

WOODEN POLES AND CROSS-TIES IN 1914.

FIRMS purchasing poles in Canada in 1914 were 381 in number, of which 209 were telephone companies, 17 steam railway companies and 3 telegraph companies, forming one group; and 132 electric light and power companies and 20 electric railroads forming another. The recent report of the Forestry Branch, Department of the Interior, as prepared by R. G. Lewis, B.Sc.F., indicates that the market has fallen off considerably during the past few years. The decreased activity of the different railways in extending their lines has been one factor, while the purchases of telephone companies are generally more or less irregular, although there has been a perceptible falling off since 1912.

The purchases last year showed a decrease of 47 per cent. from those of 1913, which were referred to in *The Canadian Engineer* for November 26th, 1914. The average price, however, increased by 11 cents.

Only nine kinds of wood were reported compared to twelve in 1913. Poles of oak, hard pine, and Douglas fir were reported in 1914, but not in 1913. Decreases occurred with every other kind of wood, the greatest being in the case of tamarack, which amounted to 98.4 per cent. of the figure for 1913.

Eastern white cedar poles headed the list, their number forming over 85 per cent. of the total. Western red cedar from British Columbia and the Western States came second on the list, with over 12 per cent. of the total. Poles of these two woods have formed the greater part of the purchases in past years in spite of the increasing scarcity of good material, especially in the case of the eastern tree.

The steam railway, telephone and telegraph group of purchasers bought 65.7 per cent. of the poles as compared to 87.8 per cent. in 1913. Their purchases in 1914 showed a decrease of 60.4 per cent. from those of 1913. The oak, hard pine, jack pine, and chestnut poles were all purchased by these companies. These companies reported the purchase of 442 treated poles.

The electric railway, power and light companies bought 34.3 per cent. of the poles as compared to 12.2 per cent. in 1913. Their purchases showed a decided increase (49.2 per cent.) over 1913.

Over half the poles purchased in Canada in 1914 were under 26 feet in length, the two cedar species forming 97.9 per cent. of the total in this class. These two kinds of wood formed over 95 per cent. in every length class recorded. Almost a quarter of the total number belonged to the next length class, including poles from 26 to 30 feet in length.

The greater part of the white cedar, red cedar, spruce, tamarack, and chestnut poles and all the jack pine poles belong to the 20 to 25-foot class. Oak poles were mostly from 31 to 35 feet in length. The greatest number of Douglas fir poles were over 41 feet in length, and all the imported hard pine poles were of this same class.

A total of 19,403,646 cross-ties, valued at \$8,664,914, were purchased during 1914 by Canadian railways for use in Canada. These companies consisted of forty-seven steam railways and thirty-one electric roads. Of this total, 1,447,576 ties were treated with preservatives to retard decay. This is about 7 per cent. of the total, as compared to 10 per cent. in 1913.

The cross-tie purchases show a slight decrease of 2.4 per cent. from those of 1913, in which year the decrease was 6.7 per cent.

The greatest decreases from 1913 to 1914 were with the western species, Douglas fir, western larch, cedar and hemlock, and the imported woods, such as oak, hard pine, and chestnut. Of the twenty-one woods reported in 1914, eleven showed decreases.

Jack pine makes the most suitable tie material of the cheaper, more abundant woods of Canada. It has headed the list since 1911, when it took the place of white cedar, a more durable wood, but one of which the supply is rapidly becoming exhausted. These two woods have formed the greater part of the ties purchased in past years, and together formed over half the total in 1914.

The average prices paid for cross-ties by the railroads in 1914 showed only a slight increase over 1913. The prices in the last five years have been as follows: 1910, 38 cents; 1911, 39 cents; 1912, 44 cents; 1913, 43 cents; 1914, 45 cents.

The average prices in these tables are based on the cost at the point of purchase, and may or may not include long-haul transportation charges. Only in the case of those woods which are used in large quantities can the value given be taken to represent the relative value of the wood.

In June, 1914, there were in Canada about 38,000 miles of steam railway right-of-way. On over 32,000 miles of this trains were in actual operation, and on the remainder ties at least were laid. The steam roads purchased in that year 19,196,208 ties, being about 500 ties to the mile. A large proportion of these ties were used for new construction at the rate of about 3,000 ties to the mile, and the remainder for maintenance of established lines.

These companies paid an average of 45 cents each for their ties, as compared to 58 cents in the case of the electric roads. The steam railways, with 98.9 per cent. of the total for 1914, purchased all the ties of western larch, western spruce, chestnut, red pine, beech, maple, white pine, and birch.

The electric railways in Canada purchased 207,438 cross-ties, or about 1.1 per cent. of the total. These roads had a mileage of 1,561 in June, 1914, and, therefore, purchased ties at the rate of 133 per mile. These purchases were mostly used for renewals, for which the demand is not so heavy as in the case of steam railroads.

The total number in this case is a decrease of 47 per cent. from 1913, while the average price per tie is the same. The greatest decreases were with western and eastern cedar and jack pine. Eleven woods were reported in 1914, and fifteen in 1913, western larch, beech, maple, and white pine being dropped from the list.

The Australian Transcontinental Railway will be finished by the end of 1916, according to a recent report by the chief engineer, N. G. Bell. On the West Australian section the final locating survey has been made for a distance of 260 miles and preliminary surveys as far as the South Australian boundary. The line has been completed ready for track laying for 240 miles in West Australia and 264 miles in South Australia.

The Canadian shipbuilding industry was very active during 1914, the aggregate gross tonnage of new vessels built and registered in the Dominion being 43,346, which is the highest figure recorded since the year 1901. Canada's merchant marine at the end of 1914 consisted of 8,772 vessels, of 932,422 tons. Of the new tonnage built in 1914, 23,167 tons was the product of Ontario yards. The shipbuilding industry in the province of Ontario has been making great strides in recent years.