

Alberta.

EDMONTON.—Municipal ownership in Edmonton is paying. Reports of the waterworks and telephone departments for the last six months show a surplus of \$10,168.24 and \$5,315.76 respectively. The water and electric light rates were reduced recently, and a new telephone system installed. The city now propose to construct and operate a street railway in Edmonton and Strathcona, and it is believed it can be made to pay. The line will be in operation by November 1st.

Foreign.

DETROIT, MICH.—Max. J. L. Towler, formerly general manager of the Detroit Bridge & Iron Works, and afterwards its manager when it became the Detroit plant of the American Bridge & Iron Co., has purchased a site beside the freight distribution yards of the Michigan Central Railway in River Rouge and plans to erect a new bridge and structural steel plant in the near future. The site for the plant comprises seven and one-half acres.

PERSONAL.

MR. FRANK A. BROWN, formerly engaged with Ross & Holgate, Montreal, is now at Ailsa, Largs, Scotland.

MR. A. T. SMITH has been appointed superintendent of the Electric Street Lighting plant of the town of Merritton.

MR. J. C. GARDNER, B.A. Sc., has opened an office as consulting engineer in the Hobson Block, Queen Street, Niagara Falls, Ont.

MR. FREDERICK F. KNIGHT, who for the past two years has superintended the shops of the Canadian Northern in Edmonton has been transferred to Port Arthur.

MR. M. J. BUTLER, Deputy Minister of Railways, has returned to Ottawa from Nova Scotia and resumed work at his office after an absence of two months. He has completely recovered from the illness from which he suffered last May.

MR. GORDON B. JOHNSON, son of W. Johnson, M.L.A., of Belleville, has arrived home from China, after an absence of six years. He is an R.M.C. graduate and has been engaged on the construction of the Shanghai-Nankin Railway.

MR. F. H. COGSWELL, chief of the Tariff Bureau of the Canadian Pacific Railway, has resigned for the purpose of accepting a position in the freight department of the New York Central at Detroit. Mr. Cogswell came from Detroit in January, 1907.

MR. WILLIAM PERRY has opened an office as a consulting and hydraulic engineer at Maplewood Avenue, Cote des Neiges, Montreal. For 57 years Mr. Perry has been connected with the design and installation of pumping machinery and is now prepared to give special attention to building waterwork systems, and, in fact, any work in connection with water supply, and as consulting engineer in hydraulic matters, and having arranged with the Deane Steam Pump Co. for the sale of their steam and triplex, and other pumping machinery, can guarantee a first-class plant.

STEEL-WORK FOR NEW LANSDOWNE AVENUE SUBWAY, TORONTO.

The Toronto Corporation recently have received delivery from the Cleveland Bridge & Engineering Company, Limited, of Darlington, of the steel-work required for the bridge carrying the Grand Trunk and Canadian Pacific Railways over the Lansdowne suway, Toronto.

This steel-work, supplied to the designs and specifications of Mr. C. H. Rust, the city engineer, Toronto, consists of two double-track spans for the Grand Trunk lines, and one three-track span and a single-track span for the Canadian Pacific lines.

The spans for the Grand Trunk consist of three girders, 71 ft. 6 ins. long x 9 ft. deep for the double-track span; two girders 74 ft. 6 ins. long and one 7 ft. deep and the other 9 ft. deep, together with a girder 101 ft. 6 ins. long x 10 ft. deep

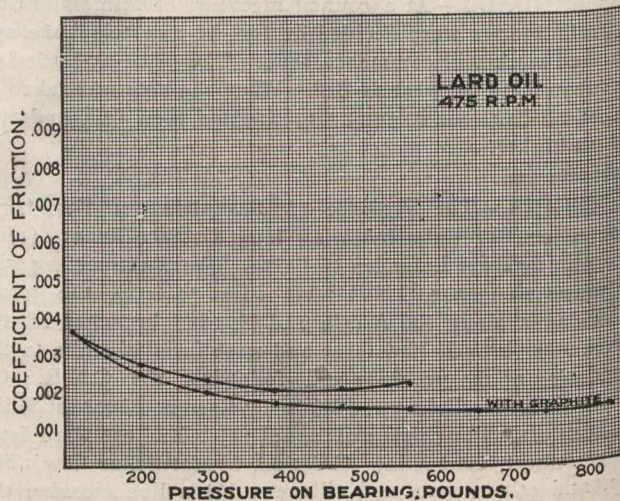
for the remaining double-track span. This work consists of ordinary plate girders, and cross girders 11 ft. centres and 2 ft. deep. The intermediate stringers between the cross girders consist of 15 ins. x 5 ins. and 9 ins. x 4 ins. joists. There are no floor plates. The three-track span for the Canadian Pacific lines consists of four girders, each 70 ft 6 ins. long x 7 ft. deep and the single track span consists of two girders 72 ft. 6 ins. long x 7 ft. deep. These spans consist of ordinary plate girders, the ends of the top flanges at the abutments being curved.

The flooring consists of 18-in. rolled steel joists, 18-in. centres, covered with 5-16th flat floor plates. The steel-work for the Grand Trunk spans has a weight of 216 tons and that for the Canadian Pacific spans 220 tons. In addition, there is about 1,300 lineal feet of ornamental handrailing, 3 ft 10 in. high, and cast iron intermediate and end pillars, and there is also ornamental handrailing on the staircase leading down into the Lansdowne Avenue subway.

TESTS OF GRAPHITE ON BALL BEARINGS.

There have from time to time appeared articles in the various papers condemning the use of graphite as a lubricant for ball bearings. The reason these articles have appeared, we presume, is because some users have had unpleasant experiences with inferior grades of graphite. Professor Goss has made some extensive tests with Dixon's Ticonderoga Flake Graphite as a lubricant for ball bearings combined with kerosene oil, lard oil and vaseline, and found that friction losses were very much reduced and the bearings made to carry a heavier load when Dixon's Ticonderoga Flake Graphite was used. The following are extracts from Professor Goss' report:

It has been shown by previous experimentation that graphite can be efficiently applied as a lubricant when mixed in small quantities with oil or grease. Following this practice, six series of tests were run; the lubricant employed upon the test ball bearing being, respectively, kerosene, a mixture



by weight of 96 per cent. kerosene and 4 per cent. graphite; lard oil, a mixture by weight of 96 per cent. lard oil and 4 per cent. graphite; vaseline, a mixture by weight of 96 per cent. vaseline and 4 per cent. graphite; the graphite in all cases was Dixon's Ticonderoga Flake Graphite. Figure 1 shows graphically the results obtained. Where the curve is not labelled, the result is without graphite.

As the result of these tests Professor Goss says in part that the following general conclusions may be drawn:

"A combination of graphite and lard oil makes up a lubricating mixture which, when applied to ball bearings, will accomplish everything which lard oil alone will do and which at the same time will give a lower frictional resistance of the bearing and permit a large increase in the load which it may be made to carry.

"An oil as light as kerosene, when intermixed with graphite, will be converted into an effective lubricant for ball bearings when operated under light or medium heavy pressure.