

# The Canadian Engineer

Established 1893

A Weekly Paper for 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

President and General Manager

JAMES J. SALMOND

Assistant General Manager

ALBERT E. JENNINGS

HEAD OFFICE: 62 CHURCH STREET, TORONTO, ONT.

Telephone, Main 7404. Cable Address, "Engineer, Toronto."

Western Canada Office: 1206 McArthur Bldg., Winnipeg. G. W. Goodall, Mgr.

## PRINCIPAL CONTENTS

	PAGE
Hydro-Electric Development at Ranney's Falls	457
Sumas Lake Reclamation Project	460
Alumina Hydrate in Mechanically Filtered Water, by N. J. Howard and Frank Hannan	461
Road Location, by R. T. Brown	463
New Brunswick's "Engineering Profession Act"	465
New Development in Surface-Treated Concrete and Stucco, by J. C. Pearson and J. J. Earley	468
Judge Fines City of Hull	469
Steam Reserve for Ontario Hydro	469
Operating Data on Large Shovels at Queenston Development, by L. C. McLure	470
Personals and Obituaries	473

## ALUMINA IN MECHANICALLY FILTERED WATER

**E**XHAUSTIVE work carried out in the laboratories of the Toronto filtration plant appear to indicate that it is impossible to remove completely decomposed alum from mechanically-filtered water. The experiments undertaken involved the examination of numerous samples of mechanically-filtered water, and both artificial and practical tests were embodied in the research work. All samples showed a positive alumina reaction. In the laboratory tests it was observed that six thicknesses of the most sensitive filter paper temporarily decreased the reaction, but as saturation became complete and the negative charges of the filter paper became neutralized, alum passed through freely.

The contention that colloidal alumina cannot be removed from the effluent of mechanical filtration plants was seemingly proven in a most illuminating manner when a solution of the positive colloid, methylene blue, was passed through filter papers and identical results obtained. Variations in the rate of filtration produced no differences in the reaction.

At present there is probably no more complex study in chemistry than that of colloids. Sanitary engineers and chemists, particularly those engaged in the purification of water supplies, will read with much interest the article by Messrs. Howard and Hannan on page 461 of this issue.

The whole question of the ultimate fate of decomposed alum, or the actual form which it finally takes, is largely a matter of conjecture. Sanitarians seem to be satisfied, however, that whatever the nature may be which it finally assumes, the ultimate product is harmless. No doubt the opinion expressed by the authors of the valuable article above mentioned, that residual alum cannot be completely removed, will not be accepted by all water engineers and chemists, but it at least appears to have been clearly demonstrated that its removal from the Toronto water is im-

possible unless further knowledge of the subject becomes available. However, the subject is being by no means abandoned by the laboratories of the Toronto filtration plant. The active research work that has been carried out for the past nine years by the city of Toronto in these very efficient laboratories is being continued, and the study of the colloidal properties of aluminium will be one of the many highly technical problems which will be further investigated.

## GEN. CURRIE AND MCGILL UNIVERSITY

**I**N an "Associated Press" despatch from Montreal it is stated that Gen. Sir Arthur Currie, inspector-general of the Canadian forces and formerly commander of the Canadian Corps in France, has been offered and has accepted the appointment as principal of McGill University. No official announcement has as yet been made by the authorities of the University, but it is stated that the Board of Governors met last Monday to consider the matter.

If confirmed, this appointment will create a precedent, as Gen. Currie is not a graduate of any university, although he had an education which qualified him as a teacher in a high school in British Columbia, which position he held for six years before entering the real estate business. This was, of course, long before he found his real metier as a soldier.

Gen. Currie's appointment would undoubtedly be immensely popular and of distinct advantage to McGill University, not only because of his military record, but also because of his business and executive ability, his commanding personality, his talent as a speaker and a writer, and the warm place which he occupies in the hearts of the Canadian public, who will long remember his valiant, indefatigable services during the war.

The Board of Governors of McGill University cannot possibly make any other appointment that would meet with the general approval that will be shown throughout Canada if the newspaper announcement is officially confirmed. They are to be congratulated if Gen. Currie has agreed to accept the position, for they will have secured the services of one of the greatest characters in Canada's history; and Gen. Currie also is to be heartily congratulated, for the prestige of McGill is great, and his election as its head will be second to no other honor that he has yet received, many though they have been.

## Letters to the Editor

### BIG DEMAND FOR ENGINEERS

Sir,—I was much interested in reading amongst the "Letters to the Editor" in your number of the 15th April, a letter from Mr. Heywood, of the Toronto Harbor Commission's staff, commenting upon my recent address to the High School teachers of Ontario, extracts from which you published in the same number.

Two extracts from my address were selected by Mr. Heywood and quoted in his letter, which, as I remember, are correctly reported. Taking these, to which he makes objection, I do not think that anyone who has vision for the development of Canada in her great resources both material and human, can deny that there is a future for our young men in those pursuits "wherein applied science and engineering knowledge and ability are required." If we are to keep our young men in Canada—and we all want this, I am sure—we must educate the right type and educate them properly, and that is why I said in my address that "a special effort should be exerted to direct the proper type into these professions."

Mr. Heywood considers that the statement is incorrect and misleading wherein I said that "Fear that various branches of the engineering profession may become over-