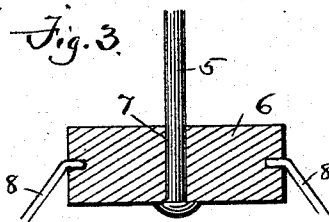
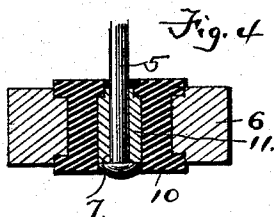
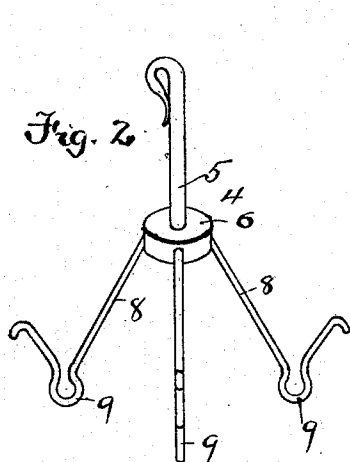
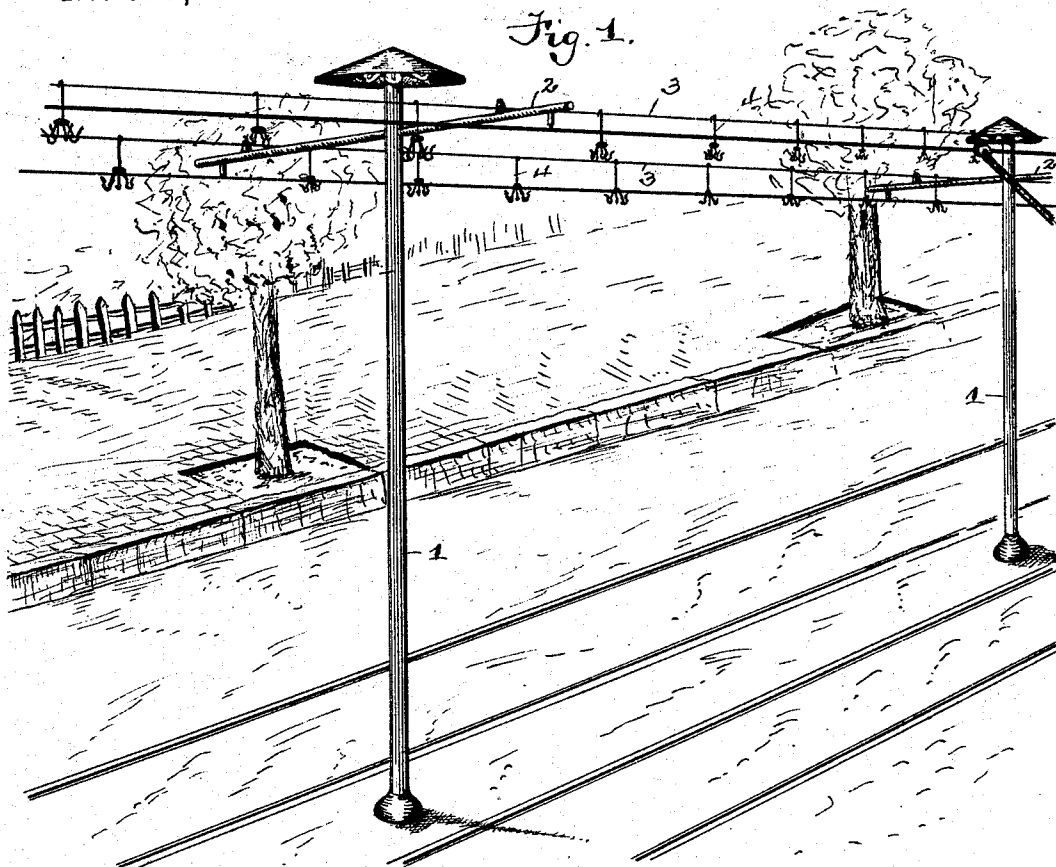


(No Model.)

S. C. WOODHEAD.
TROLLEY WIRE SUPPORT OR HANGER.

No. 527,355.

Patented Oct. 9, 1894.



Witnesses:-
Horace G. Duff
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By his Attorney, Gustafson

UNITED STATES PATENT OFFICE.

SAM CARR WOODHEAD, OF PHILADELPHIA, PENNSYLVANIA.

TROLLEY-WIRE SUPPORT OR HANGER.

SPECIFICATION forming part of Letters Patent No. 527,355, dated October 9, 1894.

Application filed April 24, 1894. Serial No. 508,813. (No model.)

To all whom it may concern:

Be it known that I, SAM CARR WOODHEAD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Trolley-Wire Supports or Hangers, of which the following is a full, clear, and exact specification.

My invention relates to improvements in trolley wire supports, and has particular reference to that class of such devices, in which when a trolley wire breaks, &c., a means will be provided for preventing the wire falling to the ground, and thereby preventing any accidents, &c.

The object of my invention, is to provide a device which can be attached to a separate and distinct wire, having no electric connections, and which will have one of its arms extending beneath the trolley wire at all times and thereby preventing the trolley falling to the ground.

A further object of my invention is to provide a signal, by means of which a signal of some kind will be given in the power house of the electric road.

To these ends my invention consists in the improved combination and construction of parts, as more fully described and pointed out in the claims.

In the drawings:—Figure 1— is a sketch view of a street, showing the poles, &c., of a trolley line, and also showing a number of the devices attached thereto. Fig. 2— is a perspective view of one of my devices. Fig. 3— is a sectional view of the wire support; and, Fig. 4— is a sectional view of a modified form of the wire support, the same being adapted to be used when no connection with the power house is desired.

Similar numerals of reference indicate similar parts in all of the figures of the drawings.

Referring to the drawings, 1 designates the post and 2 the support of any ordinary trolley wire support.

3 designates a wire, adapted to be strung on the supports, on either or both sides of the trolley wire. This wire may be placed over the support 2, as shown in the drawings, or under it, as desired, but the form shown in the drawings is preferred for the reason that

should the wire, 3, by any means become detached from its insulated connection with the support 2, it will drop onto the support 2 and still support the trolley wire should it break.

4 designates my improved hanger or support, which consists of a spindle portion 5, having its upper end bent to form a hook to support it on the wire 3, and having on its lower end, a riveted head, to prevent the wire support 6 from dropping off of the spindle.

6 designates the wire support, of any suitable material, and of any desired form, the circular form shown in the drawings being preferred. An opening 7 is formed in its center to permit of the passage of the spindle 5, upon which the support is adapted to revolve.

8 designate radial arms, secured in the periphery of the wire support 6, and extend downward at an angle, so that when in position, the arms will rest beneath the trolley wire. These arms, have loops 9 formed at the base of the angular portion, and the opposite end of the wire is then carried upward at an opposite angle and the end then turned outwardly and downwardly. The object of this is to catch the trolley wire, should it fall on either side of the loop 9.

By placing the ends of the wire 3 in the power house of the trolley line, and connecting thereto any signaling apparatus, as a gong, &c., by the breaking of the trolley wire, the broken part of which will drop into one of the radial arms 8, a connection is formed, through the radial arms 8, wire support 6 and spindle 5, with the wire 3, and through that wire to the signaling apparatus in the power house, and thereby notifying the attendants that something is wrong on the line, and enabling them to stop the dynamos, &c., before any particular damage is done. These supports or hangers, are adapted to be placed on the wire 3, at short distances from each other, as desired, one of the radial arms being placed directly underneath the trolley wire. When the trolley passes along the trolley wire, it meets the arm resting beneath the trolley wire and pushes it forward, turning the wire support 6 on its spindle 5, and thereby bringing a new arm into position. These hangers or supports may be placed on

one side of the trolley wire, as shown in the drawings, or may be secured on opposite sides of the trolley wire, in alternate order, by the use of two wires 3 for each trolley wire.

Referring to Fig. 4, 6 designates the wire support, 5 the spindle, and 10 designates a bushing formed of insulating material, such as rubber, &c., for the purpose of preventing the electric current from reaching the wire 3. 11 designates a metal journal secured inside of the bushing 10 for the purpose of forming a wearing surface for the spindle. This modification is to be used when no connection with the power house is desired.

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

1. The combination with the tracks posts, supports and trolley wire of a trolley system; of a wire attached to said supports; and a series of revoluble supports or hangers supported by said wire, whereby when said trolley wire has become broken or cut, the said supports or hangers will prevent the same from falling to the ground, substantially as described.

2. The combination with the tracks, posts, supports and trolley wire of a trolley system; of a wire attached to said supports by insulators, said wire having electrical connection with a signal located at some pre-determined point; and a series of revoluble supports or hangers supported by said wire to catch and retain said trolley wire when it has become cut or broken, and thereby form a complete circuit, through the broken trolley wire, the supports or hangers, and the wire supporting said supports or hangers, by means of which said signal will be operated, substantially as described.

3. The combination of the tracks, posts, supports, and trolley wire, of a trolley system, with a wire, attached to said supports, by

means of insulators, said wire having attached thereto a support for the trolley wire, comprising a spindle, a rotary wire support, adapted to revolve on said spindle, and wire arms attached to said wire support, said arms being adapted to rest under said trolley wire, in successive order, substantially as described.

4. A trolley wire support or hanger, comprising in its construction, a spindle, having at one end a hook to suspend the support on a wire, and having at its other end a riveted head; a wire support adapted to revolve around said spindle; and wire radial arms attached to said wire support, substantially as described.

5. A trolley wire support or hanger, comprising in its construction, a spindle, having at one end a curved hook, and having at its other end a riveted head; a wire support adapted to revolve on said spindle; and wire radial arms attached to said wire support, each of said arms being composed of a single piece of wire, bent downward at an angle, an open loop formed therein, and the outer end of the wire passed upward at an angle, said radial arm being adapted to receive the broken portion of a trolley wire, substantially as described.

6. A trolley wire support or hanger, comprising in its construction, a spindle, having at one end a hook and at its other end a riveted head; a wire support adapted to revolve on said spindle, said wire support consisting of an inner wearing portion, a bushing formed of insulating material, and the wire supporting portion; and wire radial arms secured to said wire support at its periphery, substantially as described.

In testimony whereof I have hereto set my hand.

S. CARR WOODHEAD.

Witnesses:

GEORGE McCURDY,
O. E. PIERCE.