges entire, that is, lacking the serrate or saw-like teeth that are characteristic of the leaves of the other native species of the maple. The white-blotched bark of the younger trees is also a marked feature. The greenish flowers,

drooping on slender pedicels appear in April or May when the leaves are expanding, and the seed ripens in September. Seed for planting should be collected after that time and sown that fall or the next spring, but not later, as the limit of the vitality of maple seeds is not more than six months. The best method of keeping it over winter is by burying it in sand in alternate layers. The habitat of the hard maple is the Eastern and Central Northern States, and in Canada it spreads from Nova Scotia westward to Lake Superior, and north to the Laurentian divide.

This is the shade tree *par excellence*. Growing in the open it spreads out into a beautiful rounded canopy, and on the streets of our cities its compact body of leaves forms a grateful shelter in the heat of summer. It is, however, useful in many other ways. Hard maple firewood is always the best and commands the highest price. The wood is light in color, hard, close-grained and strong, and this makes it suitable for furniture and other manufactured articles, and particularly for flooring, for which purpose it is much in demand. It exhibits a great variety of color and fibre arrangement, the two varieties most prized being "bird's eye" and "curly." These are mostly cut into veneers, the latter being cut on the line of the diameter of the tree, and the former, the peculiar spotted variety, on the line of the circumference.

The spring sugar-making was a great event in the history of the early settlements, and was made the occasion of lively celebrations, especially by the young people. We have not so far passed into the prosaic age of patent appliances that the days are not yet remembered when the tree was tapped by making a cut with the axe, slanting downward into the tree, and lower at one side so as to form a small receptacle for the sap which would direct it to the cedar spile placed under the lower corner in a hole made by axe or gouge from which it ran into the hollowed out troughs of split basswood placed beneath. It was then collected and boiled in large iron pots till it reached the proper consistency, which was easily tested by dropping some of the boiling sap on the snow. A piece of fat pork, sometimes suspended over the pot, was used to prevent boiling over, and the impurities, which the careless method of handling made sufficiently numerous, were skimmed off as they rose to the top. The apparatus is now very much improved, metal spiles being inserted in holes, usually  $\frac{3}{4}$  of an inch in diameter, and penetrating one or two inches into the wood, over which are hung covered pails, shaped so as to fit closely to the tree. The boiling is done in a specially prepared apparatus consisting of a series of tin pans, under which the fire passes, and the heat of which is carefully regulated by a thermometer.

The sap runs best during a season of clear sunny days and frosty nights. Trees on wet ground usually produce the most sap, but containing a large quantity of water. The average production for one tree is about twenty-five gallons of sap for the season, three per cent. of which is sugar. Thirty-five gallons of sap will make one gallon of syrup, or four gallons, one pound of sugar. Each tree would therefore produce about six pounds of sugar in a season, which at the rate of ten cents per pound would give a return of sixty cents. With even a small number of trees to the acre this would make a good revenue. If the tapping is done carefully with a view to a steady yield rather than an excessive one at any time, it does not appear to injure the trees materially, cases being known where sugar bushes have been yielding steadily for twenty-five years without apparent detriment.

There is a variety of hard maple called the Black-Barked Maple (var. *nigrum*) which is distinguished from the type by its darker bark and the leaves which are more pubescent beneath and have wider and less deeply marked sinuses. This variety is considered by sugar makers as the best for producing sap.

Mr. Stewart, Dominion Superintendent of Forestry, has returned from the West and reports that great interest is being taken by the settlers in Manitoba and the North West Territories in the tree planting scheme. Meetings were held at different points as far west as Alberta, which were well attended. Exhibits of forest trees, tree seeds, etc., were shown at Winnipeg and Brandon Exhibitions which attracted much attention and brought forestry interests very graphically to the notice of those in attendance. Since the spring there has not been much danger of fire in Manitoba or the Territories, but recent dry weather has resulted in many fires in British Columbia, which will probably do much damage to the timber. Through the exertions of the Dominion fire rangers a fire in the New Westminster district was extinguished before it reached the standing timber. It is reported that the fires are even more serious in Washington Territory.

The Boston Herald called attention to the utterances of Vice-President Roosevelt on the devastation caused in the United States by forest fires, the movement for the stoppage of which he calls "the greatest internal question of the day." The loss to the country by forest fires, largely preventable, has been estimated at \$50,000,000 a year, not taking into account the losses by unfavorable climatic conditions which are much more. The need for such a movement is no less great in Canada than it is in the United States.

In a review of the situation of eastern spruce the "American Lumberman" suggests as the primary cause of the dullness of the trade the demand for this wood created by the pulp business and the prices paid by wood pulp operators for spruce logs. Unless sawmill owners have lands of their own they have to go into competition with the pulp men for logs, and as the price has been forced up to \$11 to \$16 a thousand there is little profit in its manufacture, for any special rise in price would throw spruce out of the market in competition with other lumber. The condition is likely to be intensified in the future, and a remedy which "The Lumberman" thinks might be applied in order to save the spruce lumber business of the New England States is to make an arrangement with Canada so that spruce pulp wood should be admitted at a reduced tariff or free from the provinces of Quebec and New Brunswick, and thus leave the lumbermen the native spruce which they need for their mills. This is rather a naive suggestion, and, although Canada is always ready to consider any plan for the utilization of her resources, we can hardly be expected to sacrifice our own interests to advance the prosperity of either the pulp wood or spruce lumber industry in the New England States. The whole trend of recent legislation in Canada should have shown "The Lumberman" that, in so far as the matter is under government control, we prefer to arrange that the manufacturing should be done as much as possible on this side of the line. We want to have the raw material and the factory sufficiently close together to ensure that the relation between the preservation of the productivity of the forest and the prosperity of the factory may be so clear as to impress the necessity for proper forest management.

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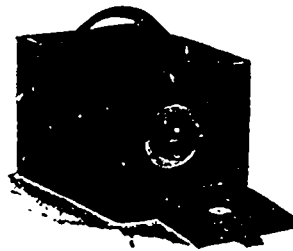
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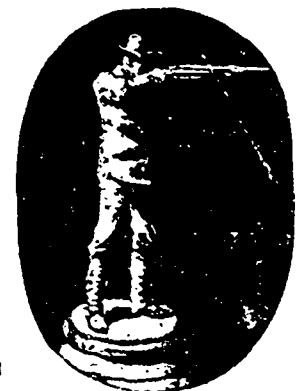
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