The Canadian Engineer WEEKLY

ESTABLISHED 1893

VOL. 15.

TORONTO, CANADA, NOVEMBER 6th, 1908.

No. 45

The Canadian Engineer

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 : United States and other Countries : Canada and Great Britain : United States an\$2.00One Year1.25Six Months0.75Three Months \$2.50 1.50 1.00 One Year Six Months Three Months

ADVERTISEMENT RATES ON APPLICATION.

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

Montreal Office: B32, Board of Trade Building. T. C. Allum, Business and Editorial Representative, Phone M 2797.

Winnipeg Office: Room 315, Nanton Building. Phone 8142. G. W. Goodal 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, NOVEMBER 6th, 1908.

CONTENTS OF THIS ISSUE.

Editorials:

R

E

E

C

M

Medical Attendance in Camps	777
Georgian Bay Ship Canal	777
Curriculum of the Engineering College	778

Leading Articles:

Canadian Northern Railway Report	778
Construction and Maintenance of Water System	779
Independent Telephone Companies	782
Design of Canal Diversion Weirs	783
Painting Cement Surfaces	789
City and Town Lots	789
Life of Manganese Steel	790
Inspection of Structural Steel	791
Hydraulic Mining in Yukon	794
Ideal Relations with Contractor	796
Lindsay Ozonization Plant	798
Correspondence	799
illway Orders	800
ilway Orders	801
gineering Societies	802
gineers' Library	804
nstruction News	805
arket Conditions	

MEDICAL ATTENDANCE IN CONSTRUCTION CAMPS.

Reports from certain sections along the G.T.P. indicate the existence of an epidemic of typhoid fever. Every autumn the disease is more or less prevalent among the men in railway camps or other large construction works.

The outbreak of any infectious or contageous disease in out-of-way places brings into the limelight the antiquated methods too frequently adopted by shortsighted contractors in dealing with men in times of sickness. The law allows the contractor to deduct from the men's pay a limited fee, for which in return he must provide medical attendance, etc. Some contractors do better for their men than the law requires, but frequently it would be better for the men and more satisfactory to the contractor if the medical attendants on railway construction work, in lumber camps and large public works were under the control of the Provincial Board of Health. Every doctor on such work would then become an officer of the Board of Health. A regular inspection by such an official would reveal conditions-conditions that could be much improved with very little expense, and sickness would be prevented, the spread of disease checked, and the men would take more kindly to those engaged as camp doctors.

As it is now, men have a horror of the "contract doctor's" hospital. No matter what is done, they look upon it as a money-making scheme, and when they take sick they make every effort to reach civilization rather than go to the hospital provided, and frequently, when they reach the outside world, they are a hopeless case, as far as the doctor is concerned.

With the same fee collected and returned to the Provincial Board of Health a complete central organization would be established, better doctors could be provided, more precautionary measures taken, and the men would be better satisfied.

THE GEORGIAN BAY SHIP CANAL.

Recently the interim report on the Georgian Bay Ship Canal has been printed and distributed, and, although many summaries of this report have appeared, yet we think the subject of sufficient importance to deal with at some length, in view of the fact that the Premier of Canada mentioned it as Canada's new great public work.

The projected waterway is designed for vessels 600 feet long, 60 foot beam, and a draft of 20 feet. This would necessitate a waterway at least 22 feet deep and canal locks 65 feet by 650 feet.

The route surveyed is some 440 miles long, of which from 410 to 420 miles follows the course of rivers and lakes, leaving about 28 miles for cut canal. Leaving the Georgian Bay, the route follows the French and Pickerel Rivers and enters Lake Nipissing. From Lake Nipissing a cut three-quarters of a mile long is made into Trout Lake, thence into Turtle Lake, the Little Mattawan River and Talon Lake, and from Talon Lake a canal is cut into the Mattawan River, which is utilized until the Ottawa is reached, which river is used to Two Mountain Lake, and from there to Montreal.