

The tumbling barrels in question were arranged two barrels on a shaft, the size of the barrels being 36" and 48" in diameter. As a rule, the load is but one barrel but about 25 per cent. of the time both are being run. It was found that the average power demand was 4.3 h.p. while the maximum with both barrels loaded was 5.8 h.p. The shafting with the barrels running light required 2.75 h.p., with the smaller barrel filled and the larger one empty the total power necessary was 4.15 h.p., while with the larger barrel filled and the smaller one empty 4.45 h.p. was required. It was decided that a 5 h.p. squirrel cage induction type motor would be ample for driving these two barrels.

Regarding the sand sifter, this had a driving pulley 12" in diameter with 6" face and a speed of 630 R.P.M. The power consumption of the sifter running light was 0.38 h.p. The momentary maximum load with both sides of the sifter full was 1.3 h.p. A 3 h.p. motor would be fully ample for this service.

**SPEED ON STEAM ROADS IN GREAT BRITAIN.**

The average speed of trains in England is a good deal in excess of that of trains here, as will be seen from a selection given below. The times given are start to stop, regular schedule—the only basis of comparison:

Railway.	Miles.	Per Hr.
Great Western—London-Bristol .....	118	59.0
Great Western—Leamington-Ealing .....	100¾	59.6
North Eastern—Darlington-York .....	44¾	61.7
North Eastern—York-Newcastle .....	80½	58.9
Great Northern—Grantham-Doncaster .....	50½	58.2
Great Northern—Peterboro'-London .....	76¾	57.9
North Western—London-Birmingham (9 trains daily) .....	113	56.5
North Western—Willesden-Birmingham .....	107½	57.0

The following long runs make pretty good time:—

Railway.	Miles.	Per Hr.
Great Western—London-Plymouth .....	225¾	54.6
North Western—London-Rhyle .....	209¾	52.9
Great Central—London-Sheffield .....	164¾	55.8
North Western—Willesden-Coventry .....	88½	57.7
Great Central—London-Leicester .....	107½	57.5
Caledonian—Forfar-Perth .....	32½	60.9
London & South Western—London-Andover ..	65	57.5
Midland—London-Leicester .....	99	56.5

In France they run expresses between Calais and Paris and the latter city and Marseilles whose average rate of speed is higher than that of any of the English trains.

**THE ALBERTA CLAY PRODUCTS COMPANY WORKS.**

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The buildings and grounds are lighted by 235 thirty-two candle power electric lights furnished temporarily by generator. The wiring and installation work was done by the Alberta Electric Company, of Medicine Hat, under the supervision of foreman E. W. Brewster. As soon as the city power plant is completed, connection with the city transmission lines will replace the generator.

Mr. George Limbert, who has had twenty years' experience in the business in Red Wing, Minnesota, and Arkon,

Ohio, is the superintendent of the plant, with sub-foreman in each department.

Fuel is supplied by a natural gas well having a capacity of 3,000,000 cubic feet every twenty-four hours and a pressure of 555 lbs., which is reduced to 10 lbs. for use in the kilns. The well was drilled by the city of Medicine Hat and the product is one of the purest forms of marsh gas ever encountered. It is of approximately the same flow and pressure as all the wells of this depth in the Medicine Hat district, which is famous throughout the continent. It is the most extensive field yet discovered and offers unlimited possibilities for the development of cheap power and for domestic utility. Th city controls the output and has established a system, whereby gas may be furnished to manufacturers at the exceptionally low cost of five cents per thousand feet.

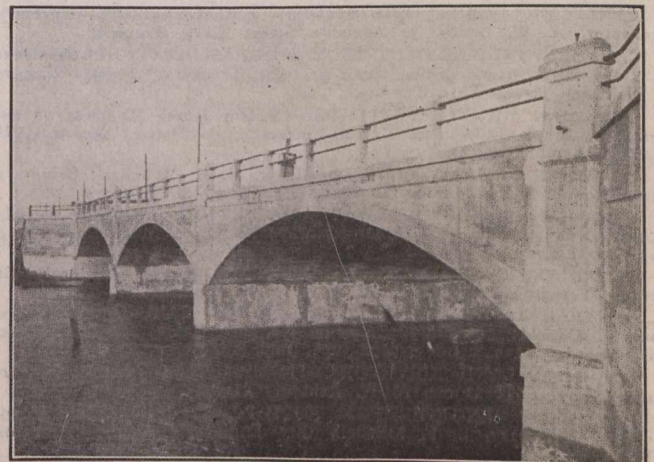
**MANITOBA PROVINCIAL BOARD OF HEALTH AND RIVER POLLUTION.**

The board passed a resolution, stating that it viewed with apprehension the pollution of the waterways of the province by raw sewage, and expressed the view that legislation should be enacted without delay prohibiting any person, corporation or municipality from placing or discharging any solid or liquid sewage or other poisonous matter into any navigable or other waters within the province, except under conditions to be definitely determined.

The board was particularly impressed with the fact that the pollution of the Red and Assiniboine rivers especially, has become so acute at some points as to constitute a menace to public health and has reached a stage at which the necessity exists for purification and sewerage disposal plants ought to be established.

**NEW INCORPORATIONS.**

**Winnipeg, Man.**—Hygienic Ice Co., \$200,000; W. A. Windatt, J. Leslie, A. W. Humber. Exhibition Land and Development Co., \$5,000; C. R. Ross, J. Yates, T. Jones. Pioneer Land Co., \$5,000; J. Riddell, J. N. Davidson, R. Ferguson. Suburban Estates, \$40,000; J. W. Manchester, T. A. Connell, A. H. Oakes. Commercial Union Association, \$20,000; W. Cameron, W. B. Conley, M. R. Blake.



**Concrete Arch Bridge over Little Calumet River, Gary, Ind.**

This bridge has three 60-foot spans, with a total width of roadway and tracks of 64 feet, carrying an interurban railway and horse traffic.