

ECONOMIC VALUES OF CANADIAN WOODS.

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WHAT I will have to say has been acquired in the rough school of experience, and not in academic halls or at the feet of wise men. Having spent more than half a century in the workshop, the forest, on lake and river and sawmill, I am sure you will not think it out of place or presumptuous on my part to try to impart some of the knowledge I may have acquired in the way indicated, though it be ever so little.

The trees indigenous to our country and climate are of two classes, the coniferous or evergreen and deciduous, or those that shed their leaves annually. Of the first-named class is the common cedar, one of the most useful in our woods. It abounds in nearly every part of the wooded country, is largely used for fence-rails, pickets, posts, sills for buildings, telegraph poles, railroad ties where the line is straight, it being considered too soft to resist the pressure on curves. It is very light and durable, has a pleasant aroma, said to be a protection against moths when used for drawers or chests. It also furnishes material for roof shingles for home use and exportation, a large quantity of which find their way into the United States from the eastern townships.

Not the least important of the evergreens is the hemlock. It exists in great quantities in almost every part of the province, and is usually found mixed with other woods; it is the cheapest class of sawed lumber that we have, is strong and durable when not exposed to the weather, and is used for rough work, such as sheathing, roof boards for shingling on, holding nails better than almost any other wood, joists, studding, stable flooring, and is said to be proof against rats gnawing through it on account of the prickly nature of the wood. But the great value of the tree when it is not too far from navigable water or rail, is in its bark, which is almost invaluable for tanning purposes, and realizes from four to seven dollars a cord alongside railroad or barge. Trees that are taken for their bark are usually cut down and stripped during the months of June and July, when it peels easily, but it is no pleasant task for those who have to do it, as the plague of black flies and mosquitoes prevailing at that time can only be appreciated by those who have had some experience in the bush at this particular season. The tree, after the bark is taken off, if not too far from river or mill, is made into sawlogs and sold to the lumbermen or taken to the mill and sawed on halves, the millman taking half for his labor, the farmer selling the other portion or hauling it home for his own use. The extract of hemlock is used in medicine for its narcotic properties.

The balsam or sapin of the French is of little commercial value. When large enough it is made into lumber. It is usually found in poor soil mixed with white spruce; it makes a nice ornamental tree, is graceful in shape, nicely pointed at the top, and of a very dark green color.

Our ordinary

WHITE SPRUCE,

one of the best known and most useful of the evergreens, is found in great plenty from Nova Scotia to the Ottawa, including the St. Lawrence and their tributaries, but is not often seen west of the former river until we reach Lake Superior and northern Manitoba. The wood of this tree is largely used for building purposes, making excellent floors and joisting timber, as well as for doors, sashes, mouldings and inside finishing, when white pine is scarce. It also furnishes spars for sailing vessels, such as yards, masts, etc., as it is both light and strong.

The sea or black spruce of Nova Scotia and New Brunswick is largely used in the frames of ships, and when well salted is said to be almost as strong and durable as oak. I have seen a Nova Scotia barque with part of her frame exposed, as sound as the day it was put up, after eight years of service in many climes and storms. The spruce is also the favorite wood of pulp makers, to be manufactured into paper, though other woods to some extent are used, the young trees being preferred. Vast quantities are cut down to supply the demand which is increasing very rapidly. Much of this material is taken to the United States in its natural state, where it enters free of import duty. Our Government, I think unwisely, removed the export duty that existed until a year or two ago, thus hastening the

denuding of our forests, and robbing the country of one of its principal sources of wealth.

The next in order of this class is the

TAMARACK, OR LARCH,

sometimes known as hackmatack. It is deciduous in its character, and though it has fallen in value of late years owing to the decline of ship-building in Quebec, yet it is an excellent wood, being little inferior to oak for strength and durability, and much more easily worked. Years ago I have sold it in Quebec for twenty-five cents a cubic foot, while to-day it is difficult to get for the same average quality twelve to fourteen cents, and that for only a limited quantity. None of it is exported. What is made is principally used for sills under plank sidewalks, and in the construction of a few small vessels and scows that are built for local purposes. The smaller trees are mostly made into railroad ties and cordwood, which is considered an excellent steam-producing fuel on account of its inflammability. Tamarac knees made out of the root of the tree are valuable to export.

The red, or Norway pine, another of the coniferous trees, is often found scattered with white pine, largely on the Ottawa and its tributaries; it has much thicker sap than the other pines; it is a valuable timber, strong and elastic, much used in this country for flooring and the frames of railroad cars. In England, largely for flooring, joists and ship planking.

We now come to what every lumberman considers

THE KING OF THE FOREST,

in grandeur, usefulness or value, the white or cork pine, or *pinus strobus* of the scientists. The tree of all others that serves more purposes than we can enumerate. Among them the tiny match, the mast for the great ship, the frame of the sweet sounding piano, and wherever a soft, easy-working wood is wanted, either in the arts, the workshop, or the factory, there it is to be found. As an article of commerce it far surpasses in value and quantity that of any other wood, if not of all sorts put together. It supplies more freight for vessels coming into the St. Lawrence than any other commodity; it gives more employment to wage-earning men than any industry in our country, except agriculture. It employs more capital in manipulating it from the time the men leave for the woods in the fall to make, haul and drive the logs and timber to the mills; the building of mills for sawing; the construction of barges and steamboats to convey it to the market, as well as the large amount of freight furnished to railroads; the erection of factories to convert it to the various uses to which it is put. It is safe to say that the value of the output of pine lumber alone, produced in Canada, is at least \$25,000,000, or two and a-half times as much as that of any other manufacturing industry, and when we consider that sixty per cent. is paid for labor and that nearly all to men representing a large population, you can readily see how important it is, either by legislation or otherwise, to protect and conserve the source of this great factor in our prosperity. How can we extol sufficiently this monarch of the forest that we are so much indebted to? The tree, when growing in the open country, is of little or no value except as a shade tree, its lateral branches reaching almost to the ground, and it is in the dense forest we have to look for the great tree of commerce, where nature acts the pruner. There the branches decay and drop off, the trunk shoots upward high above its neighbors, seeking that which it was deprived of below, light and air. By this action of nature we get our clear pine, so much prized by mechanics. As the branches drop off, the wood grows over them, and we get the stately tree carrying its size well up and often attaining sixty or seventy feet to the branches. I once saw a tree that measured forty inches in diameter, seventy feet from the ground, without a knot or defect visible in this space. Naturally, however, it is very rare to get a log or the best of timber without finding knots or defects as you get near the heart, the remains of the dead branches that fell off in the trees youth. My experience teaches me that

WHITE PINE IS OF SLOW GROWTH.

The smallest tree that ought to be taken for saw logs or timber should be at least fourteen inches at the butt. This would take not less than fifty years to produce, and such a tree as I have before described, as much as one hundred and fifty. I have a white pine tree near my

house that has not gained more than three inches in twenty years, although it is in good rich soil, perhaps too rich. Large groves of pine are usually found on poor light soil. I think, consequently, that the bulk of the pine found under such circumstances is apt to be punky or defective for the want (so to speak) of nourishment. The best pine is usually found on stronger soil mixed with hardwood. It is unpleasant to contemplate the want of this valuable timber. Once gone it is gone forever, and cannot be reproduced in our time or our children's, as unlike mineral or the other products of the soil, the quantity produced from these is only limited by the amount of labor employed in producing them. Perhaps, however, time will find a substitute in some artificial wood, or employ metal to take its place. Hardwoods, to which I will briefly refer presently, that were once almost discarded, except for burning, are coming largely into use in consequence of the improved wood-working machinery that has been devised of late years, making the work of preparing and completing joiner-work much more simple and easy than it was to do the same thing in pine (when I served my time, over 50 years ago, and when flooring, mortising, tenoning, sticking mouldings out of dry spruce with hard knots was done by hand). The facilities also for reaching hardwoods and getting them to market will help to make up for the loss of this favorite material, which I hope is yet a long way off. I might say before closing this part of my subject that the

MAGNIFICENT CEDAR OF BRITISH COLUMBIA

will no doubt largely take the place of white pine for joiner-work. The Douglas fir will be a valuable substitute for our coarser woods, when they become scarce and high in price, that is, if the railroads moderate rates coming east so as to come into competition with each other. It will, however, I am afraid, be some time before either takes place.

The last of the soft wood that I will refer to is the bass wood, linden or bois blanc. It produces lumber that is much used by carriage-makers, furniture manufacturers and joiners, for panels, etc.

DECIDUOUS OR LEAF-SHEDDING TREES.

Of the deciduous or leaf-shedding trees, the first I will refer to is the beech, a handsome shade tree with smooth bark and bearing a small triangular nut not of an unpleasant taste. The wood is used for various purposes, such as carpenters' planes, shoemakers' lasts, bobbins and shuttles for cotton and woolen factories, and largely for firewood, as it makes excellent fuel.

Birch, of which there are several species, principal among them being the large or yellow birch, is much used for furniture, by wheelwrights, for stairbuilders, for hand rails and balusters, and in ship-building, forming a portion of the frame, flooring and keelson, being durable when kept wet. It is also largely exported to Europe as square timber. It is a tree of considerable size, often reaching twenty to thirty inches in diameter. It is also a favorite firewood.

The white birch or bouleau, has within a few years become of some value when found within easy reach, having been turned to account for the manufacture of spools and spool-wood for thread makers, the white part of the wood only being used. Many shiploads have been shipped to England and Scotland the past few years, principally from the lower St. Lawrence.

The elm is much admired as a shade tree. Rock elm found in Ontario is tough and durable, and is valued for the planking of vessels. Common elm is used for barrel staves. Oak is one of the most valuable woods of commerce. The white and blue oaks of Ontario were famous for their great size and length, as well as strength and durability. In ship-building it has no rival, except it be the live oak of Florida. The white oak found in Quebec is small and of little value; the red oak is of good size and makes excellent inside floors and household furniture. Black walnut is almost a thing of the past, although forty or fifty years ago in the country between Guelph and the St. Clair river and Lake Erie it was cut down, burned or put to the commonest use, such as fence rails, posts, hog pens, etc. There are many varieties of maples, soft and hard maples being familiar to almost everyone. The hickory is a highly esteemed wood, noted for its toughness and strength, and is more plentiful in Ontario than Quebec.