

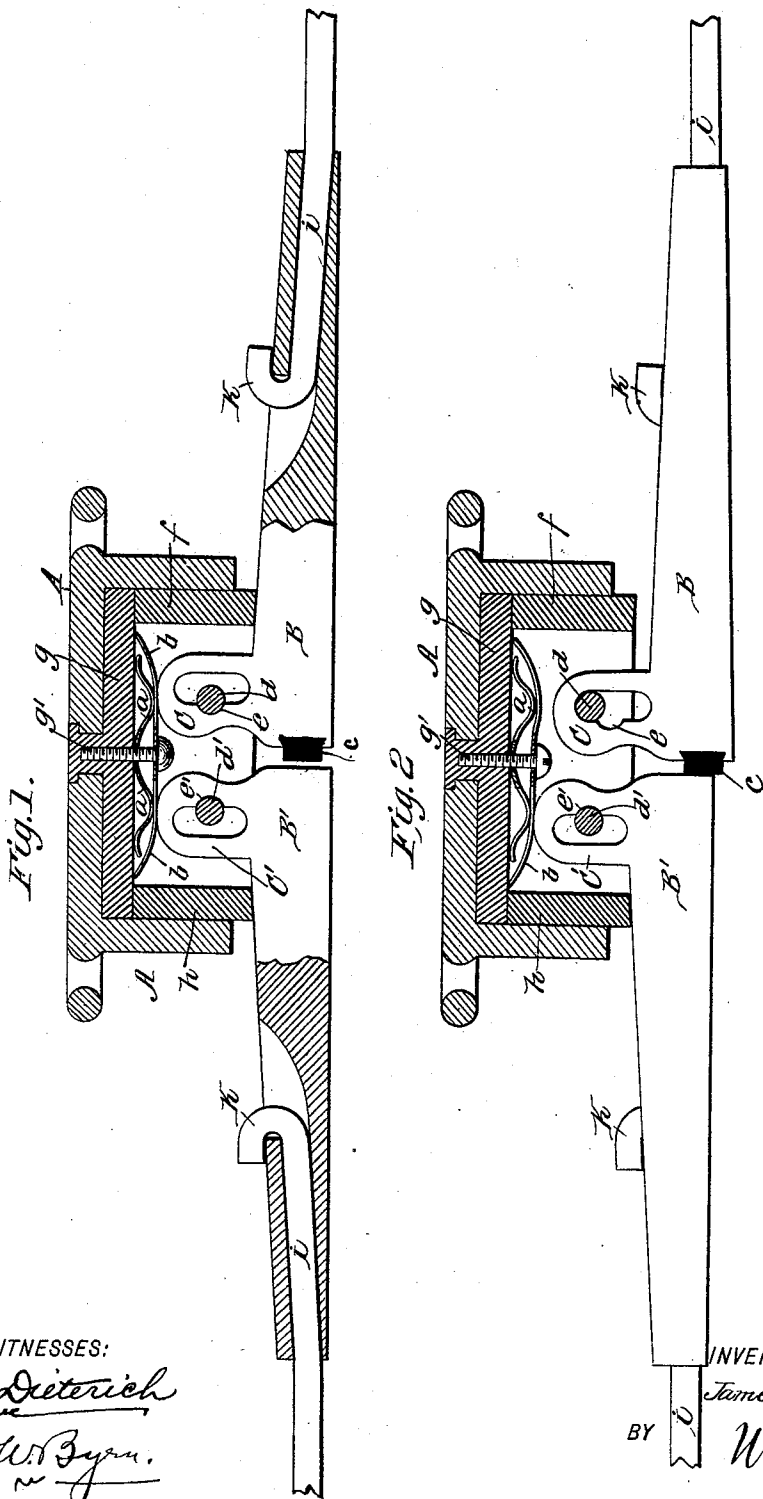
(No Model.)

J. H. CURRY.

AUTOMATIC SAFETY JOINT FOR ELECTRIC WIRES.

No. 521,908.

Patented June 26, 1894.



WITNESSES:

Fred G. Dieterich
Edw. W. Ryan.

INVENTOR

James H. Curry.

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES H. CURRY, OF WILKINSBURG, PENNSYLVANIA, ASSIGNOR OF EIGHTY-THREE ONE-HUNDRED-AND-TWENTY-EIGHTHS TO FRANK B. TOMB, OF SAME PLACE, SAMUEL J. GRAHAM AND A. H. CHILDS, OF PITTSBURG, PENNSYLVANIA, AND ROBERT A. GILLISPIE.

AUTOMATIC SAFETY-JOINT FOR ELECTRIC WIRES.

SPECIFICATION forming part of Letters Patent No. 521,908, dated June 26, 1894.

Application filed November 22, 1893. Serial No. 491,643. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. CURRY, of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Automatic Safety-Joints for Electric Wires, of which the following is a specification.

My invention is designed for two purposes—first and foremost, as a safety joint to prevent accidents in case live electric wires become broken or detached and fall in the street, in which case the break in the wire is made to automatically cut off the current from the ends of the wire and render the latter harmless. Secondly, the object is to provide a substitute for the bell-shaped supports now used on overhead electric railway lines, which are attached to the poles and sustain the trolley wire.

To these ends my invention consists in the peculiar construction and arrangement of connections and supports for the wire, which I will now proceed to describe.

Figure 1 is a vertical longitudinal section of the device in position for giving continuity to the electric circuit, and Fig. 2 is a similar view showing the position of the parts when the line is broken on the right hand side of the device.

In the drawings A represents a brass box open at the bottom and having a perforated flange at the top by which it is connected to the wires or cross-trees which support it on the poles. Within the box is a non-conducting lining *f g h* of any suitable material. In the top of the box are held upon a screw *g'* two (more or less) metal strips *a b* of elastic brass or copper bent to form bridge springs. Just below the springs are two insulated steel anchorage pins *d d'* extending cross wise the box.

B B' are two horizontal metal arms having vertical elbows C C' which are slotted vertically, and provided on one side with seats *e* and *e'* which accurately fit the pins *d d'* which pass through the slots and form a loose connection between the box and the arms. These arms have tubular ends whose chambers open at one end through the sides of the arms so

as to permit the line wires *i* to enter the bore formed at the outer end and then be turned up at K to form a hooked connection that makes the line wire fast to the arm with the arms in line with the line wire and forming a continuous path for the trolley from one section of wire on one side to the next section upon the other side.

At the adjacent ends of the two arms B B' there is an insulating or non-conducting block *c* held in an undercut groove, or otherwise, in one of the arms, which prevents the said adjacent ends of the arms from ever coming in contact.

The operation of my device is as follows: The box A being suitably suspended by the cross-trees or wires from the pole, the line wire sections *i i* are put up under tension with the seats *e e'* of the arms B B' resting against the pins *d d'*, and with the upper ends of the elbows C C' bearing tightly or positively against the bridge springs *a b*. In this position it will be seen that as long as tension is maintained on the line wires *i i*, the seats *e e'* of the pins are tightly held against the pins *d d'*, and the two elbows are electrically connected by the bridge springs *a b*. Consequently the current can freely and continuously pass over the line to the trolley which bears against and rolls along the lower edge of the wires *i* and arms B B'. When, however, from any cause, the line wire bearing the dangerous electric current breaks, and drops down into range of pedestrians or teams, one of the arms, drops down by reason of the slot in its elbow, as shown in Fig. 2 on the right hand side, and in this movement the elbow C cleaves the conducting bridge spring *a b*, thus breaking the circuit at this point, while this arm is prevented from moving into electrical contact with B' by the interposed non-conducting block *c*. It will thus be seen that no matter where a break occurs in the line wire, the arms B, which connect with this broken section on each side of the break, drop down and both ends of the line wire which hang down are instantly and automatically cut out of circuit and rendered harmless to pedestrians and teams in the street below.

Although mainly intended for overhead electric trolley lines, it is obvious that the invention has an equal value for electric light or power wires, or any other electric wires that are designed to carry heavy currents.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An automatic safety joint for electric circuit wires, consisting of a box or support having two insulated anchorage pins, and two arms connected with said pins by a loose slotted connection with supporting seats for sustaining the arms when under tension, and a bridge connection for the two arms for electrically connecting them when supported by tension in these seats substantially as shown and described.

2. An automatic safety joint for electric wires, consisting of a box or support having two insulated anchorage pins, and two arms connected with said pins by a loose slotted connection with supporting seats for sustaining the arms when under tension, a bridge for connecting the two arms, and means for

holding the arms out of electrical contact when they fall away from the bridge substantially as shown and described.

3. The combination of the box A having a non-conducting lining with conducting bridge spring *a b* held in the top of the same and insulated anchorage pins *d d'* in the sides, the tension arms B B' with slotted elbows C C' having seats *e e'*, and insulating block *c* substantially as shown and described.

4. The tension arms B B' having tubular outer ends with chambers opening upon the sides for connecting with the line wires and having slotted elbows C C' with locking seats *e e'*, the box A having a non-conducting lining with conducting bridge springs *a b* in the top, the anchorage pins *d d'* insulated from each other and held in the sides of the box, and the non-conducting block *c* all combined substantially as shown and described.

JAMES H. CURRY.

Witnesses:

CLARA B. JONES,
WM. H. STERRITT.