

DEATH IN THE WIRES.

TO THE EDITOR OF THE EVENING POST: Sir: The death of the poor boy Streifer, who touched a straggling telegraph wire on East 10th street on April 15, and was instantly killed, is closely followed by the death of Mr. Wylie in front of 200 Bowery and of William Murray at 610 Broadway on May 11, and any day may add new victims to the list. After upon such accidents the newspapers clamor to have the wires placed under ground, while the electricians connected with the system at fault hold their peace or throw the blame on the telephone wires, and all the while the fact that burying the wires would not remedy the trouble, though it would largely diminish the risk, while the enforcement of laws to compel the electricians to take the most almost impossible to kill a man from an arc-light current. It will not do for electricians to state that they "don't know who killed that man," for unless they take some measures to make the system safe, some terrible accident will cause the adoption of laws to regulate electric lighting, which, being framed by their enemies, will cripple or destroy their business.

As to the risk of offending some corporations by heavy investments in unsafe systems, I will venture to state a few facts which I trust the press will be kind enough to publish widely, as no disinterested electrician will deny the facts. It is well known that a continuous current of "low tension," such as is used by the Edison Company for incandescent lights, is perfectly safe as far as life risk is concerned. From this fact a portion of the electricians are of the opinion that all incandescent systems are safe and all arc systems dangerous. But it is not the "low tension" alone that this current owes its safety, since a factor fully as important is the even, steady quality of its current. It is not a "high tension," but unbroken and continuous, may be perfectly safe if properly operated, while a current of "high tension," but wavy or pulsating, is always dangerous, and when the pulsations rise in speed and intensity the danger increases, until the climax is reached in what is called the "alternating current," in which impulses are given first in one direction and then in the other several thousand times a second.

To understand the reason for this it is necessary to remember that when a current through a wire or other conductor is made or broken, a magnetic field is set up around it, and this field, if the pulsations rise in speed and intensity the danger increases, until the climax is reached in what is called the "alternating current," in which impulses are given first in one direction and then in the other several thousand times a second.

With these precautions, and with the number of lamps limited to fifty on a single circuit, and without the use of instruments, except by the metallic tongs when the terminals are touched by the tongue. This insignificant current is passed through an iron core, and is insulated by rapidly vibrating armatures, which thereby inducing in another and longer coil of wire surrounding the first a series of shocks whose intensity can produce most intense suffering or even death in a human being who touches the wire. (Chicago-Paradise battery, has had a practical experience of the power of induction and pulsation; in this apparatus the "current" from the battery itself is so feeble that it cannot be felt without the use of instruments, except by the metallic tongs when the terminals are touched by the tongue. This insignificant current is passed through an iron core, and is insulated by rapidly vibrating armatures, which thereby inducing in another and longer coil of wire surrounding the first a series of shocks whose intensity can produce most intense suffering or even death in a human being who touches the wire.)

Two of the leading arc-lighting systems have closed electric generators, which produce what are known as "open-circuit armatures," which produce a pulsating current somewhat similar in kind to the one just described, though a thousand times more powerful. It is this current that nearly all the deaths caused by arc-lighting systems must be attributed. These "open-circuit armatures" systems were pioneers in electric lighting, and at the time they were invented was supposed that the "closed-circuit armatures" would produce the steady and safe current, could not be made to develop sufficient electro-motive force to operate a number of arc lamps upon one circuit. But the advance in the science has made it possible "closed-circuit armatures" generators which give the same amount of current and electro-motive force, with a much less expenditure of motive power, so that there is now no reason for the existence of the old type with its pulsating and dangerous current.

I do not mean to have it understood that the "steady" current is always safe or that the "pulsating" is always unsafe, for any current with more than fifty lamps in circuit is dangerous and should be prohibited; while the "pulsating" current, if its circuit is kept thoroughly insulated and carefully watched, and tested every day, may run for years without accident. But the fact remains that the "steady" current, with fifty or less lamps in circuit, has had, to my knowledge, but four victims among the scores killed and maimed by the "pulsating" current. And even these four were men, and should be for their fate, since all were employees and should have known better. Three of them tried to disconnect apparatus through which the current was flowing, and thus got into the circuit, while the fourth received the current while trying to repair a broken wire which he knew was charged.

But the persons killed by the other system, as a general thing, have been in no way responsible for the accidents that caused their death; they have, as did young Streifer, touched or run against an apparently harmless wire when standing on a damp place, or have touched at the same moment some metal accidentally charged with the fatal current, and the next instant they have met their fate. It is not to be believed with extremists that the "pulsating" current should be prohibited, but I do think that the conditions of safety should be rigidly enforced by the law.

If the circuit carrying the "pulsating" current is perfectly insulated at all times, my accident is likely to occur. But if, through the ground of the insulation or a heavy rain, a connection between the circuit wire and the "ground" is formed, any one who touches the wire and a "ground" will receive a portion of the current; if he happens to be near the other "ground," he receives but a small shock, but if there is a number of lamps between him and the other connection, the shock may be fatal.

Of course the reply will be made that the arc-lighting stations in this country use insulated wires, "as required by the underwriters," but here is just where a great mistake has been made, and the reason is this: The underwriters for the cause of electric lighting. It is an open secret among electricians that the wire known as an "underwriter's wire" has a very poor insulation, even when new and shining dry weather, and the insulation is broken at all during a rain. The patent expires off it after a few months' exposure, other wire rubbing against it soon wears away the

cotton and expose the metal, and it is altogether unfitted for outdoor use. Among electric-lighting men it is appropriately called "underwriter's wire," and the frequent fatalities it causes justify the name.

Even with the most conscientious electric-lighting superintendent, who tests his circuits carefully for "grounds" every day, before starting the generators, there is a surety that during the next rain, or for condensation, after upon his circuits, wear away the insulation, and set a death-trap for the unwary who may be miles away from an electric lamp.

The condition of the electric-light circuits in the lower part of the city is simply disgraceful, as has been previously pointed out. Most of them were first put up years ago; they have been cut and patched until full of joints, from which the fumes rise; the insulation is so far from perfect that it is simply disgraceful, as has been previously pointed out. Most of them were first put up years ago; they have been cut and patched until full of joints, from which the fumes rise; the insulation is so far from perfect that it is simply disgraceful, as has been previously pointed out.

If the Board of Electrical Control cannot force the wires under ground, they can at least condemn these lines, which the companies can afterwards utilize by reinsulating for their underground use. The underwriters ought to have an eye to this also, for every bare or poorly insulated spot is a menace to property as well as life.

But if "influence" prevents the wires from being put under ground, the underwriters' extension of new wires elsewhere, where are a few simple precautions which, if enforced, would make fatal accidents almost impossible. All the deaths due to arc lighting, as far as the reports of the Board of Electrical Control show, are due to the fact that the "extra current" is received by the making a "ground" connection with a circuit on which there was another ground.

If the "pulsating" current is dangerous, then the "alternating" can be described by no adjective more forcible than *demoniac*. With the "pulsating" current, the shocks are more ordinary and produce fatal results; there must be a "ground" connection on the circuit; a person must touch the circuit some distance from the "ground," and must be in the position of a man who has been struck by lightning, in which the "ground" is himself. But the "alternating" current produces fatal results by simply touching the two parallel wires, always close together, connections from which enter every house.

The only excuse for the existence of the "alternating" current is that it saves the company operating it from spending a larger sum of money for the heavier copper wires, which are required by the safe incandescent system. That is, the company may save money, but it costs the corporation many a little larger dividend. I do not know of a single interested electrician of high standing who objects to the use of the "alternating" current, and I think it is safe to say that the "alternating" current is a more dangerous and should be prohibited; while the "pulsating" current, if its circuit is kept thoroughly insulated and carefully watched, and tested every day, may run for years without accident.

But the persons killed by the other system, as a general thing, have been in no way responsible for the accidents that caused their death; they have, as did young Streifer, touched or run against an apparently harmless wire when standing on a damp place, or have touched at the same moment some metal accidentally charged with the fatal current, and the next instant they have met their fate. It is not to be believed with extremists that the "pulsating" current should be prohibited, but I do think that the conditions of safety should be rigidly enforced by the law.

Following the example of Chicago, the Board of Electrical Control should forbid the use of the fatal alternating current, and legislatures, city councils, and life-insurance managers should see to it that stringent laws and regulations be passed, which shall make this wholesale risk of human life. The placing of the wires of the alternating system underground would intensify the danger in houses where it might be used, while its use with underwriters' wire in city like that of New York is a burning candle in a powder factory. If the death of these three men can effect the adoption and enforcement of regulations similar to the following, they will not have died in vain.

More than fifty arc lights shall be operated upon any one circuit, unless said circuit is used exclusively for street lamps mounted upon wooden poles; in this case the number must not exceed sixty.

All outdoor arc-light circuits must be provided with means for automatically stopping the production of current, in case of a ground connection is made upon its circuit.

No arc-light dynamo shall be operated unless provided with means for automatically breaking off short-circuiting the field circuit in the event of a ground connection, in order to prevent a current from being built up by the broken circuit ends falling upon some conductor.

motive force than three hundred volts shall be used.

HAROLD P. BROWN, Electrical Engineer, 202 West 79th Street, New York, May 24.

VARIOUS NOTES.

There was a long and animated debate in the French Chamber yesterday over the proposed law for the construction of the railway from Paris to the sea, which was finally rejected by 377 yeas to 398 nays. The Chamber then resolved, by a vote of 385 to 470, that the speed of M. Floquet should be placed on the order of the day. There was a slight excitement outside the Chamber on the departure of M. Floquet. A few persons were arrested for refusing to disperse.

Walt, the man who was suspected by the British police of being implicated in a plot similar to that which led to the murder of Lord Frederick Cavendish and Under-Secretary Burke in Phoenix Park, Dublin, finding himself dogged at every footstep, secured an interview in Paris to an agent from Scotland Yard. He said he had been arrested by the police and discovered all the details of the matter in which he was interested, and that he had abandoned his mission. He said he had been arrested by the police and discovered all the details of the matter in which he was interested, and that he had abandoned his mission.

Twenty years ago, says a London newspaper, "no one knew of the connection between pulmonary consumption and a damp subsoil; but statistics have fully proved the connection. Among the deaths recorded by Mr. Moore, the deaths from consumption fell immediately when the subsoil was dried by a system of drainage. In Salisbury the deaths from consumption fell from 100 in 1840 to 50 in 1850, and in Manchester, they fell from 100 in 1840 to 50 in 1850.

The disident members of the British Parliament at a conference yesterday decided to petition the Government for the repeal of the law which provided for the payment of compensation to persons injured by the bursting of a boiler. The petition was signed by 100 members of the House of Commons, and will be presented to the Government on Monday next.

The American sailing-schooner *Ambrose* of 1,000 tons, owned by Capt. Higgins, was wrecked on the coast of France, yesterday, after a voyage of 100 days. The vessel was carrying a cargo of sugar and coffee, and was bound for New York. The crew of 15 men were rescued, and the cargo was saved.

According to the annual report of the French Finance Minister, the French who had been employed in the United States in 1887 numbered 34,000 persons. In reference to this, Mr. Ward, the British Consul at Bordeaux, remarks that there were occasionally years, when the yield was abnormally small. In 1884, for example, it was less than half last year's product. The export of wine from France to the United States in 1887 was valued at \$3,000,000, and that to Germany at \$3,000,000, and that to America at \$3,000,000.

The Dominion Government has sent orders to Manitoba to rearrange the frontier patrols to protect Canadian territory from United States parties of timber thieves and other lawless elements. A large strip of Canadian territory on the north border of Dakota, about 100 miles west of Winnipeg, is well-timbered. Lumber in this district is being cut in large quantities, and the Dominion Government has sent orders to Manitoba to rearrange the frontier patrols to protect Canadian territory from United States parties of timber thieves and other lawless elements.

Eleven lives were lost by the burning of a hotel at Hockdale, Tex., yesterday. An elaborately worked steam-hall has been wrecked at the Louisiana Exposition, and the fire destroyed the hall in its entirety. The fire was caused by a gas leak, and the fire destroyed the hall in its entirety.

The Great Secret. Of exceptionally long and abundant hair may never be secured but that Ayer's Hair Vigor preserves the hair in its luxuriance, and even restores it, when thin and gray.

Well Known. P. J. Cullen, Saratoga Springs, N. Y., writes: "My father, as early as the age of twenty, lost his hair, and after a month's trial of Ayer's Hair Vigor, he had a full growth of hair, and his hair is now as thick as ever."

Ayer's Hair Vigor. Prepared by Dr. J. C. Ayer & Co., Lowell, Mass. Sold by druggists and retailers.

Miscellaneous Advs. J. JACQUIN & Co. NEW YORK, 236 St. West, 1 near 6th Ave. PARIS, 8bis, Rue Martel.

WE WILL OFFER DURING THIS WEEK AN ELEPHANT STOCK OF FINE TRIMMED English Round Hats, IN NEW TURBAN SHAPES, WALKING HATS, &c., At the Reduced Price of \$6 and \$8.

DESKS IN GREAT VARIETY. Manufactured by T. G. SELLEW, 111 Fulton St., N. Y.

EUROPEAN TRAVELLERS WILL SEND TRAVELERS' CHECKS TO J. JACQUIN & Co. 2,000 ROLLS CHINA MATTINGS.

Excursions. THE COUNTRY NORTH OF THE HARBOR RIVER. NEW YORK AND HARLEM RAILWAY.

NEWBURG, WEST POINT, AND Poughkeepsie. Grand Daily Excursion (except Sundays) by the fast and elegant Fall River Steamer.

FALL RIVER LINE. LONDON AND HULL. THROUGH SERVICE TO LONDON AND HULL.

PROVIDENCE LINE. For BOSTON, PROVIDENCE, WORCESTER, and all points EAST.

Hudson River by Daylight. DAY LINE STEAMERS. NEW YORK OF ALBANY.

Miscellaneous Advs. The Great Secret. Of exceptionally long and abundant hair may never be secured but that Ayer's Hair Vigor preserves the hair in its luxuriance, and even restores it, when thin and gray.

Wells Fargo & Co. Express, Money Order, and Bankers. San Francisco, N. Y., and all points.

CAPE CHARLES ROUTE. OLD POST, COMFORT, NORFOLK, PORTSMOUTH, AND THE NORTH.

Great Steamers. North Cape, Norway: Midnight Sun, 1888. THE FIRST-CLASS, LARGE, COMFORTABLE, AND SAFE STEAMERS OF THE BERGENSKA and the NORDENFJELDSKA Steamship Companies.

The Midnight Sun IS SEEN IN 1888. From New York to London via Copenhagen and Stockholm.

PACIFIC MAIL STEAMSHIP COMPANY'S LINES FOR CALIFORNIA, JAPAN, CHINA, AUSTRALIA, SOUTH AMERICA, AND MEXICO.

SAVANNAH FAST FREIGHT AND PASSENGER LINE. TRY-WEEKLY LINE.

WHITE STAR LINE - RIVAL AND UNITED STATES MAIL STEAMERS FOR BRITAIN, AUSTRALIA, AND THE EAST.

WILSON LINE OF STEAMERS. LONDON AND HULL. THROUGH SERVICE TO LONDON AND HULL.

CUNARD LINE. LANE ROUTE. THROUGH SERVICE TO LONDON AND HULL.

INMAN LINE. U.S. ROYAL MAIL STEAMERS. FOR QUEENSTOWN AND LIVERPOOL.

SHORE ROUTE TO LONDON. NORFOLK, PORTSMOUTH, AND THE NORTH.

RAILROADS. Wells Fargo & Co. Express, Money Order, and Bankers.

NEW YORK, NEW HAVEN AND HARTFORD R. R. ON AND AFTER APRIL 25, 1888.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.

NEW YORK, NEW HAVEN AND HARTFORD R. R. ON AND AFTER APRIL 25, 1888.

CENTRAL RAILROAD OF NEW JERSEY. FOOT OF LIBERTY STREET, NORTH RIVER.

THE FAIRBANKS VESTIBLED CHICAGO AND ST. LOUIS LIMITED. Leaves Grand Central Station, New York, daily at 6:30 A.M.

PENNSYLVANIA RAILROAD. On and after 31st May 1888.

WEST SHORE RAILROAD. Through service to New York via Westchester and Cortlandt.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.

WICKFORD ROUTE TO NEWBURYPORT, N. Y. Leave New York on Tuesday at 10:00 A.M.