Editorial

UNITED STATES PROTESTS ONTARIO'S NEW POWER SCHEME.

Protesting against the diversion of water from the Niagara rapids, as planned by the Ontario Hydro-Electric Power Commission, Secretary-of-State Lansing of the United States has written an official "note" to the British Government. He says that not more than 40,000 second-feet can be diverted from the rapids without damaging their scenic beauty, and that it is therefore important to come to an understanding regarding a diversion of even 6,500 second-feet.

The Boundary Waters Treaty, which was ratified May 13th, 1910, by the United States and Canada, specifies that the United States can divert 20,000 cubic feet of water per second, and Canada 36,000 second-feet, from above Niagara Falls, for power purposes. Up to the present time, all the water that has been so diverted by the plants located at Niagara Falls, has been returned to the Niagara River above the rapids. But there is nothing in the treaty to specify just where the water is to be returned—whether above or below the rapids.

The Ontario Commission plan to divert about 6,500 second-feet from above the Falls, and to return the water (via a new channel) at a point near Queenston, below the rapids. Now Secretary Lansing reads the words "and return the water below the Falls and above the rapids" into the treaty.

If the treaty can possibly be construed in the meaning taken by Secretary Lansing, then the United States itself is by far the more serious offender, and has clearly established a precedent for diversions such as Ontario proposes. Between fourteen and fifteen thousand second-feet are being diverted down the Mississippi by the Chicago Drainage Commission. This is water which is diverted "above the Falls" and which is certainly not returned to the Niagara River above the rapids. It is used "for power purposes" too—under 16-foot head.

Then there is the Erie Canal. The treaty permitted 500 second-feet to be diverted into the Hudson River, and that 500 second-feet is not returned above the rapids. Power is also developed with that water, and it is stated that more than 500 second-feet are now being illegally diverted for that canal. And, as a matter of fact, only 4,000 second-feet are permitted for the Chicago Drainage Canal according to the treaty, the other 10,000 second-feet now being illegally used.

Even in Canada there has been precedent for such diversion without "return above the rapids." About 1,000 second-feet are used by the Cataract Power Company for the Welland Canal power development at De Cew Falls.

Diplomatic correspondence will result for some months, probably, as a result of the United States note, but there is no doubt of the outcome. The Hydro Commission plant—which will develop 300,000 h.p.—will be built.

A larger plant than 300,000 h.p. cannot be built now because the existing Canadian companies own rights aggregating 29,390 second-feet, and the present treaty allotment specifies a total diversion of 36,000 second-feet. The Commission might at some time, perhaps, buy out one of the companies and so increase its plant to 600,000 h.p., which is the amount that will really be soon required.

As exclusively reported in the December 9th, 1915, issue of *The Canadian Engineer*, an order-in-council apportions the volume that may be used by the companies as follows: Canada Niagara Power Co., 8,225 second-feet; Electrical Development Co., 9,985 second-feet.; Ontario Power Co., 11,180 second-feet.

The United States has no grounds upon which to protest the Ontario Hydro's scheme, and after proper representations are made through the usual diplomatic channels, will undoubtedly gracefully acknowledge the error. Canada would have no objection to a diversion from the rapids of a similar amount by the United States, provided that in so doing the United States does not exceed the 20,000 second-feet allotted by the treaty. There is no reason, however, why the United States should ask Canada for an additional 6,500 second-feet allotment as the price of consent.

CORRECTION.

In a small "filler" paragraph at the bottom of a page in our issue of April 6th, 1916, it was carelessly stated that "The asphalt deposits found at Trinidad and the Red Sea are practically pure bitumen." The word "are" should have been "contain," as it is, of course, generally known that about 40 per cent. of Trinidad and Red Sea asphalt is not bitumen.

A reader of *The Canadian Engineer* has called to our attention the importance of making this distinction between "are" and "contain," because bitumen is the content upon which asphalt depends for its binding power, and therefore upon the percentage of bitumen in any asphalt depends the amount of sheet asphalt, asphaltic concrete or asphaltic macadam that can be laid with a ton of the asphalt.

LOAD OF VEHICLES ACT.

The province of Ontario has recently amended "The Load of Vehicles Act" for the purpose of regulating and limiting the load which vehicles will be permitted to carry upon the public highways.

The bill, which was originally introduced in 1915, was discussed and allowed to stand over for a year. When it was brought up again this year it was referred to a sub-committee for discussion, given its final reading, and is now law.

While a number of the States of the Union as well as certain European countries have a similar act, Ontario is the first of the Canadian provinces to make it a provincial measure.

In the early days of the good roads movement, an attempt was made to increase the width of tire and in this way limit the load per inch, but because of the large investment in narrow-tired vehicles regulations of that character seemed impossible of application.

Within the last few years the heavy motor truck has come to be more generally used. With its load of from four to eight tons, it has created new conditions with each succeeding increase in size and load, and each year the question of methods of regulating the wear and tear on our highways has led to more and more confusion.