



# THE CANADA LUMBERMAN

DEVOTED TO THE LUMBER AND TIMBER INTERESTS OF THE DOMINION.

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## SCIENTIFIC FORESTRY

In the report by Prof. Wm. Saunders, F.R.S.C., to the Dominion Minister of Agriculture, on agricultural colleges and experimental farms it is satisfactory to find that the important subject of forestry has not been neglected. In fact in the letter of instructions directing Prof. Saunders to make the investigations on which he founds his report he was especially required to pay attention to the subject of forestry, particularly in regard to tree-planting in the Western States.

As the result of his investigation Prof. Saunders has to report that in many of the States particular attention is given to practical and theoretical forestry in some cases with very beneficial results. The central government at Washington is also evidently alive to the importance of this matter, and makes a not unsubstantial provision for it. Very briefly he records, too, what different European countries are doing in this respect. Especially valuable is the communication which he embodies from Mr. B. E. Fernon.

In the suggestion which Prof. Saunders also makes as part of his duty, he utilizes the information thus obtained. Though the primary object in view is the promotion of scientific agriculture, he shows himself not unmindful of the forest wealth of Canada, or of the necessity for conserving it. In his suggestion for the staff of the proposed colleges and experimental stations he includes a Superintendent of Forestry with appropriate duties. At the stations in the Northwest especially he advises the reservation of blocks of land for forestry purposes.

It is to be hoped that these and other suggestions which have not been particularized, will be adopted, for they cannot fail to be useful. The Dominion Administration, not only as the central authority of our country, but also as having control of important timber tracts and of extensive prairies, part of which might well be devoted to forest, can very appropriately undertake this work.

## UPPER END OF OTTAWA VALLEY.

In a second article on the upper end of the Ottawa valley the Nipissing Times says:—Twenty-four miles west of Northbay by the C. P. R., you approach the Sturgeon river. A large and turbulent stream which flows into Lake Nipissing, and whose banks, until recently, have been untrodden by the lumbermen. At a point situated four miles above its mouth that river presents some very picturesque scenery. There are the celebrated Sturgeon Cascades, which are an object of interest to both pleasure seekers and capitalists. There also is the singular gorge cut in the rock, as if done by art, through which the waters of a great river rush with terrific velocity, in a volume only thirty five feet wide. It is at the latter that the C. P. R. crosses the Sturgeon by means of an iron bridge, which, owing to the peculiar conformation of the river's banks, was erected at a comparatively trifling cost. There, likewise, is the basin below the last fall where the river spreads out into a lake surrounded by high banks and covering an area of a mile in circumference. An intelligent traveller will linger here to enjoy the pleasure arising from gazing on one of the loveliest scenes found on the shores of the Nipissing. This is the site of the village of Sturgeon Falls, whose commencement dates back to 1882. It possesses about three hundred inhabitants and is favored with the usual number of stores and public houses in a village of this size. There is erected on the basin described a steam saw mill owned by Mr. Clark, which is daily turning out a considerable quantity of sawed lumber; and there is also a water power saw mill built on the upper rapids and owned by Mr. Martin Russell, which is supplying a large amount of shingles and sawed lumber for the use of settlers; and we are informed that Mr. Thomas Mackey is preparing to build a large steam saw mill on McLeod's Bay, a short distance from the village, where are annually shipped, by the C. P. R., large quantities of square timber and saw logs for the lower Ottawa. The township of Springer in which Sturgeon Falls is situated and the township of Caldwell, lying immediately west of the former, which is being rapidly located. Those townships are traversed by no other streams besides the Sturgeon, viz.,; Widow river and Cache creek, in the valleys of which lands of superior quality are found. On ascending the Sturgeon river ten miles, you reach the township of Field which, although reported to be one of the best townships in the district of Nipissing, has not a settler located at the present time.

## THE MISSION TO LUMBERMAN

An important though unostentatious form of mission work to lumbermen has been carried on for several years by the Presbyterian Church. In order to make it as efficient as possible it has been trusted to the care and oversight of the Synod of Montreal and Ottawa, within whose bounds this field of effort chiefly lie. The importance of the work among those engaged in the lumber woods is at once apparent when their peculiar circumstances are taken into account. A large number of the men employed in lumbering shanties come from all parts of the Province of Quebec and others from Eastern Ontario. They are freed from all restraint of home influence. There are the long evenings when time hangs heavily on their hands. Sabbath is not a working day in the lumber camp, neither are its sacred hours devoted exclusively to religious worship. Much miscellaneous work is done on that day. It is almost inevitable that the moral atmosphere of the camps is not of any elevating kind, and those who while at home have been trained to better things receive evil impressions that linger in memory.

The committee having charge of the lumbermen's mission, as they have opportunity, send ministers and catechists to the shanties in winter. The missionaries are provided with religious and instructive literature, which is gratefully received and carefully read by all who receive it. At the recent meeting of the Synod of Montreal and Ottawa it was stated that in many cases the illustrated and other periodicals had passed from hand to hand and had been carried to distant regions where they continued to be read by many who could not have been reached otherwise.

Another encouraging feature connected with the mission is the kind and cordial welcome accorded the missionaries. They have to undergo arduous and sometimes dangerous journeys in travelling from camp to camp. They have literally to endure hardship as good soldiers of Jesus Christ, yet in few instances indeed do they meet with anything approaching rude treatment from those they visit. The Old, Old Story is generally listened to with respectful interest. The door stands wide open to the missionary, and great good may confidently be expected from his labour of love among this too much neglected class.

Hitherto the work has to a large extent been sustained by members of the congregations in Ottawa, though others have given liberally to its maintenance. Under the judicious management of the Converter, the Rev. Dr. Moore, of the Bank Street Church, Ottawa, whose resignation of the office was unanimously regretted, the mission has prospered; but all who spoke in the Synod appeared to be impressed with the conviction that still more vigorous effort on the part of the Synod is required to make the mission what it ought to be.

It was resolved to apply both to the Home Mission Committee and the Board of French Evangelization for grants to aid in extending the operations carried on by the mission lumbermen, and also to appeal to the congregations with the bounds of the Synod for collections to help forward the work. There is no doubt that financially and in other respects the new Converter, the Rev. W. D. Armstrong, of Ottawa, will be able to present a still more encouraging report to the Synod next year.—Canada Presbyterian.

## CHIMNEY DRAUGHTS.

In order to support the combustion means must be provided for supplying the furnace with a continuous supply of air and for removing the products of combustion. Both of these objects are usually accomplished by the chimney, the products of combustion in their heated state being lighter than the external air tend to rise through the flue, and drawing air through the furnace, supply the required oxygen, the remainder, with the products of combustion, passing off in their turn, and, by reason of their lightness, to maintain the draught.

It frequently happens that a draught which has been sufficient becomes impaired and unable to do what is required of it. The first and most natural cause which is looked to in this dilemma is obstruction, by the accumulation of soot in the flues and passages. If this soot is also deposited in the tubes and upon the heating surfaces of the boiler it diminishes the efficiency of the coal which is burned by interposing itself as a non-conducting coating between the fire and the water which it is designed to heat, rendering necessary the consumption of more coal requiring a stronger draught, which the passages in their choked condition are unable to supply.

Leaks in the chimney and masonry about the boiler have a decided and prejudicial effect upon the draught, not only from the fact that air enters at those places which would otherwise come through the grate, but the air so entering is cold and heavy, and increases the weight of the column of air in the chimney instead of reducing it as it would in a rarified condition after passing through the fire.

Care should be taken in making more than one connection to a flue, first to have the leading flues so conducted that one may not have a decided advantage over the other, and second, that they do not enter the stack in such a manner as to interfere with each other. When flues enter a stack directly opposite to each other, deflecting plates should be provided in order that the entering currents may not oppose each other. In large stacks with flues entering upon all sides a cone is sometimes built in the centre of sufficient height to serve as a deflector.

The draught of a chimney is, of course, affected by the character of a boiler which is attached to it, and of the flues or passages through which the heated gases are conveyed to it. A return tubular boiler of equal area of cross section in the tubes will require a stronger draught than a vertical tubular, and the vertical will require a stronger draught than a plain cylinder boiler.

In cases where, as it is frequently happens in city blocks, the boilers are situated in front and the chimney in the rear, a long and tortuous flue, sometimes descending, is used, allowance must be made not only for the increased friction of the flue itself, but for the heat which will be radiated from it, and which would otherwise assist in sustaining the chimney draught.

We have heard the statement made that the draught of a chimney was decreased by the sun shining upon it, and we have read the most profound arguments to the effect that it was retarded in some way by the actinic rays acting down upon it. If any such effect is produced by this circumstance we should be inclined to lay it to the lightening of the external column of air rather than any direct retardation of the inner one.—Boston Journal of Commerce.

## RAISING OAK TREES.

During the last few years large quantities of acorns have been taken from this country for the purpose of planting. White oak acorns are preferred and they have been chiefly obtained in the State of Missouri. They are generally planted on sandy or broken land that is intended for pasturing sheep. In Great Britain sheep are accustomed to eat acorns, and it is considered profitable to raise them for sheep food. No variety of oak has received much attention at the hands of the planters of fruit trees. They state that the trees make a very low growth and for this reason they prefer to plant trees that grow rapidly and furnish fuel and timber in a shorter time. A foreign writer suggests the oaks may be raised to excellent advantage in connection with other varieties of trees that grow rapidly. He admits that oaks grow slowly while they are young, but states that they increase in size rapidly when they are fifteen or twenty years old. He, therefore, recommends planting a row of oaks between rows of quick growing trees. The latter will be large enough to use for various purposes when they are from fifteen to twenty years old. If care is exercised they may be cut down so as not to injure the young oaks. These trees being removed, the young oaks will grow rapidly and completely occupy the ground. Oaks are easy to propagate as the acorns can be obtained at small cost and are almost certain to germinate. Acorns are much easier to manage than large nuts like those produced on the hickory or pecan tree. They can be planted where it is desired to have them grow, or in nursery rows, from which the small trees may be taken up when they are at a suitable size to be transplanted. The wood is excellent for fuel, timber and post.—N.O. Times Democrat.

## Seasoning Green Wood.

Green wood cannot be properly seasoned or dried in five days, any more than green cheese can be ripened in that time, yet each of the nine lumber-drying kilns at the Pullman Car Works has a capacity to turn out 300,000 feet supposed to be fit for car-building, in the above time. It is pretty generally acknowledged that kiln-dried timber must be injured in fibre, and so roasted on the outside as to be brittle and unfit for many purposes. At least this is what a Chicago carriage journal thinks.

A new department, says the Deseronto Tribune, was added to the ship yard during the past winter, viz. the manufacture of railway cars. Besides building a number of flat cars, Mr. Evans has repaired several passenger cars, and is now building a smoking and express car for the N.T. & Q. Railway. It is now well advanced towards completion and experts pronounce the workmanship in every respect superior both in strength and finish. A passenger coach will be next attempted and the work of building cars will then become one of the industries of Deseronto, and give additional employment to many workmen. Mr. Evans intends proceeding with the erection of a car shop which will be 85 feet long and 26 feet wide. There will be two tracks, one for framing, &c., and the other for painting &c.

A DISASTEROUS bush fire is now progressing in Canterbury, N. H. Five hundred acres have been burned over. Some of the land had some valuable standing timber, and the loss will be heavy. A large force of men is fighting the fire.