

mission is studying the Highway Acts of twenty-seven States, noting their weak points and their good points. The Highway Commissioner of each of these States is being consulted as to the success or failure attending the road laws enacted by his State, the changes that have been recommended in the laws and the reasons therefor, and above all, the changes that each Commissioner would like to see made to obtain his ideal, but which he perhaps dares not make on account of politics, public sentiment, poverty of the State coffers, or other reasons. The amount of money placed by the Provincial Parliament at the disposal of its road-building organization must also be carefully considered. Were too much money voted at one time, it is feared that it would tax the contracting capacity of the Province too greatly. It is thought desirable to have only thoroughly reliable contractors build the roads, and to let to each contractor only enough work to ensure his being able to handle it with the most careful attention. The letting of too much work in any one season might result in higher prices and inferior work, it is said.

The selection of the administrative and constructive staffs is most important. Mr. Campbell, the Deputy Minister of Railways and Canals (and why not of Highways also?) said at the banquet of the American Road Congress at Detroit, that proper drainage was the most essential item in road building. The Mayor of Detroit replied that "drainage" is not so important as "foundation"—the foundation of good men to administer the enterprise. It is recognized by the Ontario Commission that it will take some time to build up the personnel of the various highway departments. Men with the proper qualifications must be picked or trained. The administrative policy must be carefully decided; whether it would be better to have division engineers each in charge of certain limited territory, or to have strongly centralized control. Under the heading of administration come also the problems of cost-keeping, purchasing departments, etc.

The financing of good roads may prove troublesome in Ontario. The large mileage compared to population makes financing more difficult than in densely populated States. Various methods of raising revenue are being considered—bond issues, automobile fees, corporation taxes, assessments on railways that would benefit by better roads, etc. The substitution of a money tax instead of the work done on the roads by the farmers is being considered. The wisdom of using convict labor will also be decided.

Provision will be made for the systematic inspection of the expenditure of moneys. Uniform accounting systems must be provided and such statistics kept of all payments that accurate data can be placed before Parliament at all times.

The actual construction and maintenance of the roads causes, perhaps, the most travel by the Commissioners. They will visit ten or eleven States and obtain accurate data regarding costs, lifetime, popularity, etc., of the various types of roads. Hundreds of miles of roads will be inspected.

In order to meet and obtain the good-will of the numerous State Highway Commissioners to whom they will later apply for information and assistance, the Ontario Commissioners gave a luncheon at the American Road Congress and invited all of the State Commissioners. The ice was thus broken, and the interest of each commissioner awakened in Ontario's problems. These

State Commissioners are now furnishing the Ontario officials with data concerning dimensions, first cost, wear, maintenance charges, what types are being abolished as unsatisfactory, what types are being substituted as more satisfactory, etc. The relative merits of concrete, brick, bituminous macadam, asphalt block and chemically bound macadams are being investigated; the methods of construction and suitability of gravel, sand-clay and earth roads are being studied.

The Commission is being aided in this work by J. E. Pennybacker, whom they have appointed as a consulting expert, as previously mentioned in these columns.

CANADIAN PUBLIC HEALTH ASSOCIATION. CONVENTION AT REGINA, SEPTEMBER 18, 19 AND 20.

[This article, dealing with that part of the proceedings of the Canadian Public Health Congress at Regina that is of interest to *The Canadian Engineer* readers, was unavoidably precluded from our issue of October 9th; hence its appearance at this late date.—Ed.]

THE Third Annual Congress of the Canadian Public Health Association was held in Regina, Sask., Sept. 18th, 19th and 20th. Upwards of two hundred delegates registered. As indicated in the programme appearing in a previous issue, the work of the convention was divided into eight sections, additional to the general sessions. To each of them the papers presented were of such a nature as to open up a volume of keen and vivid discussion upon all phases of the work which the association has set itself about to do.

The congress had its various sessions well interspersed with social functions of one kind and another, and the city of Regina displayed such an excellent type of hospitality to the visitors as earned for it a highly commendable resolution on the minutes of the association.

There were several papers read at the general session that would have interested a large number of the engineers of Canada, apart from Section VI., which was devoted entirely to engineering subjects, and Section V., which was closely related covering the various phases of sanitary inspection and promotion.

Of the ten papers presented at the Engineers' Section, two, viz., "Mechanical Gravity Filtration at Saskatoon," by George T. Clark, city engineer, Saskatoon; and "The Chemical and Biological Effects of Water Filtration," by H. W. Cowan, chief engineer, Bell Filtration Company, Toronto, appeared in October 2nd issue, and other important papers will be published in due course in these columns.

Among the papers read at the general sessions the presidential address by Dr. J. W. S. McCullough, Provincial Health Officer for Ontario, related a few of the experiences of the speaker in his recent visit to Europe. His address was, in part, as follows:—

"In the province of Ontario, from the fact that the rivers and lakes must become the great sources of water supply, it has become apparent that to preserve these supplies in a pure state, it is necessary to take prompt action to prevent their pollution with sewage. With this end in view the legislature of last year and this year gave very extensive powers to the Provincial Board of Health in this regard, requiring that all plants for waterworks and sewage disposal must have the approval of the Board before any money can be raised for these purposes. In