

# The Canadian Engineer

Established 1893

A Weekly Paper for Civil Engineers and Contractors

Terms of Subscription, postpaid to any address:

One Year	Six Months	Three Months	Single Copies
\$3.00	\$1.75	\$1.00	10c.

Published every Thursday by

The Monetary Times Printing Co. of Canada, Limited

President and General Manager  
JAMES J. SALMOND

Assistant General Manager  
ALBERT E. JENNINGS

HEAD OFFICE: 62 CHURCH STREET, TORONTO, ONT.  
Telephone, Main 7404. Cable Address, "Engineer, Toronto."

Western Canada Office: 1206 McArthur Bldg., Winnipeg. G. W. Goodall, Mgr.

## PRINCIPAL CONTENTS

	PAGE
Proceedings of Canadian Good Roads Congress	485
Concrete in Roads, Bridges and Culverts, by H. Eltinge Breed	493
Good Roads Will Bind Canada, by Hon. J. A. Tessier	495
Keeping the Highways Open in Winter, by Hon. Frank Carrel	496
Highway Maintenance, by J. A. Duchastel	497
Gravel Roads, by Chas. Talbot	499
Road Machinery, by Arthur H. Blanchard	502
Personals and Obituaries	506
Construction News	506
Tenders Called For	52 and 54
Where-to-Buy, An Engineering Trades Directory	60

## THE GOOD ROADS CONGRESS

WHEN any organization can attract to its annual meeting, or congress, officials from eight of the nine provinces in Canada, its success can be taken as an established fact. This wide-spread official recognition that was granted last week at Quebec to the Canadian Good Roads Association, augurs well for the good roads movement in Canada.

The founders of this association have worked hard and acquired considerable prestige at Quebec and Ottawa at least, and their influence has been entirely beneficial to the road movement.

The meeting at Quebec will long be remembered by all who attended, not so much for the value of the papers or discussions as for the splendid opportunity it gave of coming into contact with the biggest men in highway work in Canada, and for the ardent hospitality of the people of that proud city.

Quebec deserved this road congress, as it has been a pioneer in Canada in road work. The beautiful Montreal-Quebec Highway, over which forty of the delegates motored the day before the opening of the congress, can be equalled by few roads in Canada, either for quality of work or for scenery. The waterbound macadam which forms the greater part of the road is in good condition, and is now being preserved by a surface treatment of bituminous material. There are also a number of miles of excellent concrete highway at various points, and at the Quebec end are a few miles of splendid asphaltic-concrete road of the "Warrenite" type. All four types of road encountered on this highway were smooth and pleasant, and all of the motors, whether Fords or Packards, had no difficulty in maintaining a speed of about 35 miles an hour throughout the entire journey.

## FEDERAL AID FOR HIGHWAYS

WARNING Ottawa to go slow in voting money for highway improvement, is about as logical as equipping a snail with speedometer and brakes. But, slow-moving as the Dominion government has been in granting federal aid for highways, it now seems that "Ottawa" cannot yet take a forward step without being in danger of slipping on the ice of provincial rights.

Sir Lomer Gouin took the public into his confidence last week at the banquet of the Canadian Good Roads Congress in Quebec City. He pulled aside the curtain of diplomatic relations between province and Dominion sufficiently for those present to get a glimpse of the ropes that are holding the federal aid bill at its moorings, preventing it from embarking upon what may prove a rough and stormy parliamentary voyage.

Federal aid for highways will be welcomed by all of the provinces provided that it takes the form of a straight gift of money, with no strings attached. But Quebec at least—and Ontario, Saskatchewan and other provinces are said to think likewise—does not want Federal aid if it entails the surrender of any of the provincial rights and prerogatives in road building.

The Dominion government appears reluctant to introduce any bill for federal aid that does not provide for jurisdiction over and inspection of the roads that are aided. It fears that the money might be used for political purposes, it is said; that is, for the construction of roads as a bribe for support from uncertain districts. Moreover it wants to make sure that the money is spent honestly and to the best advantage of the whole Dominion.

Such an attitude, thinks Sir Lomer Gouin, puts into the public mind ideas that are most harmful to the good roads movement. Money is not the only requisite for the success of public projects. Trust and confidence are equally essential. Without public confidence, no government, provincial or federal, can build roads. If the federal government leads the people of any province to believe that its provincial government cannot be trusted with road-building funds without federal policemen being on the job to watch their expenditure, then it will kill all expenditures for road work in that province. If the federal aid bill were really to result in such a psychological effect upon the public—and but few statesmen in Canada know the trend of the public mind as does Sir Lomer Gouin—then it would be better if the bill be still-born and the provinces allowed to carry on as at present, with their own funds.

Federal aid would not be essential, anyway, if every province in Canada were to build roads as energetically as does Quebec. But federal aid is highly desirable as a stimulus to road-building. All provinces contribute indirectly to the funds from which the aid is given, so no province is likely to fail to participate in the benefits of the aid, particularly when the financially weaker provinces will get more out of the fund than they have indirectly contributed. Moreover, the money that could be contributed by the Dominion government would have been raised by methods of indirect taxation not available to the provinces, and less likely to arouse opposition than a direct road tax.

It is to be hoped that some way will be found of making the bill satisfactory to every provincial government in Canada, so that the aid can be obtained. After all, the members of the House of Commons are but the representatives of the various provinces, and if the bill is not satisfactory to a large majority of the provinces, it stands no chance of becoming law. It is somewhat surprising that this legislation should have been inaugurated at all without having first met the views of all of the provincial governments. There is no more danger of road appropriations being used as political footballs at Quebec or Regina or Toronto than at Ottawa. For the sake of good roads in Canada, the strings to which the provinces object should be cut, and the \$20,000,000 aid for highways should be passed unconditionally. The Dominion government should aid the provinces to that extent every year. But in encouraging the backward provinces to build roads, nothing should be done to discourage the progressive provinces.