

Western hemlock (*Tsuga heterophylla*) is usually considered to be a much better tie material than the eastern species, but in British Columbia, where this tree grows, it has so many rivals among the good tie timbers that it is not used to a very great extent at the present time. All the Western hemlock ties were purchased in British Columbia, and none were given preservative treatment.

Eastern spruce in Canada is made up of three different species that grow east of the Rocky Mountains. All the spruce ties were of native material and none were treated.

Chestnut (*Castanea dentata*) is one of the most durable woods of America, although the wood is not to be classed among the hard, heavy tie materials. Practically all the chestnut ties were imported from the eastern States, and none were treated.

Of the other hardwoods purchased, such as beech, birch and maple, the greater part of the ties were treated before being laid.

Altogether about 12 per cent of the ties purchased by the steam railways in 1913 received some sort of treatment to prevent decay.

Table 5 gives the details of the ties purchased by the 32 electric railways in Canada in 1912 and 1913, by kinds of wood.

TABLE 5.

CROSS-TIES PURCHASED, 1912 AND 1913, BY ELECTRIC RAILWAYS, BY KINDS OF WOOD—Number, Total Value, Average Value and Percent Distribution.

Kind of Wood.	1912				1913			
	Number.	Value.	Average Value.	Per cent.	Number.	Value.	Average Value.	Per cent.
Total	483,362	\$ 212,195	0 50	100 0	351,223	\$ 225,086	0 58	100 0
White Cedar	159,476	87,681	0 55	33.0	145,659	76,673	0 53	37.2
Red Cedar	25,000	12,875	0 51	5.2	95,000	70,567	0 74	24.3
Jack Pine	25,616	14,821	0 58	5.3	66,954	33,137	0 49	17.1
Tamarack	31,545	19,196	0 61	6.5	27,232	13,808	0 51	7.0
Hemlock	52,763	23,426	0 41	10.9	19,563	7,427	0 38	5.0
Oak	2,925	2,391	0 82	0.6	14,760	13,041	0 88	3.8
Spruce	24,636	10,292	0 42	5.1	8,000	2,800	0 35	2.0
Douglas Fir	156,930	68,032	0 43	32.5	5,982	2,439	0 41	1.5
Elm	90	157	1 74	*	3,348	1,981	0 59	0.9
Western Larch					2,512	1,889	0 75	0.6
Hard Pine	1,200	2,940	0 70	0.9	1,995	1,108	0 55	0.5
Beech					152	152	1 00	*
Maple					61	61	1 00	*
White Pine	181	384	2 12	*				

* Less than one-tenth of one per cent.

While the electric railways in Canada in 1913 purchased only two per cent of the ties, they paid the highest average price for their material.

The total for 1913 was a decrease of 19.1 per cent from 1912. The two cedar species in this class formed together three-fifths of the total, and jack pine, which was the most important wood used by the steam railways, was of only secondary importance. As a general rule the more durable native woods