

(No Model.)

T. J. McTIGHE & S. W. CHILDS.
TROLLEY WIRE HANGER.

No. 520,213.

Patented May 22, 1894.

Fig. 1.

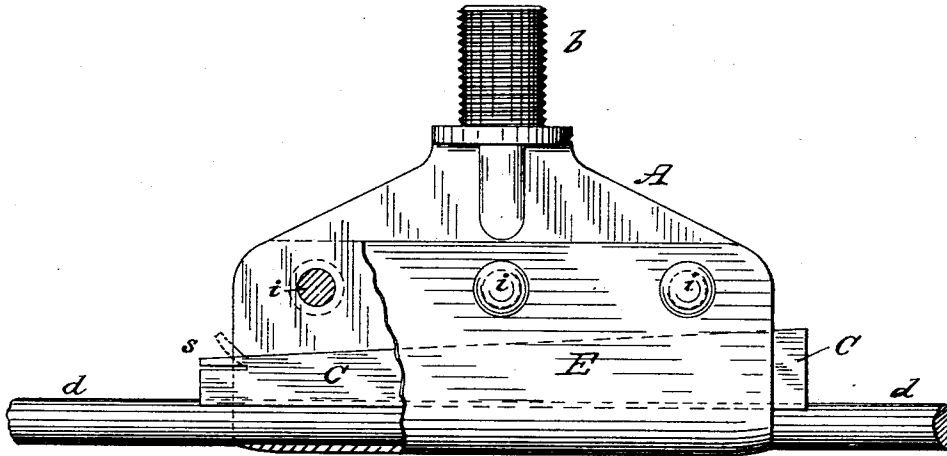


Fig. 2.

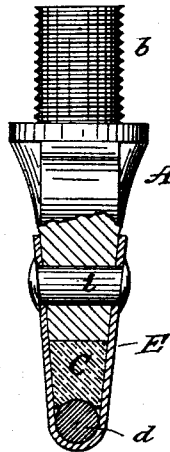
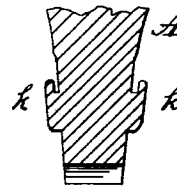


Fig. 3.



WITNESSES:

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TROLLEY-WIRE HANGER.

SPECIFICATION forming part of Letters Patent No. 520,213, dated May 22, 1894.

Application filed January 23, 1893. Renewed January 22, 1894. Serial No. 497,725. (No model.)

To all whom it may concern:

Be it known that we, THOMAS J. MCTIGHE and SUMNER W. CHILDS, citizens of the United States, and residents of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Trolley-Wire Hangers for Electric Railways, of which the following is a specification.

This invention relates to certain improvements in that class of devices known as "trolley-wire hangers" for use on electric railways, that is the device which holds the trolley-wire and is itself suspended by the span-wire, bracket or other means of suspension according to the character of the overhead construction.

Our object is to secure a mechanical grip upon the trolley-wire without bending or marring the latter, and to obtain this with a device which can easily be applied, quickly secured, and shall be capable of partial or complete removal and repeated re-use.

To these and other ends, our invention consists in the combination and arrangement of parts substantially as hereinafter more fully described and claimed.

In the accompanying drawings which form part of this specification Figure 1 is a side elevation of the hanger complete (with the clip partly broken away) ready for attachment to any suitable insulator or "bell." Fig. 2 is a vertical section of the same, and Fig. 3 is a sectional detail showing a modification.

In carrying our invention into effect we proceed as follows:—We construct the "ear" A of any suitable material, such as bronze or malleable iron, and provide a threaded stud *b* on its top for attachment to any desired insulator, or it may be formed with a threaded socket in place of the stud, so that it can be attached to those forms of insulators which have a downwardly projecting screw stud or bolt. The ear A is wide and in vertical section we prefer to make it narrower at the bottom than the top, as shown in Fig. 2. The lower edge is inclined from one end to the other, as in Fig. 1. A wedge C is constructed with its upper edge corresponding to the lower edge of the ear A, and its lower edge, by preference, concaved substantially to fit the con-

vexity of the trolley-wire *d*. While we prefer this circular fit, it is obvious that excellent results will be attained even if the lower face of the wedge does not exactly fit the wire *d*. Through the ear A are drilled a number of rivet-holes as shown. A clip E of sheet copper or other metal is prepared by punching or otherwise and bending to an approximately U-shape, and has rivet holes near both edges corresponding to the holes in the ear A. The clip E is of such dimensions that when it is slipped under the trolley-wire *d* and up so as to embrace the ear A, when the rivet holes all register, there is a space between the wire and the inclined bottom of the ear. Rivets *i* are now applied, passing through both the ear A and the two parts of the clip E, and are then headed up firmly so as to hold the clip rigidly in place. If desired, and such is generally the case in practice, the ear is now attached to its insulator, and the temporary supports of the trolley wire are removed, since the latter is perfectly secured against falling by the clips E along the line. This fact permits the trolley wire to be stretched and carefully and accurately anchored at the proper points before the final step, which is the insertion, at each hanger, of the wedge C. The driving of this wedge forces its lower face into close frictional contact with the trolley-wire and also forces the clip C into a similar relation, the result being that after the wedge is driven sufficiently the trolley-wire is securely held against longitudinal displacement in its hanger. By beveling the bottom of the clip E at its ends an easy riding surface is afforded the trolley-wheel so as to diminish or eliminate the sparking which ordinarily characterizes this class of devices.

To prevent the loosening of the wedge, we prefer to slit its small end as shown at *s*, the tongue thus formed being bent up against the end of the ear, thus preventing any longitudinal movement of the wedge. Nevertheless, the tongue can be straightened so as to allow the withdrawal of the wedge whenever it is desired. This is important in the event of it becoming necessary, from any of many possible causes, to draw the trolley-wire through one or more of the hangers without losing the supporting character of the latter. In such event the wedge is withdrawn from

one or more hangers, leaving the wire perfectly supported but free to be drawn in either direction, and after the required adjustment of the wire, the wedges are replaced.

- 5 A slight modification is shown in Fig. 3, wherein instead of drilling the ear and inserting rivets, the ear is cast or formed with hook-shaped projections *k*, which allow the clip to be snapped up over them, in which case the weight of the trolley-wire prevents the clip from unhooking. In general, however, we prefer the rivets, as in case of necessity they can be chipped off, punched out and renewed without injury to the other parts of the device.

We claim as our invention—

1. In a trolley-wire hanger, the combination of an ear having an inclined bottom edge, a clip adapted to embrace the trolley-wire and ear, means for holding the clip in engagement with the ear, and a wedge adapted for insertion within the clip between the ear and the trolley-wire.

2. In a trolley-wire hanger, the combination of an ear having an inclined bottom edge, a sheet metal U-shaped clip adapted to embrace the trolley-wire and ear, means for holding the clip in engagement with the ear, and a wedge adapted for insertion within the clip between the ear and the trolley-wire.

3. In a trolley-wire hanger, the combination of a U-shaped metal clip with two or more perforations near its upper edge, an ear hav-

ing its bottom edge inclined and its sides provided with means for engagement with the clip perforations, and a wedge adapted for insertion within the clip between the ear and the trolley-wire.

4. In a trolley-wire hanger the combination of a U-shaped metal clip perforated near its upper edges, an ear having its bottom edge inclined and its sides provided with means for engagement with the clip perforations, and a wedge adapted for insertion within the clip between the ear and the trolley-wire, and having its bottom surface concave.

5. In a trolley-wire hanger, the combination of the U-shaped metal clip, the ear having inclined bottom edge, the wedge and two or more rivets uniting the clip to the ear, substantially as described.

6. In a trolley-wire hanger, the combination of the U-shaped clip E perforated as described, the ear A having inclined bottom, clip and ear together, and the wedge C having means of locking against withdrawal, substantially as described.

Signed at New York, in the county of New York and State of New York, this 20th day of January, A. D. 1893.

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Witnesses:

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