

*Timber*

DEPARTMENT OF THE INTERIOR, CANADA  
Hon. FRANK OLIVER, Minister ; W. W. COY, Deputy Minister  
FORESTRY BRANCH—BULLETIN No 13.  
E. H. CAMPBELL, Superintendent of Forestry.

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# FOREST PRODUCTS OF CANADA

1909

## POLES PURCHASED

BY

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OTTAWA  
GOVERNMENT PRINTING BUREAU  
1911

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*Erratum.*—For paragraph 9, page 6, substitute the following:—

A thorough creosote treatment costs about \$1.40 a pole, assuming that labour is \$1.75 per day, creosote 8 cents per gallon, and fuel \$5 per cord.\* At this rate it pays to treat cedar poles. The annual charge on untreated cedar poles, costing \$9 set in the line, and lasting twelve years, as is the average given by Canadian users, is, at 6 per cent, \$1.07. Treated cedar poles will cost \$10.39 set in the line, will last twenty years or more, and will thus cost only 91 cents for each year of service. This is an annual saving of \$6.40 on each mile of line.

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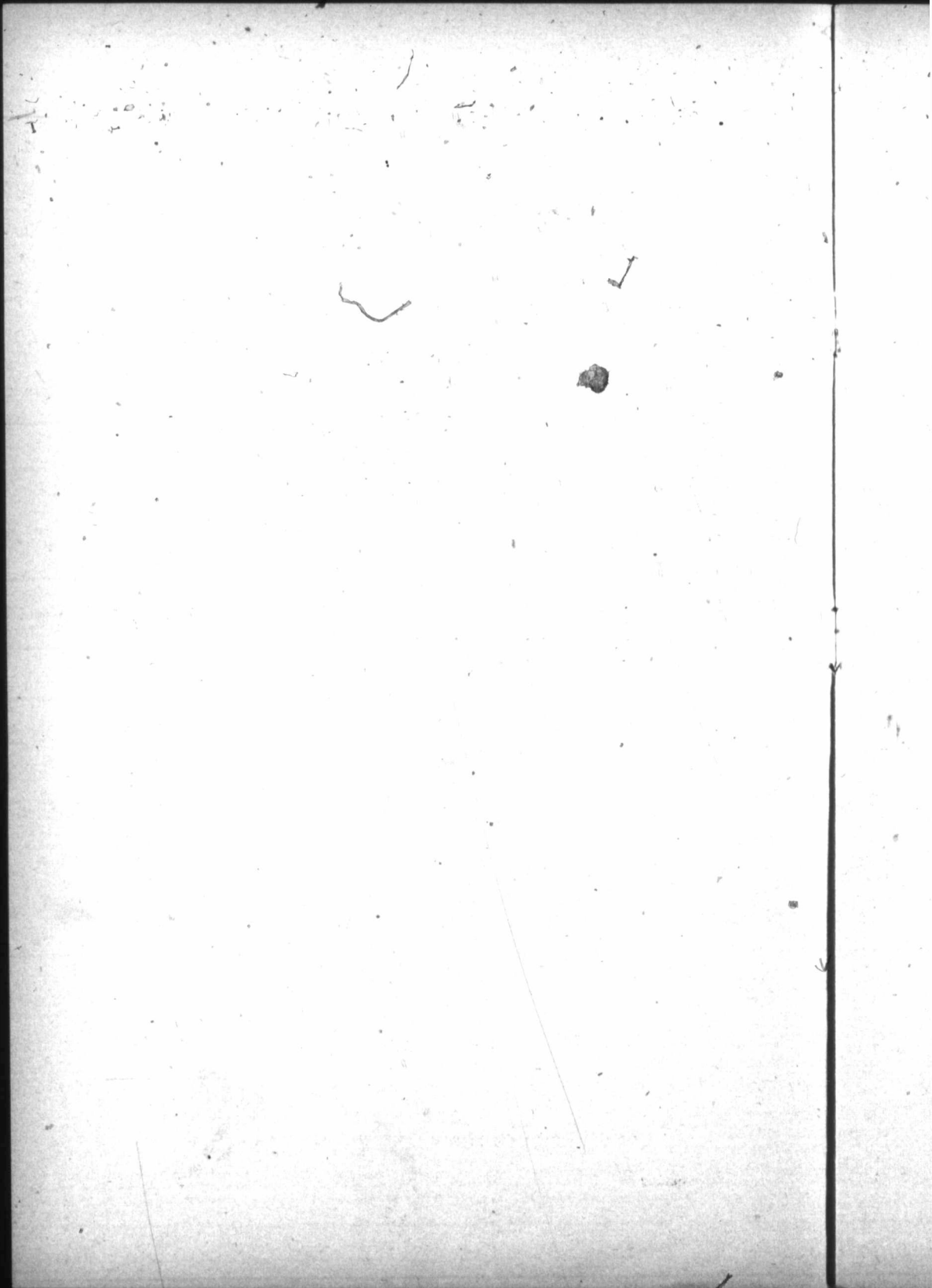
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## POLES PURCHASED, 1909

The figures for the quantity of poles purchased during 1909 were received from the Telegraph, Telephone, Electric Light, Power and Electric and Steam Railroads operating in Canada. The figures fall a little short of the total for telephone companies, as there are a large number of small rural telephone lines from whom it has so far been impossible to secure returns. Almost without exception these lines use stout cedar poles.

Table 1 gives comparative relation of the numbers and cost of poles of different species purchased by the different classes of users, 1908 and 1909.

TABLE 1.

The total number of poles reported as purchased in Canada during 1909 was 358,255. The total value at the point of purchase was \$497,052. The purchases in 1909 were 92.9 per cent greater than in 1908. The large increase of 172,448 poles was entirely due to an increase in the purchase of short cedar poles by the telephone and telegraph companies. It is for this reason the large increase in the proportion of short cedar poles used that the average price of all poles used fell from \$1.53 in 1908 to \$1.39 in 1909.

Cedar is the wood most frequently used for poles in Canada as it is practically the only Canadian wood growing to a convenient pole size which is cheap, easily handled and durable. There were 338,366 cedar poles purchased in Canada 1909, or 94.5 per cent of the total. Larch furnishing 4.5 per cent of the total stands next in the list. The remaining 2 per cent is made up of spruce, Douglas fir and poles of unspecified species. The latter are, on the average, more expensive because a large proportion of them belonged to the higher length classes. Accompanying the great increase in cedar there was a decrease in the use of larch, spruce and Douglas fir for 1909.

TABLE 1.

POLES purchase 1908 and 1909. Number, Total Cost and Average Cost by species and chief uses.

Kind of wood.	TOTAL ALL USES.					
	1908.			1909.		
	Number of poles.	Cost at point of purchase.	Average cost.	Number of poles.	Cost at point of purchase.	Average cost.
	\$	\$ cts.		\$	\$ cts.	
Cedar.....	162,211	253,045	1 56	338,366	464,483	1 38
Larch.....	19,831	27,561	1 39	14,401	18,177	1 26
Spruce.....	2,575	3,219	0 86	2,070	2,201	1 06
Douglas Fir.....	1,190	1,724	1 45	179	291	1 63
Unspecified.....				3,239	11,950	3 69
Total.....	185,807	284,549	1 53	358,255	497,052	1 39

POLES purchased in 1908 and 1909. Number, Total Cost and Average Cost by species and chief uses.—*Concluded.*

TELEPHONE AND TELEGRAPH.

Kind of wood.	1908.			1909.		
	Number of poles.	Cost at point of purchase.	Average cost.	Number of poles.	Cost at point of purchase.	Average cost.
		\$	\$ cts.		\$	\$ cts.
Cedar.....	99,640	136,202	1 37	290,148	338,393	1 21
Larch.....	19,601	27,071	1 38	14,091	17,397	1 23
Spruce.....	2,500	2,050	0 82	1,955	2,056	1 05
Douglas Fir.....	1,190	1,724	1 45	99	141	1 42
Unspecified.....				1,000	1,575	1 58
Total.....	122,931	167,047	1 36	297,293	359,562	1 21

STEAM ROADS.

Cedar.....	45,032	65,277	1 45	41,517	76,295	1 84
Larch.....				800	750	2 50
Unspecified.....				1,084	7,306	6 74
Total.....	45,032	65,277	1 45	42,901	84,351	2 98

ELECTRIC ROADS, POWER AND LIGHT.

Cedar.....	17,539	51,566	2 94	16,701	49,745	2 98
Spruce.....	75	169	2 25	115	145	1 26
Douglas Fir.....				80	150	1 87
Larch.....	230	490	2 13	10	30	3 00
Unspecified.....				1,155	3,069	2 67
Total.....	17,844	52,225	2 92	18,061	53,139	2 94

Telephone and telegraph companies are the greatest users of poles. They bought 83 per cent of the poles used in 1909. The use of poles by these companies was 141.8 per cent greater in 1909 than in 1908. The increase was all in cedar.

Steam roads used 11.9 per cent of the poles purchased in 1909. They purchased 2,131 fewer poles than in 1908. The demand from the electric roads, power and lighting companies the least important users, was about the same in 1909 as in 1908. They account for about 5.1 per cent of the pole consumption in Canada.

The prices paid for poles of different species and different lengths are shown in Table 2.

TABLE 2.

POLES purchased 1909. Number, Total Cost and Average Cost of each species by length classes.

Kind of wood.	TOTAL—ALL LENGTH CLASSES.			20—25 FEET.		
	Total number.	Cost at point of purchase.	Average cost.	Total number.	Cost at point of purchase.	Average cost.
		\$	\$ cts.		\$	\$ cts.
Cedar.....	338,366	464,433	1 38	260,595	265,429	1 02
Larch.....	14,401	18,177	1 26	14,098	17,422	1 23
Spruce.....	2,070	2,201	1 06	1,633	1,293	0 79
Douglas Fir.....	179	291	1 63	169	261	1 54
Unspecified.....	3,239	11,960	3 69	1,085	1,733	1 59
Total.....	358,355	497,052	1 39	277,582	286,138	1 03
	26—30 Feet.			31—35 Feet.		
Cedar.....	47,932	91,169	1 90	20,470	64,553	3 15
Larch.....	300	750	2 50	3	5	1 50
Spruce.....	340	620	1 82	65	163	2 51
Douglas Fir.....				10	30	3 00
Unspecified.....	182	417	2 29	136	398	2 92
Total.....	48,804	92,956	1 90	20,684	65,149	3 15
	36—40 Feet.			41 Feet and Over.		
Cedar.....	5,910	23,613	3 99	3,409	19,669	5 77
Larch.....						
Spruce.....	25	100	4 00	5	25	5 00
Douglas Fir.....						
Unspecified.....	816	2,554	3 12	1,020	6,848	6 71
Total.....	6,751	26,267	3 59	4,434	26,542	5 99

TABLE 3.

COMPARATIVE STATEMENT of prices of Cedar Poles in United States and Canada, 1908.

CANADA.		UNITED STATES.	
Length, Feet.	Cost per pole.	Length, Feet.	Cost per pole.
	\$ cts.		\$ cts.
20—25	1 11	20—24	0 84
26—30	2 06	25—29	1 46
31—35	3 30	30—34	2 88
36   40	4 06	35—39	5 07
41 and over.	4 13	40—44	6 57
		45—49	7 70
		50—54	9 60
		55—59	10 92
		60 and over.	11 52

Where sufficient quantities of each species are purchased to afford a basis for value, as the 20 to 25 foot class, it is seen that spruce is cheapest, then cedar, larch and Douglas fir; the latter most expensive. This in itself would explain the great popularity of cedar, for it gives, for the money, more service than any of the other woods used.

The prices paid for poles range from 79 cents each, for spruce poles, 20 to 25 feet long, to \$6.71 each paid for poles of unspecified species 41 feet long and over.

In every length class nearly all the poles are cedar. Spruce also appears in every class, but neither larch nor Douglas fir are used over 35 feet in length.

Poles 25 feet long or less compose 77.5 per cent of the total number of poles used in Canada. About 86.1 per cent or 308,577 of the poles purchased in 1909 were 20 to 30 foot cedar.

Excepting in the length classes, 36 feet and over, cedar poles are more expensive in Canada than in the United States. The comparative prices paid in 1908 were as stated Table 3.

Even with cedar poles cheaper in the United States many companies have found it economical to give poles, both those of cedar and other species a treatment with a chemical preservative so as to prevent decay and lengthen the life of service received from the pole. 10.6 per cent of the poles used in the United States in 1908, 344,388 altogether, were given such a treatment. The steam railroad companies of the United States treated 30.9 per cent of the poles they purchased in 1908. The electric companies 14.7 per cent and the telephone and telegraph companies, 8.5.

This preservative treatment though hardly in the experimental stage in Canada has become a settled procedure of economy in the United States, where it has been the subject of extensive investigation by the government for many years and where are now in operation 83 commercial plants for the treating of timber.

The treatment consists in the first seasoning of the wood, then thoroughly impregnating it with some preservative. The preservative that has been found to give the best satisfaction is creosote, a heavy oil which is a bye product of the manufacture of coal or petroleum tar.

A thorough creosote treatment costs about \$1.40 a pole, assuming that labour is \$1.75 per day, creosote 8 cents per gallon, and fuel \$15 per cord.\* At this rate it pays to treat cedar poles. The annual charge on untreated cedar poles, costing \$9 net in the line, and lasting twelve years, is in the average given by Canadian users 6 per cent. \$1.07 treated cedar pole will cost \$10.39 set in the line, will last twenty years or more, and will thus cost only 91 cents for each year of service. This is an annual saving of \$6.40 on each mile of line.

The preservative treatment of poles has many features to recommend it in Canada. The supply of cedar in Canada is comparatively small; cedar grows so slowly, 175 to 200 years are required to produce a 30-foot pole so that it is by no means reproducing rapidly enough to supply the annual demand. The preservative treatment of the cedar poles used would both save money for the pole users and lessen the annual drain on the forest. Preservative treatment would also render available for efficient pole use cheaper woods such as pine or spruce. These woods can be purchased more cheaply than cedar and when treated give as long and satisfactory service. They are much more plentiful than cedar and for that reason should be used if possible.

\* United States Forest Circular 136, by C. Stowell Smith.

Experiments which could be conducted cheaply would probably demonstrate that preservative treatment would render available for pole use in the prairies the fire killed Engleman spruce and lodgepole pine of the eastern slope of the Rocky Mountains. This timber is sound, strong and well seasoned. It exists in fairly large quantities, has been satisfactorily treated in the United States and there is every indication that when so treated it would make as good and better poles than cedar. It stands in good pole sizes and is more convenient for the extensive prairie market than the poles now brought from the east. At present it is going to waste, save when used for mining timbers.

