

# The Canadian Engineer

Established 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

ALBERT E. JENNINGS  
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 of this Issue

	PAGE
Engineering Possibilities of Circular Housing Plan, by G. J. Lamb .....	193
Woodstock Filtration Plant .....	196
Final Tests of the Quebec Bridge .....	197
Essex Border Intercepting Sewer .....	198
Canada's Shipbuilding Effort .....	198
Financing Road Work in Saskatchewan, by H. S. Carpenter .....	199
Engineering Commission to Study New Mississippi River Crossing .....	201
Water Supply for Saskatchewan, by G. D. Mackie.....	201
Stadia Surveys in the West, by G. C. Cowper.....	203
Transportation During the War .....	206
Letter to the Editor .....	207
Hamilton City Engineer's Report .....	207
Hamilton Waterworks Statistics .....	208
Financing Road Improvements, by A. McGillivray.....	209
Method of Keying Sections of Concrete Dam, by F. P. Fifer .....	210
Peace River District: Its Resources and Opportunities. Construction of Concrete Ships for Emergency Fleet Corporation, by R. J. Wig .....	211
	212

## PEAT COMMITTEE REPORTS PROGRESS

PROGRESS is being made by the Peat Committee of Canada,—but no peat. Unfortunately this committee was appointed too late to be a factor in the coming winter's fuel supply for Ontario. Moreover, if the present limited plans are followed, this committee will not be a factor in the fuel supply for the winter of 1919-20. It will be the winter of 1920-21 before any considerable quantity of peat is on the market, and by that time public interest in the enterprise may be thoroughly chilled.

The Dominion government owns a large peat bog at Alfred, Ont., where exhaustive experiments were conducted some years ago and about 3,000 tons of standard peat fuel were manufactured and sold to householders in Ottawa and neighboring municipalities. The bog was then turned over to a private company for further development, but the company spent all of its money in getting ready to operate and had no capital left to carry on the enterprise; its plant was junked.

"The results of the manufacturing operations conducted at Alfred indicate that with strict business management, peat could be manufactured for \$1.70 per ton in the field. This figure includes all charges such as interest on investment, amortization, etc.," writes B. F. Haanel, who is one of the four members of the Peat Committee of Canada. In view of this fact, should not either the Dominion government or the Ontario government

have adopted more vigorous measures to manufacture peat fuel during the present summer?

The Peat Committee is doing very good work, as good work as can be done under the limited program laid down by the two governments, but the question arises as to whether or not that program is inadequate to meet the needs of the situation.

Not more than 120 sun-drying days per annum can be depended upon in Ontario in the manufacture of peat, and the last of those days of this calendar year are slipping by with no prospect of any peat being laid out to dry.

When the committee was appointed last spring, their first task was to design a modern machine. Ernest v. Moore, of Montreal, was engaged as consulting engineer to design two plants. One of these will be very similar to the one he built at Alfred, but re-designed in the light of the experience there obtained. The other is an entirely new design, which, if successful, will no doubt prove a distinct step forward in the manufacture of machine peat fuel. It is a device that will excavate the peat, lay it out to dry, do the necessary marking into cubes and, when the peat is dry, harvest it into a pile. "The one piece of apparatus will do all this work," says Mr. Moore, "and it will be more simple and less costly per ton of output than any peat plant known to date."

After these plants were designed, manufacturing arrangements were made by the Committee. The factory of the William Hamilton Co., at Peterborough, Ont., is being largely devoted at present to the requirements of the Committee. The two plants will cost about \$45,000, but neither of them is likely to be ready for extensive operation this year. It is expected that the two plants will produce a minimum of 20,000 tons next year, and the present program does not call for any additional plants to be put into operation.

As the fuel value of peat, compared with the average available anthracite, is as 1:1 8/10, 20,000 tons of peat will replace less than 12,000 tons of anthracite coal during the winter of 1919-20. The governments' present idea is to see whether this 20,000 tons of peat, manufactured at Alfred under commercial conditions, can be sold through ordinary dealer channels, or by some other entirely commercial means, so as to compete satisfactorily with other fuels. If the new peat plant is demonstrated to be a commercial success (the government experts have no doubt about its success from a manufacturing standpoint), the governments do not intend to go into the peat business. They intend to leave it to private individuals who own peat bogs throughout Ontario, and who, aided by the official balance sheet in regard to those 20,000 experimental tons, may be able to secure capital to develop their bogs as private enterprises.

Assuming that the experimental sales made in the winter of 1919-20 are commercially successful, it is quite doubtful whether private financial arrangements, and the manufacture of additional plants for private companies, can be carried out with sufficient rapidity to enable those private companies to make any considerable amount of peat fuel even for the winter of 1920-21.

Peat appears to be a most desirable fuel from every standpoint excepting its bulk, and with the present fuel scarcity, no one is likely to complain about that. Its calorific value is about 7,000 B.t.u.'s as compared with 12,500 for anthracite (or probably 10,000 for the average anthracite received in Canada last year). There is no clinker from peat, it ignites very readily, and its ash is very fine.

Raw peat contains 88% water, and as the material is of a colloidal nature, not one-sixth of the water can be pressed out; yet in some way the moisture content must