MUNICIPAL DEPARTMENT

MACADAM PAVEMENTS.

The annual report of Col. H. N. Ruttan, city engineer of Winnipeg, Man., deals at length with the much discussed question of macadam pavements. Of the 47.1013 miles of pavement in Winnipeg 25.67 are of macadam, most of which has been done during the last four years. Most of the macadam roads up to this year were constructed of broken stone 10 inches thick at centre and 8 inches at the sides, the first course being of limestone and the top three inches trap. Roads are now being constructed of all limestone. One street has been laid with flat stones in foundation.

The most modern and approved systems have been adopted in the construction of the pavements, and the macadam has answered its purpose quite as well as its advocates expected.

Macadam is not a pavement suitable for a heavy traffic city street, and the fact that it has not been satisfactory on Princess street and Higgins avenue is only what might have been expected. On residence streets, macadam is giving excellent service for the amount of money expended. The fact is too often lost sight of, that the advantages of asphalt at $2.25 per square yard cannot be expected from macadam at 80 cents per square yard. As has been pointed out from the first, the full benefit of macadam cannot be realized while a great portion of the streets and lanes remain unpaved, and loose mud is carted from them onto the macadam, the mud being so tenacious that the surface of the macadam is torn up and destroyed. In some places, the whole depth of the macadam in the wheel tracks has been taken up and carried off on mud-coated wheels.

In order to assist in overcoming the above difficulty, it is suggested that every encouragement be given to induce the early pavement of lanes in the more closely built portions of the city. The cost to the property of 18 feet pavement (macadam) on lanes would be 12 cents per foot of property per annum for ten years. The saving effected to the city, on general macadam repairs, would be very considerable, and the character of the macadam pavement very much improved, if the lanes were paved.

Referring to the method of constructing macadam pavement it has been suggested that improvements would be made by (a) giving the roads more crown in the centre, (b) using flat stones for a foundation, (c) a greater depth of broken stone.

It may not be generally known that Macadam strongly disapproved of all these suggestions, and as it may be of interest to know exactly what he thought of them, the following extracts from his reports are given.

"A road should be as flat as possible with regard to allowing the water to run off at all, because a carriage ought to stand upwright as much as possible. I have generally made roads three inches higher in the centre than I have at the sides when they are 18 feet wide.

"When a road is made flat, people will not follow the middle of it as they do when it is made extremely convex. Travellers generally follow the track in the middle, which is the only place where a carriage can run upright, by which means three furrows are made by the horses and the wheels, and the water continually stands there; and I think more water actually stands upon a convex road that on one which is reasonably flat."

Macadam's great objection to laying down a bottom of large stones was that such a foundation "acts as a sieve which lets the water in which penetrates the whole mass, when the road is liable to give way in all changes of weather."

He says: "I should think that 10 inches of well consolidated material is equal to carry anything. I should not care whether the substratum was soft or hard; I should prefer a soft to a hard one.

A good Telford foundation would, no doubt, be found satisfactory, but it would be much more expensive than the all broken stone pavement, which, as far as the foundation is concerned, appears to answer every purpose. The chief trouble with our pavement arises from damage to the surface by tenacious clay brought on by wheels, and, in this respect, there would be the same trouble with the Telford as with the ordinary macadam.

NOTES.

The Hahn Brass Company, of New Hamburg, Ont., has been incorporated, with a capital of $40,000.

According to the annual report of the city engineer, the sum of $147,000 was spent in local improvement works by the city of Ottawa last year. On the main drain the outlay was $148,000, and on the waterworks $63,800. Snow cleaning cost $9,989. The total expenditure on granolithic walks was $74,009.30 and the cost 16½ cents per foot. The cost in the previous year was 16 7/10 cents. The total mileage of concrete walks is 74.22, and the total mileage of asphalt roadway 4.59. Fourteen miles of roadway are occupied by the street railway, and the track mileage is 24.04.

The Court of Appeals has maintained the judgment for $5,800 rendered in the Superior Court against the city of Montreal, in the case of Brunet vs. the city. The plaintiff claimed $12,000 as the value of property taken to open a street. The city produced a title made in 1871, from one Johnson. The plaintiff, Brunet, showed that he had bought the property at sheriff's sale since that date, and that the city had imposed taxes upon him as the propriety or of the land, thus establishing his rights as proprietor. His claim was admitted by the Courts to the extent of $5,800.

Lyons Electric Co. - Brantford, Ont.
Contractors, Specialists, General Supplies.
Close Figures on High Class Work.

A. E. AMES & CO.
BANKERS.
18 King Street East, TORONTO.
Buy and Sell
GOVERNMENT, RAILROAD and MUNICIPAL SECURITIES.

Portland Cement..
HIGHEST GRADE
SOLE AGENTS
ATLAS PORTLAND CEMENT CO. PORTLAND ATLAS CEMENT 30 BROAD ST. NEW YORK
BELLHOUSE, DILLON & CO.
30 St. Francois Xavier Street, MONTREAL
Largest Makers in the World.

BELLHOUSE, DILLON & CO., 30 St. Francois Xavier St., Montreal
Sole Agents for the Compagnie Generale des Asphaltes de France (Rock Asphalt.)
PORTLAND CEMENT NORTH' CONDOR
Paving and Fire Brick a Specialty. "DYCKERHOFF" and "WHITE CROSS" Brands
NORTH'S "CONDOR" BRAND AWARDED FIRST PRIZE AN GOLD MEDAL AT THE ANTWERP EXHIBITION

PORTLAND CEMENT * BRIDGE BRAND *
PORTLAND CEMENT
Sewer Pipes
Fire Bricks
Fire Clay
ALEX. BREMNER
50 Bleury Street, MONTREAL