

(No Model.)

L. T. GIBBS.  
TROLLEY WIRE SUPPORT.

No. 505,457.

Patented Sept. 26, 1893.

Fig. 1.

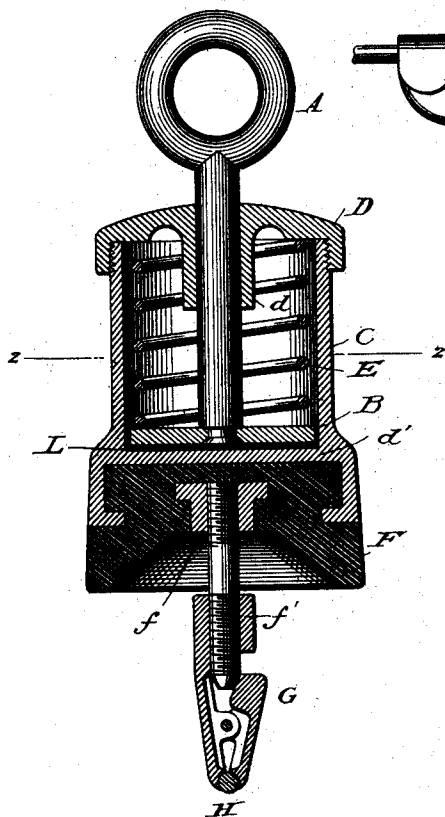


Fig. 3.

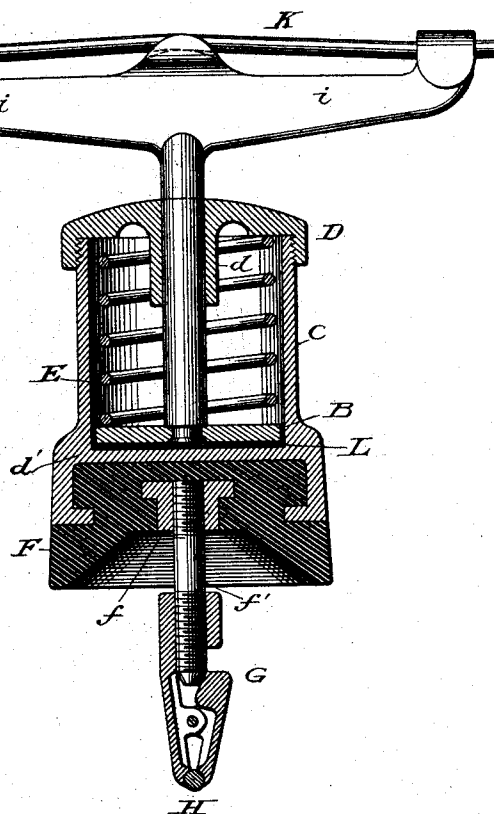
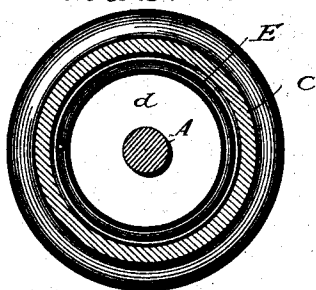


Fig. 2.  
on line z-z.



Witnesses

Raymond Barnes.  
J. J. Elmore.

Inventor

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# UNITED STATES PATENT OFFICE.

LUCIUS T. GIBBS, OF MILWAUKEE, WISCONSIN.

## TROLLEY-WIRE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 505,457, dated September 26, 1893.

Application filed October 15, 1892. Serial No. 448,957. (No model.)

*To all whom it may concern:*

Be it known that I, LUCIUS T. GIBBS, of Milwaukee, county of Milwaukee, and State of Wisconsin, have invented a new and useful Improvement in Trolley-Wire Supports, of which the following is a specification.

My invention relates to hangers for trolley wires for use in electric railway systems, and it consists in an improved manner of sustaining the wire or conductor by a yielding support to the end that it may move vertically at its points of attachment to the pole as the trolley passes along the wire.

The invention also consists in the details of construction and combinations of parts hereinafter described and claimed.

My invention is applicable to both overhead and underground or conduit systems, and may be employed in other and analogous connections provided the operation is substantially the same.

In the accompanying drawings,—Figure 1 is a vertical sectional elevation of my improved hanger as applied to the overhead or “central pole” construction. Fig. 2 is a horizontal section through the same on the line 2—2. Fig. 3 is a vertical sectional elevation of the hanger as applied to the “side-pole” suspension construction.

Referring to Figs. 1 and 2, A represents a depending extension in the form of an eye-bolt adapted to be connected at its upper end to one of the usual horizontal arms of the center pole, and having secured rigidly to its lower end a disk or circular head or plate B, formed to fit snugly within a cylinder C, in such manner that the latter may move vertically with respect to the disk. This cylinder has its upper outer surface threaded to receive an interiorly-threaded cap D, which is provided at its center with an opening to receive the eye-bolt. Adjacent to the opening the cap is provided with a depending annular flange *d*, which serves as a guide for the eye-bolt which extends within the same. Within this cylinder is located a spiral expansion spring E, surrounding the eye-bolt and bearing at its upper and lower ends respectively against the cap and the disk. This spring tends normally to maintain the disk in the bottom of the cylinder, and consequently, the latter is yieldingly sustained by

the spring. The bottom of the cylinder is closed by a wall *d'*, from which point the cylinder is extended downward in the form of an annular flange the edge of which projects inward toward the center and is embedded in an insulated filling F. At the center of this filling is fixed a nut *f*, in which is screwed the upper end of the bolt *f'*, the lower end of which sustains a clamp G, in which the wire or conductor H is firmly held.

Under the foregoing construction it will be seen that the wire is supported indirectly by the spring which is compressed to a greater or less degree according to its strength and the weight of the wire. As a result the wire may yield vertically at its point of attachment to the bolts, and as the trolley passes it will be lifted thereby momentarily, so that there will be no liability of the trolley jumping from the wire or of the wire becoming broken as is frequently the case where it is connected rigidly to the pole.

In Fig. 3 I have represented my hanger applied to the “side-pole” construction. In this case the hanger is identical with that just described with the exception that the bolt is provided at its upper end with two laterally-projecting arms *i*, having their extremities in the form of hooks adapted to pass over a suspension wire K. In order that the parts may be relieved from sudden shocks which would result from the contact of the disk with the bottom of the cylinder I introduce between the same a washer L, of rubber or equivalent material.

It is to be understood that while I have shown my invention embodied in its preferred form various changes will suggest themselves to the skilled mechanic as to details without departing from the spirit of the invention.

Having thus described my invention, what I claim is—

1. In a trolley wire hanger, the combination of a fixed support adapted to be connected to a post or equivalent supporting medium, a depending extension carried by said fixed support, and provided with a head, a vertically moving cylinder surrounding said extension and head and adapted to sustain the wire, and a spring located within the cylinder and bearing at its ends respectively against the head and the cylinder; whereby the cylinder

is yieldingly sustained by the spring and serves to protect the moving parts inclosed thereby, substantially as described.

2. In a trolley wire hanger, the combination  
5 of the bolt adapted at its upper end to be connected to a post or equivalent sustaining medium, and provided at its lower end with a disk, of a cylinder surrounding said disk and movable relatively thereto, a cap applied to  
10 the top of the cylinder and provided with an opening to receive the bolt, a spiral spring lo-

cated within the cylinder encircling the bolt and bearing at its ends respectively on the cap and disk and an insulated wire clamp applied to the cylinder.

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In testimony whereof I hereunto set my hand, this 6th day of September, 1892, in the presence of two attesting witnesses.

LUCIUS T. GIBBS.

Witnesses:

GEO. O. WHEATCROFT,  
FRANK J. BOEHM.