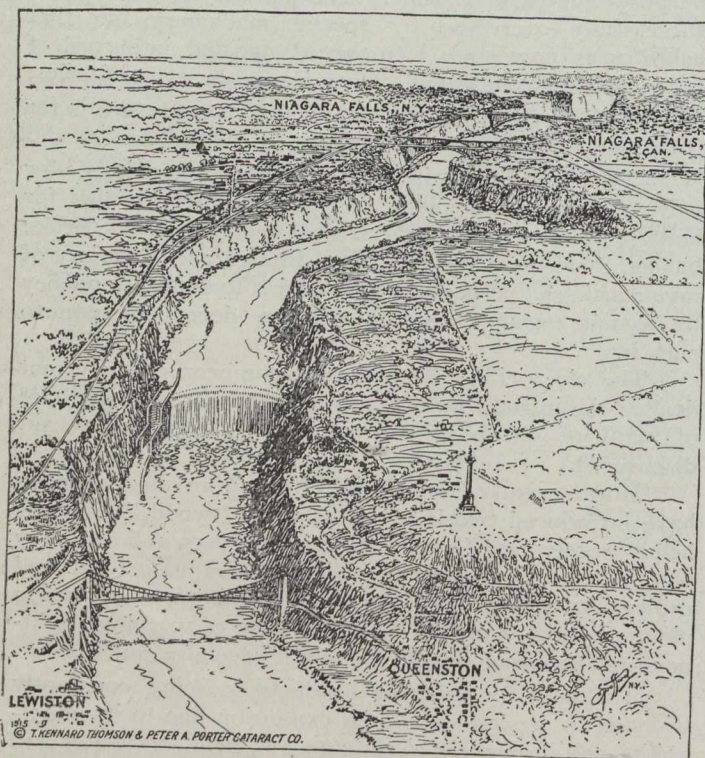


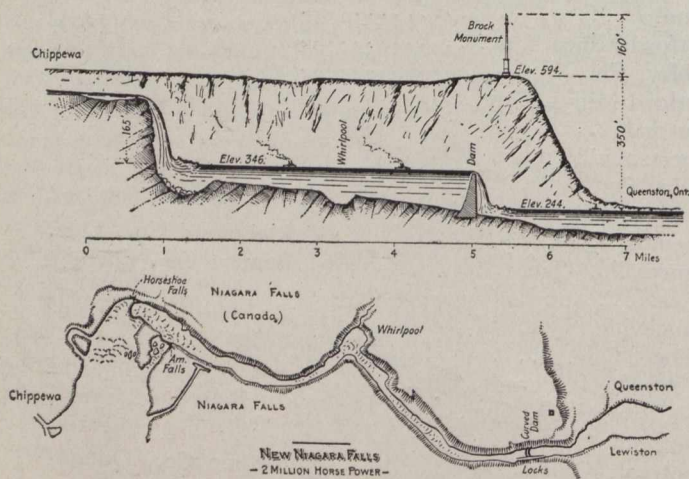
THE THOMSON-PORTER NIAGARA RIVER DEVELOPMENT PROJECT.

THE proposed scheme for developing 2,000,000 h.p. from the Niagara River at a point near Queenston (as outlined in *The Canadian Engineer* for August 12th, 1915, page 261) is illustrated in the accompanying sketches. The plan is that of Dr. T. Kennard Thomson, consulting engineer, New York, and was pre-



Sketch Showing Location of the Proposed Dam on the Niagara River.

sented by Mr. Peter A. Porter to the New York Legislative Commission last August. The estimated cost of the proposed undertaking was about \$100,000,000. It is suggested that the State of New York and the Pro-



Plan and Elevation showing Method proposed by Dr. T. Kennard Thomson of Utilizing the Lower Niagara River for Power Purposes.

vince of Ontario undertake the project jointly or grant the right to a private corporation, which would pay a fixed tax on the amount of power developed.

From the foot of Niagara Falls to the end of the Gorge above Queenston the river drops about 100 ft., the distance being about five miles. The plan, as explained to *The Canadian Engineer* by Dr. Thomson, calls for a dam rising 90 ft. above the existing water level at that point, and providing a sufficient head to generate the quantity of power mentioned above. The dam would impound water almost to the foot of the Falls, necessarily increasing the width of the river considerably at various points along the five-mile stretch, but not interfering with or detracting in any way from the scenic value of the Falls.

At the site of the proposed dam the water is approximately 35 ft. deep. The structure is designed with a length of about 1,000 ft., and will be of curved alignment to divert the stresses toward the anchorage on either shore.

No subsurface borings have as yet been made to ascertain the nature and depth of the river bed, which on its surface at least is of rock, scoured bare. The dam will necessarily require heavy foundation and footings, and underlying rock work will involve some unusually difficult cofferdam work. Connected with the finished dam the plan calls for a canal of four suitable locks to provide a commercial highway which the industries along the banks of the river would in time require.

EXPLOSIVES FROM WOOD PULP.

Experts at the wood pulp mills are much interested in wood pulp which they understand has been developed by a German scientist. Some of the paper mills have correspondents in Norway and Sweden, where they have sought to obtain pulp, and thus keep in close touch with what is transpiring in their industry across the ocean.

It is understood the German scientist was seeking to utilize wood pulp as a substitute for cotton in the manufacture of explosives, and that he has thus succeeded in opening up an entirely new field for wood, and a field which may be available for lumbermen in this country who operate in the soft woods suitable for the making of pulp.

Previous experiments in the use of wood pulp in explosives have failed because not all the impurities were removed. The new process, it is understood, is the same in its early stages as the ordinary production of wood pulp. The lumber is ground up, cooked, changed into liquid form, and then by the use of this new process it is carefully and thoroughly cleansed until nothing but absolutely pure wood fiber is left. The material is then rolled into sheets and is ready for the process of nitrification which changes it into a high explosive of tremendous power.

A pamphlet, entitled "The World's Supply of Potash," has been issued by the Imperial Institute of Great Britain. It contains an account of all the more important sources of potash in the world, including the Stassfurt deposits, which before the war had an almost complete monopoly of the entire supply. The information contained in this pamphlet, which is in its way encyclopædic, has been collected at the Imperial Institute in response to commercial inquiries for particulars of new sources of potash in view of the cessation of German supplies. Both the old and the new sources, soluble potash minerals, salt lakes and brines, sea water, vegetable sources, wool washings, nitre earths, and insoluble minerals are described as far as details are available.