

**SPARKS.**

The offer of the Edison Company for supplying an electric plant to the village of Lachine has been accepted.

It is said that the largest telephone switch-board in the world is that in the exchange in Berlin, with 7,000 wires.

Tracklaying on the new Hamilton electric railway has commenced. A couple of hundred men are engaged on the work.

Mr. J. J. Wright, manager of the Toronto Electric Light Co., accompanied the Toronto civic deputation in the capacity of electrical expert, to the United States in search of electric street railway information.

The amount of electric current that a very small wire will carry without heating to a dangerous extent, is many times greater, in proportion, than could be carried under the same conditions by a wire of larger size.

Mr. K. J. Dunstan, local manager of the Bell Telephone Co., Toronto, in company with the Co.'s electrician, will make a tour of a number of American cities, with the object of picking up the latest improvements in the line of telephone work.

Mr. F. N. Gisborne, chief of the Dominion Government Telegraphs, is advocating the advisability of the Government taking over the telegraphs. Mr. Gisborne favors using the more modern forms of multiplex apparatus which would materially reduce the number of wires required.

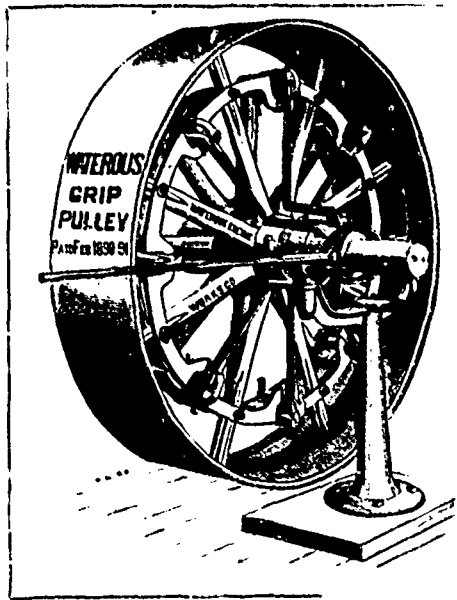
A lineman named Williams, employed by the Hamilton Electric Light and Power Company, fell from the top of a pole a few days ago and was severely hurt. The daily papers of course attributed his fall to contact with a live wire, but the manager states that such was not the case, as Williams was too experienced to touch a live wire.

According to the report read at the annual meeting of the American Bell Telephone Co. there are 512,407 telephones in use in the United States, requiring 266,436 miles of wire, which on the average allows a trifle over half a mile of wire to each instrument. This length of wire would circle the earth ten and a half times if stretched out in a continuous length, and dividing it by the number of years the telephone has been in operation (sixteen) would give 16,656 as the average number of miles of wire stretched each year.

A new arc lamp has recently been perfected by the Thomson-Houston Electric Company for indoor lighting on either arc or incandescent circuits. It is but 27 1/4 inches from top to bottom, six inches wide, and weighs 21 pounds without the globe. The feeding and regulation are said to be perfect, the arc being always the same length, perfectly steady, brilliant and free from hissing. The entire mechanism is carefully protected from dust and dirt. On arc circuits the lamps are run in series, and regulate and cut-off automatically. On incandescent circuits they are run in multiple or two in series, a small rheostat or bank of incandescent lamps being used as a controlling device.

It is a well known fact that in every dynamo the magnetic force necessary to develop the field in which the armature revolves is always greater than that which is usefully employed, that is to say, more lines of force are generated than actually pass through the core of the armature, the discrepancy being attributable to leakage at different points. To find out the amount and location of the leakage, ascertain exactly the ratio of lines of force actually generated to the lines passing through the core of the armature. This ratio will always be greater than unity. Some of the lines pass directly from one limb to the other, and some leak out of the yoke to the pole-pieces. By placing a galvanometer in circuit and observing the deflections, the number of lines of force cutting or cut by a coil of wire in two or more given fields can be compared. The galvanometer must be a delicate one, as the resulting E. M. F. is usually comparatively low.—*Electrical Age.*

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The following is a copy of a letter received from Chicago, Ill. It shows the estimation in which the Waterous Grip Pulley is held by prominent electricians:

HAMILTON, CANADA, March 23rd, 1892.

MESSRS. THORNBURGH & GLESSNER, Chicago, Ill.

Gentlemen: At the request of Mr. C. H. Waterous, of the Waterous Engine Works Co., I take much pleasure in stating some of my experiences with clutch pulleys generally, and with the Waterous clutch pulley in particular.

Some five years ago, while Superintendent of Lighting for the Royal Electric Co., of Montreal, we had occasion to put in some new plants, including engines, shafting and pulleys, and concluded to adopt a clutch pulley in running our large dynamos. We put in four of them, two 34 in. and two 56 in. If one pulley went wrong—which the best of them will do occasionally—it necessitated the shutting down of the engine and shafting, to remedy the trouble; well, a time came some two years ago when it was necessary for us to again increase our power plant, and in considering the clutch pulley question once more, the writer set about investigating the workings of the various clutch pulleys offered, and after going into things in as thorough a manner as possible, we closed with the Waterous people for three 22 in. by 93 in. pulleys, each one to drive 200 h. p. We did this because we found their pulley was the only one that would allow us to stop a pulley and stop the clutch both at the same time, so that it was only a moment's work to readjust a slipping clutch and throw the pulley on again; then we found the item of less weight of considerable importance in them over others. They have been running for over a year and have given every satisfaction. Some six months ago the writer came to this city to take charge, and found it necessary to equip a new power house, and such was our confidence in the Waterous Clutch Pulley, and such our belief in its superiority over all others, that we have placed an order with them for twelve 38 x 14 in. and one 105 x 22 in. pulleys, and we feel satisfied that we are getting the best thing of the kind in existence to-day, combining as it does strength, lightness, and the ability to stop the clutch for setting up, without interfering with any of the other pulleys that may be running on the same shafting, an item which in our opinion makes them worth at least 100% more than those that do not stop.

Yours very truly, D. THOMSON, Gen.-Manager.

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