

"In 1910, upon the order of the Board of Commissioners, the engineer superintendent of water works was requested to make a further study of the aqueduct enlargement to increase the dimensions of the projected aqueduct in order to obtain sufficient hydraulic power not only for the water works pumping but also for the lighting of the city. On the 21st November, 1910, the City Council approved the superintendent engineer's report.

"As the contractors for the works then being carried out had refused to take over the execution of the supplementary works required at their contract prices, there was no other resource but to await the expiration of their contract (October, 1912) in order to call for new tenders.

"The meantime, the Board of Commissioners have thought it opportune to propose the construction of boulevards on the banks of the aqueduct by utilizing the soil provided by the excavation therefrom and the chief engineer made a report in consequence on the 29th November, 1911, and the City Council pronounced itself on this question on the 11th November last.

"Since the date of this decision which had to be settled in order to definitely prepare plans and specifications, the water works engineers are at work on the readjustment of said plans and specifications, and the call for tenders for execution of the work shall be made shortly.

4. "No reproach can revert to the engineers of the water department for not providing in their original project for the widening of the aqueduct to the enlarged dimensions, and that project designed in 1904, under instructions by the then Water Committee, had only to conform to the wants of the water pumping, as the committee, or its engineers, had no power to take up the question of electric lighting.

"The question took on a different aspect in 1910, when the Board of Commissioners could act by confirming the opinion of the engineer superintendent of the water works relative to the production of more hydraulic power for lighting and electric power services.

5. "There is no reasonable cause to have the above mentioned projects further studied by experts, as these have been properly examined at the time and completely endorsed by most competent experts such as Messrs. Ernest Marceau, chief engineer of Canada for the Government, and John Kennedy, ex-chief engineer for the Harbor Works, both being past presidents of the Canadian Society of Civil Engineers.

"Messrs. Hering & Fuller, the celebrated water works engineers, of New York, have also made a detailed study of the project of enlarging of the aqueduct. They devote a special chapter to this subject in their report, pages 27 and 28, and in the conclusion of their report, page 69, they express themselves as follows:

"We approve of the project of enlarging the power canal of aqueduct, the cost of which for all present developments, together with water wheels, pumps and wheel house needed in the near future, is estimated to be in the neighborhood of \$2,250,000. This is a sound business proposition, based upon the fact that the interest of this investment is very much less than would be the cost of fuel to generate steam for an equivalent amount of power for pumping water, developing electricity or for other purposes, for which the city would no doubt find a ready market."

"Concerning No. 4. 12 million gallon pump, which met with a serious accident, and the cause of the recent trouble; it is of the make and constructed on plans by the Henry R. Worthington Company, celebrated pump makers, and its acceptance tests have been carried out by two engineers not in the direct service of the department.

"No plausible theory can be formed as to the causes of this accident.

#### BREAKING OF WATER MAINS.

7. "Concerning the breaking of the water pipes, for example, the 30-inch main on St. Antoine street, near Windsor street, the Board of Commissioners has information that these pipes, like all those in use in the Water Department, have been properly inspected and tested to 300 pounds per square inch by capable inspectors, either at the foundry or in the city shops. Furthermore, the St. Antoine street main, having shown signs of weakness when first laid, was subjected in place to a pressure of 500 pounds before being put into service; as the recent accident happened under a pressure of less than 60 pounds, it is difficult to advance a reasonable theory as to the cause of the accident.

"In any event, the engineers have taken every precaution, and though these accidents may be regrettable, there is nothing to lead one to impute criminal lack of com-

petence or want of prudence of the engineers of the department.

"One can compare the case of such accidents happening to similar ones which take place on railway lines; for instance, locomotive explosions, the breaking of rails, the derailments of trains, collisions, etc.

"Now, has it ever occurred in such cases to ask for a general investigation on the administration of these railway lines? Is it not deemed sufficient only to inquire into the cause of the accident, and where need be to place the responsibilities therefor? This is what has been done by the Water Department.

"As to the provision for water supply of the city, it is amply assured at present by a pumping capacity of 60,000,000 to take care of the consumption of 45,000,000. Tenders are being called for two new pumps of 12,000,000 gallons each, which shall be installed next summer, and will, putting aside an old pump of 7,000,000, bring the pumping capacity to 77,000,000, against a probable consumption of 50,000,000."

#### THE MOVING OF THE GRAIN CROPS.

##### C.P.R. Vice-President Tells of Work Done—Lack of Steamship Tonnage a Drawback—More Farmers' Granaries Wanted.

Mr. George J. Bury, western vice-president of the Canadian Pacific Railway, was in Montreal this week and spoke interestingly in regard to the crop movement.

"In the fall everyone in the West naturally is greatly concerned about the crop movement," said Mr. Bury. "Owing to the large sums of money which have been expended by our company on terminals, double tracking, etc., this year we were able to load the grain practically as fast as it could be marketed. That is, we were loading at stations on our line at the rate of a million bushels a day. This kept up until about the middle of November, when we had to slacken the loading down because the grain was going into Fort William faster than the boats were taking it out. The reason the boats did not take it out faster was because the shippers were unable to secure ocean tonnage to move to Europe.

"For years," he continued, "we have been trying to impress upon the farmers the fact that from the time the wheat is threshed until it is consumed, someone has to pay the interest on the money involved, and that this interest comes out of the farmer; also, that it would be to his benefit to build granaries on the farm, in which to store the grain, shipping it out by degrees instead of trying to market the greater portion of it in two and a half months. This year the grain was moved as fast as marketed, but it could not be taken away from the head of the lakes to its destination as fast as the western railways hauled it in, and now the people in the West are beginning to see that it is to their own interest to store the grain on the farms, spreading the marketing over a longer period, and some headway has been made in convincing them that their future is bound up in mixed farming. The crop graded well this year, the country generally is prosperous and even the most pessimistic cannot find any signs of an abatement of the prosperity and progress."

Asked for details of the grain movement Mr. Bury stated that from the first week in October up to December 4, 82,531,000 bushels had been marketed on the C. P. R. line, which is one-third more than last fall. Of this quantity 76 per cent. had been shipped, while last fall the shipment figures at the same date reached 69 per cent.