

which are the true source of gold. It is important to notice that gold has not yet hitherto been found in the so-called Azoic rocks, although these are often abundantly intersected with veins.

DESCRIPTION OF THE CHIEF FOREST TREES OF UPPER CANADA.

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The samples of wood about to be described, sent to the International Exhibition, have been collected from the extreme eastern and western, and central parts of Upper Canada, for the purpose of showing the extent of country over which the most valuable timbers grow.

1. The most important collection is in the form of planks, twelve feet long and four inches thick, with the bark on both edges. Of these (sixty in number) there are superb samples of white oak, four feet wide; white wood, black cherry, black walnut, button-wood, white ash, sugar maple and soft maple, from three to four feet wide; one plank of pine, from the township of Bayham, twelve feet long (and it could have been cut fifty feet long) and fifty inches wide, without a knot, sawn from a tree 22 feet in circumference and 120 feet to the first limb; the first four logs, twelve feet long, making 8,000 feet of lumber after being squared.

2. The second class of woods are sections of the trunks of the chief of the valuable timbers, with the bark on, taken from the three divisions of the Province above named. Of these there are thirty-four.

3. The third are neatly planed and polished specimens of all our chief woods—one side varnished, the other plain—veneers of the plain wood, of crotches, of roots, &c., of the most choice varieties. Of these there are two collections, each of 73 specimens, with some smaller ones; in all, about 250.

4. The fourth class consists of the sections of the trunks (from three to six inches in diameter), one foot on, with the bark on, so cut as to shew the grain of the wood and the polish it will take, accompanied with twigs, leaves, and flowers of the trees. In this class are five valuable collections, from the distant parts of Upper Canada, of some 90 distinct kinds of native woods and shrubs. Of these, there are 203 pieces.

The common and scientific names of all the woods are given, with the size and height of the trees, the specific gravity of the wood, its weight compared with shell-bark hickory (which, being the heaviest of all our woods, is taken as the standard), its uses, prices at the lake ports, and at Quebec, &c.

5. The fifth class contains samples of tool handles, shafts, and poles of carriages, spokes, naves, &c., showing the common purposes for which the woods are best adapted and most used.

From a pamphlet issued from the Bureau of Agriculture, at Quebec, we learn that Canada exports annually about 30,000,000 cubic feet of timber in the rough state, and about 400,000,000 feet board measure, of sawn timber. The revenue derived by the province, during the year 1860, for timber cut in the forests, amounted to about 500,000 dols. Of the sixty or seventy varieties of

woods in our forests, there are usually only five or six kinds which go to make up these exports so vast in quantity; the remaining fifty or sixty timber trees are left to perish, or are burned as a nuisance, to get them out of the way. By showing, in the markets of the world, that we have these valuable woods, and can furnish them at such unprecedentedly low prices, we shall secure additional purchasers. The collections here named were made chiefly in reference to this point, and are, in their nature and in their intrinsic value, it is believed, well adapted for that purpose.

In extent, in the variety and value of its woods, the great forests of deciduous trees of North America surpass all others; and the most remarkable of this great mixed forest is that growing in the valley of the St. Lawrence. The western coasts of both continents, in high latitudes, furnish only or chiefly the Coniferæ. The high summer temperatures and abundant summer rains, are, unquestionably, those conditions of climate necessary to produce these peculiar forest trees. The western coasts of both continents, in high latitudes, have the necessary moisture, but not the high summer temperature; the western prairies, east of the Mississippi, and the vast deserts west of it, have the summer heat but not the moisture; hence the absence of all trees in the one region, and of the deciduous trees in the other.

1. **WHITE PINE** (*Pinus strobus*).—Grows in all parts of Canada in extensive groves, or scattered amongst the deciduous forests. Average height, 140 to 160 feet; average diameter, 3 and 4 feet; but common at 5 and 6 feet in diameter and 200 feet high, especially near the shores of Lake Erie. Trees of 22 feet in circumference and 220 feet in height and 120 to first limb, are sometimes found. The trunk is perfectly straight. The wood is soft-grained, easily wrought, and durable; used in immense quantities in architecture. The large trunks are particularly sought for masts of ships. Largely exported to England, where it is called "Weymouth pine." Specific gravity, 0.46; weight of cubic foot, 29 lbs.

2. **RED PINE** (*Pinus resinosa*).—Found in dry soils and in the cooler latitudes of Canada, and attains the height of 80 feet, with a trunk 2 feet in diameter, very straight and uniform. It affords a fine-grained, resinous timber, of much strength and durability, and highly valued in architecture. Specific gravity, 0.66; weight of cubic foot, 40 lbs.

3. **YELLOW PINE** (*P. mitis*).—Grows in dry and sandy soils, common in all parts of the country; attains the height of 60 feet; wood close, fine-grained, durable, and moderately resinous, and much used for ship building and all kinds of architecture. Specific gravity, 0.52; weight of cubic foot, 30 lbs.

4. **WHITE OAK** (*Quercus alba*).—Widely distributed throughout Canada in all rich soils. Average height, 130 feet; height to first limb, 70 feet; diameter, 30 inches, and quite common, 60 inches in diameter, found 84 inches in diameter in the western parts of Upper Canada. Of the twenty varieties of oaks in North America, the white is the most valuable. The wood is of great strength and durability, and extensively used in ship building, for staves of casks, spokes and naves of wagon wheels, railway ties, &c.; bark useful in