

(No Model.)

E. J. COOK.  
SUPPORT FOR TROLLEY WIRES.

No. 582,344.

Patented May 11, 1897.

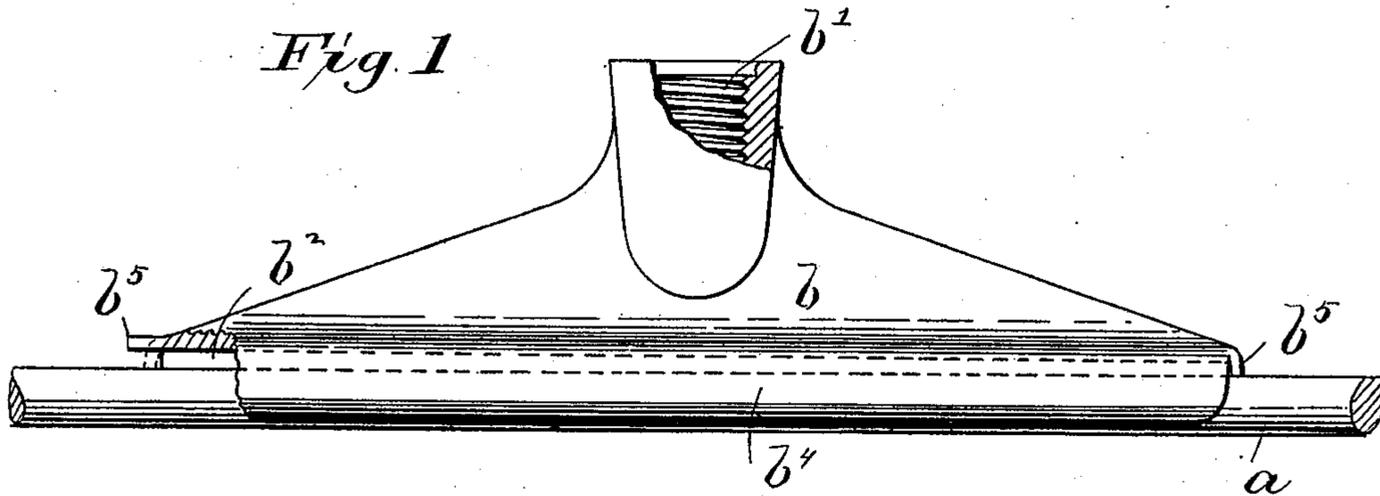


Fig. 2

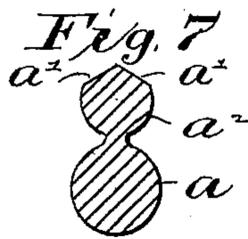
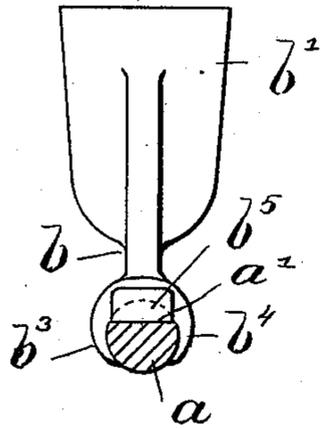


Fig. 4

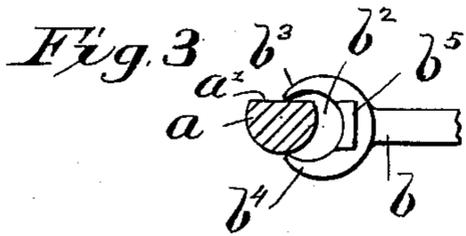
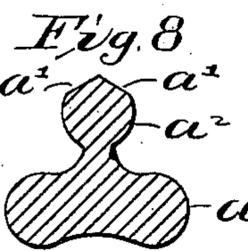
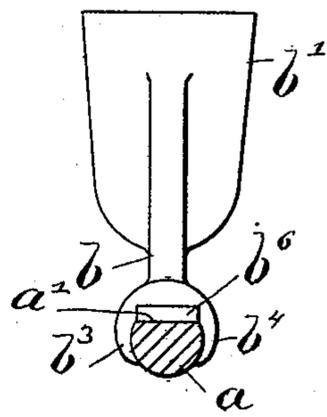


Fig. 5

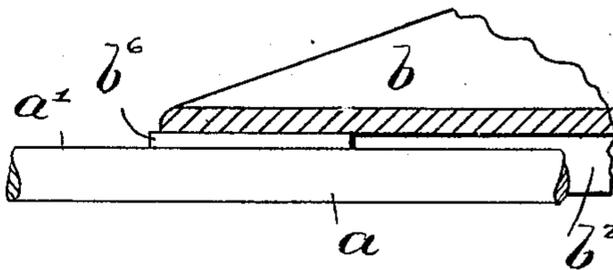
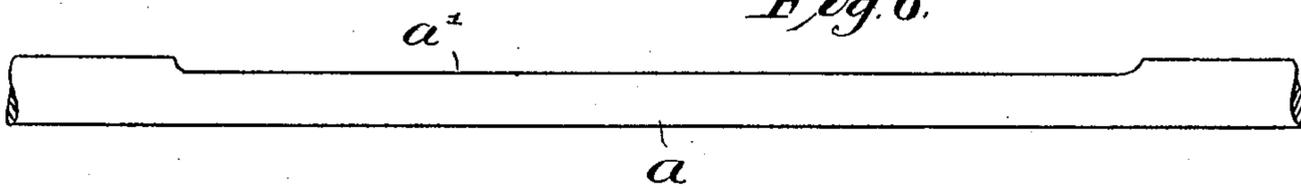


Fig. 6



Witnesses  
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Inventor  
Edward J. Cook  
By his Attorney  
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# UNITED STATES PATENT OFFICE.

EDWARD J. COOK, OF CLEVELAND, OHIO.

## SUPPORT FOR TROLLEY-WIRES.

SPECIFICATION forming part of Letters Patent No. 582,344, dated May 11, 1897.

Application filed March 6, 1897. Serial No. 626,338. (No model.)

*To all whom it may concern.*

Be it known that I, EDWARD J. COOK, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Supports for Trolley-Wires, of which the following is a specification.

My invention relates to improvements in the means for supporting trolley-wires, and it especially relates to improvements in the construction of trolley-ears and the means for attaching the same to the trolley-wire.

In the accompanying drawings, Figure 1 is a side elevation, partly broken away, of a trolley ear or support embodying my invention. Fig. 2 is an end view of the same with the wire in section. Fig. 3 is a similar view showing the position of the parts in attaching the trolley-ear. Figs. 4 to 8, inclusive, are detail views of some of the various parts, showing modifications which will be referred to hereinafter.

Like parts are represented by similar letters of reference in the several views.

In the accompanying drawings,  $a$  represents a trolley-wire, and  $b$  a trolley-ear adapted to be attached thereto. In carrying out my invention I provide the trolley-ear with any suitable construction, such as a screw-threaded boss or similar device  $b'$ , for attaching it to the insulator or hanger. The lower part of the trolley-ear is provided with a groove  $b^2$ , the projecting sides  $b^3$  and  $b^4$  of which are curved to conform to the section of the trolley-wire  $a$  and are made sufficiently long to pass below the center of said wire, and thus hold the same in the groove, said groove being chambered out to a larger diameter than the opening through which the wire is inserted.

In order to insert the wire to position, I form it with a flat side or sides  $a'$ , which when turned to an unusual position may be inserted through the opening into the groove  $b^2$ , after which, by turning the support or wire so as to bring the full diameter of the wire at right angles to the plane of the opening, the wire will be held in position by the projecting sides  $b^3$  and  $b^4$  of the said groove. To provide for holding the wire in this posi-

tion and prevent its turning, any suitable means may be employed. In Figs. 1, 2, and 3 I have shown the trolley-ear provided with projections  $b^5$ , which project from the ends of the trolley-ear in line with the bottom of the groove  $b^2$ , but which are adapted to be bent down and contact with the flat surface of the wire, as shown in Fig. 2 and at the right of Fig. 1, so as to hold the wire and ear in the proper relative positions to prevent separation of the parts. In Figs. 4 and 5 I have shown the same result accomplished by a wedge or key  $b^6$ , inserted in the groove above the wire and resting in contact with the flat side thereof, the bottom of the groove in this case being preferably formed flat instead of round to accommodate the key or wedge.

In Figs. 7 and 8 I have shown the invention adapted for trolley-wires of different sections, such as are known as the "clover-leaf" and "figure 8" sections. In each of these devices the upper portion  $a^2$  is provided with two flattened surfaces  $a'$ , which join each other at an angle and which will form a cross-section of the supporting portion  $a^2$  of a smaller diameter when the ear is turned to an unusual position than when it is turned to the usual position for use, so as to permit the trolley-ear to be slipped onto the wire in an unusual position and be held firmly thereon when turned to the proper supporting position.

In practice when the ordinary round section of wire is employed it may be flattened on top at the points at which the trolley-ears are to be attached, as shown in Fig. 6, or a special wire may be drawn having the top flattened throughout its entire length, so that the vertical diameter of the wire will be less than the horizontal diameter, while the distance between the lips  $b^3$   $b^4$ , which form the opening into the groove, will remain fixed and unchangeable.

It will be seen that a trolley-support as thus constructed will be such that the ears may be readily attached or removed, as desired. In ordinary practice where the "feed-in" ears are soldered to the trolley-wire at frequent intervals with the usual strain ears or anchors the devices for holding the wire from turning in the trolley-ear may be dispensed

with; but in any event they are easily applied when the parts are joined or removed when the parts are to be separated.

Having thus described my invention, I  
5 claim—

1. The combination with a trolley-wire of greater diameter in one direction than in the other direction, a trolley-ear having a cham-  
bered groove with an opening less than the  
10 diameter of said chamber, said wire being adapted to be inserted into said groove when turned to an unusual position and be held in said groove by the sides thereof when turned to the normal or supporting position, sub-  
15 stantially as specified.

2. In combination with a trolley-wire flat-  
tened as described, a trolley-ear having a  
chambered groove with projecting lips adapt-  
ed to be inserted over said flattened surface  
20 when turned to an unusual position and to engage and hold the sides of said wire when turned to the usual or supporting position, substantially as specified.

3. The combination with a trolley-wire  
25 having one or more flattened sides to form a diameter less than the diameter of the main

body of said wire, and a trolley-ear having a  
chambered groove with fixed sides or lips, the  
opening between which is smaller than the  
diameter of said wire whereby said trolley-  
ear is adapted to be inserted onto said wire  
30 when turned to an unusual position, and means for holding said wire from turning in said trolley-ear in the usual or supporting position, substantially as specified. 35

4. The combination with the trolley-wire  
flattened as described, of a trolley-ear having  
a chambered groove with an opening of less  
diameter than the main body of said wire,  
said ear being formed with malleable projec-  
40 tions adapted to be forced into contact with said wire to prevent the same from turning when in the supporting position in said trolley-ear, substantially as specified.

In testimony whereof I have hereunto set  
45 my hand this 27th day of February, A. D. 1897.

EDWARD J. COOK.

Witnesses:

A. W. SWEENEY,  
BENJ. H. JACOBS.