

MUNICIPAL DEPARTMENT

THE GOOD ROADS MOVEMENT.

There is a proposition before the county council of Bruce, Ont., for the appointment of a county engineer to superintend the making of roads, bridges, etc. A committee, of which Councillor Scott is chairman, is collecting information on the subject. In a letter to the committee, Mr. A. W. Campbell, Provincial Road Instructor, says:

"Of course I am strongly in favor of a county council assuming control of all the leading roads, and having the work of their improvement placed in charge of a county engineer. In the county of Hastings this plan has been in operation for some years with the result that their main roads are the best in the province and the road expenditure of the county as a whole is under the average. The system works admirably and to the entire satisfaction of all concerned. The adoption of such a system does not necessarily mean that more money shall be spent on the roads. But it means practically that the money now being spent on the leading roads by the township councils would be concentrated and spent by the county councils. The township councils of your county annually spend 42,252 days of statue labor on the roads, and in addition to this, raise and spend \$22,657. The great bulk of this municipal expenditure is necessarily made upon the leading roads which would naturally be comprised in a county road system.

"For innumerable reasons it must be admitted that the most is not made of this expenditure, and it can be easily seen by experienced councillors where the money could be more advantageously expended by the county council, under proper plans and uniform system of construction, maintenance and supervision. It can also be seen where the maintenance of the leading roads under such a system would be more equitable to the townships, especially those near centres which are obliged to keep up roads for the accommodation of through and concentrated traffic. The counties of Wentworth, Oxford, Elgin, Dufferin, Victoria, Peterboro, York, Dundas, Grey, Stormont and Glengarry are considering the adoption of such a system now. The county of York, at its meeting last week, in considering this matter of the county system of roads, decided to call a convention early in January of all county councils interested for the purpose of considering the general adoption of some county system.

"Permanent engineers are now employed in some of the counties, such as Elgin, Middlesex, Oxford, York and Hastings. Their duties are to have charge and report on all county buildings, bridges, and such roads as are under the jurisdiction of the county council. The salaries range from about \$500 in Elgin to \$1,400 in Middlesex."

DECAY OF BRICKWORK UNDER WATER.

The bacterium is credited with a great deal now-a-days, but we doubt whether anything important of a criminal nature has hitherto been attributed to it in reference to the decay of brickwork. There can be no doubt, however, that brickwork would often stand better under water if certain bacteria were not present. Unless water be chemically prepared, that bacterium known as the nitrifying organism will almost always be in the water. And, in presence of certain food upon which it exists, it produces either directly or indirectly nitrous acid. This acid is capable of attacking cement until the substance of the latter entirely disappears. Thus, in setting bricks in cement, under water, it is almost impossible to defend the work from the depredations of these organisms. Then, again, bricks containing much iron, or calcium carbonate, may themselves be attacked at the same time. In fact, it has now been discovered that much of the work of disintegration of cement and brickwork under water (as in reservoirs and the like) hitherto attributed to the solvent action of carbonic acid, must now be transferred to the nitrifying organism and its nitrous acid. The transference will not make much difference to the brickmaker from a practical point of view, as he is so accustomed to provide very hard and non-porous bricks for reservoir work, and these are difficult subjects even to nitrous acid. At the

same time, as little iron and calcareous material as possible must be allowed even in these bricks—to say nothing of the commoner kinds of brick employed for work under water in other than reservoir constructions. But, to the cement maker this discovery is of importance, and to the engineer it has its bearings on the life of brickwork in general under water. Presumably, engineers and surveyors will not be enquiring for cements which are proof against nitrous acid, and where are they?—The Brickbuilder.

COATING WATER PIPE.

Many experiments of coating pipe have been made from time to time with a view of preventing its deterioration. A durable and effective coating appears to be a lead lining. The lead-lined iron pipe was first made about ten years ago. The method of making it follows: A reamer is run through the iron pipe, making it smooth and true. It is then heated. The outer surface of the lead pipes is covered with a cement and then drawn into the iron pipe, followed by an expander which runs through the pipe its entire length.

The city of New Bedford, Mass., some twenty-five years ago adopted and laid down a considerable quantity of iron pipe having a cement lining. The last of the pipe has just been removed, and it was found to be still capable of doing its duty although the iron was considerably corroded at places. Some spots were corroded entirely through, although the cement held its shape. At the time it was laid gas iron pipe was very expensive while cement-lined wrought-iron pipe was comparatively cheap.



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