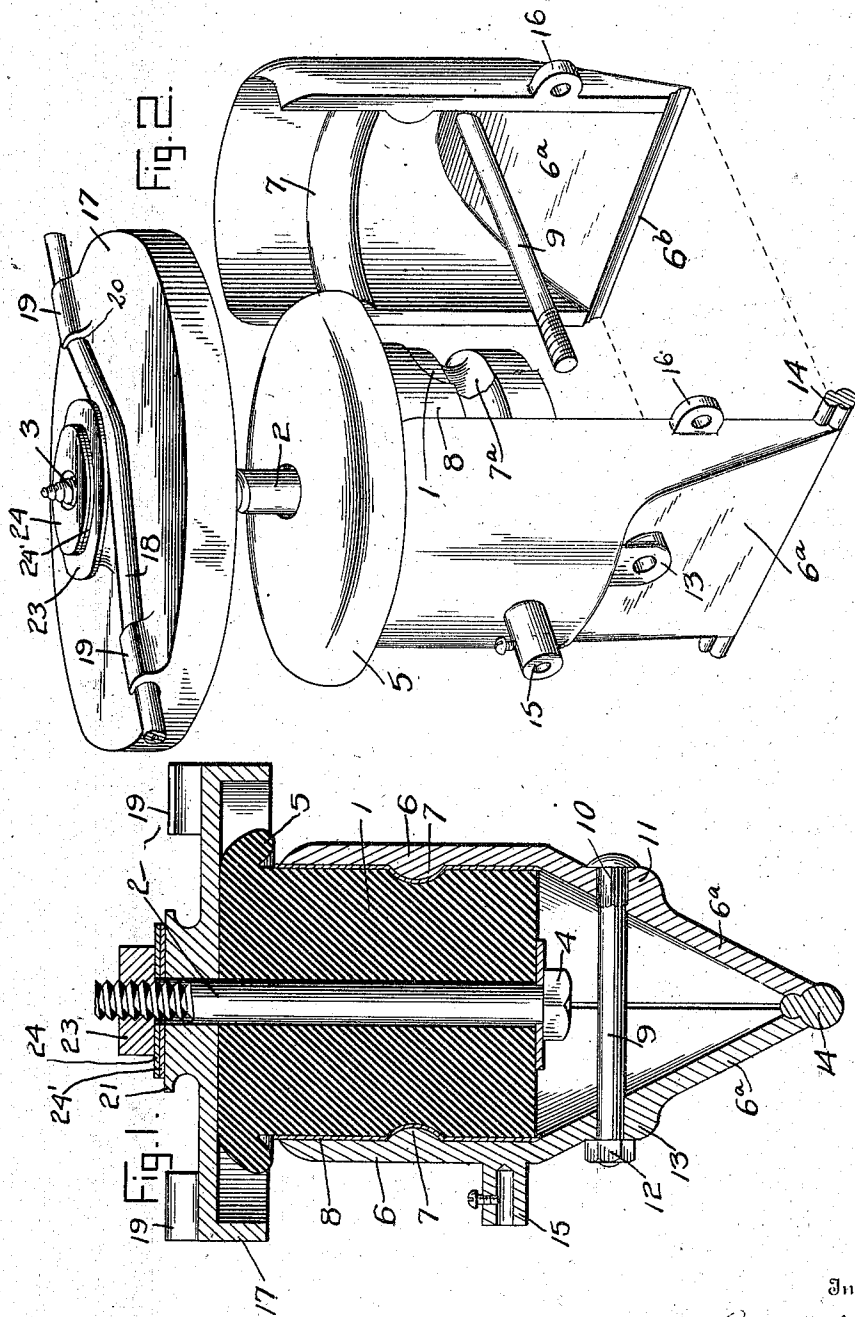


R. O. COUCH.
TROLLEY WIRE SUPPORT.
APPLICATION FILED MAR. 20, 1909.

935,895.

Patented Oct. 5, 1909.



Witnesses

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TROLLEY-WIRE SUPPORT.

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935,895.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed March 20, 1909. Serial No. 484,765.

To all whom it may concern:

Be it known that I, ROYDEN O. COUCH, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented certain new and useful Improvements in Trolley-Wire Supports, of which the following is a specification.

My invention relates to wire supporters or hangers, but more particularly to hangers for electric trolley-wires and has for its purpose to provide a device of that character which is applicable to be fitted to insulators of any standard or special type; and wherein the means for securing the hanger to its supporter serves also as the means for securing the trolley-wire to the hanger, thus avoiding the use of intermediate fastening means for the latter.

The further purpose of the present invention is to provide a hanger of such structure that by reason of its manner of attachment to the insulator will effectively strengthen the joint between them, which joint in the present used type of hangers is their point of greatest weakness.

The device is purposely designed to meet certain requirements of the trolley railway system in mines and it has other advantages rendering it particularly useful in that service, which advantages will be pointed out in the course of the following description and set forth in the claims.

In the accompanying drawing wherein is shown my invention in its preferred structure, Figure 1 is a transverse sectional view of the same, and Fig. 2 is a view in perspective showing parts of the device segregated.

Referring to the figures in further detail and wherein like numerals of reference indicate corresponding parts in both views, 1 designates an insulating or base block to which the hanger proper is secured. The block 1 is of substantially cylindrical design and is provided with an aperture there-through for the reception of a securing bolt 2 having a pointed screw threaded end 3 by means of which the base block is fixed in position. The head 4 of the securing bolt 2 is incased within the space between the hanger members and being thus shielded is guarded from such obstructions as would otherwise tend to loosen the bolt. The upper

marginal edge of the insulator block 1 is provided with a depending or overhanging ledge 5, the purpose whereof is to serve as a water shed for the insulator block and thereby increase the insulating effect of the support as a whole by shedding the water from the hanger proper.

The trolley-wire engaging means comprises substantially a clamp formed of two like members 6, which members are for their greater part of semi-cylindrical design and have on their inner faces and coextensive with the width thereof ridges 7 adapted to fit within a complementary annular groove 7^a formed within the insulating block 1. To effect a more perfect union between the member of the clamp and the base block and to minimize the effects of any relative movement between them, there is interposed between the clamp and block a cushioning sheet 8 such as tar paper, leather, rubber or any non-conducting pliable material. That part of the clamp which has engagement with the trolley-wire 14 comprises the downwardly and inwardly disposed members 6^a which parts are integral with the members 6. The terminating edges 6^b of the wire engaging means are of such design as will effectively grip the trolley-wire 14 and prevent relative movement between them and at the same time to permit a clearance for the trolley-wheel of the car. Both of the members 6^a have formed on their lower portions enlargements 11 and 13 which are perforated in alinement for the passage of a tie or securing bolt 9 which with the nut 12 constitutes the means for holding the clamp to the insulator block 1 and also as the means for engaging the clamp with the trolley-wire and holding the latter in suspension. The aperture through that portion 11 is of polygonal design in cross section whereby to receive and hold against relative turning movement a like designed shank 10 of the bolt 9. That portion 13 is so disposed with relation to the body of the clamp proper that there is freedom of movement for the turning of the nut 12, and whereby the nut and that end of the bolt in engagement therewith, are within the plane of the sides of the clamp members.

In order that the device may be used in different parts of a mine, there is provided

an offstanding lug 15 recessed to receive the end of the feed wire. And there is further provided on each of the clamping members a perforated lug 16 which when the parts are assembled provides a strain ear for a stay wire.

To cover the overall dimensions of the insulator block and the several parts secured thereon there is a metallic plate or shed 17 disposed on top of the insulator 1 and held in that position by the bolt 2 which passes centrally through said plate. The water shed is further serviceable in that it gives a seat or even base for the insulator block 1 and thus enables a better positioning of the trolley-wire.

In order that the hanger may be readily suspended from a span wire, as wire 18, there is provided on the upper face of the plate 17 a pair of oppositely disposed lugs 19, each of which is under-cut and has a curved face 20 of substantially the same contour as that of the span wire. Coöperative with the lugs 19 is a peripherally grooved and circular block 21 formed integrally with the plate 17, and interposed between the nut 23 and the block 21 is a rubber and an iron washer 24 and 24' adapted to prevent water from running down upon the insulator. The span wire fitting within the groove is off-set with respect to the lugs 19 and is thus held against relative movement with the hanger. But the device is not restricted to this method of suspension; on the contrary it is obvious that the pointed screw threaded end 3 of the bolt 2 adapts said bolt to enter a timber or other fixed part suitable for suspension of the insulator and in this latter method of suspension, the nut 23 can, of course be omitted, if desired.

From the foregoing description, it will be seen that by the peculiar manner of assembling the several parts of the trolley-wire support the insulator block 1 serves as a fulcrum for the clamp members 6 with respect to the trolley-wire 14 and in turn the trolley-wire 14 serves as a fulcrum with respect to the insulator block 1, the bolt 9 thus serving the double purpose of effecting a secure union between those parts.

Having thus described my invention what I claim as new therein and desire to secure by Letters Patent is:—

1. In a trolley-wire support, an insulating base-block, a clamp adapted to grip the base-block and support the trolley-wire, and means for simultaneously fastening the clamp to the wire and the base-block.

2. In a trolley-wire support, an insulating base-block provided with a groove, a clamp adapted to grip the base-block, and having projections fitting within the groove, said clamp adapted to support the trolley-

wire, and means for fastening the clamp to the base-block and trolley-wire simultaneously.

3. In a trolley-wire support, an insulating base-block having an annular groove, a clamp comprising semi-cylindrical members each having a ridge adapted to fit within the groove of the base-block, said clamp adapted to grip and support the trolley-wire, and a bolt extending transversely through the clamp and adapted to fasten the same to the base-block and trolley-wire simultaneously.

4. In a trolley-wire support, a cylindrical insulating base-block having an annular groove, a clamp comprising semi-cylindrical members having each a ridge on its inner face adapted to fit within the groove of the base-block, said members having downwardly and inwardly inclined portions providing means for engaging and supporting the trolley-wire, and a bolt extending transversely through the clamp and adapted to fasten the same to the base-block and trolley-wire simultaneously.

5. In a trolley-wire support, a cylindrical insulating base-block having an annular groove, a water shed for said block, a clamp comprising semi-cylindrical members having each a ridge on its inner face adapted to fit within the groove of the base-block, downwardly and inwardly inclined members integral with the clamp members and adapted to grip and support the trolley-wire, and a means within the plane of the outer surface of the clamp adapted to fasten said clamp members to the base-block and trolley-wire simultaneously.

6. In a trolley-wire support, an insulating base-block, a clamp adapted to grip the base-block and support the trolley-wire, said insulating block having a water-shed formed integrally therewith and overhanging the clamp, means securing the clamp to the base-block and trolley-wire simultaneously, and a second water-shed overhanging the insulating base-block and the members secured thereto.

7. In a trolley-wire support, a cylindrical insulating base-block having an annular groove therein, a clamp comprising semi-cylindrical members inclosing the base-block and having ridges adapted to engage within the annular groove, said clamp members having downwardly and inwardly inclined portions adapted to clamp and suspend the trolley-wire, and means adapted to secure the clamp members to the base-block or trolley-wire simultaneously.

8. In a trolley-wire support, an insulating base-block having a groove therein, a clamp inclosing the base-block and having ridges adapted to engage within the groove,

5 said clamp having downwardly and inwardly inclined portions adapted to engage and support the trolley-wire, a water-shed overhanging the insulating base-block and the members secured thereto, and means carried by said water-shed adapted to be engaged by a span-wire whereby to support the insulator.

The foregoing specification signed at Charleston, W. Va. this 8th day of March, 1909.

ROYDEN O. COUCH.

In presence of two witnesses—

E. C. HANNA,

T. W. DEW.