

whatever further information may be required. Most students will find that they will be unable to pursue more than two or three courses of study during the year. I would advise those who thus find it necessary to defer some of their studies, to take their Mathematics first, for the reason which I have already given, that a knowledge of Mathematics is essential to a proper study of the other subjects. From what I have said or from a reference to the prospectus it might be inferred that we expected to complete all our courses of study in one year, but such is not the case. In Algebra, Euclid, Descriptive Geometry, and perhaps some of the other subjects, two years will be required to complete the course, and it is expected that the advanced classes in these subjects will be formed next October. And, without interfering with the perfect freedom of choice now enjoyed by students wishing to pursue a special line of study, it is hoped that we will then be able to announce the programme for a regular course embracing two or three years. The experience of the past winter has convinced me that in Toronto the demand for technical education is urgent, but the citizens may rest assured that on the part of the Board of Management or the teaching staff of the Technical School no effort will be wanting to supply that demand.

SPARKS.

Six new vestibule cars and a sweeper are in course of construction for the Ottawa Street Railway Company.

The Ottawa electric street railway carried without accident during the recent exhibition in that city, 138,000 passengers.

It is proposed to increase the capital stock of the National Electric Tramway and Lighting Co., of Victoria, B. C., to \$1,000,000.

A conductor named Snyder on one of the Hamilton electric street cars, was crushed between two cars on October 9th and fatally injured.

The Nanaimo Electric Light Works were advertised to be sold by auction on the 29th of October. The result of the sale has not yet been learned.

The wire, lamp and fixtures department of the Peterboro Electric Light Co. has been purchased by Mr. J. H. Greer, an experienced electrician.

The establishment in connection with the Ottawa University of a department for the teaching of electricity, is understood to be in contemplation.

The town of New Glasgow, N. S., has been asked to approve of a route for the electric street railway which the New Glasgow Electric Co. propose to construct.

The town council of Cote St. Antoine, has decided to grant a franchise for the construction of an electric street railway, to the Montreal Street Railway Company.

The Montreal Incandescent Light Co. are seeking incorporation for the purpose of manufacturing apparatus for electrical purposes. The capital stock is placed at \$1,000,000.

The town of Clatham has granted the franchise to the local electric company, for the construction of an electric railway, and the right to furnish light and motive power to factories.

The vacancy on the board of directors of the Dominion Telegraph Co., caused by the death of Mr. Alex. T. Fulton, of Toronto, has been filled by the election of Mr. Hector McKenzie, of Montreal.

The St. Catharines electric street railway, which has been in liquidation for some time, was sold by public auction on October 22nd. Mr. George Dawson, of St. Catharines, was the purchaser, the price paid being \$20,000.

The telephone service in Toronto has been seriously affected by the heavy currents passing through the trolley wires. The difficulty will be aggravated when the electric cars are put in operation on Yonge street and the belt line. Meanwhile, the Bell Telephone Co. are pushing forward as rapidly as possible the work of putting their wires underground.

The generators that George Westinghouse is building to furnish electricity for the 93,000 incandescent lamps at the World's Fair are to be the largest in the world. One of them will operate 20,000 lamps. "The ordinary generator supplies but 1,200 lamps," Mr. Westinghouse said, "and most of them less. Our largest generator will supply 20,000 lamps, and most of the others will be of 10,000 lamp capacity each."

A file with which a young man named Black was engaged in filing a switch at the Toronto Street Railway power house, recently, came in contact with the positive and negative wires, with the result that a portion of the file was melted, and the young man severely injured. Had it not been for the fact that the file received a considerable portion of the charge, Black would not unlikely have been killed; as it was, he lost his eyesight for some days.

The city of Brantford, Ont., voted recently on the question whether it should operate its own lighting plants and the local system. The result of the vote was against the project. Such ownership would be an interesting experiment to watch, could it have been undertaken, because of its novelty, but the vote showed that the ratepayers of the city were not seeking any novelty. Municipal ownership of electric plants does not seem to be very popular.—*Electrical Industries.*

The Toronto Street Railway Co. are turning the building formerly used as stables, into a power house. There will be installed five compound engines, four of 550 horse power, and one of 325 horse power. These engines are to be placed in position in a few days. A chimney stack 120 feet high, the tallest in the city, is in course of erection. The power house is expected to be in operation by the first of the new year. The total cost of the plant will be about a quarter of million dollars.

PRICES FOR ELECTRIC LIGHTING IN BRANTFORD.

BRANTFORD, Oct. 29th, 1892.

Editor ELECTRICAL NEWS.

SIR,—Our attention has been called to a short editorial which appeared in your issue of this month, which doubtless refers to us. After a careful perusal of same, we are forced to the conclusion that some one with very little regard for truth has imposed on you.

We have had the contract for the public lighting of the streets of Brantford by electricity for five years, and although the penalties provided for in the agreement were as binding and harsh as they possibly could be, our company never once during the whole of that time received any notice from the city authorities that our lighting of the city was inferior, as alleged by you. And it is safe to say that they would have a better knowledge of the subject than either your good selves or your informants.

Tenders were called for in August last for another five years. Competition was keen. The Brantford Street Railway offered to light the city with sixty (60) lights more or less for twenty-six (26) cents per night, all night and every night; our tender was twenty-three and a half (23½) cents. Although the lowest, the majority of the City Council, for reasons that are familiar to us, refused to accept our or any of the other tenders, and submitted a by-law to the ratepayers asking authority to issue debentures to enable the City Council to go into the public lighting business. Our company and their friends fought the by-law and defeated it in every polling subdivision of the city. Every vote against the by-law was in favor of our company, and the action of the people is a rebuttal of your statement. The City Council then offered us the lighting for one year at 23½ cents per night, moonlight schedule, deducting from the 23½ cents per night every moonlight night, and this for only one year instead of five. The contract is now all night and every night. We had to accept these terms or be driven out of the public lighting business, and now you are disposed to allege that under the first contract we furnished inferior service, and on this account were driven into the position of accepting the present low figure. If we are to blame, with ample water power at our command, what have you to say about the offer of the Brantford Street Railway, owned now by the Canadian General Electric Co., of your city, who have to use steam power, and were very anxious to get the contract against a local company, at 26 cents?

Yours truly,

BRANTFORD ELECTRIC LIGHTING CO.

[As the above letter reached us only a few hours before going to press, comment thereon in this issue becomes impossible. We may deem it advisable to refer to the subject in our December number.—EDITOR ELEC. NEWS.]

PUBLICATIONS.

The Arena for November closes its sixth volume with a table of contents at once strong, varied and of general interest. This Review continues to grow in favor without lessening in a jot its bold assault on conventional shams and wrongs of the age. Nor does it show any sign of being less hospitable to new progressive and reformative thought. It is conspicuously fair and unquestionably the boldest Review of our time.

TRADE NOTES.

The Ball Electric Light Company report as recent sales, 750 light alternating dynamo and installation, two 50 light 4 ampere arc dynamos to Oshawa Electric Light Co., Limited, also 500 light alternating current dynamo and installation to Oakville Electric Light Co.; one 25 light 4 ampere arc dynamo to Wm. Stuckey, Grand Valley, Ont. Quite a number of the Ball Co.'s stationary motors have been sold this month in Toronto, London and Ottawa.

The first of a series of meetings of officers and employees of the Bell Telephone Co., in Montreal, to discuss matters affecting the perfect working of the system, was held recently in the ante-room of the main exchange. Mr. Miller, superintendent of the inspectors' department, presided. Mr. C. E. Getz, manager of the exchange, also took part in the proceedings. The means of overcoming the difficulties caused by induction from street railway currents were considered.

Cutting rubber for making gaskets or other purposes is always a difficult task when a dry knife is used, no matter how sharp the blade may be. It is said that if the blade be wet with water containing potash the cutting may be easily done with the exertion of much less strength. A thin blade, such as that of a case knife, is much better than a thicker blade, like that of a jack knife, and an easy way to sharpen a knife for cutting rubber is on a round or half-round file, which gives a saw tooth edge that is very effective in cutting rubber, leather or other tenacious material.