

chines, and in fixing the fair rental prices herein presented, the charges made by some of these companies have been taken into consideration. In view of all the circumstances, it does not appear that a rental amounting to 5 per cent. of the first cost of the machine for each month's use is unreasonable, although at first glance it appears to be very high.

For purposes of comparison in this report Metcalf & Eddy used the cost of new machinery, as given in the accompanying table, and calculated the fair rental per month on a basis of 5 per cent. of first cost as given therein:—

Cost Prices of Machinery Rented by Sewer Department.		
	Fair rental	Cost per month
Six-bucket Carson trench machine, including engine delivered on street and erected	\$3,300	\$165.00
Carson cable machine, including 30 horse-power reversible, link motion engine, delivered and erected upon the street....	3,250	162.50
Hoisting engine and boiler, 20 horse-power (Bond) \$1,656, less 30 per cent. (including swinging gear)	1,200	60.00
Fifty-foot boom derrick, fully equipped, ready to run, with bull wheel (Bond) exclusive of engine	500	25.00
Tubs and buckets, 12 cubic feet, No. 6,536, D. F. & M. Company (Bond) 50 per cent. discount	28	1.40
Scale boxes, ½ yard, 12 cubic feet, No. 6,518 D. F. & M. Company (Bond) 30 per cent. discount	98	4.90
Portable boiler for pumping engine.....	450	22.50
Pumping engine without boiler and pump..	275	13.75
Six-inch centrifugal pump, with extra pipe, hose, strainer, etc.	350	17.50
Four-inch pulsometer and fittings	350	17.50

COST OF WATER POWER PLANT.

The accompanying table of estimated costs per horse-power of water power plants was prepared by Charles T. Main, mill engineer and architect, Boston, Mass., and gives approximate figures for ordinary conditions and should be useful in making rough preliminary estimates. It is to be noted that the costs of dam, canal, and buildings are not included for these of necessity will vary greatly with the locality.

TABLE OF ESTIMATED COSTS PER HORSE-POWER OF WATER POWER PLANTS.					
Having Horizontal Turbines, Steel Penstocks, and Walled Tailraces—Dam and Buildings not included.					
	"L." 10ft. fall	20ft. fall	30ft. fall	40ft. fall	
	200 feet	\$71.91	\$32.84	\$21.70	\$16.38
1,000 h.p.	400 "	85.43	39.77	26.32	19.35
	600 "	93.96	46.69	30.94	23.53
	200 "	72.22	33.12	21.98	16.78
800 h.p.	400 "	85.70	40.04	26.56	20.35
	600 "	99.15	46.98	31.17	23.93
	200 "	72.64	33.49	22.34	17.20
600 h.p.	400 "	86.20	40.45	26.95	20.87
	600 "	99.76	47.42	31.57	24.54
	200 "	73.16	34.05	23.10	17.82
400 h.p.	400 "	86.90	41.03	27.73	21.45
	600 "	100.65	48.03	32.35	25.08
	200 "	75.35	35.97	24.97	19.47
200 h.p.	400 "	89.10	43.56	29.70	23.21
	600 "	102.85	50.60	34.43	26.95

STREET SPRINKLING.

The mileage of streets sprinkled in Ottawa during 1908 was 52.42, and the average cost per mile was \$353.23.

COST OF CEMENT WALKS AND CURBS IN HAMILTON, ONTARIO, 1908.

Length lin. ft.	Area sq. ft.	Total cost.	Cost per sq. ft.
Cement walks.42,568	263,080	\$37,035.16	14 1-10c
Cement curbs. 569	253.73	44 5-10 per lin. ft

COST OF SNOW CLEANING.

During 1908 Ottawa paid for snow cleaning as follows:
For 140.52 miles of street \$20,432.34 or 145.40 per mile.
Adding 759.37 for plant, repairs, etc., it cost \$150.81 per mile.

The snow fall during that period amounted to 115 inches and the work was done by day labor.

RAILWAY ORDERS.

(Continued from Page 318).

to prepare and issue tariffs of tolls to be charged for freight traffic on its line of railway.

7890—August 27—Approving By-law of the New Brunswick Southern Railway Company authorizing Hugh H. McLean to prepare and issue tariffs of tolls for all passenger traffic on its line of railway.

7891—August 27—Authorizing the Bell Telephone Company to erect its wires across the tracks of the Michigan Central Railway at public crossing 1¼ miles west of Welland, Ontario.

7892—August 27—Authorizing the Condie Rural Telephone Company to erect wires across the tracks of the Canadian Northern Railway in north half of Section 30, Township 18, Range 20, West of 2nd Meridian, Saskatchewan.

7893—August 27—Authorizing the Government of the Province of Alberta to erect wires across the tracks of the C.P.R. at Dominion Avenue, Frank, Alberta.

7894—August 27—Authorizing the Rural Municipality of Pipestone, Manitoba, to erect wires across tracks of the C.P.R. at public crossing one-quarter of a mile west of Sinclair, Manitoba.

7895—August 27—Authorizing the Rural Municipality of Branda, Manitoba, to erect wires across the tracks of the C.P.R. at public crossing 300 feet north-east of Napinka Station, Manitoba.

7896—August 27—Authorizing the Manitoba Government Telephones under Section 246, to erect wires across the tracks of the C.P.R. at Strathclair, Manitoba.

7897—August 10—Dismissing complaint of the Plymouth Cordage Company, North Plymouth, Mass., in re-rates on binder twine; and authorizing the Michigan Central Railroad Company to refund to the Plymouth Cordage Company the sum of two cents per 100 pounds in respect of the four carloads of binder twine shipped by the Plymouth Cordage Company to Wallaceburg, Dresden and Wheatley, making a difference between the legal rate of 18c. per 100 pounds and the rate of 20c. per 100 pounds charged and collected by the Railway Company on said shipments.

7898—August 27—Approving of the proposed deviation of the Hamilton, Waterloo and Guelph Railway from the Village of Sheffield to and into the Town of Galt, Ontario.

7899—August 30—Extending until the 25th day of September 1909, the time in which the City of Montreal shall put in proper repair the bridge known as Bridge No. 1.65, being a steel viaduct carrying St. Catharine Street over the track of the C.P.R. and ordering that the City of Montreal be liable to a penalty of \$25.00, per day, for every day after September 25th, 1909, that the work required to be done shall remain uncompleted.

7900—August 27—Granting leave to the Tilbury Telephone Company to place its wires across the track of the

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