

ture the air admitted to the ozonizer. Mr. Bridge has found that while a larger output of ozone results from drying the air admitted to the ozonizer, the difference is not enough to justify the cost of operating a refrigerating machine, or even of installing any of the chemical dryers used elsewhere. It is by the cutting out of an air-pump, which costs twice as much to operate as does the ozonizer, and the elimination of an air-dryer, that the Howard Bridge system has demonstrated its superiority to that tested by the officials of New York City, who showed that the cost of ozone in water purification is only 25 per cent. of the whole, the remaining 75 per cent. being used up by the air-pump and refrigerating machine.

In regard to the efficiency of the Lindsay plant, there can be no question as to its having already met the chief conditions called for in the contract made with the town—that the plant “will successfully purify to an absolutely safe extent, from a sanitary and public health standpoint, the water to be supplied through the said waterworks system, and will remove all objectionable color, taste and smell from the said water, and will destroy all germs or constituents which shall prove dangerous or shall be liable to prove harmful to the health of the people using the same, and shall be bright and clear and palatable to the taste, and shall not be rendered in any way injurious to the waterworks system, or the piping thereof by reason of passing through the said process.” The effluent of the plant is clear, bright and palatable, and it is free from objectionable color, taste and smell. Presumably it is also free from noxious germs, as the bactericidal properties of ozone have been so abundantly demonstrated as now to be accepted as a matter of course. An elaborate series of bacterial tests are about to be conducted at the Lindsay plant by Dr. Amyot, official bacteriologist of the Province of Ontario, which will be made public in due time. In the meantime the eyes of sanitarians and hygienists throughout the United States and Canada are directed to this first municipal ozone purification plant on the American continent, which, if it fulfils its present promise, may revolutionize all accepted ideas of the purification of public water-supplies and its costs.

## SOCIETY NOTES.

### Engineer Society, McGill University.

The importance of the business end of engineering is becoming constantly of greater importance, and, recognizing this, the Faculty of Applied Science of McGill University has added to its curriculum a course of lectures dealing with that topic. The lectures will be delivered by Mr. Robert A. Ross, E.E., of Messrs. Ross & Holgate, of Montreal. Mr. Ross will deal with the relation of engineering to business, with money and credit as applied to engineering, with the business organization and the operation of companies, the purchase and sale of material, with the booking and accounting of engineering, and with estimates, specifications, contracts and reports. Mr. Ross has had an extensive experience in the branches upon which he will lecture.

### Engineering Society, Toronto University.

On October the 31st the Engineering Society of Faculty of Engineering, Toronto University, held their annual excursion. This year they visited the large manufacturing plants and extensive engineering works of the city of Buffalo. Dean Galbraith, Prof. C. H. C. Wright, Prof. H. E. T. Haultain, and R. Marshall, president of the Society; Mr. C. H. Mitchell and Mr. E. A. James accompanied the two hundred and seventy members who took in the excursion.

Buffalo is an ideal city for engineering students to take an excursion to, as large works connected with every branch of engineering are in operation there.

By far the most popular place to be visited was the Lackawanna Steel Company's plant. The visitors were taken through these works in parties of twenty, and were able to follow the complete steel process, from the ore-dump

through the blast furnace, open-hearth furnace, rolls, etc., until the finished rail or angle bar was turned out.

Other points of interest were the city harbor works, city pumping plant, Buffalo General Electric transformer station, International Railway power house, and the Thomas Motor Works.

### Toronto Branch, Canadian Society of Civil Engineers.

The regular meeting of the Toronto Branch was held on October 29th, and a large number of members were present. Mr. C. H. Mitchell, chairman of the Branch, presided. Some time was taken up in discussing various suggestions that were made as to what might be done to increase the influence and usefulness of the Society. Dr. J. Galbraith, president of the Society, suggested that, perhaps, the Society was attempting to cover too large a field, and in so doing some of its usefulness was lost. Other members took part, and, although the discussion lasted for an hour or more, no definite stand was taken on any question.

Following the discussion Mr. Stanislas Gagné, B.A.Sc., read a paper on “Notes on Canadian Forestry.” We will give more space to this paper later. Additional interest was added to this subject because of the many lantern slides used. Dr. Fernow, Dean of Forestry, and Mr. T. Southworth, formerly director of Forestry for Ontario, also took part in the discussion.

## ORDER OF THE RAILWAY COMMISSIONERS OF CANADA.

Copies of these orders may be secured from the Canadian Engineer for a small fee.

5442—October 16—Granting leave to the Dunnville Consolidated Telephone Company to erect, place, and maintain its wires across the track of the G.T.R. at Cedar Street, Forks Road, Dunnville, Ont.

5443—October 16—Granting leave to the Dunnville Consolidated Telephone Company to erect, place, and maintain its wires across the G.T.R. at Canfield Junction, Ontario.

5444—October 14—Authorizing William Brown of Lennoxville, P.Q., to lay water pipe under track of G.T.R. at a point 1,047 feet south of mile post 106 from Montréal, or 359 feet from where the line between Lots 6 and 7, in the 6th Range, Township of Ascot, crosses the railway.

5445—October 20—Granting leave to the Central Barbed Wire Telephone Company of Alberta, to erect, place, and maintain its wires across the C.P.R. 600 feet north-west of Nanton Station, Alberta.

5446—October 20—Granting leave to the Bolton Telephone Company, Limited, to erect, place, and maintain its wires across the track of the C.P.R. between Concession 6 and 7, Lot 23, Township Albion, Ontario.

5447—October 20—Authorizing the C.P.R. to construct, maintain and operate branch line of railway to and into the premises of the Cranbrook Sash and Door Company, Limited, Kootenay District, B.C.

5448—October 20—Authorizing the C.P.R. to construct bridge No. 41.8 on Boundary Section, B.C., of its line.

**WHEN YOU FIND THE AUTHORITY ENGINEERING PAPERS OF GREAT BRITAIN AND THE UNITED STATES QUOTE FREQUENTLY FROM THE CANADIAN ENGINEER YOU MAY REST ASSURED THERE IS A REASON FOR IT.**