(No Model.)

G. E. JOHNSON.

TROLLEY WIRE HANGER.

No. 605,251. Patented June 7, 1898.

Fig. 1.

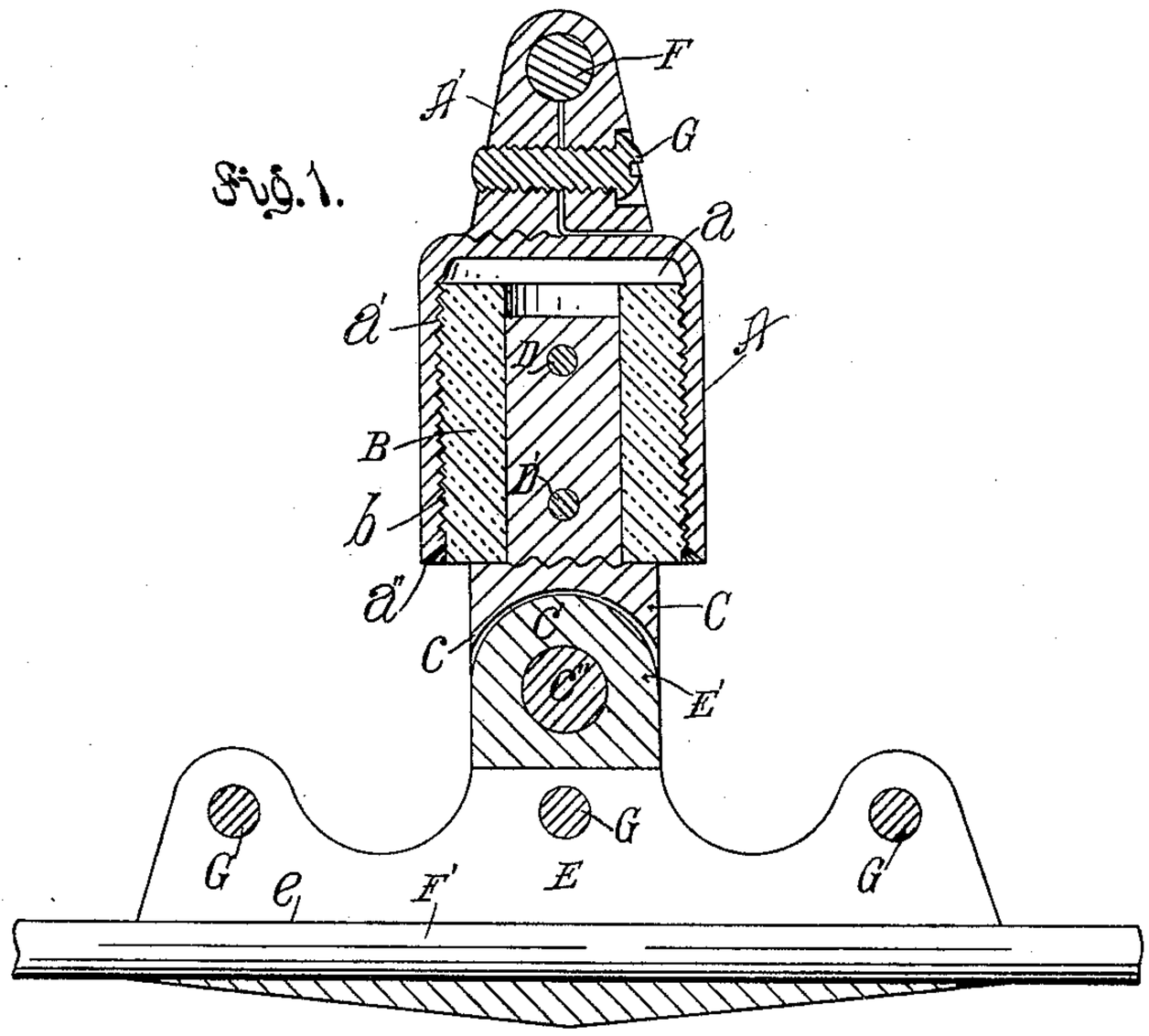
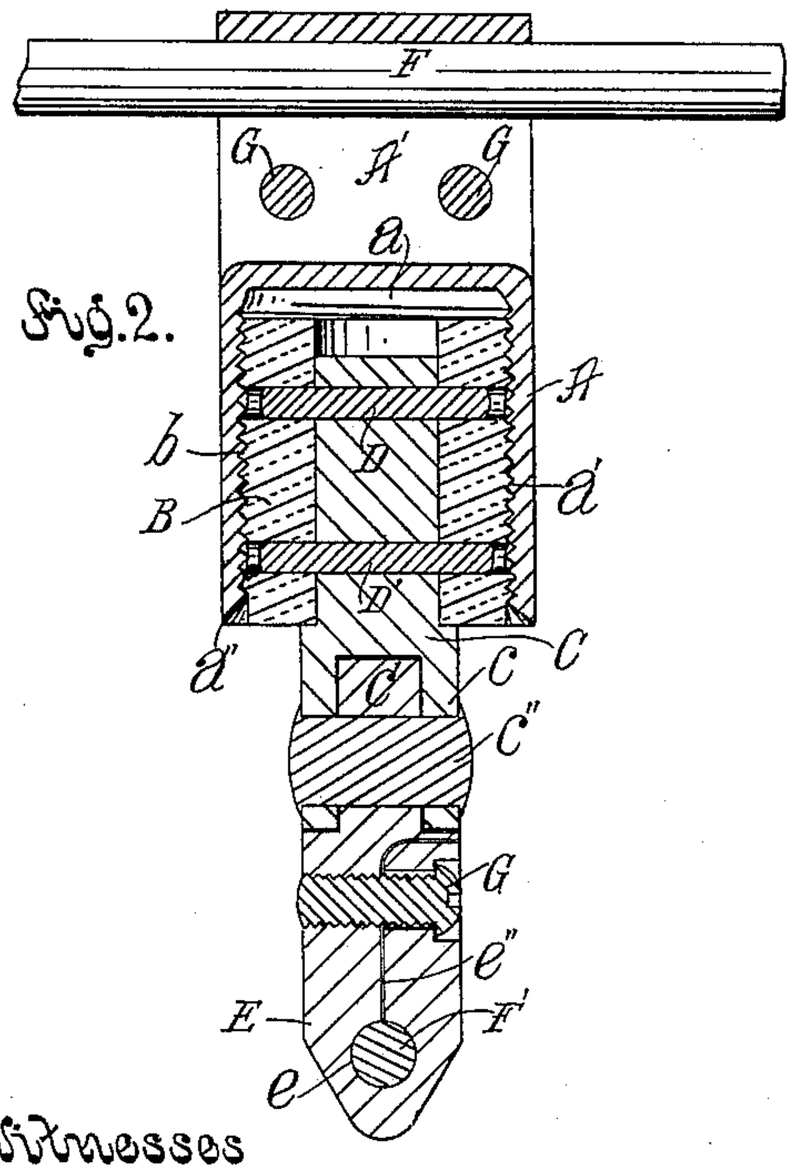


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE EDWIN JOHNSON, OF LOS ANGELES, CALIFORNIA.

TROLLEY-WIRE HANGER.

SPECIFICATION forming part of Letters Patent No. 605,251, dated June 7, 1898.

Application filed August 19, 1896. Renewed July 22, 1897. Serial No. 645,623. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EDWIN JOHNSON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Trolley-Wire Hangers, of which the following is a specification.

My invention relates to improvements in that class of trolley-wire hangers in which the guy and trolley wires are clamped by the hanger instead of being soldered thereto.

One object of my invention is to produce a trolley-wire hanger which will be cheap and simple in construction, effective in operation, easy to apply, and not liable to get out of order or work loose after it is once in position.

A further object of my invention is to provide a trolley-wire hanger in which the trolley-clamp and the guy-clamp will be connected with each other by a hinge connection, so as to permit the trolley-clamp to swing in one direction or the other with relation to the guy-wire clamp without throwing the trolley-wire clamp out of line with the wire, as is the case with those devices in which the trolley-wire clamp and the guy-clamp are rigidly connected with each other. This often causes the trolley-wire to break loose from the hanger.

My invention comprises the various features of construction and combinations of parts hereinafter fully set forth and claimed.

The accompanying drawings illustrate my invention.

Figure 1 is a view, shown partly in vertical section, illustrating the general construction of my improved hanger. Fig. 2 is a view taken at right angles to the line of view shown in Fig. 1. In this view the upper half of the guy-clamp is removed.

One great difficulty with trolley-hangers is the tendency of the current to leap from the trolley-clamp to the guy-wire and thus become lost and to charge the guy-wire, so that it becomes dangerous to life. This is most liable to occur during a rain-storm, when the water saturates the insulators and thus renders them to a greater or less extent capable of conducting electricity. My invention is adapted in the highest degree to avoid this objection.

In the drawings, A represents a cap or inverted bell, which has a clamp A′ secured to the top thereof, preferably formed integral therewith and adapted to clamp upon the guy or supporting wire F. This cap thus forms a chamber *a*, which is entirely closed at the top, and this chamber is provided with interiorly-arranged screw-threads *a′*.

B is a plug of insulating material arranged within the cap, and *b* are exterior screw-threads provided upon the plug and adapted to screw into the screw-threaded cap.

C is a stud which is preferably provided at its lower end with one-half *c* of a hinge and has its other end rigidly fixed in the plug. The stud may be secured in the plug by any suitable means without departing from the spirit of my invention; but in Fig. 1 I have shown the stud secured in place by means which I consider both simple and effective. This means comprises pins D D′, passing through the plug and through the stud. These pins are arranged with their ends seated far enough within the plug to avoid their contacting with the screw-threaded wall of the cap and thus destroying the insulation. The top of the stud is also arranged below the top of the plug, so as to avoid contact with the top of the cap.

E is a trolley-wire clamp which is provided with an upwardly-projecting stem E′, which at its upper end is formed into a member *c′* of a hinge, so that the lower end of the stud and the upper end of the trolley-hanger fit together and are pivoted to each other by means of a pintle or pivot-pin *c″*, thus forming a pivotal or hinge connection between the guy-clamp and the trolley-wire clamp.

As shown in the drawings, the clamp for the trolley-wire and the clamp for the guy-wire are the same in construction, so I will describe the clamp for the trolley-wire, which will serve as a description for both.

The trolley-wire clamp E comprises a body having therethrough an opening *e*, within which seats the trolley-wire F′. A slot *e′* extends from this opening upward through the body and outward to one side thereof, leaving a thin portion opposite the slit unsevered, so as to allow the two members thus formed to be sprung apart to allow the insertion of the trolley-wire into its seat. After the wire is seated in place screws G are screwed through

the clamp to bind the two members together and to clamp them firmly upon the wire. By this means a very powerful clamp is formed, and the spring-tension of the two members tends to hold the screws from working loose.

In order to avoid any liability of the insulating-plug becoming wet during a rain-storm, I bevel the rim a''' of the cap downward and outward away from the plug, as shown in the drawings, so as to form a drip edge which will conduct any moisture away from the insulating-plug.

Now, having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a trolley-wire hanger, the combination set forth of an insulator; a stud fastened within said insulator, one end of the stud being formed into one-half of a hinge; a clamp for clamping upon a trolley-wire, composed of one piece with its upper portion formed into one-half of a hinge to unite with the half-hinge of the stud; a pintle for pivoting the members of the hinge together; and screws for drawing the clamp tightly upon a trolley-wire, substantially as set forth.

2. In a trolley-wire hanger, the combination set forth of a cylindrical insulator provided with suitable threads on its outside; a stud fastened within said insulator, one end of the stud being formed into one-half of a hinge; a clamp for clamping upon a trolley-wire, composed of one piece with its upper end formed into a one-half hinge for uniting with the stud; a pintle pivoting the hinge members to each other; screws for drawing the clamp tightly upon a trolley-wire; and a screw-threaded socket adapted to receive the screw-threaded plug.

3. In a trolley-wire hanger, the combination set forth of a cylindrical insulator provided with suitable threads on its outside; a stud fastened within said insulator and having its lower end formed into one-half of a hinge; a clamp for clamping upon a trolley-wire, having its upper end formed into a one-half hinge for uniting with the stud; a pintle pivoting the hinge members to each other; a screw-threaded socket adapted to receive and chamber the insulator; and means for drawing the clamp tightly upon a trolley-wire.

4. In a trolley-wire hanger, the combination set forth of an insulator; a stud fastened within said insulator by the introduction of pins through both the insulator and the stud, one end of the stud being formed into one-half of a hinge; a clamp for clamping upon a trolley-wire, composed of one piece with its upper portion formed in one-half of a hinge to unite with the half-hinge of the stud; a pintle for pivoting the members of the hinge together; and screws for drawing the clamp tightly upon a trolley-wire, substantially as set forth.

5. In a trolley-wire hanger, the combination of a cylindrical insulator with suitable threads on its outside; a stud fastened within the said insulator by the introduction of pins through both the insulator and the stud, one end of the stud being formed into one-half of a hinge; a clamp for clamping upon a trolley-wire, composed of one piece with its upper end formed into a one-half hinge for uniting with the stud; a pintle pivoting the hinge members to each other; screws for drawing the clamp tightly upon a trolley-wire; and a screw-threaded socket adapted to receive the screw-threaded plug.

6. In a trolley-wire hanger, the combination with the trolley-supporting wire, of the cap and clamp combined; the screws for clamping the clamp upon such wire; the insulating-plug; the stud; the pins passing through the stud and the plug; the clamp for clamping upon the trolley-wire; the screws for said clamp; and the pin pivoting the trolley-wire clamp to the stud.

7. In a trolley-wire hanger, the combination of an interiorly-screw-threaded cap; a plug of insulating material exteriorly screw-threaded and screwed into the cap; a trolley-wire hanger having its stud secured in the plug; the rim of the cap being beveled outward and downward away from the plug to form a drip edge.

8. In a trolley-wire hanger, the combination set forth of the interiorly-threaded cap; a plug of insulating material provided with exterior screw-threads and screwed into the cap; a trolley-wire clamp having a stud seated in the plug with its end arranged below the top of the plug; and the pins passing through the plug and the stud and having their ends arranged at a distance from the exterior of the plug, substantially as set forth.

9. In a trolley-wire hanger, the combination of an integral cap and clamp adapted to be clamped upon a guy-wire, the cap being interiorly screw-threaded; a plug of insulating material provided with exterior screw-threads and screwed into the cap; a stud secured in the plug and having its lower end provided with one member of a hinge; a clamp adapted to clamp upon a trolley-wire and provided with the other member of a hinge; and a pintle pivoting the hinge members together.

10. In a trolley-wire hanger the combination of the cap and clamp combined D D, the insulator F, the stud G, the pins II II, the pin I, the screws E E, the screws J J J and the clamp K, all assembled together in the manner and for the purpose as specified.

11. As means for holding a trolley-wire in the proper position in relation to a trolley-supporting wire and insulating one from the other, the combination set forth of a cylindrical insulator, with suitable threads cut upon its outside, a stud fastened within the said insulator by the introduction of suitable pins through both the insulator and the stud, with one end of the said stud formed into one-half of a hinge, a clamp for uniting with a trolley-wire composed of one piece with its upper end formed into a one-half hinge for uniting with the stud G and suitable screws for

drawing the said clamp tightly upon a trolley-wire, substantially as described and for purpose as specified.

12. In a trolley-wire hanger, the combination with the trolley-supporting wire A of the cap and clamp combined D D, the screws E E, the insulator F, the stud G, the pins H H the pin I, the screws J J J and the clamp K, substantially as described.

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