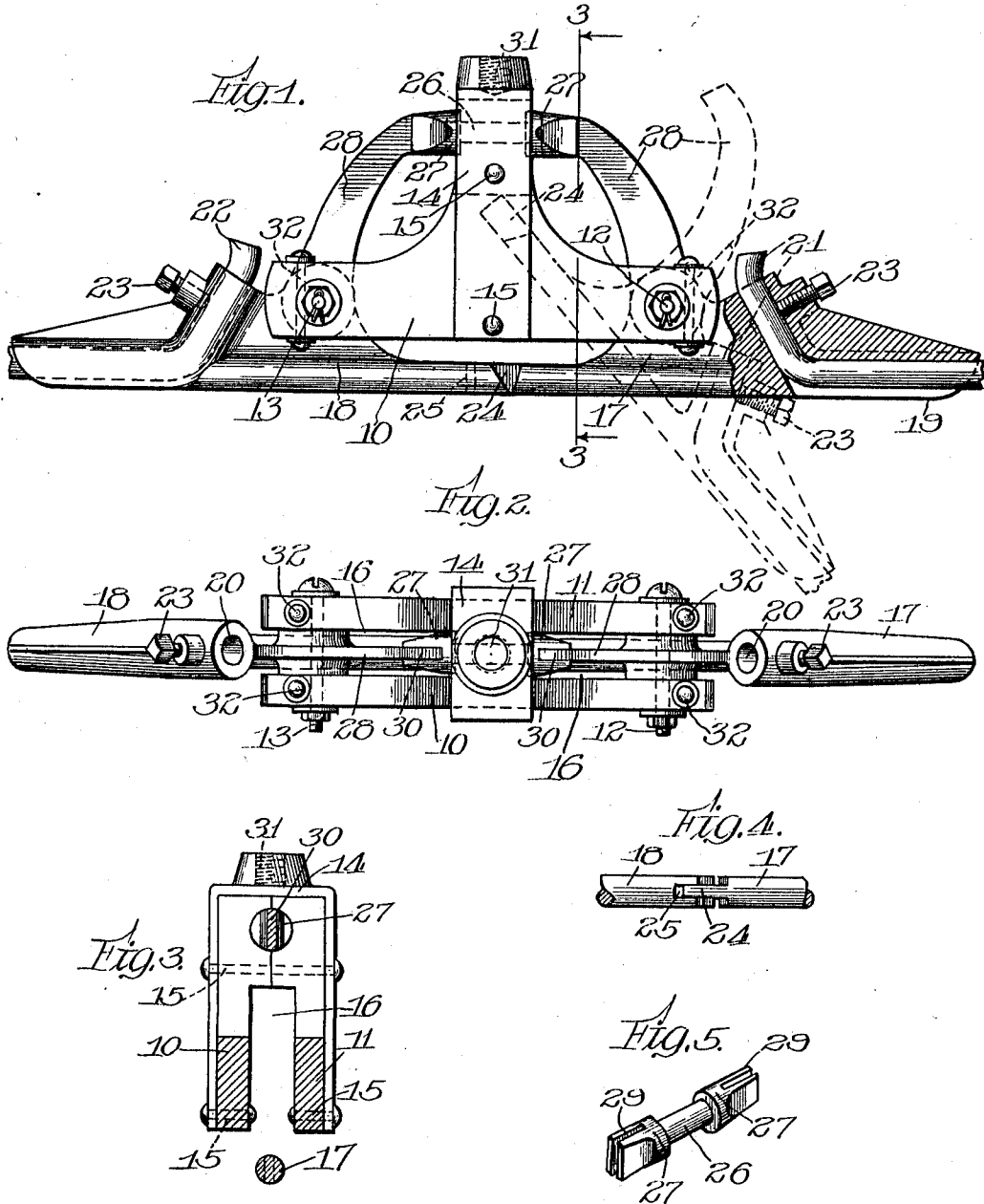


T. WARE.
HANGER FOR ELECTRICAL CONDUCTORS.
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1,004,316.

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UNITED STATES PATENT OFFICE.

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HANGER FOR ELECTRICAL CONDUCTORS.

1,004,316.

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To all whom it may concern:

Be it known that I, THOMAS WARE, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Hangers for Electrical Conductors, of which the following is a specification.

My invention relates to a hanger for trolley wires or other electrical conductors and has for its object to provide a hanger of new and improved construction which, in the event of the breakage of the conductor supported thereby, will automatically cut out of the electric circuit the broken portion of such conductor so as to prevent possible damage to life and property which results from the falling upon the ground or elsewhere of a wire charged with electricity.

One of the objects of the invention is to provide a hanger of this character in which a perfect electrical connection between the sections of wire supported by the hanger is maintainable under all ordinary service conditions, that is, is maintainable so long as the conductor is not severed or broken so as to bring the automatic cut-out feature into play.

A further object of the invention is to provide a hanger of this sort which will be certain and effective in its operation and at the same time economical to manufacture.

The invention in a preferred embodiment is shown in the accompanying drawings, wherein—

Figure 1 is a side elevation of the device. Fig. 2 a plan view. Fig. 3 a sectional view taken on line 3—3 of Fig. 1. Fig. 4 a detail view illustrating the knife-switch engagement between the trips, and Fig. 5 a perspective view of the contact plug in the bracket.

Like characters of reference indicate like parts in the several figures of the drawings.

Referring to the drawings, 10 and 11 represent two pieces of wood, or other non-conducting material, which are secured together by the bolts 12 and 13 and by the forked cap-piece 14, and rivets 15, so as to constitute a supporting bracket for the operative parts of the hanger. The wooden pieces 10 and 11 are recessed at the bottom on their inner surfaces, as shown particularly in Fig. 3, so as to provide a slot 16. In this slot at the opposite ends of the bracket are pivoted, for example on the

bolts 12 and 13, the metal trips 17 and 18, which are grooved on their under surfaces, as shown at 19, these grooves terminating in the perforations 20. The sections 21 and 22 of the trolley or other wire extend through the grooves and perforations and are held therein by any suitable means, for example by the set screws 23.

The inner end of one of the trips, for example the trip 17 terminates in the tongue 24 which extends into the slot 25 in the end of the other trip, the trip 18, these parts providing a knife-switch engagement between the trips when they are in their normal position. As this engagement is one likely to develop resistance in the conductor when the parts have become worn or if they should be mutilated, I provide means for making an electrical connection between the trips, when in their normal positions, at another place. Between the upper engaging portions of the wooden strips 10 and 11 in semicylindrical recesses therein is arranged a contact plug 26 which may be put in place before the wooden strips are bolted into the forked cap piece or hanger 14, this plug having at each end the contacts 27 preferably of greater diameter than the center portion of the plug so that the plug is held firmly in place in the bracket, which contacts are slidably engaged by arms 28 formed on the trips 17 and 18. Preferably, the engagements at these points are of the knife-switch sort, the contacts 27, for example, being slotted at 29 and the arms 28 being provided with the tongues 30.

The forked cap-piece 14 is formed with the threaded bore 31, or with other suitable means whereby the hanger can be supported. As the means for supporting hangers for electrical conductors are well known in their construction and form no part of my invention, such means are not shown in the drawings.

I have described the bracket of the hanger as made of wood or other non-conducting material. It is evident that it might be made of metal suitably insulated. The bracket may be reinforced, if desired, by the rivets 32 arranged just outside of the pivot bolts 12 and 13 of the trips.

With the device so constructed, if it happens that either of the sections of wire 21 or 22 should break, the weight of the broken section will cause the trip to be rocked to the position indicated by the dotted lines in

Fig. 1, destroying the engagement between the inner ends of the trips and that between the tilted trip and the contact plug 26. This will cut the broken section of the conductor out of the electric circuit. It will be seen that the device is provided with two channels for the electricity, when the parts are in their normal position, so that if for any reason the circuit is interrupted at one point, or resistance encountered to the flow of current at such point, the current may, nevertheless, flow freely along the other path. The contacts between the trips, and between each of the trips and the contact plug are sliding or wiping contacts, so that if the sections of the conductor are a trifle slack or are caused to move by the trolley wheel or otherwise, the electrical connection through the hanger is not impaired. When the trips are rocked to cut out a broken section of wire, their inner ends come into contact with the under surface of the bracket which forms a stop to prevent the trip from swinging too far.

While the hanger of my invention is particularly designed for supporting an overhead trolley wire and by its construction is peculiarly adapted for that purpose, it is obvious that it might be employed for supporting any sort of an electrical conductor.

I do not limit myself to the exact devices, construction and arrangements shown as modifications may obviously be devised which will come within the scope of my invention.

I claim:

1. A hanger for electrical conductors comprising supporting means, a pair of trips pivoted thereto, the inner ends of said trips having a sliding engagement with each other which is destroyed when one or other of the trips is rocked from its normal position; and means comprising a pair of slidable engaging contacts for maintaining electrical connection between said trips at a place other than at said inner ends of said trips.

2. A hanger for electrical conductors comprising supporting means, a pair of trips pivoted thereto, the inner ends of said trips having a sliding engagement with each other which is destroyed when one or other

of the trips is rocked from its normal position; a contact plug and contact arms on said trips having knife-switch engagement with said contact plug.

3. A hanger for electrical conductors comprising supporting means, a pair of trips pivoted thereto, the inner ends of said trips having a knife-switch engagement with each other which is destroyed when one or other of the trips is rocked from its normal position; a contact plug, and contact arms on said trips having knife-switch engagement with said plug.

4. A hanger for electrical conductors comprising a bracket consisting of two strips of non-conducting material, the lower portions of which are recessed so that a slot is constituted between the same, a forked cap piece, means for securing said strips in said cap piece, trips pivoted in the slotted portion of the bracket, the inner ends of which have a knife switch engagement with each other, a contact plug secured between the upper portions of said strips and projecting beyond the same, contact arms on said trips having knife switch engagement with opposite ends of said contact plug, said trips being formed with perforations to receive the conductors which said hanger is adapted to support, and set screws for securing said conductors in said perforations.

5. A hanger for electrical conductors comprising supporting means, a pair of trips pivoted thereto and adapted to engage with each other, when in normal position, so that they form an uninterrupted bridge between the conductors supported by the hanger which is in alinement with said conductors, a contact element on said supporting means above said trips, and arms on said trips adapted, in the normal position of the trips, to engage with opposite ends of said contact element; the trips being adapted when rocked from their normal position, to disengage with each other and to disengage their respective arms from said contact element.

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Witnesses:

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