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# The Canadian Engineer

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## CONTENTS OF THIS ISSUE.

Editorials:	583
Railway Building in Western Canada	583
Flow of Streams	584
Editorial Notes :	504
Leading Articles:	-0.
Locomotive Counterbalancing	584
European Engineering Laboratories	593
A-1:-1 Station	598
Commission—The Office	
Deilway and Municipal Board	600
Star Map for December	603
Sanitary Daviews	589
Toronto Water Supply and Waste	590
	601
	605
	604
	602
	606
Construction News Market Conditions	610
Market Conditions	

# RAILWAY BUILDING IN WESTERN CANADA.

The year 1909 has established a record for railroad construction in Western Canada. Twenty-eight millions have been spent on construction work alone. Supplies and material involved an expenditure of a further 28 millions. And who can count the millions spent by the settler, the small merchant, and the builder, all because the railroad has created new markets, new towns, and new outlets.

The C.P.R. completed the second track from Winnipeg to Fort William, and incidentally doubled the capacity of the "spout." They shortened the mountain section by the Field spiral tunnels, and forged the last link in the third trunk line from Winnipeg to Edmonton. As if that was not enough, they built branch lines here and there, reaching out for the great Western trade.

The C.N.R. constructed a line into the Goose Lake country. They are pushing westward from Midale.

The G.T.P. opened the third transcontinental across the prairie to Edmonton and extended it to the Yellowhead, and already the construction of branches both to the north and to the south has been commenced.

Next year the railway race will be even more apparent and more strenuous. The C.N.R.-McBride agreement indicates the extensive plans of the C.N.R. in British Columbia. The line from the Yellowhead Pass to Kamloops, down the Fraser Canyon to Vancouver, will be expensive to build, but will open up a large, new district. The C.N.R. will also continue their Midale line towards, if not into, Lethbridge. Lethbridge is to-day the object point not only of the C.N.R., but also from the south, the Great Northern, who are pushing a line in that direction. The Weyburn line of the C.P.R. is also heading that way.

The G.T.P. will next year have very heavy work on their mountain section, and in addition they will construct their Wainwright-Calgary branch, which will give them access to Southern Alberta. Next year the West will be overrun with an army of engineers, contractors and navvies-and this fight will continue until the railroads are able to handle, without congestion, the output of the plains.

#### FLOW OF STREAMS.

Much money has been spent in Canada on hydroelectric plants-unfortunately, much of it misspent. It is the exception to find developed water powers that have not been over-developed, with the result that many companies and municipalities find they have available only a fraction of the power on which they calculated.

When a stream is under consideration as a source of water power the minimum, maximum and total flow of the stream for the several seasons of the year and the average of several years are among the first informa-