

(No Model.)

A. A. SHOBE & W. EMBLEY.

INSULATING SUPPORT FOR ELECTRIC RAILWAY WIRES.

No. 474,049.

Patented May 3, 1892.

FIG. 1.

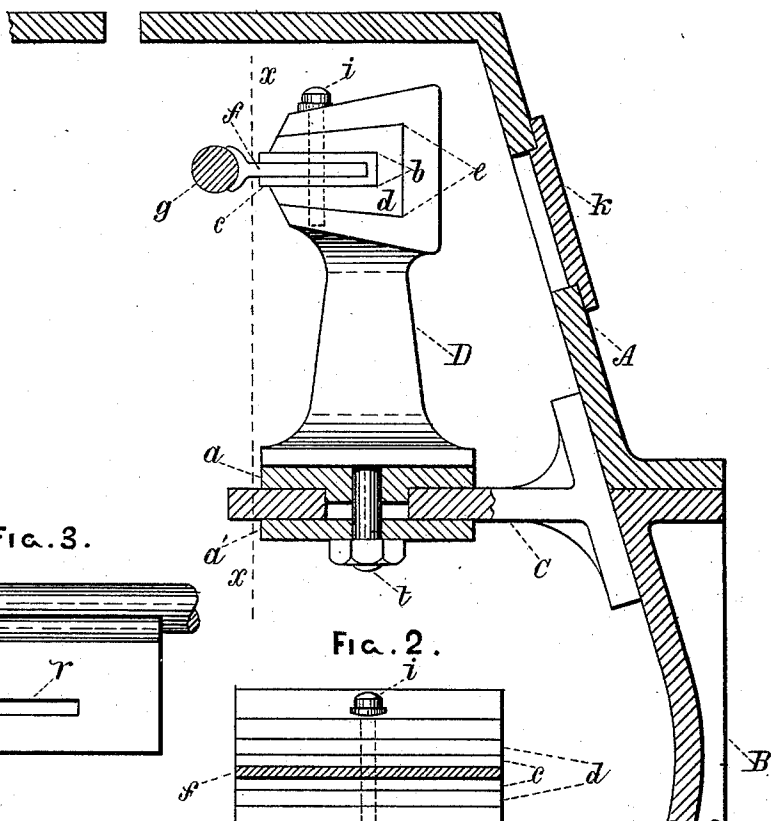


FIG. 3.

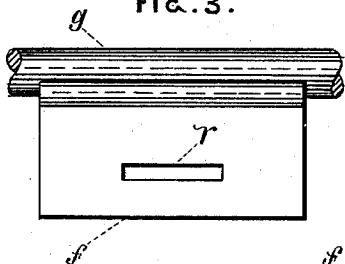
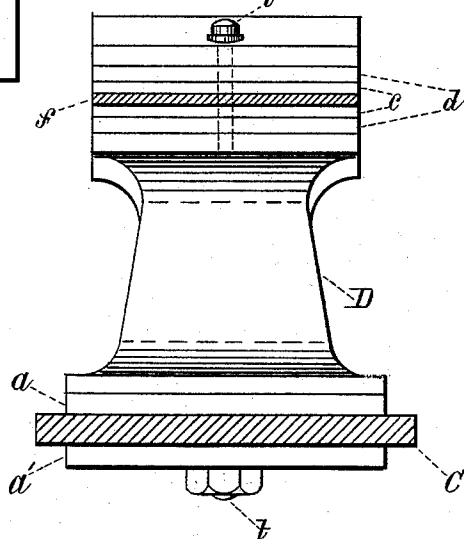


FIG. 2.



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UNITED STATES PATENT OFFICE.

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INSULATING-SUPPORT FOR ELECTRIC-RAILWAY WIRES.

SPECIFICATION forming part of Letters Patent No. 474,049, dated May 3, 1892.

Application filed October 29, 1891. Serial No. 410,274. (No model.)

To all whom it may concern:

Be it known that we, ABRAHAM A. SHOBE and WILLIAM EMBLEY, of Jerseyville, in the county of Jersey and State of Illinois, have invented a new and Improved Insulator for Electric Railways; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention relates to an improvement in underground supply-conductors for electric railways and in the insulating-supports for said conductors, our object being to provide continuous or jointless conductors in which the several lengths of wire or rod of which they are composed are united end to end by being brazed, soldered, or fused together instead of being united by the ordinary lap or sliding joints adapted to yield to the longitudinal expansion and contraction of the metal of which they are made, thus forming continuous or jointless conductors having uniform conducting capacity throughout their entire length.

With these ends in view our invention consists in a certain peculiar construction and combination of parts fully described in the following specification, and illustrated in the accompanying drawings, in which—

Figure 1 is a transverse sectional view of the upper part of one-half of the underground drain-tube surmounted by a portion of the slot-rail, beneath or in the interior of which is secured one of the supply-conductor insulators. Fig. 2 is a front elevation of said insulator, taken in the line *xx*, Fig. 1; and Fig. 3 is a top view of the sliding plate to which the supply-conductor is secured, a portion of said conductor being shown in connection therewith.

Referring to the drawings, A represents one side of the slot-rail; B, a portion of the drain-tube; C, a bracket projecting inward, as shown, from the side of either the slot-rail or the drain-tube, or it may, if so preferred, be made integral with either.

D represents an insulating-standard, preferably made of porcelain and insulated from the bracket C by means of plates *a a'*, made of gutta-percha or any other suitable insulating material, through which passes a down-

wardly-projecting fastening-bolt *t*, the head of which is secured in the base of the standard and the lower part thereof threaded for the reception of a nut, by which said standard and the insulating-plates *a a'* between it and the bracket C, are all secured in position, as shown in Fig. 1.

Inserted in a dovetail opening *e* in the head of the standard D is a correspondingly-formed insulating-block *d*, preferably of gutta-percha, and provided with a horizontal longitudinal slot *b*, having a metallic lining *c*, in which slides longitudinally a plate *f*, the outer edge of which is provided with a concave flange adapted to receive the side of the supply-conductor *g*, to which it is soldered or brazed.

The block *d*, metallic lining *c*, and sliding plate *f* are all secured in position by a pin *i*, which is inserted vertically through the head of the standard D, as shown in dotted lines in Fig. 1.

It will be noticed by reference to Fig. 3 that the opening *r* in the plate *f*, through which the pin *i* passes, is elongated into the form of a slot. This is for the purpose of allowing the plate *f* a limited longitudinal sliding motion in the metallic lining *c*, thus allowing the supply-conductor to expand or contract longitudinally without straining the standards or requiring the usual sliding or any other compensating joints.

The standards may be placed at any required distance apart and access afforded thereto by openings or hand-holes located at convenient intervals along the side of the slot-rail or drain-tube, as shown at K, Fig. 1.

By this triple insulation—namely, the plates *a a'*, the standard D, and the block *d*—the loss of electricity is reduced to a minimum, and, further, the position of the insulating-standard is such as to shelter it very effectively against rain, snow, or other insulation-destroyers, to which may be added the advantage of a jointless or continuous supply-conductor.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an electric railway, a jointless or continuous supply-conductor supported by laterally-projecting slotted plates secured to the sides thereof, said plates adapted to slide in insulating supports, each of the latter consist-

ing of a standard made of insulating material and provided with an insulating-block containing a metallic lining, all supported upon brackets located in the slot-rail or drain-tube, said parts constructed, combined, and adapted to operate substantially as and for the purpose herein set forth.

2. In an electric railway having a supply-conductor consisting of a continuous bar provided at intervals along its side with horizontally-projecting slotted plates *f*, the combination, with said conductor, of metallic guides *c*, adapted to receive said slotted plates and allow them to slide freely therein, said plates being retained in position by pins *i*, insulating-blocks *d*, adapted to contain and insulate the said metallic guides *c*, each of said blocks secured in the head of a standard D, made of

insulating material and clamped at its base to a bracket C, secured to the inside of the slot-rail or drain-tube, the standard D being provided with a clamping-bolt *t*, and plates *a a'*, one on the upper side and the other on the lower side of said supporting-bracket, so as to insulate the standard D, all constructed and adapted to operate substantially as and for the purpose set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 12th day of October, 1891.

ABRAHAM A. SHOBE.
WILLIAM EMBLEY.

Witnesses:

ROBT. NEWTON,
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