The Canadian Engineer

WEEKLY

ESTABLISHED 1893

Vol. 15.

TORONTO, CANADA, DECEMBER 11th, 1908.

No. 50

The Canadian Engineer

PETABLISHED 1893

issued Weekly in the interests of the

CIVIL, MECHANICAL STRUCTURAL, ELECTRICAL, MARINE AND MINING ENGINEER, THE SURVEYOR, THE MANUFACTURER AND THE CONTRACTOR.

Editor-E. A. James, B.A. Sc.

Business Manager-James J. Salmond.

Present Terms of Subscription, payable in advance:

ADVERTISEMENT RATES ON APPLICATION.

HEAD OFFICE: 62 Church Street, and Court Street, Toronto Telephone Main 7404.

Montreal Office: B 32 Board of Trade Building. T. C. Allum, Editorial Representative. Phone M 2797.

Winnipeg Office: Room 315, Nanton Building. Phone 8142. G. W Goodall, Business and Editorial Representative

Address all communications to the Company and not to individuals.

Everything affecting the editorial department should be directed to the Editor.

NOTICE TO ADVERTISERS:

Changes of advertisement copy should reach the Head Office by 10 a.m Monday preceding the date of publication, except the first issue of the month for which changes of copy should be received at least two weeks prior to publication date

Printed at the office of The Monetary Times Printing Co., Limited,
Toronto, Canada.

TORONTO, CANADA, DECEMBER 11, 1908.

CONTENTS OF THIS ISSUE.

ditorial:	1
Railways in Alberta	879
Steel-making in America	879
eading Articles:	
Electric Power Development in Northern	
Canada	880
Fifth Report of Royal Commission on Sewage	
	881
Costs Data:	00
Cost of Excavating Gravel in a Canal	885
Cost of Brick Manhole	886
Excavating Cemented Gravel	88
Grounding of Transmission Mediums	88
Construction News	88
Markets	89
Markets	V-1968

RAILWAYS IN ALBERTA.

Western Canada is still suffering from growing pains, and increased transportation facilities is the crying need of many sections. To assist in this work Premier Rutherford announces that a provincial department of railways will be organized, but whether the Alberta Government will construct the new roads or simply plan for systematic assistance is not yet known. In any case Alberta is likely to see several years of active railroad construction.

It is to be hoped Albertans will not allow their Province to be blanketed with railway charters, nor offer subsidies as a reward to each new promoter. Eventually any new line will find itself either absorbed by or dependent upon one of the three Canadian railway systems, and this new department should be able to eliminate the promoter's profit, and see that all the money voted goes to building railways and not to laying the foundations of large private fortunes.

A new department in a new Province, with the experience of other Provinces to assist, should be able to prevent many of the abuses in railway building which discredit the engineer. Pinched to the very last cent, he has frequently to plan make-shifts, diversions, and adopt unsatisfactory gradients, the engineering bending too much to the financial.

If these new roads are Government-built, they will be well built, and if they are subsidized, then the limiting curvature and gradients should be specified, and the Government inspection should be thorough enough to ensure building to specifications.

STEEL-MAKING IN AMERICA.

Two recent utterances on the iron and steel trade of the United States, by men who should be fully informed on the subject, are worthy of attention, especially so, as the cost of producing pig iron and steel on this continent, and the effect of protective duties upon the market price of these articles, are touched upon. The speakers are Andrew Carnegie, whose enormous fortune has been made out of steel, and Charles M. Schwab, a modern leader in American steel production. What will seem to protectionists an audacious statement is made by Mr. Carnegie. This is that the steel industry needs no protection. He declares that steel is produced at less cost in the United States than anywhere else, and that, notwithstanding the higher wages paid per man, not a ton of steel is produced in the world at so small an outlay for labor. Coal, coke and iron ores are cheaper, because more easily obtained and transported in the United States than anywhere else. The output per man is also greater, owing chiefly to the enormous standard orders obtainable. It would seem, therefore, that the industry has no cause to be alarmed at the prospect of foreign nations dumping steel on their market. But the apprehension that some thing of the sort might happen is very likely to cause the Americans to keep to their protective duties. And the effect of these must be to prevent the lowering of prices of finished iron and steel for home consumption to a point which might be reached without them.

Dealing with the statement that the United States possesses three great strategic centres of iron manufac-