

Editorial

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO NEEDS MORE NIAGARA POWER.

Sir Adam Beck's urgent appeal to the members of the Ontario Cabinet for an early decision regarding the project of the Hydro-Electric Power Commission to develop 300,000 h.p. from the Niagara River, has behind it valid claims of necessity. The Commission does not generate any power at Niagara, but secures its supply by purchase from the Ontario Power Company, through a contract entered into in March, 1908. This contract only covers amounts up to 100,000 h.p. delivered in the Niagara Falls transformer station of the Commission. Such has been the growth of the publicly owned utility that this amount has already been exceeded and, according to Sir Adam, the load recently reached 110,000 h.p.

The industrial and municipal demands upon the Commission's Niagara power supply must be met without hesitation or delay. The quantity of electric power available is a very vital factor at the present time and will continue to be vital in the growth of Canadian industry, serving as the system does the needs of Toronto, Hamilton, Guelph, Dundas, Preston, Berlin, Stratford, London, Woodstock, St. Thomas, Chatham, Welland, St. Marys and a hundred or more other important users. Probably no towns are more favorably situated than those in the Niagara Peninsula for the development of those new and important industries which Canada is now taking up, and which are bound to multiply in view of her enormous resources of the "white coal." Throttling the power supply to those newer industries at the present time would mean retarding the progress of a nation to an irretrievable degree.

The engineers of the Commission have worked out plans for the production of 300,000 h.p. at Niagara, at an estimated expenditure of \$10,000,000. Water will be diverted from Chippewa Creek above the falls and brought by canal to the escarpment near Brock's Monument at Queenston. A total fall of 315 feet will be utilized.

It is intimated that the development will take three years to complete. In view of the projected hydro-radials which the municipalities are so strongly advocating, the construction work, if the project receives the sanction of the Government, should not be delayed. According to Sir Adam, about \$400,000 is necessary for the commencement of the work, which will involve organization, purchasing right-of-way, etc. He has suggested that this amount be raised by bond issue as soon as authority has been granted.

AESTHETICAL DESIGN OF BRIDGES.

We occasionally notice that bridges are designed and erected which are not in harmony with the natural features of the surrounding locality, although it is possible at the same cost, or at any rate at a slightly increased cost, to build on more aesthetical lines. Last week we published a view of the Olympic bridge, Toronto, and no doubt our readers observed with pleasure that due regard was paid in this case to the question of harmonizing the design with the environment. Engineers are reputed to disregard

aestheticism in their designs of steel bridges, and while we do not believe this to be the attitude of engineers generally, we must admit that ornamental designs are not the rule. It is, of course, the questions of economy and stability that frequently control the question of design, but it would doubtless be possible in many instances to introduce features which are graceful and yet connoting strength and durability. When regard is paid to beauty and utility there is no doubt that engineers are just as able to satisfy artistic requirements as the architect. Engineers, however, are usually trained to design and construct bridges and other structures from the utilitarian point of view only, and thus we often find erections which might easily have been made more beautiful at little extra cost. The austerity of design is not symptomatic of the absence of artistic taste, but suggests a tradition inherited by the profession from former days. There are plenty of iron and steel bridges which are recognized as graceful and add to the local attraction. These are to be found in many parts, but a glance through the volumes of *The Canadian Engineer* will go to prove that there is room for more aestheticism in our designs.

There has been a tendency to adopt designs of structures which indicate the maximum economy, and although we are advocates of that virtue, we recognize that structures of magnitude and permanence should receive some artistic treatment. By this we mean that the lines should be simple, graceful and natural, and indicative of durability, stability and usefulness. The most beautiful structure is not necessarily that which is the most ornate, for it is possible to conceive of a structure so lavishly ornamented as to become positively an eyesore. In former days when materials were limited there might have been an excuse for the absence of art and yet the buildings and bridges were not so austere as many of the steel bridges of our time. Roman engineers, for example, built for eternity and paid great attention to the artistic features of their designs. We have a greater variety of materials but our ideals are not quite of the same order.

NICKEL-CHROMIUM WIRE FOR LABORATORY WORK.

Bacteriologists requiring large quantities of platinum wire for routine work in the laboratory, or for the use of student classes, will find nickel-chromium wire of some assistance, according to H. M. Lancaster, B.A.Sc., chemist, Provincial Board of Health Laboratories, Toronto. This alloy heats readily and cools quickly, but is not rapidly disintegrated by repeated heating and cooling. A very useful instrument may be made from a three-inch length of No. 22 B. & S. gauge wire inserted in an eight-inch handle of three-sixteenth-inch aluminum rod. A firm junction between handle and wire may be secured by drilling a small hole slightly larger in diameter than the wire one-half inch deep into the end of the rod, inserting the wire, and, finally, hammering or pinching in a vice until the two are firmly joined. Wire of any other gauge may be used if desired.

Nickel-chromium wire in all gauges is supplied by any of the larger firms dealing in such alloys. It may be obtained from manufacturers of electrical supplies, as it