Ista	blis	hed	1893
------	------	-----	------

A Weekly Paper for Canadian 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 JAMES J. SALMOND President and General Manager Assistant General Manager

HEAD OFFICE: 62 CHURCH STREET, TORONTO, ONT. Telephone, Main 7404. Cable Address, "Engineer, Toronto." Western Canada Office: 1208 McArthur Bldg., Winnipeg. G. W. Goodall, Mgr.

## PRINCIPAL CONTENTS

the second s	TUTT
Relation of the Curve to Town-Planning, by H.	
L. Seymour	119
Germany's Preparations	121
Steam Shovel Practice, by L. N. Edwards	123
No Importation Free From England	126
Economical Operation of Hydraulic Turbines	high in mis
by E. N. Gibbs	
Transportation and Power, by C. G. Gilbert	
and J. E. Pogue	128
Width of Provincial Highways, by W. A. Mc.	
Lean	131
Science and Industry, by J. C. Fields	133
Big Eddy Conservation Dam	136
Personals and Obituaries	130
	190

## PUBLIC WORKS NEEDED

EACH day that labor is unemployed, there is an economic L loss to the community. As our contemporary, Engineer-ing News-Record of New York, has pointed out, every man not employed is either a public charge or an idle producing unit. As it is certain that the return to normal conditions will take some time, public works should absorb labor as fast as possible, even under conditions which might seem uneconomical on account of the high wage scale and the high prices of materials. Even if the public pays greater prices for public improvements, it would be well to undertake them at this time upon a large scale, in order to prevent the economical loss due to idle man-power. If the army is demobilized slowly in order to prevent unemployment, the public pays for the maintenance of the soldiers. It would be better to demobilize as promptly as the military situation permits, increasing the amount of public work to any extent necessary to prevent unemployment. Such a course would mean permanent, substantial returns for the money spent, whereas the maintenance of men in camp without military necessity is a dead loss.

## HERR DOKTOR!

SIR ROBERT HADFIELD has performed a public service in procuring and translating some recent publications of the Society of German Metallurgists' and Mine-Owners. Canadian engineers who are now deeply concerned in discussing legislation for the protection of the title "engineer," will be interested in knowing that the managing committee of the above-mentioned German society have unanimously expressed their conviction that it is not expedient to reserve the title, "engineer," solely for those who have completed a university course, it being considered by the committee that the graduates are sufficiently protected by their diploma. "The suggestion worthy of being fully considered," says the report of the committee, "was expressed in committee that the dignity of the engineer who has completed the university course would be better raised by the title of 'Doktor.' This solution would be of great service to the appreciation of a complete technical university education in academic circles."

See what we have missed! Had Germany been permitted to conquer the world, every Canadian engineer might have been a "Herr Doktor." Free, gratis, for nothing! We cannot understand why Herr Bernstorff overlooked this bribe in his efforts to keep Canadian engineers out of the war.

The committee agrees, however, that protection of the word "engineer" would be desirable despite wholesale granting of Doctor-of-Engineering degrees. "So far as the protection of the title of 'engineer' is further concerned," continues the committee, "we have joined in the unanimous decision come to at a committee meeting of the German Association to the effect that protection of the title 'engineer' is desirable; that those hitherto using the title 'engineer' should not be deprived of it; but that in doubtful cases a Council of Engineers, on which the authorities would be represented, should have the right to decide whether the title of 'engineer' was justified or not."

## EAST WANTS BETTER SERVICE

C OL THOS. CANTLEY, member of the Board of Directors of the Canadian National Railways, last week met a delegation of the members of the Commercial Club of Pictou, N.S., and of the Board of Trade of New Glasgow, N.S. Alex. McGregor, M.P., who was spokesman for the delegation, said that certain changes are inevitable along the Intercolonial Railway between New Glasgow and Mulgrave, "It is no secret," said Mr. McGregor, "that the heavy

"It is no secret," said Mr. McGregor, "that the heavy grades and curves along that stretch of the railroad are impossible so far as the future is concerned. That section is operated at a loss of from \$50,000 to \$75,000 monthly."

J. D. McDonald, of Pictou, urged that the harbor be bridged, and the "Short Line" connected in order to relieve the pressure of freight upon the main line, to eliminate the costly haul over the Cobequids, and to provide a better service for Cape Breton. The harbor should be bridged at or near Pictou Landing.

Replying, Col. Cantley said that he had already impressed upon his colleagues very strongly the necessity of improving transportation between Moncton and Sydney. From Sydney to Mulgrave there is no trouble, but from Mulgrave to Stellarton only light trains can be handled and derailments are too frequent. Railway engineers have made frequent surveys in an attempt to overcome the difficulties, but an easy solution has not yet been found. The most feasible scheme proposed is to go around Cape Porcupine, following the shore to a very considerable extent, but even then the grade would be 1.68%, which is not good enough for Canadian National Railway Standards, said Col. Cantley. Besides, the cost would be almost as great as if a new line were built. Personally he favored a line from Mulgrave via Guysboro to Sunny Brae, thence to New Glasgow, etc. Such a line would be a few miles longer than the present road, but very good grades would be obtainable.

Mr. McGregor said that he had interviewed President Hanna of the C.N.R., and had urged the claims of Nova Scotia, but the president stated that the west wants a great many extensions, and that the claims of the west might be given preference to those of the east to some extent.

It was decided that a committee of six be appointed to gather data and to submit same to the Railway Board. Col. Cantley suggested that the committee should ask that survey parties be sent out as soon as possible, to report upon the project.

Col. Cantley roughly estimated the cost of the proposed line from Mulgrave to Sunny Brae at \$8,000,000, while the bridging of the harbor at Pictou and the conversion of the "Short Line" to main line standard, would cost at least \$2,-000,000.