

wood the value of the wood consumed increased more than \$530,000 over that used in 1908, the quantity used in 1909 being nearly thirty per cent. in advance of that used the previous year.

There are some sixty pulp mills in the Dominion, and of these reports were received from fifty. Half of these mills are in Quebec, one-fifth in Ontario, and the rest are located in New Brunswick, Nova Scotia and British Columbia.

The province of Quebec furnished over half the pulpwood, Ontario gave about one-third, while the remainder was distributed over New Brunswick, Nova Scotia and British Columbia.

Two species of timber, namely, spruce and balsam, furnished ninety-nine per cent. of the wood used in the making of pulp, spruce furnishing eighty-seven per cent. and balsam twelve per cent. Poplar, hemlock and jack pine were also used.

Three-fifths of the pulpwood cut in Canada during 1909 was exported to the United States for manufacture. Nearly all this wood went from Quebec. The average price received for it was only forty-five cents per cord more than was paid at the Quebec mills.

The pulpwood shipped from Canada in 1909 furnished 46 4/10 per cent. of the raw material used by the ninety pulp mills of the state of New York and an appreciable portion of that used by the paper mills of New England and Pennsylvania. The manufacture of the pulpwood exported in 1909 kept sixty-nine out of the two hundred and fifty-one pulp mills of the United States running at full capacity for the year. Had it been manufactured in Quebec, it would have kept running seventy-one mills of the same capacity as those now running in Quebec.

#### Cross-ties.

The steam and electric railways of Canada purchased, during 1909, 14,178,241 crossties, which cost them, at the point of purchase, \$5,210,409. Almost three-tenths of these ties were of cedar, about one-fourth were of jack-pine, and other woods furnished the following percentages of the total: tamarack, twenty (20) per cent.; hemlock, thirteen (13) per cent.; spruce, six (6) per cent., and Douglas fir five (5) per cent. White pine, chestnut, oak, cypress, red pine and southern pine are used only to a very limited extent. The average price of all ties used in 1909 was 37 cents each. The price of ties of different species was as follows: cedar, 45 cents; tamarack, 39 cents; hemlock, 33 cents; jackpine, 30 cents, and spruce, 25 cents each.

Steam roads used over ninety-nine (99) per cent. of these ties.

The average length of life of ties of the different species was found to be as follows: cedar, nine years; tamarack,

eight years; hemlock, seven years; Douglas fir, seven years; jackpine, six years, and spruce, six years.

#### Poles.

During the year (1909) 358,255 poles were purchased by the telegraph, telephone and electric light and power companies and the steam and electric railways. Of these the total value at the point of purchase was \$497,052. The purchases of poles in 1909 were almost double those in 1908 (193 per cent.) and the average price per pole fell from \$1.53 in 1908 to \$1.39 in 1909. These differences were due to an increase in the purchase of short cedar poles by the telegraph and telephone companies.

Of the total number of poles ninety-four (94) per cent. were of cedar. Tamarack furnished four per cent., and spruce and Douglas fir the remaining two per cent.

Telegraph and telephone companies used eighty-three (83) per cent. of the poles used, steam railways twelve per cent. and electric companies the remaining five per cent.

The figures given above have been published by the Forestry Branch as Bulletins Nos. 11, 12, 13 and 14, copies of which may be obtained from R. H. Campbell, Superintendent of Forestry, Ottawa.

#### Cooperage.

The cooperage industry is divided into two distinct branches, namely the manufacture of tight cooperage (barrels for the containing of liquids) and the manufacture of slack cooperage (barrels for holding flour, apples and other such non-liquid products).

The total value of the cooperage stock manufactured in Canada during the year was \$1,842,235. Information was received from 128 firms throughout the Dominion.

The tight cooperage industry in Canada is relatively unimportant. The value of the stock manufactured amounted to only \$247,116, or 13.4 per cent. of the total. Owing to the fact that there is now left in Canadian forests no oak (the only wood yet found suitable for the manufacture of high-grade tight cooperage), the chief users of tight cooperage stock (i.e., shippers of whiskey, beer, ale, wines and oils) import from the United States either their barrels, staves and heading already manufactured, or else the logs from which to make this stock.

The value of the products of the slack cooperage industry amounts to \$1,595,119. In this industry elm is used far more than any other sort of wood; almost two-thirds of the staves, over one-quarter of the headings and some five-sixths of the hoops produced were made of this wood.