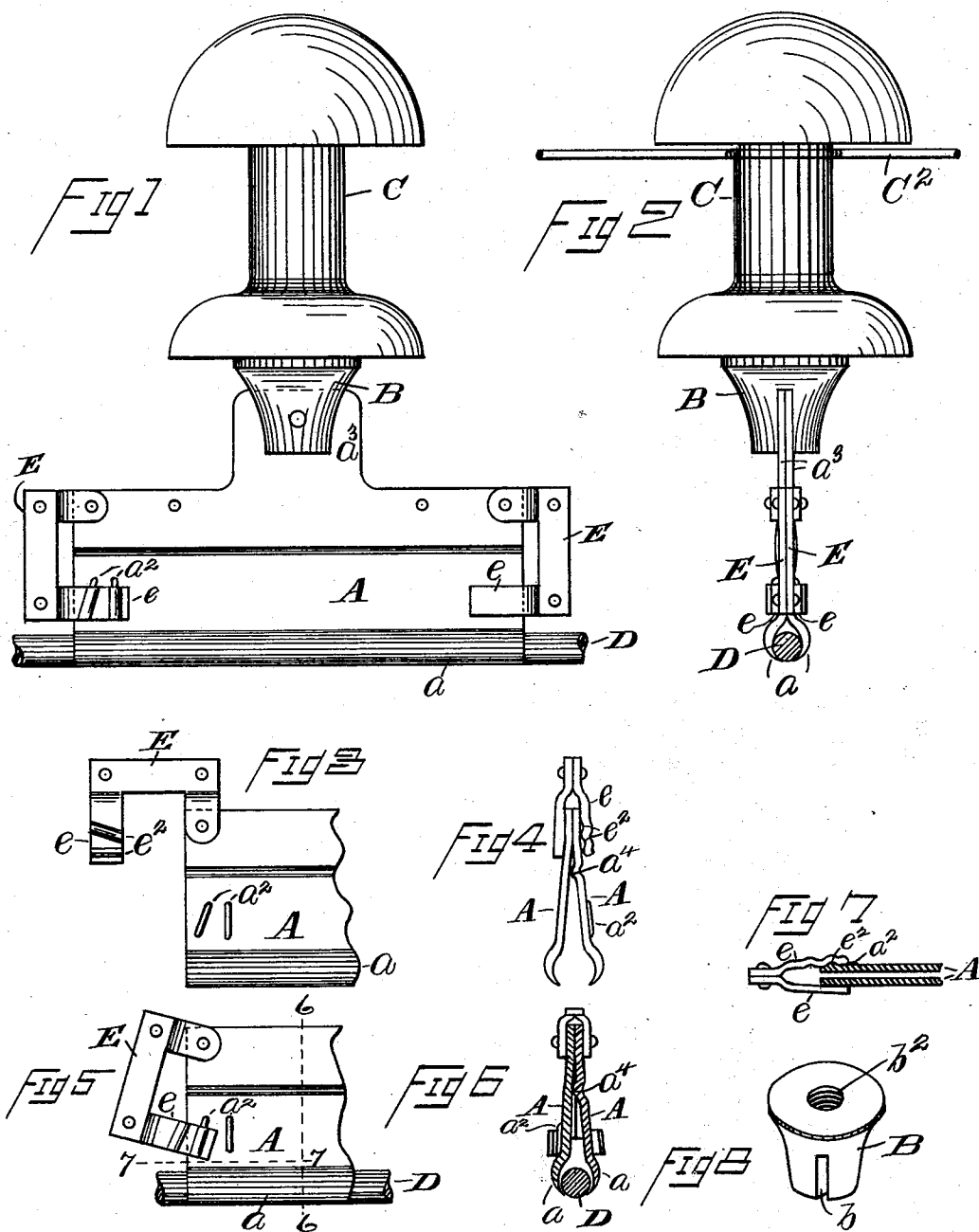


(No Model.)

G. H. RICKE.
HANGER FOR TROLLEY WIRES.

No. 509,328.

Patented Nov. 21, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE H. RICKE, OF CINCINNATI, OHIO, ASSIGNOR OF THREE-FOURTHS TO OWEN M. HILLAND, MICHAEL A. MCGUIRE, AND CHARLES C. AGIN, OF SAME PLACE.

HANGER FOR TROLLEY-WIRES.

SPECIFICATION forming part of Letters Patent No. 509,328, dated November 21, 1893.

Application filed August 7, 1893. Serial No. 482,580. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. RICKE, a citizen of the United States, residing at Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Hangers for Trolley-Wires, of which the following is a specification, reference being had to the accompanying drawings.

The object and nature of my invention will be apparent from the detailed description and claims hereinafter set forth.

In the accompanying drawings:—Figure 1, is a side elevation of a hanger embodying my invention in an operative position, and Fig. 2, is an end view of same. Fig. 3, is a side elevation of one end of the hanger shown in preceding figures, said view showing the clamp elevated with the trolley-wire removed, and Fig. 4, is an end view taken at left hand in Fig. 3. Fig. 5, is a side elevation of the hanger (partially broken away) taken at left hand in Fig. 1, illustrating the clamp swung outward sufficiently to permit the jaws of the hanger to expand slightly in order to permit of the trolley-wire being tightened, and Fig. 6, is a transverse section taken on dotted line 6, 6, of Fig. 5 and looking toward the left hand in said latter figure. Fig. 7, is a horizontal section on dotted line 7, 7, of Fig. 5, looking upward. Fig. 8, is a detached perspective view of the preferred form of cap for making a connection between my improved hanger and any of the well-known forms of insulators.

My improved trolley-wire hanger is preferably constructed as follows, viz: A, represents the two plates which terminate in jaws, a , said plates being rigidly connected along their top edge. In the drawings said plates are shown in two separate parts: but, if desired said plates may be formed of one integral piece by bending the metal, centrally, upon itself. The plates are also preferably provided with upwardly projecting ears, a^3 , which latter are pivoted within the slot b of cap B, which latter is provided at top with a screw-threaded opening, b^2 , within which is screwed the stem of the insulator C, to which is attached the guy-wire, C^2 . The plates, A, and their respective jaws a are stamped from suitable sheet-metal, preferably brass, the outer

edge of said jaws being drawn out or turned down thin, by reason of which said jaws will grasp the trolley-wire D (in the manner hereinafter set forth) and at the same time not project below the lowest point on the surface of said wire, thus producing a smooth continuous surface over which the trolley (not shown) travels, said smooth surface having a tendency to prevent sparking and consequent loss of generating power. One of the plates A is preferably provided with an internal horizontal rib, a^4 , (see Figs. 4 and 6,) which will impinge against the adjacent plate, causing the jaw-portions of said plates to separate slightly when the clamps (hereinafter set forth) are partially or wholly removed. The plates, A, are provided with a suitable clamping device for compressing the jaws a firmly and securely to the trolley-wire, one form of such device being shown, which consists of the two bifurcated clamps, E, pivotally connected to said plates near their top end portions, as shown, the bifurcated portions, e , of said clamps being adapted to grasp the sides of said plates, immediately above their jaws, and tightly compress the latter against the trolley-wire when said clamps are forced inward by a hammer or other suitable tool.

The clamps E, when constructed as shown, consist of two strips of suitable metal stamped in angular shape substantially as shown and riveted or otherwise suitably connected together. It is preferred to form one or more transverse grooves e^2 on the inner face of one bifurcated portion e , which groove is adapted to fit over and lock with a suitable rib or ribs a^2 on the plates A, in order to retain the clamp in proper position. In the drawings I have illustrated but one of the bifurcated arms e as being provided with the lock-groove; but, if desired, both of said arms, on each clamp, may be provided with such groove or grooves, in which event each plate A will be provided at each side with corresponding lock-ribs.

It is preferred to employ two ribs a^2 on one side of each plate A, and a corresponding number of grooves e^2 on one arm e of each clamp, said grooves and ribs at one end of the hanger being on one side thereof, and at

the opposite end on the opposite side; but, as aforesaid, they may be formed on both sides of said hanger and clamps. The arm *e* of the clamp having the grooves, is curved outward slightly, as shown in Fig. 7, the object of this construction being to permit the jaws *a* to expand slightly when the clamps are loosened and moved outward, as shown in Figs. 5 and 6, in which position said jaws will expand slightly but still uphold the trolley-wire and at the same time permit of its being drawn horizontally through the hanger when tightening said wire. When the clamps are moved outward, as shown in Figs. 5 and 6, the outer groove on each clamp will engage with the outer rib on the plates, thus retaining the latter and their jaws in a slightly expanded state for the purpose aforesaid.

The operation of my improved trolley-wire hanger, is as follows: The hangers are first secured to the insulators on the guy-wires, the clamps on said hangers being thrown outward, as shown in Figs. 3 and 4. The trolley wire is next inserted from beneath between the jaws of the hangers, at which time the clamps are lowered and driven to place, thus locking said jaws into contact with the trolley-wire, as shown in Figs. 1 and 2. If desired, said clamps may be only partially locked, as shown in Figs. 5 and 6, until the entire line of wire is put up, when the latter can be drawn up and tightened, and the clamps are then driven to place, as aforesaid. To loosen the clamps at any point along the line, all that is required is for the line-man to insert a suitable tool between the ends of the hanger-plates and the clamps, and, by properly manipulating said tool, said clamps will yield slightly and permit of their being moved outward as shown in Fig. 5 or Fig. 3. The plates, A, being rigidly connected together at their top edge, will readily expand at their lower jaw-portion so soon as the pressure of the clamps is partially or entirely removed.

The advantages of my invention are apparent, being simple and effective in operation, and cheap of manufacture. The facility afforded, by means of the pivoted clamps, for slightly expanding the jaws of the hanger, as set forth, is a very great advantage, as by this means the wire on any line can be tightened without interfering with the travel on said line,—the wire being held in suspension. The facility afforded for drawing the trolley-wire through the hangers while said wire is in an operative position, is a very great saving of valuable time, and by this means the guy-wires are not drawn out of line or broken, as is now commonly done.

While the specific form of clamp-device herein set forth is, for practical purposes, preferred, I do not limit my invention to said specific form.

What I claim as new, and desire to secure by Letters Patent, is—

1. A hanger for trolley-wires consisting of

two plates suitably connected at their top edge, and means for causing the lower edge of said plates to spring outward, said lower edge of each plate terminating in a jaw *a*, in combination with bifurcated clamps for grasping said plates near their end portions, and means for locking said clamps thereon, substantially as set forth.

2. A hanger for trolley-wires, consisting of two plates connected at their top edge, said plates terminating in jaws *a*, in combination with bifurcated clamps *e* for grasping said plates near their end portions, for the purposes specified.

3. A hanger for trolley-wires, consisting of two plates connected at their top edge, each plate terminating in a jaw, in combination with bifurcated clamps, as E, pivotally connected to said plates, substantially as set forth.

4. A hanger for trolley-wires, consisting of plates A connected together at their top edge, each plate terminating in a jaw, *a*, in combination with the bifurcated clamps E pivotally connected to said plates near their top edge and near the ends thereof, the arms *e* of said clamps being adapted to grasp and compress said plates, and a suitable device for locking said clamps on said plates, substantially as set forth.

5. A hanger for trolley-wires consisting of two plates rigidly connected at their top edge, each plate terminating in a jaw, and a rib *a*² on one side of said plates, in combination with clamps E pivotally connected to said plates, one arm *e* of each clamp having a groove *e*² therein, substantially as and for the purposes set forth.

6. A hanger for trolley-wires, consisting of plates A connected together at their top edge, said plates having the upwardly projecting ears *a*³ and lower terminating jaws *a*, in combination with screw-cap B having a transverse slot *b* therein within which the ears *a*³ are pivoted, and means for connecting said cap to the insulator, as set forth.

7. A hanger for trolley-wires consisting of the two plates A stamped from sheet-metal and connected together at their top edge, said plates each having a jaw *a*, in combination with suitable clamps for compressing and locking said jaws against the trolley-wire, as set forth.

8. A hanger for trolley-wires consisting of the two plates connected at their top edge, each plate terminating in a lower jaw, in combination with the bifurcated clamps, one arm *e* of each clamp being bent outward at an angle near its point to permit of a slight expansion of said jaws when said clamps are moved, substantially as set forth.

GEORGE H. RICKE.

Witnesses:

CHARLES J. RUFFIN,
O. M. HILL.

It is hereby certified that the name of the first-mentioned assignee in Letters Patent No. 509,328, granted November 21, 1893, upon the application of George H. Rieke, of Cincinnati, Ohio, for an improvement in "Hangers for Trolley-Wires," was erroneously written and printed "Owen M. Hilland," whereas said name should have been written and printed *Owen M. Hill*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 5th day of December, A. D. 1893.

[SEAL.]

JNO. M. REYNOLDS,
Assistant Secretary of the Interior.

Countersigned:

JOHN S. SEYMOUR,
Commissioner of Patents.