

The Canadian Engineer

ESTABLISHED 1903

Issued Weekly in the Interest of the
CIVIL, MECHANICAL, STRUCTURAL, ELECTRICAL, MARINE AND
MINING ENGINEER, THE SURVEYOR, THE
MANUFACTURER, AND THE
CONTRACTOR.

Managing Director.—James J. Salmond.

Managing Editor.—T. H. Hogg, B.A.Sc.

Advertising Manager.—A. E. Jennings.

Present Terms of Subscription, payable in advance:

| Canada and Great Britain: | | | United States and other Countries: | | |
|---------------------------|---|--------|------------------------------------|---|--------|
| One Year | - | \$3.00 | One Year | - | \$3.50 |
| Three Months | - | 1.00 | Six Months | - | 2.00 |
| Six Months | - | 1.75 | Three Months | - | 1.25 |

Copies Antedating This Issue by More Than One Month, 25 Cents Each.
Copies Antedating This Issue by More Than Six Months, 50 Cents Each.

ADVERTISING RATES ON APPLICATION.

HEAD OFFICE: 62 Church Street, and Court Street, Toronto, Ont.
Telephone, Main 7404 and 7405, branch exchange connecting all departments.

Montreal Office: B33, Board of Trade Building. T. C. Allum, Editorial Representative, Phone M. 1001.

Winnipeg Office: Room 404, Builders' Exchange Building. Phone M. 7550.
G. W. Goodall, Business and Editorial Representative.

London Office: Grand Trunk Building, Cockspur Street, Trafalgar Square,
T. R. Clougher, Business and Editorial Representative. Telephone
527 Central.

Address all communications to the Company and not to individuals.

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

The Canadian Engineer absorbed The Canadian Cement and Concrete Review in 1910.

NOTICE TO ADVERTISERS.

Changes of advertisement copy should reach the Head Office two weeks before the date of publication, except in cases where proofs are to be submitted, for which the necessary extra time should be allowed.

Printed at the Office of The Monetary Times Printing Company,
Limited, Toronto, Canada.

Vol. 21. TORONTO, CANADA, OCT. 19, 1911. No. 16.

CONTENTS OF THIS ISSUE.

Editorial:

| | |
|---|-----|
| The Toronto Hydro-Electric Commission | 457 |
| Grand Trunk Pacific Contracts | 458 |
| The Appointment of a City Engineer | 458 |
| Indians and Their Place in Canada | 458 |

Leading Articles:

| | |
|--|-----|
| Minneapolis Mechanical Water Filtration Scheme.. | 445 |
| Principles of Flight | 447 |
| Graphite in Province of Quebec | 440 |
| Earth Roads, Construction and Maintenance..... | 451 |
| Reinforced Concrete Pipes | 454 |
| Concrete and Steel Ties | 455 |
| Progress of the G.T.P. | 459 |
| Metallurgical Comment | 460 |
| The Direct Production of the Molybdenum Steel.. | 461 |
| The Care and Use of Explosives | 464 |
| Combustion of Fuel | 464 |
| Canadian Manufacturers' Association | 465 |
| Sewage Disposal by Gasification | 467 |
| A Design of Mixer Outfit | 468 |
| The Electrical Production of Nitrogen | 469 |
| The Good Roads of Madison Co., Tenn. | 470 |

| | |
|-----------------------------|-------|
| Personal | 471 |
| Coming Meetings | 472 |
| Engineering Societies | 472 |
| Construction News | 59 |
| Railway Orders | 66 |
| Market Conditions | 24-26 |

THE TORONTO HYDRO-ELECTRIC COMMISSION.

The thought strikes us as we pass along some of the ill-lighted streets in Toronto, what have the Toronto Hydro-Electric Power Commission been doing since their appointment? This commission of three, one appointed by the city, one by the Hydro-Electric Commission of Ontario, and the Mayor of Toronto, ex-officio a member, were expected to do something towards quickly installing and getting in operation the new electrical system in Toronto to compete with the Toronto Electric Light Company. Toronto, however, has repeated here the mistake made so many times before. Neither of the Commissioners has the qualifications which fit him for organizing and pushing this work. Each Commissioner, too, has so many other interests that as a result he has had no time to devote to this work.

The Commission at present is composed of Mr. P. W. Ellis, Mr. H. Drayton, and Mayor Geary. A short time ago, during the Coronation in England, the whole Commission were absent from the city for some time, and this, too, when it was most essential that some of their number should be constantly there to look after the work.

Is it any wonder, then, that the work of the City Hydro-Electric Department is proceeding so slowly, with a Commission at its head composed of a business man, who is looking after his own business, and is chairman of another Commission (the Queen Victoria Niagara Falls Park Commission); a lawyer, the corporation counsel for Toronto, with its attendant duties, and the Mayor of the city?

It certainly appears that a very little judgment could have secured a more balanced Commission.

Here is an expenditure of two and a half million of dollars of the people's money, and the work is dragging along so that it will be years before the system is complete. In the meantime, interest charges are accumulating and new contracts with the Toronto Electric Light Company must be signed, contracts in which the city will certainly be mulcted.

What has the city received so far to show where the money has been spent? Work is being done in practically all parts of the city, and even up in North Toronto. This work, however, has been too scattered to be effective, and as a result little new private business can be taken on. At the same time, the Toronto Electric Light Company is continually taking on new business and making itself stronger each day.

The city of Toronto must bestir themselves or they will find themselves in a very bad predicament. They are buying power from a commission who are in turn buying from a private company, and they are installing a new system to compete with a plant already in operation with the equipment complete, a company which generates, transmits and sells its own power.

With this danger staring them in the face, it would appear that the \$8,000 a year paid to this Commission in salaries would be much better spent by appointing a new Commission who are unencumbered with other work, and who will devote their whole time to the work of the Commission.

We would suggest that the Commission be reorganized at once, and that the Mayor and the Corporation Counsel be dropped. This Commission should be composed of men who will devote time and energy to this work. The new street railway system of the city might then be placed under the control of the new Commission.