(No Model.) 2 Sheets—Sheet 1.

E. M. BENTLEY.

CONDUIT FOR ELECTRIC RAILWAYS.

No. 454,022. Patented June 16, 1891.

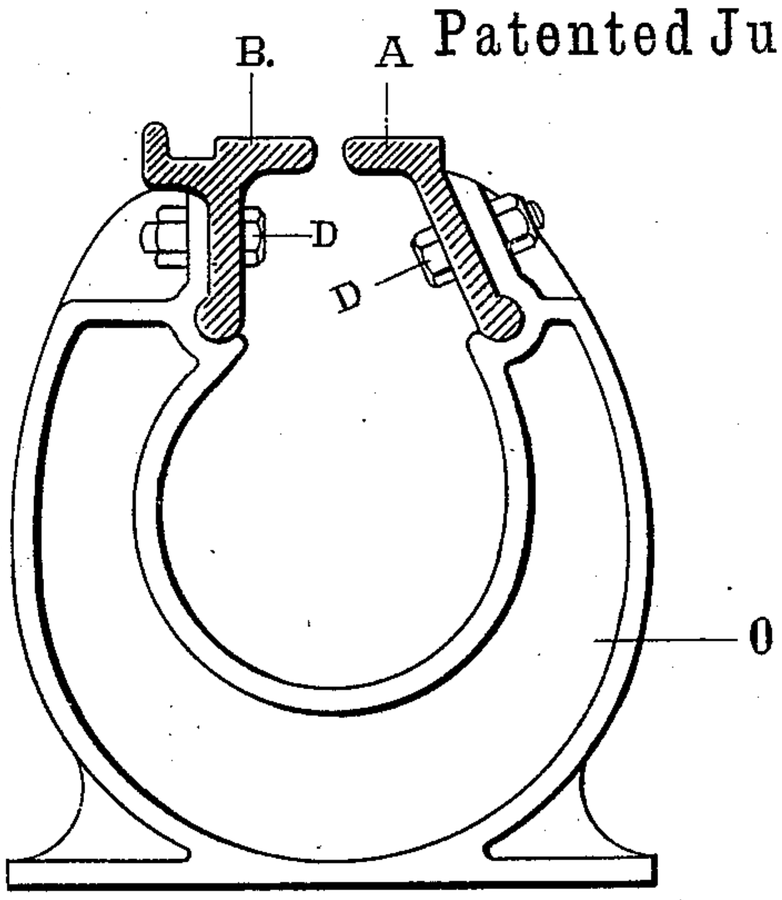

Fig I

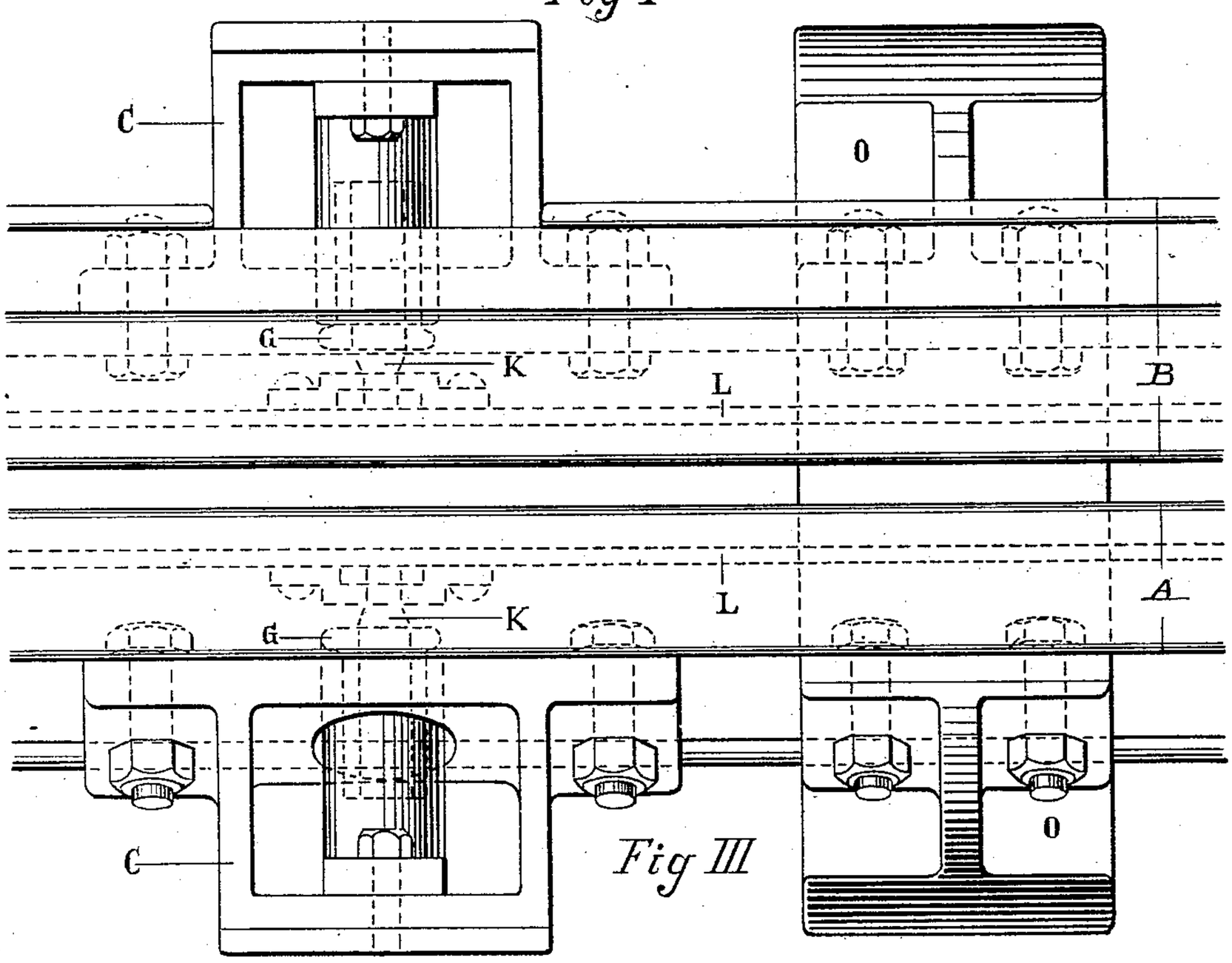

Fig III

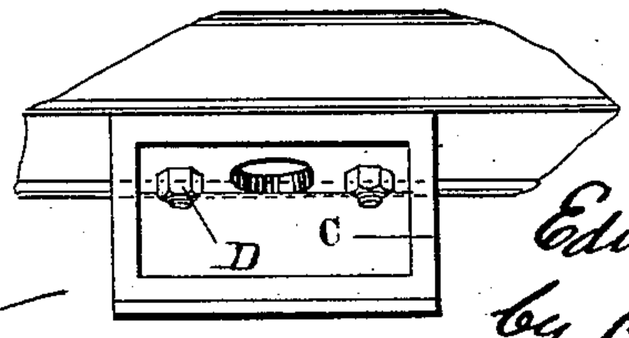

Fig. V.

WITNESSES

Joseph E. Ames.

Julian M. Elliot

INVENTOR

Edward M. Bentley

by Bentley & Knight

Atty's.

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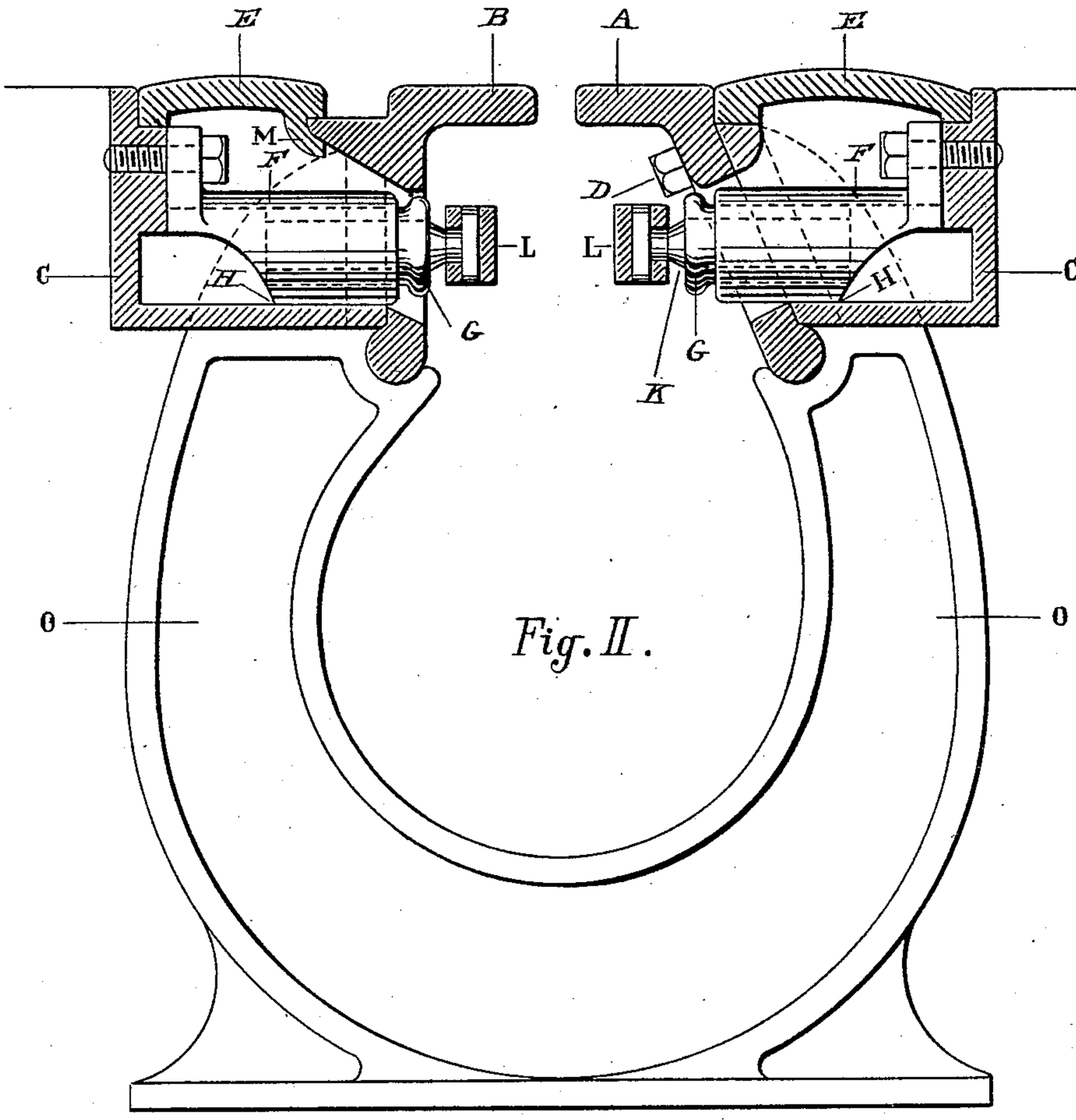

Fig. II.

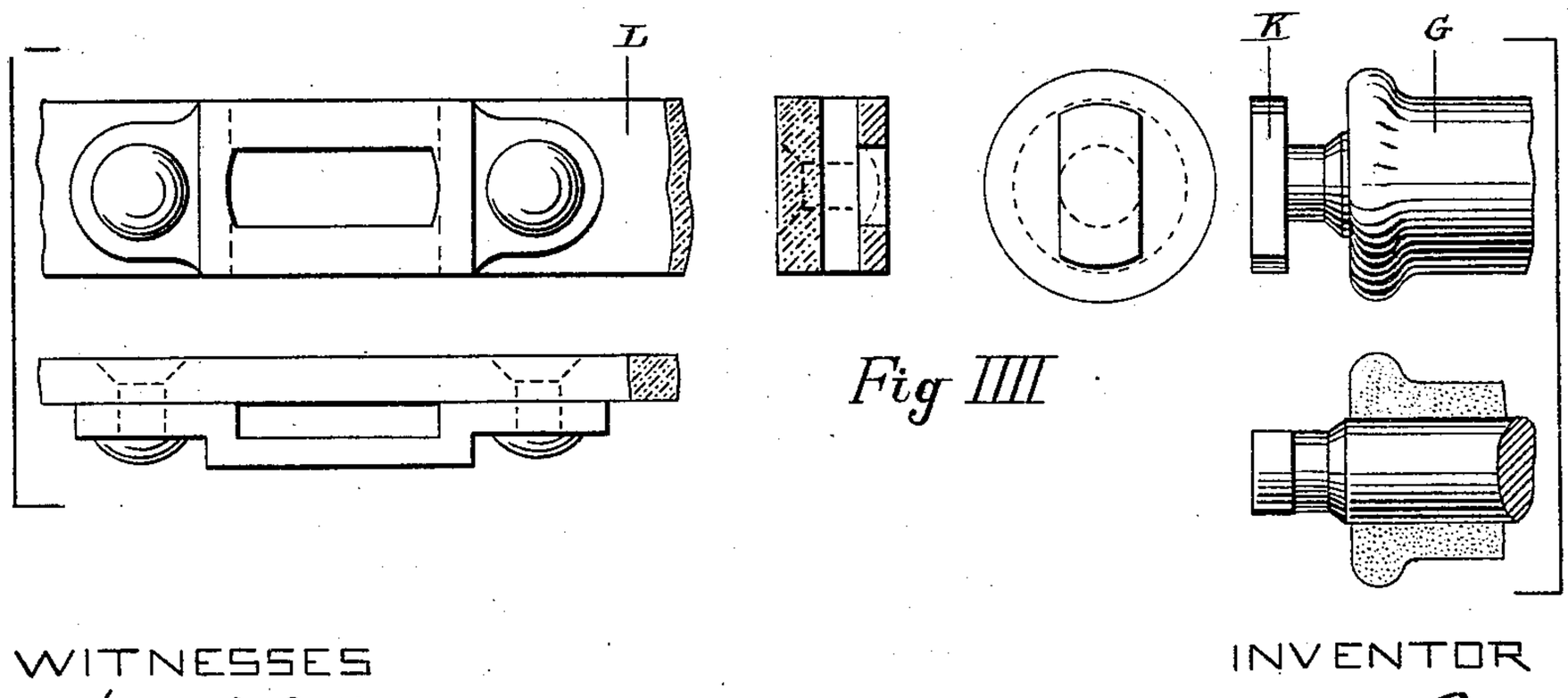

Fig III

WITNESSES

Joseph E. Due.

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INVENTOR

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UNITED STATES PATENT OFFICE.

EDWARD M. BENTLEY, OF NEW YORK, N. Y.

CONDUIT FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 454,022, dated June 16, 1891.

Application filed September 8, 1888. Serial No. 284,893. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. BENTLEY, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Electric Railways, of which the following is a specification.

My invention relates to conduits for electrical railways, in which are contained supply-conductors for the railway.

My invention consists, first, in employing for one of the slot-rails of the conduit a form of rail which may be used at the same time as one of the track-rails on which the car runs. This rail is of the girder type; but instead of the usual flat flange at the bottom it has only a contracted flange of a round or square shape.

It consists, second, in providing a box for containing the insulator, which box is attached to the outside of the slot-rail at the point between the yokes which form the main support for the slot-rails.

In the accompanying drawings, forming part of my specification, Figure I is a transverse section of a conduit, showing the slot-rails and a supporting-yoke. Fig. II is a view of the same with the box carrying the insulators for the main conductor. Fig. III is a plan view showing a box situated between two adjacent yokes, and Figs. IV and V show details of construction.

In the drawings, A represents a slot-rail of the ordinary form.

B represents a rail of the girder type, forming the inside slot-rail and one of the track-rails. The rail B is formed with a web having on one edge a projecting flange or tread overhanging the conduit, upon which the wheel bears, and on its lower edge a flange, round or square in cross-section, which takes the place of the flat flange usually employed to give a footing for the rail. By contracting the lower flange into this shape a much better form for the purpose is provided, since the web may form a substantially flush extension of the side web of the conduit, and the lower flange will not extend out beyond the web into the conduit and interfere with the contact device which maintains the electrical connection between the supply-conductor and motor propelling the vehicle. The yoke has a seat for the slot-rail and extends up behind the seat, so as to brace the rail transversely.

In Fig. II, C represents a box of cast-iron attached to the back of the slot-rail A by means of a bolt D, which extends through the web of the rail into the interior of the box. E is a small cover-block substantially flush with the surface of the street, which forms both a cover for the box and a protection for the head of bolt D. To the interior wall of the box is attached an insulator-holder F, cylindrical at its outer end, so as to form a socket embracing the neck of the insulator G. The inner end of the holder F is bolted to the wall of C to hold it firmly in position, it having also a bearing on the bottom of the box at H. A metallic piece K is sealed into the outer end of the insulator G and engages with the back of conductor L. A corresponding holder is employed upon the opposite side of the conduit, extending through the rail B. The box C, however, is slightly changed to correspond to the outline of B. The cover E has in this case a lug M fitting under the outer flange of the rail. As will be seen by reference to Fig. III, these boxes C are attached to the slot-rails at an intermediate point between two yokes O, which support the slot-rails and form the ribs of the conduit, any material of proper character being employed to form the lower walls of the conduit between the yokes. In this figure the slot-rails A B are shown in plan. O is the yoke, and C C the boxes attached to the slot-rails.

Fig. V shows the box with the cover and conductor-support removed. It will be readily seen that the holder F is so shaped that it may be withdrawn from box C, together with insulator G, the whole being detached from conductor L by giving it a half-turn. As will be seen in Fig. IV, brackets are secured to the rear side of the conductor at intervals provided with rectangular openings larger than they are wide. By means of these the head K has a sort of bayonet-joint attachment to conductor L, and the connection may be loosened by the turning of F. This arrangement permits of the easy renewal of an insulator or its holder and at the same time affords convenience of construction.

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

1. The combination, in a conduit for an electric railway, of a slot-rail having a series of supporting-yokes, and an exterior box placed outside of the slot-rail at a point between two adjacent yokes, said box opening into the conduit and containing a support for the supply-conductor.

2. The combination, in a conduit for an electric railway, of a slot-rail having a series of supporting-yokes, and a box attached to the outside of the slot-rail at a point between two adjacent yokes, said box having an opening into the conduit, and also open at the top and adapted to contain an insulating-support for the supply-conductor.

3. The combination, in a conduit for an electric railway, of a slot-rail having a series of supporting-yokes, and an opening in its web at a point between two yokes, with an insulating-support for the supply-conductor, extending through said opening, so as to be accessible from without the conduit.

4. In a conduit for electric railways, the combination of a slot-rail supported by a series of transverse yokes and having an opening therein, with a support for the supply-conductor, extending through said opening, so as to be accessible from without the conduit.

5. The combination of a series of yokes and slot-rails forming a slotted conduit, with an opening into the conduit between adjacent yokes, and a support for the supply-conductor accessible through said opening.

6. The combination of a conduit and supply-conductor with a socketed metallic holder fastened to the conduit, and an insulating-support for the conductor, projecting from the said socket.

7. The combination of the insulator pocket or box by the side of the slot-rail with the cover for the same having a lug projecting beyond the edge of the slot-rail, whereby moisture is excluded from the box.

8. The combination, with the conductor having brackets attached thereto at intervals, of conductor-supports having bayonet-joint attachments with the said brackets.

9. The combination of a conduit for an electric railway, comprising a series of transverse yokes, and a rail of the girder type forming the inner slot-rail and also one of the track-rails, having on the upper edge of the web a flange overhanging the conduit, while the web forms a substantially flush extension of the side walls of the conduit and has no bottom flange projecting thereinto, and an insulated supply-conductor in the conduit to one side of the slot and shielded by the overhanging flange, as described.

EDWARD M. BENTLEY.

Witnesses:
WILLIAM H. CLARKSON,
JULIEN M. ELLIOT.