

that can carry 15-ton motor trucks. Canada should benefit by the mistakes of the United States.

Extended discussion arose in regard to the relative merits of cement and clay pipes. It was decided that both have their merits.

B. Michaud extended an invitation from the city of Quebec, and urged that the next convention be held in that city. W. P. Near, city engineer of St. Catharines, Ont., presented a letter from the mayor of that city, asking for the 1919 congress. The executive decided to go to Quebec next year, but may meet in St. Catharines in 1920.

L. B. Howland spoke on what motorists can do to help the good roads movement and relieve the transportation congestion. Motor trucks are in their infancy, said Mr. Howland. In the United States, 1,300,000,000 tons of material were hauled by motor trucks during 1917, at an average of 18c. per ton, a saving of 10c. over horse-drawn vehicles. The motor truck will abolish the short railway.

Discussion on Concrete Roads

W. H. Connell, consulting engineer, of Philadelphia, who was on the programme for a paper on the result of tests of various types of pavements, was unable to be present.

A. Lalonde, C.E., assistant engineer of Outremont, P.Q., spoke on concrete roads. His paper is published in full on page 433 of this issue.

Mr. Cadwell, of Windsor, Ont., said that he did not think it necessary to keep the traffic off new concrete roads for so long a time as is now the practice. "I have seen a three-ton truck taken over a concrete road twenty-four hours after its construction," said Mr. Cadwell, "and not a mark of the wheels was left on the road." The general opinion was that the engineer who permitted the truck to go over the road, had taken a great risk, and that the road might have been injured, even though unmarked.

The question box was cleared and a brief general discussion took place on the questions which had been submitted. The various types of machinery for snow cleaning were discussed as the result of one question. Mr. Duchastel said that his municipality, Outremont, P.Q., cleaned its streets last winter by the use of a new machine with a saving of fully one-third of the cost by cleaning with wagons and sleighs.

Following the afternoon session, the delegates and guests were taken on a motor trip around the city by members of the Hamilton Automobile Club.

The works department of the city of Hamilton tendered a dinner to the executive of the association and their guests early Thursday evening, and at 9 p.m. the annual meeting of the association was held.

Directorate Increased to Twenty

A. A. Dion, of Ottawa, was elected as chairman of the meeting. An advisory board of all past-presidents was formed, and the following officers elected for the year 1918-19:—

Hon. past-president, Capt. J. A. Duchastel de Mont-rouge, Outremont, P.Q.; president, S. L. Squire, Toronto; first vice-president, A. F. Macallum, Ottawa; second vice-president, P. E. Mercier, Montreal; secretary-treasurer, Geo. A. McNamee, Montreal. Directors:—The officers and A. L. Caron, Montreal; Dr. E. M. Desaulniers, St. Lambert; R. S. Henderson, Winnipeg; L. W. Levesque, Montreal; J. A. Sanderson, Oxford Station; L. B. Howland, Toronto; C. R. Whee-

lock, Orangeville; W. G. Yorston, Halifax; Wm. Findlay, Ottawa; R. T. Kelley, Hamilton.

Upon motion of Capt. Duchastel, the directorate was increased to twenty, the additions to be chosen by the present board from the deputy ministers of the provinces.

Several amendments to the constitution were passed in order to make the constitution conform with the federal charter which had been obtained during the year. Advisory boards were formed for the province of Quebec and the province of Ontario, and separate meetings of the Quebec and Ontario executives will be held. A number of votes of thanks were unanimously adopted.

The last session of the congress was held on Friday morning, May 10th.

E. Drinkwater, municipal and highway engineer of St. Lambert, P.Q., delivered an address on the hot-mix method of bituminous construction, using asphaltic binder. His paper will be found in full on page 442 of this issue.

C. A. Mullen, director of the paving department of the Milton Hersey Co., Ltd., Montreal, was on the programme for a paper on asphalt pavements. Mr. Mullen was unable to attend, but he forwarded his paper, and this paper was also read by Mr. Drinkwater. It is published in part on page 449 of this issue.

E. R. Gray, city engineer of Hamilton, read a paper on the abatement of the dust nuisance. This paper will be found on page 431 of this issue. The chairman, Capt. Duchastel, in discussing Mr. Gray's paper, said that the cost of applying tar last year to the streets in Outremont, was about 2½c. per square yard, which was somewhat higher than the cost of oiling in Hamilton. A general discussion on oiling followed Mr. Gray's paper. Capt. Duchastel considered oiling to be the most economical and sanitary way of dealing with the dust problem.

Paul S. Sargent, engineer of the state highway commission of Maine, who was on the programme for a paper on gravel and macadam roads, did not arrive, so after the discussion of Mr. Gray's paper had been finished, the chairman declared the congress adjourned.

COST OF OILING IN TORONTO

"It is costing this year 35 per cent. more for oil and 11 per cent. more for labor than was paid last year," says Street Commissioner Wilson, of Toronto, in a report to the city council, "so that to treat the same mileage of streets as last year, on the basis of 3.5 applications, would cost approximately \$31,694.24, or \$6,694.24 more than has been provided in the estimates. It will be obvious, therefore, that we cannot, without overdrawing or appropriation, treat the same mileage as was treated in 1917."

The commissioner points out that "there are 176.89 miles of macadam, Rocmac, and unimproved roadways in Toronto. The policy is to oil only such of these streets as it is absolutely necessary to oil, having regard to traffic conditions and the density of the population.

"To oil one mile of roadway, 24 feet wide, or 14,080 square yards, applying one-tenth gallon per yard, at 12.5c. per gallon, costs the department \$176, plus \$5.11 for labor, or a total of \$181.11 for one application."

Geo. F. Porter, designing engineer of the St. Lawrence Bridge Co., will read a paper on the Quebec Bridge next Monday evening at a meeting of the Manitoba Branch of the Canadian Society of Civil Engineers.