MANUFACTURE OF RAILWAY TIES

Approximately 70% of ties purchased in Canada in 1910 were hewn. It is apparent that methods of manufacture of ties are not undergoing any great general and permanent changes. Sawn ties were 30 per cent. of the total, which is the same proportion as in 1909. The only important species which has a majority of sawn ties is oak, 95 per cent. of which were sawn ties. Cedar ties were 81 per cent. hewn, and 61 per cent. of the jack pine ties were hewn. Hemlock and Douglas fir were about evenly divided in the method of manufacture. In the case of tamarack, 98 per cent. were hewn ties, while the minor varieties were principally sawn ties. The hewn ties are nearly all pole ties, the sawn ties are made chiefly from larger timber.

Sawn ties cost on the average 36 cents per tie. Hewn ties cost 3 cents more, or 39 cents per tie. Oak was the most expensive of sawn ties, costing 74 cents per tie. White pine was the cheapest of the sawn ties, costing only 23 cents per tie. In hewn ties, oak was also the most expensive, costing 68 cents, and spruce ties were the cheapest, costing 25 cents per tie.

The steam railways use 96 per cent. of all the ties. The decrease in use of ties in 1910 is due chiefly to decreased purchase by the steam railways, which used 5,159,697 ties less in 1910 than in 1909. All the white pine and chestnut ties purchased in 1910 were purchased by steam roads.

Hewn cypress ties were imported, but not used by steam roads.

With electric roads 61.4 per cent. of the ties purchased were hewn, as contrasted with the steam roads, where 70 per cent. were hewn. Douglas fir constituted 50 per cent. of the sawn ties and cedar constituted 34 per cent. Cedar made up 57 per cent. of the hewn ties and Douglas fir 20.7 per cent. The species which are chiefly used sawn are cedar, Douglas fir and oak. The species which are chiefly used hewn are hemlock, tamarack, cypress, spruce and jack pine. All the cypress and jack pine ties used were hewn. The average price of hewn ties was 37 cents, or 2 cents per tie less than was paid by steam roads. It is interesting to note that whereas with steam roads hewn ties cost 3 cents per tie more than sawn ties, with electric roads sawn ties cost 9 cents per tie more than hewn ties.

Imports from the United States of cross-ties in 1910 amounted to $1,096,832. Exports in 1910 were 1,995,582 ties at a value of $463,508. Of this total $376,913 was to the United States. The balance of imports over exports was $633,324, which represents about 891,000 ties at the average price paid for ties in Canada in 1910.

Two plants are now being established for the chemical treatment of railway ties. One is being erected at Fort Frances, Ontario, and the other is being started at Winnipeg. It is stated that a plant will also be erected at Vancouver. The plant at Fort Frances will be capable of treating 2,000 ties per day. The zinc-chloride-aluminium patent immersing process will be used, which both prolongs the life of the timber and rends it fireproof. It is questionable if this process will give as good results in Canada as would creosote.

This is a matter which for some years has been necessary for the preservation of the forests of Canada. At the same time it would have reduced the annual cost of railway maintenance. The average life of untreated ties as reported by the steam roads is: cedar, 9 years; tamarack, 8 years; hemlock, 7 years; Douglas fir, 7 years; jack pine, 6 years; spruce, 6 years. As may be noted from the tables, cedar is the species principally used, because of its durability, but the supply of cedar is rapidly becoming exhausted. Unless preservative treatment of ties is introduced, the species of short life will have to be used untreated, which, on account of the necessary frequent renewal, will increase the cost of mileage maintenance. If treated ties were used, which would cost about 30 cents extra per tie for creosoting and equipping with tie plates, the inferior species, which are very plentiful and cheap in Canada, could be used with economy. With such a treatment these woods would last at least 15 years, and if protected from wear would probably last much longer.

The lodgepole pine of the West would be greatly increased in usefulness by this treatment. This species is used chiefly for mining timbers and props and occurs, fire-killed, in vast areas on the mountain slopes of Alberta and British Columbia. It cannot be used for lumber, on account of checking, and, if untreated, it lasts only about 5 years when used for railway ties. At present this wood stands dead and perfectly seasoned and would take chemical treatment readily, after which it would make lasting and economical ties. By the use of such inferior qualities of timber, railway companies would assist conservation and at the same time decrease the cost of railway maintenance.

HILL ROADS IN CANADA.

The Canadian Northern Railway has granted trackage rights from Emerson, Man., on the international boundary line, to Winnipeg, 68 miles, to a new company formed in the interest of the Great Northern and the Northern Pacific. The new corporation is known as the Midland Railway of Manitoba. The agreement is for 20 years with a provision for extending it to a total of 999 years.

Trains of the United States roads are allowed to be run into Winnipeg but are not to do any local business unless by order of the Railway Commission, in which case the Canadian Northern is to have 80% of the gross receipts. The rental of the Winnipeg Terminal is to be $2.50 for each revenue train movement, with 50 cents additional for every car above eight, and certain other charges.

The line to be used is a part of the 355 miles of Northern Pacific's road in Manitoba, all of which was leased in 1901 to the provisional government for 999 years and subleased by it to the Canadian Northern.

PERSONAL.

MR. W. H. SCOTT has been appointed general agent for the Manitoba Government Telephone Commission.

MR. W. W. POWELL has been appointed land surveyor in the offices of the city engineer of Vancouver, B.C.

MR. H. RUSSELL HILL, B.A.Sc., was recently appointed to the position of sales manager for the Tagona Water and Light Company at Sault Ste. Marie, Ont.

MR. F. F. LONGLEY, resident engineer of the Toronto filtration plant, has resigned his position on the city's service and has accepted a position in the firm of Allen Hazen, New York.

MESSSRS RIDOUT AND MAYBEE, patent solicitors, are removing from their present premises at Manning Chambers to new and more commodious quarters at 59 Yonge Street, corner of Colborne Street. Owing to the increase in the legal business of the firm, Mr. J. F. Edgar, barrister-at-law, has now been associated with the firm as counsel.

MR. C. H. RUST, municipal engineer, city of Victoria, B.C., has been honored by the American Society of Civil Engineers, having been elevated to the position of First Vice-president, the first time in the history of the society that a Canadian has been so honored.