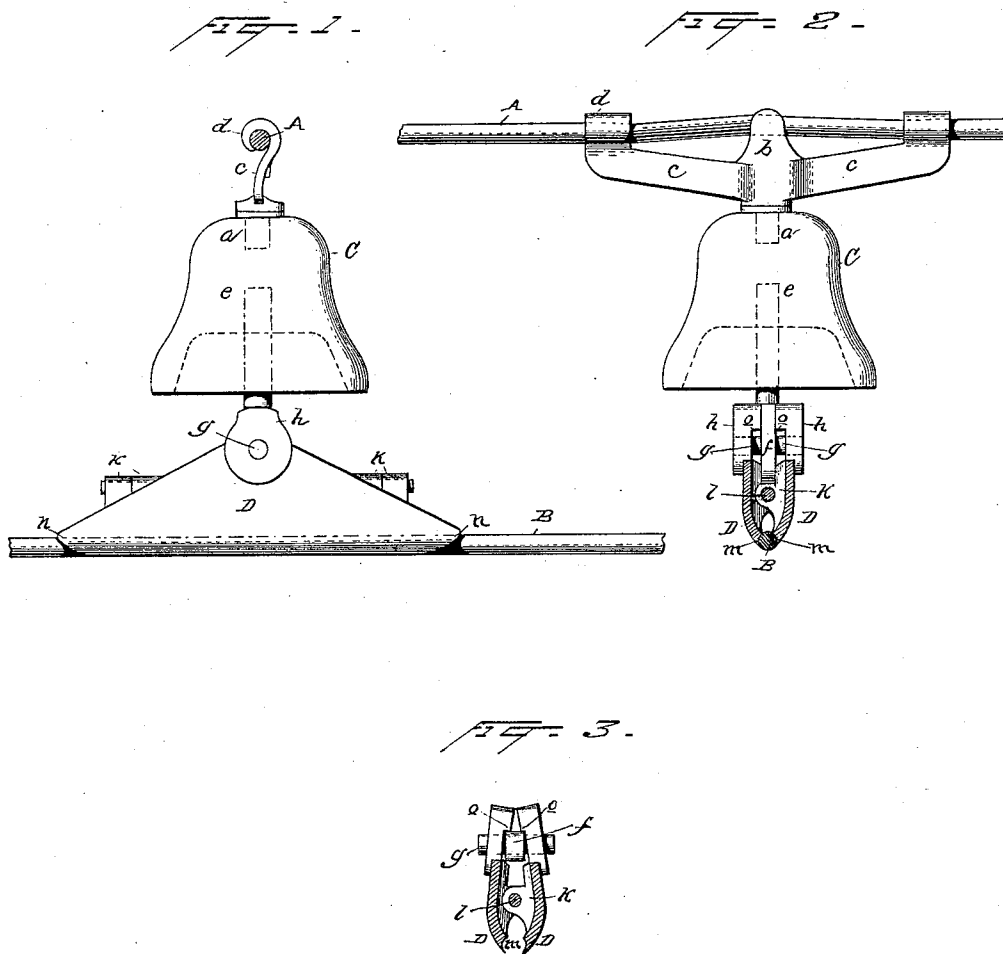


(No Model.)

C. A. LIEB.
HANGER FOR OVERHEAD WIRES.

No. 461,582.

Patented Oct. 20, 1891.



Witnesses
Morris A. Clark.
[Signature]

Inventor
Charles A. Lieb
By his Attorneys
[Signature]

UNITED STATES PATENT OFFICE.

CHARLES A. LIEB, OF NEW YORK, N. Y., ASSIGNOR TO THE SPRAGUE
ELECTRIC RAILWAY AND MOTOR COMPANY, OF SAME PLACE.

HANGER FOR OVERHEAD WIRES.

SPECIFICATION forming part of Letters Patent No. 461,582, dated October 20, 1891.

Application filed August 30, 1890. Serial No. 363,583. (No model.)

To all whom it may concern.

Be it known that I, CHARLES A. LIEB, a citizen of the United States, residing at New York city, in the county and State of New York, have invented a certain new and useful Improvement in Hangers for Overhead Wires of Electric Railways, of which the following is a specification.

My invention relates, mainly, to electric railways of that general character in which an overhead conductor is placed above the track and a contact device carried by the car travels upon the under side of said conductor, said contact device usually consisting of a grooved wheel or trolley. In such a system the overhead conductor requires to be supported at intervals by insulating supports, which may suspend the conductor from transverse wires above the same or from suitable brackets extending from poles planted along the line.

More specifically my invention relates to such insulating supports or hangers, my object being to provide a simple and effective device which can be readily and quickly placed in position and attached securely to the line without the use of solder or of any external attaching means, and which shall not form any obstruction to the passage of the trolley.

My invention consists in the various novel devices and combination of devices employed by me in accomplishing the above-named object, as hereinafter set forth and claimed.

Said invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a support or hanger embodying the invention; Fig. 2, an end elevation and partial section of the same with the conductor in place; and Fig. 3, an end view and partial section of the clamping-jaws, showing them in position to receive the conductor.

The hanger shown is one adapted to be suspended from a transverse wire A, such transverse wires being placed at intervals along the line at right angles to and above the working conductor or trolley-wire B, as is now well understood.

C is a bell-shaped insulator, into the top of

which is screwed a stem *a*, above which is a grooved projection *b*, and from which extend the transverse arms *c c*, which terminate in hooks *d d*. These are hooked over the wire A, which lies in the groove of *b*. The suspending devices thus described are as heretofore used and do not constitute by themselves any part of my invention. Into the lower side of the insulator C is screwed a stem *e*, which terminates in a flat block *f*, which forms the wedging device, through which passes tightly a short spindle *g g*; or lugs *h h* may be formed in one piece with *f*. The ends of spindle *g g* enter loosely holes in lugs *h h*, which extend up, respectively, from the hinged jaws D D. The jaws D D have internal perforated lugs *k k* in line with one another, and through these lugs a rod *l* passes, said rod forming the pivot or fulcrum on which the jaws are hinged, and the spindle *g g* being sufficiently loose in the lugs *h h* to permit the movement of said jaws upon said fulcrum. The jaws D are formed as shown, curving toward each other at their lower part, and at their lower edges they are formed with grooves *m m* and at their ends with upward bevels *n n*. The lugs *h h* are formed with inwardly-projecting shoulders *o o*.

When the device is in position to receive the wire, it is as shown in Fig. 3, the jaws D D being open and the wedging-block *f* being in the recess below the shoulders *o o*, the stem lying loosely, parallel with the length of the jaws. The wire B being placed between the edges of the jaws, the stem *e* is raised, bringing the block *f* up between the shoulders *o o*, and thereby forcing the jaws D D tightly upon the wire, so that said wire is firmly clamped and locked in position, as shown in Fig. 2. The insulator C may then be screwed upon the stem *e*; or this may be done before attaching the hanger to the wire. In either case the hanger is afterward hooked upon the supporting-wire A, as already explained. The wire can readily be detached from the hanger by turning the block into the position of Fig. 3, which loosens the grip of the jaws D D on said wire.

The curved form of the jaws and the beveling of the ends thereof cause the same to

present a smooth and unobstructed surface for the passage of the contact device.

What I claim is—

1. In a hanger for overhead wires, the combination, with suspending devices, of a pair of hinged gripping-jaws and a wedging device for closing and holding said jaws upon the wire, substantially as set forth.
2. In a hanger for overhead wires, the combination of the hinged jaws, the pivoted supporting-stem, and a part on said stem arranged to enter between said jaws above their fulcrum for closing and holding said jaws upon the wire, substantially as set forth.
3. In a hanger for overhead wires, the combination, with the hinged jaws having the upwardly-extending and shouldered lugs, of the stem loosely pivoted between said lugs, and a part on said stem adapted to enter between said shoulders for closing and holding said jaws upon the wire, substantially as set forth.
4. In a hanger for overhead wires, the combination of the jaws having internal lugs, the

rod passing through such lugs, the internal shoulders on said jaws above said rod, the pivoted supporting-stem, and a part on said stem entering between said shoulders for closing and holding said jaws upon the wire, substantially as set forth.

5. The combination, with a wire circular in cross-section, of a hanger therefor, having in combination suspending devices and gripping-jaws curving toward the conductor on each side thereof and having grooves in their meeting edges for receiving the conductor, substantially as set forth.

6. In a hanger for overhead wires, the curved gripping-jaws having beveled ends and grooves at their edges for receiving the wire, substantially as set forth.

This specification signed and witnessed this 29th day of August, 1890.

CHARLES A. LIEB.

Witnesses:

E. LOURAN,

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