

### FORESTRY AND LUMBER TRADE OF CANADA.

We take the following in regard to the forestry and the lumber trade of Canada, from a work, "Hand Book of the Dominion of Canada," by Mr. S. E. Dawson, one of the local secretaries of the British Association, which was published for the guidance of members of the Association:

#### FORESTRY OF CANADA.

Taking a general view of the great forest areas of the Dominion, some striking facts present themselves. The line of separation between the wooded and the prairie country west of the Lake of the Woods forms an abrupt barrier beyond which but few of the trees of Ontario, Quebec and the Maritime Provinces extend; whilst the Rocky Mountains are found to be a divide separating from the rest of the Dominion a forest flora, which, with few exceptions, is distinctive of British Columbia, Washington, and Oregon.

There are ninety-five species of forest trees in Canada, of which Ontario, the most southerly of the Provinces, has sixty-five. Of these, all, with five exceptions, occur in the Lake Erie districts, fifty-two extend eastward into the Province of Quebec, thirty-four are found to a greater or less extent on the eastern and western coasts of Lake Superior; whilst only fourteen have been observed to range westward to the Red River and the prairie country thence to the Rocky Mountains. On the other hand, thirty-four species of trees are found in British Columbia, of which only seven—the aspen poplar (*Populus tremuloides*), balsam poplar (*P. balsamifera*), canoe birch (*Betula papyracea*), white spruce (*Abies alba*), black spruce (*A. nigra*), balsam (*A. balsamea*) and red cedar (*Juniperus Virginiana*)—extend eastward beyond the influence of the Rocky Mountains, but these seven are, with the exception of the red cedar, which is more limited in range, very generally distributed over the whole Dominion from the Mackenzie River to Nova Scotia. Eighteen, or more than one half, of the British Columbia trees belong to the Conifer or Pine family.

The leading economic trees of Ontario, nearly all of which range into the other eastern provinces, are

Basswood (*Tilia Americana*).  
 Red maple (*Acer rubrum*).  
 Sugar maple (*Acer saccharinum*).  
 Black ash (*Fraxinus sambucifolia*).  
 White ash (*F. Americana*).  
 Red elm (*Ulmus fulva*).  
 White elm (*U. Americana*).  
 Plane tree (*Platanus occidentalis*).  
 Butternut (*Juglans cinerea*).  
 Walnut (*J. nigra*).  
 Hickory (*Carya alba*).  
 Bur oak (*Quercus macrocarpa*).  
 White oak (*Q. alba*).  
 Red oak (*Q. rubra*).  
 Beech (*Fagus ferruginea*).  
 Hop hornbeam (*Ostrya Virginica*).  
 Canoe birch (*Betula papyracea*).  
 Black birch (*B. lenta*).  
 Aspen (*Populus tremuloides*).  
 Aspen (*P. grandidentata*).  
 Balsam poplar (*P. balsamifera*).  
 Red pine (*Pinus resinosa*).  
 White pine (*Pinus Strobus*).  
 Balsam fir (*Abies balsamea*).  
 Hemlock (*A. Canadensis*).  
 Black spruce (*A. nigra*).  
 White spruce (*A. alba*).  
 Tamarac (*Larix Americana*).  
 Arbor vitae (*Thuja occidentalis*).

The prominent trees of Manitoba, which province may be considered as representing the Central District of Canada—are  
 Basswood (*Tilia Americana*).  
 Ash-leaved maple (*Ogundo aceroides*).  
 Green ash (*Fraxinus viridis*).  
 White elm (*Ulmus Am. ericana*).  
 Canoe birch (*Betula papyracea*).  
 Aspen (*Populus tremuloides*).  
 Balsam poplar (*P. balsamifera*).  
 Black spruce (*A. nigra*).  
 Tamarac (*Larix Americana*).  
 In British Columbia the leading trees, in addition to the six previously mentioned, are  
 Maple (*Acer macrophyllum*).  
 Alder (*Alnus rubra*).  
 Oak (*Quercus Garryana*).

Cottonwood (*Populus trichocarpa*).  
 Western birch (*Betula occidentalis*).  
 Western scrub pine (*Pinus contorta*).  
 White pine (*P. monticola*).  
 Yellow pine (*P. ponderosa*).  
 Menzies' spruce (*Picea Menziesii*).  
 Engelmann's spruce (*Picea Engelmannii*).  
 Spruce (*Abies grandis*).  
 Balsam spruce (*A. subalpina*).  
 Western hemlock (*Tsuga Mertensiana*).  
 Williamson's hemlock (*T. Pattoniana*).  
 Douglas fir (*Pseudotsuga Douglasii*).  
 Giant cedar (*Thuja gigantea*).  
 Yellow cypress (*Chamaecyparis Nutkaensis*).  
 Yew (*Taxus brevifolia*).  
 Western larch (*Larix occidentalis*).

The Government of the Province of Ontario has recently taken up seriously the question of preserving and replanting forests, and of tree-planting upon the high-roads and farms. The Government of Quebec has also awakened up to the importance of the subject, and has instituted an "arbor day" or annual tree-planting holiday throughout the province. But the efforts of those concerned in forestry have hitherto been turned chiefly towards obtaining more stringent regulations for preventing forest fires and for compelling the lumbermen to work their limits in a more economical manner. The forestry associations throughout the country are doing good, useful work in calling the attention of the farmers and settlers to the great and increasing value of wooded land.

#### THE LUMBER TRADE.

The lumber trade of the Dominion is still its most important commercial interest. The products of the forest considerably exceed in value those of the farm. The home consumption of lumber is large, inasmuch as building is chiefly done in wood. The quantity required for domestic use is estimated at two-thirds of the total quantity made, the balance finding its way to England, the United States, the West Indies, and South America.

The principal areas of timber lands lie in the provinces of Quebec and Ontario. The province of Quebec has under license 48,500 square miles producing 2,500,000 pine logs, equal to 386,000,000 feet B. M., and 1,301,000 spruce logs, equal to 106,000,000 feet B. M.; white and red pine timber, 3,110,000 cubic feet equal to 37,320,000 feet B. M.; hardwood, 51,000 cubic feet or 611,000 feet B. M.; railroad ties, 143,000 pieces 32 feet each, making 4,576,000 feet B. M.; cedar, equal to 4,500,000 feet; pine and spruce, round timber, 5,760,000 feet B. M.; besides tamarac, hemlock and cordwood, in all 549,976,000 feet, giving a gross revenue of \$668,596 to the Province.

The Province of Ontario has 18,000 square miles under license, furnishing 2,600,000 standard pine logs equal to 620,000,000 feet of lumber; 6,790,090 cubic feet of white and red pine, or 81,000,000 feet B. M.; dimension timber 23,000,000 feet B. M.; hardwood, cedar, &c., in all 635,500,000 feet B. M.; paying to the Provincial Government \$547,000. These figures are for the year 1880-81. The revenue from the crown lands both in Ontario and Quebec has increased since, for in 1883 Quebec shows \$856,872, and Ontario \$635,447.

In New Brunswick the cut of timber on Government lands equals 160,000,000 feet, yielding to the Province \$152,000. Prince Edward Island yields no more than is required for home use. Manitoba and the North-west territories are sparsely provided with timber, and the trade therein is still unimportant. British Columbia is more amply supplied, and as its facilities for export increase, it must develop a large trade. Its most important timber tree is the Douglas spruce or Oregon pine, which is the only kind that has as yet become of economic value. Its wood is yellow or reddish and coarse grained. It is considered inferior to the pine of the Ottawa region for finer kinds of work.

The most highly prized timber in the country is white pine, and the best qualities are to be found on the Ottawa river. The Ottawa white pine is justly famous for its softness, owing to which it can be easily moulded into the forms required for interior work. But the better qualities are being gradually depleted, and it is said that the proportion of high grade pine produced on the Ottawa river is rapidly de-

creasing. The production of spruce is relatively on the increase as a substitute in many ways for pine.

The timber lands held under license are operated subject to the following regulations:—Licensed lands are divided into limits commonly of about fifty square miles each. Upon the sale of a limit the Government retains its proprietary right in the land, selling only the privilege to cut and carry off the timber. The purchaser then has to pay a ground rent of \$2 per mile annually. The licenses under which the land is held are renewable every year, and may be continued as long as the owner of standing timber requires the use of the land for his operations. In addition to this charge, the timber, when cut and brought away, is subject to crown dues, which vary according to the description of the produce. Pine logs pay 15 cents per standard log of 200 feet, board measure, and spruce logs pay 10 cents per log in Quebec. In Ontario, pine and spruce pay 22 and 5½ cents respectively.

Operations in the woods are commenced about the middle of December. Gangs of men are sent up by the first snow roads. Arriving on the spot of their labor, they build themselves *chantiers*, of rough logs, and prepare stabling for the horses, to follow about a month later. The work of felling and hauling goes on till about the 15th of March. By that time the product of the winter's work has been hauled to the bank of some stream and piled up on the rollway ready to be thrown into the river. The camps are then broken up, and the men are paid off. About a month later fresh gangs of men are sent up the river to tumble in the stuff and drive it to its destination at the market or the mill.

Consequent upon the alteration in the commercial policy of England which took place in 1849, the trade in lumber commenced to change its direction towards the United States. Between the years 1821 and 1832 the total export of productions of all kinds to that country averaged \$3,257,153 annually, while in 1882 the trade in lumber alone with the United States amounted to \$10,192,933. This further change also ensued that whereas in former years the lumber was exported to England in the shape of large pieces of square timber; under the changed policy, saw mills of larger dimensions and increased capacity sprang up and the lumber was exported to England as deals and to the United States as boards. Thus employment was provided for an additional number of hands in Canada.

#### AN EVIDENCE OF RAPID GROWTH.

In the township of Freedom, Cheboygan county, Mich., a farmer, Mr. Charles Wilson, has discovered distinctive evidence that where now stands an immense growth of hard maple timber, there was once a corn field. Scattered through the forest are numerous piles of stone, apparently gathered off the land to make room for cultivation, and the corn hills are still distinctly visible and as regular in order and distance apart as if planted recently. Mr. Wilson concludes that these corn fields must have been extant centuries ago, since the full growth of maple timber has risen since. Though Mr. Wilson has probably let his imagination run backward too far, the discovery he has made suggests an interesting question in regard to tree growth in the northern part of the southern peninsula. Nowhere in the country is there a more prolific growth of rock or sugar maple. It is likely that the remains of the old corn fields that Mr. Wilson has found is evidence that the forests in that locality have grown more rapidly than is generally supposed. The corn hills spoken of are possibly the signs of cultivation in the days of the French missionary occupation in that region, when Marquette exercised the function of spiritual and civil dictator over the Indian tribes thereabout. Corn hills are found in the woods all along the lake shore from Cheboygan to Grand Traverse. The Indian method was to make a conical hillock, in the top of which the corn was planted. These "hills" were used for the same purpose year after year, and became so hard that they have endured to this day. Apple trees, yet in bearing, spindling up like forest growths, as if reaching for sunlight and a free space in

which to spread, are also still standing. How far back these agricultural and horticultural endeavors date it is impossible now to determine. Often the corn hills are found in little circular cleared spaces, devoid of giant tree growths, but often again they are scattered where the tall trees stand thickly. Viewing the subject in any historical light we may, it is certain that the prolific forests of the northwest counties of the lower peninsula have developed very rapidly, showing the adaptability of the soil and climate of that region for tree growth. *Northwestern Lumberman.*

#### WIND, FIRE AND FLOOD.

Fire and floods, says the *Lumberman's Gazette*, have been fruitful of destruction to property, especially to lumber. The Chippewa and Eau Claire rivers in Wisconsin, and other streams in that state which poured their volume of water into the rivers named, spread devastation and ruin on every hand. The flood reached the highest point known for years, and nothing could withstand the force of the elements. Buildings, bridges, logs, lumber, and even the roads, were swept away by the volume of the waters. In Eau Claire the destruction was terrible, over two hundred buildings being carried away, according to the despatches sent over the wires from that place. The losses are appalling, although a dispatch received from there on the 13th inst. says that all of the saw mills are left in good shape. They are temporarily shut down, but able to resume operations the coming week. There are plenty of available logs, but all of the dams on the Chippewa save the Delta, were carried off. Lumbermen are discouraged but not disheartened.

At Alpena, Mich., the wind blew a hurricane, and the rainfall was wonderful—an inch in eight minutes. Houses, mill smoke stacks, and lumber piles were demolished. One mill lost its roof and 40,000 feet of lumber blown into the lake.

The fire scourge has been equally appalling and spread more generally over the country. Mitchell, Dakota, lost over \$35,000 in lumber, besides \$125,000 in other property; Dubuque, Iowa, lost 6,000,000 feet of lumber by the fire fiend; forest fires ravaged \$10,000 worth near Reed City, Mich.; Lumberton near Grand Rapids, lost 1,000,000 feet of pine besides other property; Milton Junction lost \$4,000 in lumber and tan bark; a small saw mill near Coloma, Michigan, destroyed, loss \$9,000; McLean's Siding, a station on the C. & W. M. railroad, destroyed, with lumber amounting to \$20,000. These and numerous other fires throughout the country have struck the lumber piles hard, coming as they do on the heels of the destructive fire at Cleveland. It is estimated that 150,000,000 feet lumber has been licked up by the fire fiend during the season.

#### DEAL SHIPMENT.

Shipments of deals from Chatham, N. B., this season have been fully up to those of 1883, but only limited shipments will likely be made for the balance of the year. In 1883 about 140,000,000 feet was forwarded from Chatham and Newcastle, and 70,000,000 feet more was wintered over. Of the latter quantity, 40,000,000 feet have been shipped this season, so that, although Liverpool dealers were notified that the Miramichi quota this year would fall one-third short of 1883, the large amount wintered over and forwarded early this season brings the total figures up to those of last year. Rafting operations have been concluded a month earlier than usual, and preparations are already being made for next winter's campaign in the woods. The prospect is that the cut of 1885 will scarcely reach beyond 50 per cent. of an average year. *Monetary Times.*

#### Lumber Destroyed by an Incendiary.

DUNNVILLE, Sept. 16.—Early this morning a fire broke out in some lumber and ties which were piled on the canal bank about two miles below here. The lumber destroyed consisted chiefly of chestnut and maple, valued at about \$5,000, and was the property of Mr. G. P. Moore, of Welland. The cause of the fire is not known, but is supposed to be the work of an incendiary. A very high wind was blowing at the time, which made it impossible to save anything.