

## Editorial

### MORE CANADIAN REFINERIES NEEDED.

Canada, and the whole British Empire, would be strengthened industrially and martially by the establishment of more refineries and metallurgical plants within the Dominion, so that Canadian ores can be utilized without the aid of foreign refineries. This is one of the most important steps required in meeting after-the-war problems. It is to be hoped that the Dominion Government will help to establish more Canadian refineries at once. Careful inquiry should be instituted to reveal the best form in which such help can be given, whether by legislation forbidding exports of unrefined ores, or by bonuses or loans to refineries. The views of ore-producers, managers of existing refineries, owners of undeveloped ore properties, metal merchants and consumers, and bankers should be obtained by the government without further delay. A good start has been made in the policy adopted toward nickel refining in Ontario, but this policy should be extended to other ore resources and to other provinces.

The mining committee of the Vancouver Board of Trade has submitted a resolution to the government asking for legislation that will assist in the treatment of the many mineral products in which that province is so rich. The assistance should be given at as early a date as possible consistent with judicious enquiry as to whether the aid can best be rendered in the form of legislation.

British Columbia now refines but a small portion of the ores that could be produced from that province were adequate metallurgical works built to aid development. The present annual production of British Columbia lead is about 32,000 tons, most of which is refined at Trail, but the Vancouver committee states that there are important deposits of lead ores on the coast and along the route of the Grand Trunk Pacific which cannot be treated economically for want of smelting accommodation on the coast.

The copper production of British Columbia will soon be about 70,000 tons per annum. There are only two small copper refineries in the province, and at the present time six-sevenths of the copper produced must be shipped to foreign refineries.

About 5,000 tons of zinc ore are mined each year in British Columbia in excess of the present refinery capacity, and there are important zinc deposits on the coast and tributary to the Grand Trunk Pacific Railway which could be developed were spelter refining works available. Such plants could also handle Australian and other imported zinc ores, of which about 15,000 tons recently passed through the port of Vancouver en route to foreign spelter works.

Among the other metals which can be produced in British Columbia in greater quantities were adequate facilities provided for their treatment, are antimony, chrome, iron, mercury and molybdenum.

The Vancouver committee, which has rendered a public service in calling the attention of the government to these important facts, also suggests that an investigation be made of the refractory earth and clay deposits available for the manufacture of retorts suitable to the Belgian process for zinc ores not adapted to electro-chemical processes.

The essential requisite for most of these refineries, however, is cheap hydro-electric power, which is abundantly available in British Columbia. There are a number of hydro-electric plants already in operation in that province which cannot find a suitable market for all of the energy that they can readily produce, and the establishment of more refineries would do much toward placing some of these companies upon a more profitable basis, and would also mean the early development of more water powers.

### RE THAT SWAIN DISCUSSION.

In a letter concerning the appointment of Prof. Swain to the Railway Board of Inquiry, a correspondent refers to "an interview with Sir Henry Drayton which you got and which was published on page 239 of your issue of September 21st, 1916."

Upon referring to the interview above mentioned, we regret extremely to note a serious error in the printing of that "interview," viz., that we overlooked stating the fact that the interview had not been obtained from Sir Henry Drayton by *The Canadian Engineer*, and that it was merely a reprint of an interview which Sir Henry Drayton had given out to the Canadian press and which had been previously published in the daily newspapers.

The interview published in *The Canadian Engineer* was copied verbatim from *The Toronto Globe* of Wednesday, September 13th, 1916, and *The Toronto Telegram* of Tuesday, September 12th. *The Canadian Engineer* had not been in touch in any manner with Sir Henry Drayton or any other person regarding this appointment. The oversight in not crediting the above "interview" to the Toronto newspapers has evidently led to one or two misunderstandings which we trust this explanation will rectify.

### FLAT-SLAB CONSTRUCTION.

The collapse of a flat-slab reinforced concrete building in the recent Quaker Oats fire at Peterborough, caused many engineers to question the fire-resisting qualities of that type of construction. The flat-slab type was first officially recognized in a building code by Chicago only as recently as 1914, so that, while it was claimed to be as fireproof as any other type of construction, the Peterborough fire caused some apprehension.

As thirteen flat-slab buildings (with a total permit value of \$1,872,000) had been erected or started in Toronto during the past year, T. D. Mylrea, assistant city architect of Toronto, made a thorough investigation into the causes of the Peterborough collapse.

Mr. Mylrea found that it would be easier to explain why the Quaker Oats warehouse fell than why the Edison buildings stood. Evidence showed that temperatures of over 2,000° F. had penetrated two inches of concrete, and that the working strength of the steel had been reduced by about 80%. "In the columns this would not be of such grave importance as in the floor slabs," says Mr. Mylrea, "but it is probable that the floors failed first and carried the columns with them. It is possible that the depth of the beams and girders and the short spans of the floor