

of the enterprise, and it will be carried out under his personal direction. The company will be known as the Mexican Light and Power Company, and, though incorporated in Canada, has also been sanctioned by the Federal Government of the Republic of Mexico. The head offices will be at Montreal. The task of securing the franchise from the Government of Mexico was accomplished by Charles H. Cahan, ex-M.P.P., of the law firm of Harris & Cahan, of Halifax. The company is granted exclusive use of three rivers, and all privileges necessary to transmit the power to the City of Mexico. The amount of power that will be available will be eighty thousand horse-power, forty thousand of which will be ready for use at the end of two years, and the entire amount at the end of four years. The distance is 94 miles and power is derived from the Caxa and Tenango rivers which at one drop near their junction give a head of 1,235 ft., and a few hundred yards from this another drop with an equal head. P. A. Peterson, C.E., of Montreal, has reported on the project and confirms the estimates of the engineers who made the first report.

### A THIRD NIAGARA POWER DEVELOPMENT.

The Ontario Government has granted a franchise to the Toronto-Niagara Power Co., of which W. Mackenzie, H. M. Pellatt and Fred. Nicholls are the chief promoters. Their plan is to develop power and bring it to Toronto, and from the energy and wealth at the command of these men it may be anticipated that the project will be pushed to a successful completion at an early date. The city council of Toronto had also determined to apply for a franchise, but whether, in view of the privilege given to the Toronto-Niagara Power Co., they will press the matter, remains to be seen. The generating station, which will provide 40,000 h.p. will be located at a point between that of the Ontario Power Co.'s and the Canadian Niagara Power Co.'s stations and will be ready for operation within two years. Work on the development will be commenced at once.

### THE TRENT VALLEY WATERWAY.

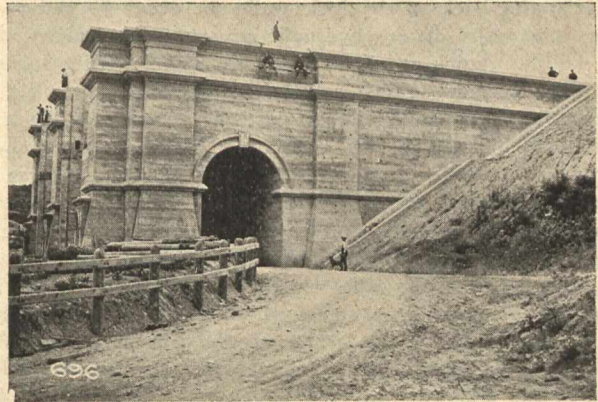
BY R. B. ROGERS, C.E., CHIEF ENGINEER, TRENT CANAL.

The term "Trent Canal" is applied to a projected waterway for barges through central Ontario, to connect Georgian Bay, on Lake Huron, with Lake Ontario, at Trenton, the head of the Bay of Quinte. The distance between these two lakes by the proposed route is about 200 miles. Where canalling is necessary the prism has a width of 50 feet on the bottom, with side slopes of 2 to 1 in earth, and  $\frac{1}{4}$  to 1 in rock.

The locks are 134 feet in length by 33 feet in width. The depth of water at present over the sills is six feet, but all the works are being constructed so that a draught of 8 feet can be obtained at very little extra expense. The capacity of barges drawing 8 feet will be about 800 tons. The water supply is obtained from an immense system of lakes to the north, most of which have regulating dams at their outlets. It is a misnomer to call it a canal, as out of the whole distance of 200 miles not more than 15 or 20 miles will be actual canal—in the remaining part the beautiful lake and river stretches are utilized for the navigable channel. The general line of this canal was that chosen by the Imperial Government for the purpose of opening up a transportation route between the Great Lakes as far back as the year 1825. Large sums of money were spent by the Imperial Government in opening up this route—in fact the Imperial Government actually voted a sufficient sum to complete the route as far as Balsam Lake, but immediately after they had done so the McKenzie rebellion broke out, and the money thus voted was appropriated to quell the rebellion.

Every advantage was taken of the natural features of the river, and the land lying along the route, in order to reach a navigable channel, either by canalizing the river or making flooded reaches. The river with its high rocky banks, from its entrance into the Bay of Quinte at Trenton as far as

Frankford it was proposed to canalize by a system of dams and locks, of which there will be seven, by which means a beautiful, wide and deep navigable channel will be obtained. The route then passes through the river for about four miles to Chisholms Rapids lock. This lock is of masonry, and was built about seventy years ago, but is still in good condition. The route still passes through the river to a point known as Hoard's Creek. From Frankford to Hoard's is at present navigable. From this point it is proposed to strike across the country for a distance of ten miles to Crow Bay. A greater part of this section will be flooded reaches. From its entrance into Crow Bay the route crosses Crow Bay to the river below Heeley's Falls. It is proposed to canalize



Hydraulic Lock, Showing Subway for Road Traffic.

part of this river as far as the Falls, and to surmount the Falls with an hydraulic lift for a height of 53 feet. This brings us into a navigable reach of about 54 miles, at the north end of which is the town of Peterborough. This stretch includes fourteen miles of river navigation as far as Hastings, where there is a masonry lock and dam built by the Imperial Government. The route still follows the river for about six miles, and then about twelve miles through the beautiful Rice Lake, and then about twenty-two miles of as fine river navigation as can be found in any part of Canada to the town of Peterborough, where there is another masonry lock which was built by the Imperial Government. From this point the route stretches across the country to Nassau, on the river Otonabee, a distance of about four miles. The difference in level between these two points is 78 feet, which is overcome by means of an hydraulic lock, of 65 feet, and an ordinary lock of 13 feet. About two-thirds of this section is a flooded reach. From Nassau to Lakefield—a distance of about  $5\frac{1}{2}$  miles—the river is canalized by means of five locks and dams. The section from Peterborough to Lakefield is all completed with the exception of the steel superstructure of the hydraulic lock, which is, however, under construction, and it is expected will be completed about the middle of the coming summer.

From Lakefield the route passes through a succession of beautiful lakes to the entrance of the canal at Balsam Lake, a distance of about 65 miles. The lakes passed through are Katchewanoe, Clear, Stony, Lovesick, Deer, Buckhorn, Pigeon, Sturgeon, Cameron and Balsam. The difference in level between Lakefield and Balsam Lake is about 85 feet, which is overcome by nine locks which are generally placed between the different lakes. From Balsam lake the route strikes across the country for about five miles on a level stretch, when it drops 50 feet into the valley of the Talbot river by means of an hydraulic lock. From this point the route follows the valley of the Talbot river—which is raised some 21 feet—to about the boundary between the townships of Eldon and Thorah. At this point a succession of five locks are met with, which brings us to the level of Lake Simcoe, at a point about three miles north of Beaverton. The sections between Balsam Lake and Lake Simcoe are under contract, and will be completed next year. The route then passes through Lake Simcoe and Lake Couchiching, which are of course navigable, and it will either pass across the