

of bicycles will be forced to form a trust among themselves or become a part of the combine recently formed in the United States. The electrical interests are also likely to be affected. Indeed, a report is current that negotiations are now in progress for the consolidation under one management—probably that of the Cataract Construction Co.—of the various electric lighting and street railway companies whose headquarters are in Hamilton. We certainly think that benefit would accrue to the industry from the amalgamation of a number of the rival lighting companies which are now engaged in the unprofitable and thankless task of cutting one another's throats in some of the smaller towns.

The Conmee Bill

In this issue will be found Mr. Conmee's Bill as adopted by the Ontario Legislature, defining a method for the adjustment of disputes between municipal corporations and private electric lighting companies as well as the terms upon which municipalities shall in future be permitted to engage in the business of public lighting. The measure has been carefully framed, and when put in operation will no doubt prove advantageous to both the municipalities and the companies. It puts an end to a condition of affairs under which electric lighting companies were in constant danger of having their property wiped out of existence by the municipality, and therefore were not in a position to make further investments for necessary improvements. On the other hand the municipality is now able to secure public lighting from the companies on their own terms or at a price which competent arbitrators shall decide to be reasonable and fair. During the time that the Bill was before the Legislature it was subjected to much unfair criticism and opposition from some of the public newspapers, which, in their anxiety to appear as public champions, did not take the trouble to learn what its provisions were. Since its adoption they have declared that the electric lighting companies will now proceed to tyrannize over the municipalities. A perusal of the Bill will show that even should the companies desire to act the part of tyrants, which they certainly do not, the restrictions put upon them by the new legislation are a sufficient safeguard to the public interests. In consequence of the relations between lighting companies and municipalities having been thus defined, there is likely to be a return of confidence leading to the investment of capital in the improvement and extension of electric lighting properties.

Price of Electric Power.

THE councillors of the town of Orillia, Ont., apparently have but a vague conception of the cost of producing electricity. As our readers know, they are about to embark upon an undertaking to supply light and power to the town from Ragged Rapids, nineteen miles distant, this being the first instance in Canada, if not in the world, of a municipality installing a long distance electrical power transmission plant. There are two essential features necessary to the successful operation of any plant, whether controlled by public or private interests. The first is, that the design and construction of the plant shall be as nearly perfect as possible, and adapted to the conditions under which it must operate; the second is of equal importance, that the power shall be disposed of at a price which bears due relation to the cost of production. As to the design and construction of the Orillia plant it is yet too early to speak definitely, but

in this respect we anticipate no obstacle to success. Our skepticism is aroused, however, by the price which has been placed upon the power to be produced, and we are led to the conclusion that upon this point the councillors must have shouldered the responsibility themselves, instead of obtaining proper advice. It is reported that power is being offered, delivered in Orillia at about fourteen dollars per horse power per annum, while the town of Gravenhurst which recently applied for power, was quoted a price of ten dollars per horse power per annum for one or two hundred horse power, at the power house at Ragged Rapids, the town to build and maintain its transmission line and transformer station. We believe that these prices will be found to be below the actual cost of operation, and that if the plant is to be a financial success, the rates for current must necessarily be increased in a substantial degree.

Copper and Aluminium.

There is no occasion to doubt the tenacity of the grip which the copper trust of the United States have secured. Prices have been forced upward to an extent which has very seriously affected the electrical industry in particular, as well as many other departments of trade. We are advised that many electrical enterprises which had been planned for this season, are hanging fire because of the unexpected and serious increase in cost of construction due to the heavy advance in copper. Building enterprise in cities where electric wiring is employed is being hampered from the same cause. Under these circumstances the electrical fraternity will watch with interest the experiment which is to be made at Orillia with aluminium as a conductor. Reference was made in our last issue to the fact that with the consent of the municipality of the town of Orillia a contract had been given to a Pittsburg firm for aluminium wire conductors for the electric transmission system at that place. The manufacturers of aluminium wire are to be congratulated upon the opportunity thus afforded them to demonstrate its utility and advantages for electrical purposes. It may occasion surprise that the Council of Orillia should have consented to allow the new material to be used for so important a transmission line. It is understood however that the town's consulting engineer, Mr. R. J. Parke, has carefully investigated the matter and is satisfied that aluminium wire will meet the requirements, and at a substantial reduction in cost. Furthermore the contractors have given the municipality their written guarantee concerning the tensile strength, conductivity, durability and less liability than copper to physical disintegration under the natural conditions which may affect the transmission line while in operation on the poles, and have undertaken to replace and put in satisfactory working condition any wires which may prove defective. The conductivity of pure aluminium wire is given as 63% and about 54% when containing 2% of alloy. The tensile strength of pure aluminium in sizes such as will be required for the Orillia line is about 24,000 lbs. It is proposed however, to employ a wire with a conductivity of 59% and a tensile strength of 29,000 lbs. per square inch. Assuming that aluminium has a conductivity of 59% and copper a conductivity of 97% the comparative cross-section of aluminium wire of equal conductivity to copper will be as 163 to 100. The diameter of No. 4 B. & S. copper wire, which would be the size required