

Telephone Co., under Section 520 of the Criminal Code, for unlawfully conspiring with the C.P.R. to unduly limit the facilities for transporting certain commodities. After a number of delays the case was heard before Magistrates Davidson and Parker, at Whitevale, Ont., J. E. Farewell Crown Attorney, of Whitby, acting for the prosecution. When the evidence was all in the magistrates announced that they would give their decision on March 5. Whatever it may be the matter will not end there, but will without doubt be carried to a higher court. At Port Arthur and Fort William a somewhat similar situation has arisen, and an injunction was served on the Bell Co. to cease construction work. Members of the railway orders at Fort William held a meeting and decided to use none but municipal phones in their homes. The fight which has been entered upon is a determined one on both sides and will be fought to a finish.

It is said that lightning never strikes twice in the same place, and travellers say it is safer to travel by railways after an accident because of the extra vigilance which is exercised at such a time. This does not appear to be the case at present so far as Canadian railways are concerned. In our last issue we referred to the large number of accidents which had occurred in rapid succession. The list continues to grow, though happily the mishaps are of a less serious nature—more runoffs and fewer collisions. The most serious, which however, by one of those vagaries which attend such things, was unaccompanied by loss of life, took place at Whitby on Feb. 19th, when an express, two hours behind time and running at a high rate of speed, jumped the track, in consequence of a broken rail caused by the frost. Only the hind truck of the engine left the rails, but the six cars of the train, baggage, second class, first class and three Pullmans, rolled down an embankment some thirty feet high. Not a car remained on its trucks, all but the second class turned completely over, and it fell on its side, the baggage car was quite demolished, forty four persons were injured, yet not one was killed or is likely to die from injuries. This remarkable escape is doubtless due to the fact that the ground was hard frozen and the cars retained their upright position till the speed was considerably reduced, so that they were not violently thrown over. The baggageman was the most seriously hurt, the baggage having fallen on him. The damage to the Grand Trunk property was very large, the cars being badly broken up.

#### GOVERNMENT, MUNICIPAL OR PRIVATE CONTROL

The granting of a franchise to a third company to generate power at Niagara Falls has raised the whole question, as to who should control and distribute electrical energy. A conference was held at Berlin during the past month at which the matter was fully discussed, representatives being present from Toronto, Berlin, Galt, Guelph, London, Brantford, Stratford, Waterloo, Bridgeport, Embro, St. Catharines, Woodstock, Ingersoll, Hespeler, Preston, St. Thomas, Hamilton, Dundas and St. Mary's. The delegation included municipal officers, members of the Canadian Manufacturers' Association, engineers, business men, and others interested in cheap power. The effect of their deliberations was to adopt, with an addition, the report of a committee appointed at a meeting held at Berlin in October last, which, in brief, was as follows: (1) That it is practical to transmit electrical power from Niagara Falls to the cities and towns within reasonable distance. (2) That especially low prices can be had if electricity is taken in large quantities. (3) That while it would be much easier to have power delivered by the companies, it will be more

advantageous for the Union of Municipalities to own their own transmission line. (4) That application be made to the Legislature for power for municipalities to co-operate to develop, transmit and distribute electrical energy with provision for a fair division of the cost. (5) That to ensure success and cheap rates, the number of municipalities must be large. The addition to the report was in favor of the Government building transmission lines, or, as an alternative, giving the Niagara Falls Park Commissioners power to do so.

A subsequent meeting at Galt endorsed the conclusions come to at the Berlin meeting, and a later meeting at Toronto, also held the same view, after which a delegation waited upon the Government. Hon. G. W. Ross, after listening to what they had to say, informed them that a bill would be introduced the coming session to appoint a commission, really the nominees of the municipalities, who will have power to develop, buy or transmit electric energy. The Government, the Premier said, would not be justified in using the provincial finances for the undertaking of a work that would be a benefit to only a portion of the province.

It seems to be the opinion that no more franchises should be granted to private companies, and the action of the Government will have the effect of vesting the right to develop and transmit power in the hands of the municipalities.

#### CANADIAN ASSOCIATION OF STATIONARY ENGINEERS.

At an open meeting of the Canadian Association of Stationary Engineers, held in Hamilton, Geo. Chantler gave a very interesting address on "Combustion of Fuel."

The subject, said the speaker, had occupied his attention almost twenty years, and as the result of his investigation, he had made a departure from the principles as taught in schools of science to-day. He then defined the elements in combustion. The atmosphere is the great fuel supply of the world. One pound of carbon requires two and two-thirds pounds of oxygen to form combustion. The atmosphere is said to be a mixture of three elements. The speaker thought that air is a compound, just as water is a compound, as the proportions of the three elements are always the same, and are held in combination by fixed laws. In this compound there are two elements that perform important functions, the oxygen unites with the coal and produces heat, but the heat generated is in the ratio of the amount of oxygen consumed. Nitrogen, under certain conditions, is combustible. With hydrogen it will produce combustion, and the result will be water. The water will be slightly acid, showing that the nitrogen has entered into the compound, this shows that nitrogen is combustible. In order to produce combustion it is necessary to bring these elements together under certain conditions. Elements such as those above mentioned show evidence of heat by color. At from 1200° to 1400° the color changes to a cherry red. It assumes a deep cherry red at from 1600° to 1800°. At 1900° it assumes an orange shade, and at 2000° white heat, at 2500° it is dazzling. The color indicates the temperature of the fire. To produce combustion at least 1000° are required, at 1400° combustion is more rapid, at 1600° it is quite rapid, and so on increasing as the temperature increases. Nitrogen might be called the stoker, it enters into the fire in combination with the oxygen, and when these two elements come in contact with the heated carbon or hydrogen they are separated at the place where combustion takes place. Nitrogen is not only the stoker that carries the oxygen, but it is a great absorbent of heat, and conveys that heat to the surrounding bodies and carries it to the point at which it is to be utilized. The analysis of coal shows that it contains about 85% carbon and 50% hydrogen; of the carbon about 35% is free carbon. This free carbon and hydrogen when heated pass off through the chimney as smoke. If this can be burned, a great saving of fuel will be the result. Just along the front edge of the fire you have