# The Canadian Engineer

# WEEKLY

ESTABLISHED 1893

VOL. 15.

## TORONTO, CANADA, AUGUST 14th, 1908.

No. 33

# The Canadian Engineer

ESTABLISHED 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:

Canada and Great Britain : 1			United States and other Countries :			
One Year .	- in the	\$2 00	One Year	-		\$2.50
NIX Monthe		1.25	Six Months	-	-	1.50
Three Months	-	0.75	Three Months	1		1.00

ADVERTISEMENT RATES ON APPLICATION.

MEAD OFFICE: 62 Church Street, and Court Street, Toronto TELEPHONE MAIN 7404.

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

Winnipeg Office : Room 315, Nanton Building. Phone 8142. G. WIGoodall, 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, AUGUST 14, 1908.

# CONTENTS OF THIS ISSUE.

Editorial:	Page.
The Independent Telephone	. 567
The Engineers' Opportunity	. 567
1 oronto's Water Supply	. 568
-cading Articles:	
Method of Wet Excavation	. 569
recipitation for July 1008	. 568
A Page of Costs :	
Cost of Tracing	. 573
Cost of Riveting .	. 573
Cost of Earth Excavation .	. 573
CUSE of Summary	572
TOT DOILERS D 1	
Construction News	. 577
Market Conditions .	. 580
	. 300

### TO OUR READERS.

If you are coming to Toronto, Montreal or Winnipeg and Wish to have your mail forwarded the offices of the Canadian Engineer are at your disposal. Have it addressed to our offices and we will take care of it until you call or ask to have it re-directed.

# THE INDEPENDENT TELEPHONE.

For many years one of the strongest and most successful industries—Canadian grown and Canadian supported—has been the telephone. With controlled patents, exclusive franchises and a system covering Provinces, one system seemed impregnable. Then, quietly, steadily, and with increasing success the "independent movement" spread. The first journal to assist in this movement was the "Canadian Engineer." The telephone was such a necessity on large works, centering all the departments in one office, keeping headquarters in touch with distant construction, assisting in the rapid delivery of material, that the "Canadian Engineer" recognized it had a duty to perform in assisting such an educational campaign.

Two years ago those interested in independent telephones decided that such an important movement should have a journal devoted exclusively to such interests, and the "Telephone Age" was brought out as a monthly devoted to the furtherance of the independent telephone. During these two years much has been accomplished. Three Canadian Provinces have adopted a system of Government controlled lines. In the other Provinces the "independent line" has strung wires in nearly every district, competing successfully with their great rival.

Because of this change in the situation the "Telephone Age" feels it has served its purpose, and has decided to cease publication. During the period in which the "Telephone Age" looked after the interests of independent 'phone the "Canadian Engineer" devoted but little space to the questions connected with telephone construction and expansion. With this issue we again take up that work. By special arrangement we now take over the complete mailing list of the "Telephone Age." For the first time many readers of the "Age" will receive a copy of the "Engineer," but we hope to make our journal appeal to this new class without in any way neglecting the interests we have provided for in the past.

In our Construction News section we have opened a new department, Telephony. Here items of news interest will be found from time to time, and in our editorial pages there will appear articles describing telephone construction and operation.

As we have become a necessity to the civil engineer and general contractor, so we hope to become a necessity to the telephone engineer and telephone contractor.

# THE ENGINEER'S OPPORTUNITY.

Engineering is underrated. It is still hard for some to estimate the value of a trained and experienced engineer. In this country of immense open spaces, unmeasured natural resources and great inland seas and navigable rivers is the engineer's opportunity. But he must be prepared for the test.

Incentive for the engineer to study is great at the present time. No matter to which section of Canada you turn, crude forces and huge stores of natural wealth lie ready to lend themselves to processes that create wealth and concern themselves with the larger movements of