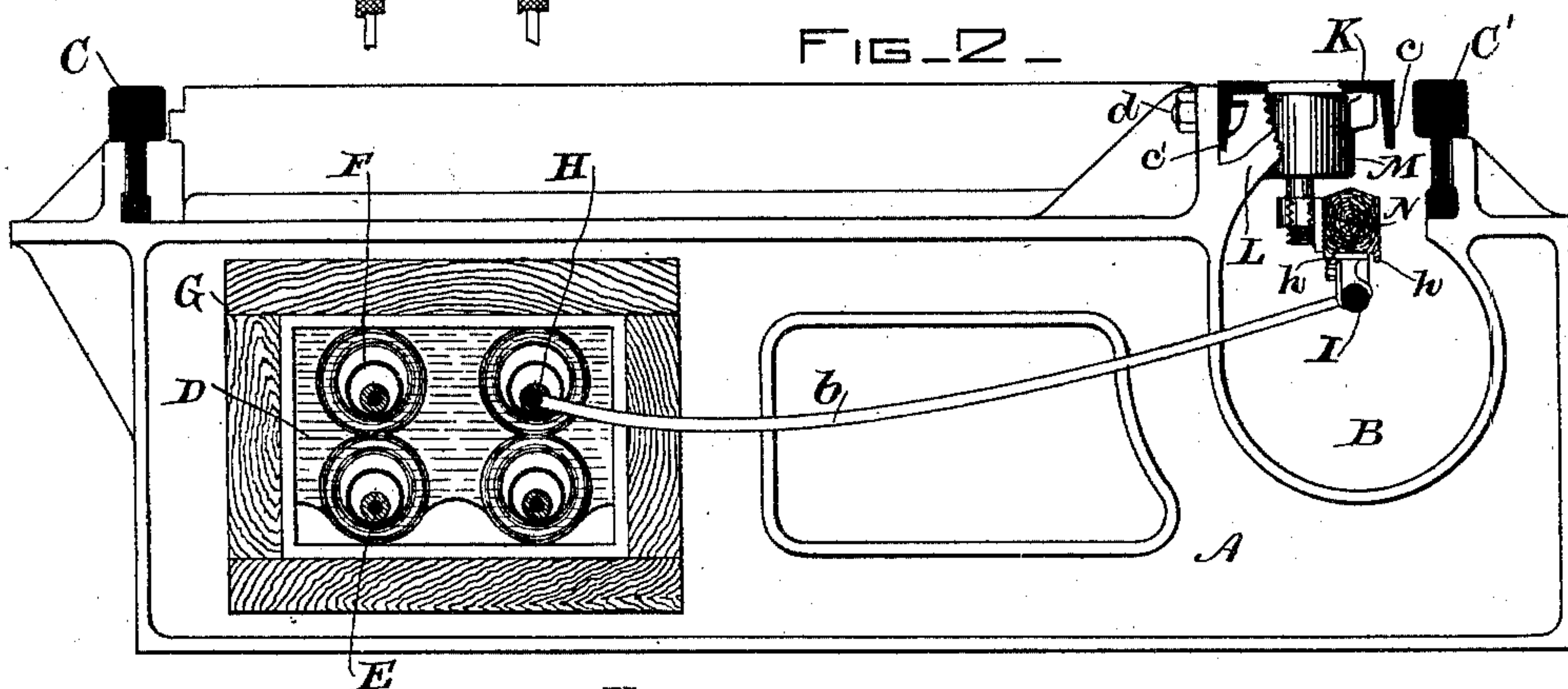
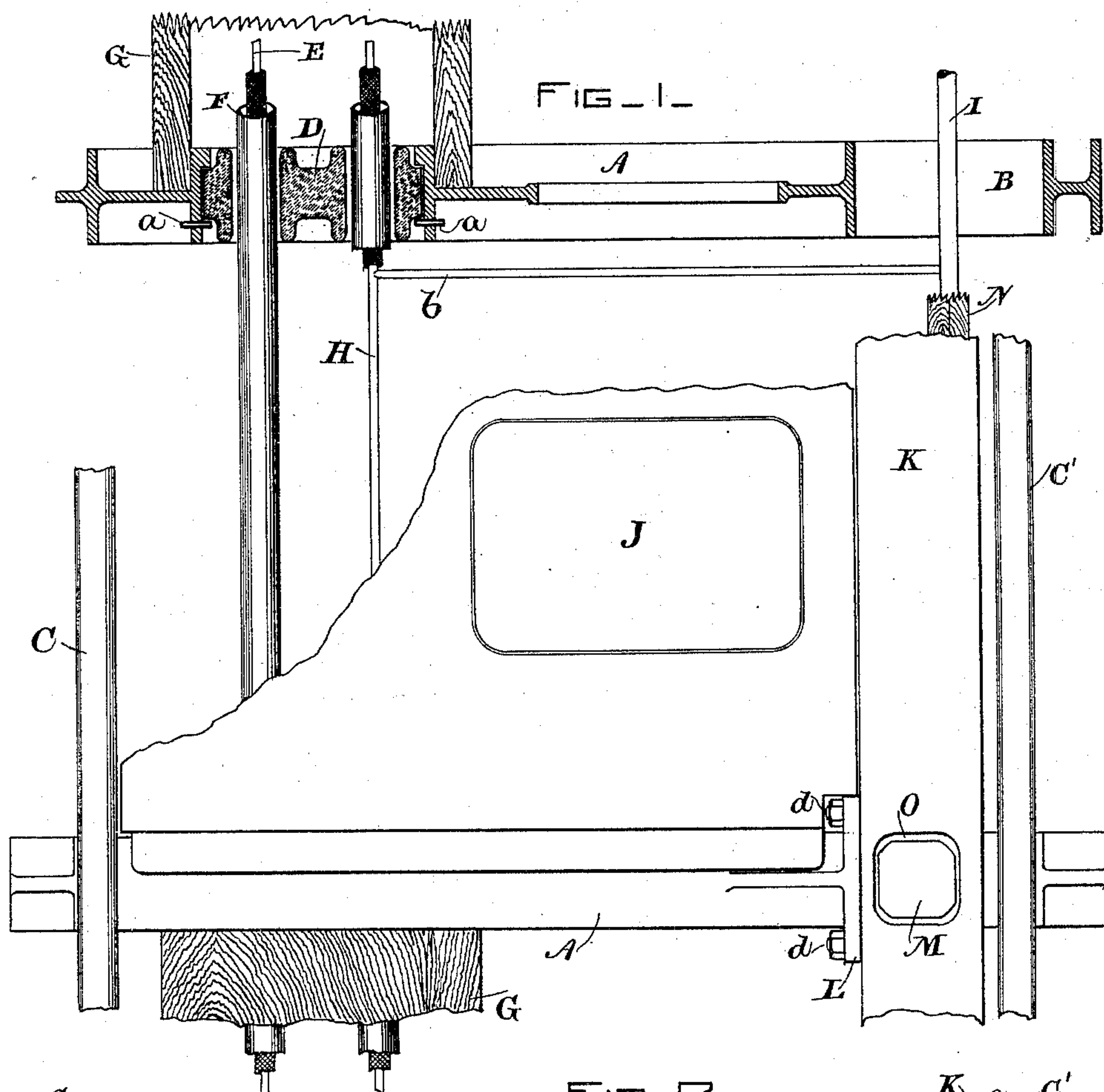


(No Model.)

F. O. BLACKWELL.
CONDUIT FOR ELECTRIC RAILWAYS.

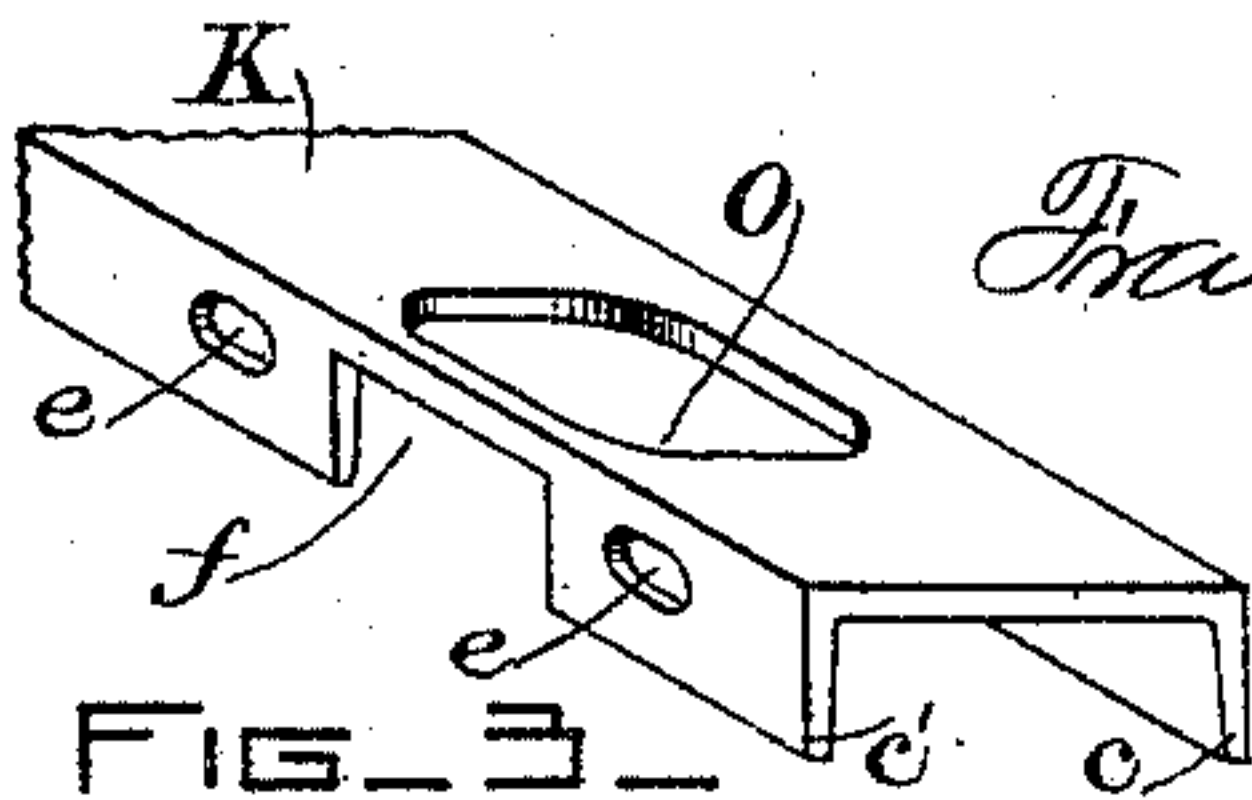
No. 482,719.

Patented Sept. 20, 1892.



WITNESSES:

Allen
E. L. Rawson



INVENTOR:

Francis O. Blackwell
by M. H. Knight

ATTYS.

UNITED STATES PATENT OFFICE.

FRANCIS O. BLACKWELL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

CONDUIT FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 482,719, dated September 20, 1892.

Application filed December 4, 1890. Serial No. 373,543. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS O. BLACKWELL, a citizen of the United States, residing at Boston, county of Suffolk, and State of Massachusetts, have invented a certain new and useful Improvement in Conduits for Electric Railways, of which the following is a specification.

This invention relates to a conduit designed, primarily, for electric-railway service, although it contains certain features of construction well adapted for a cable railway as well.

In the accompanying drawings, illustrating these improvements, Figure 1 shows a section of conduit partly in plan and partly in section. Fig. 2 is a transverse section of the conduit, showing one of the yokes in side elevation; and Fig. 3 is a detail of the slot-iron used.

In the views, A represents a series of transverse yokes placed the usual distance apart and hollowed out at B to form a continuation of the channel of the conduit proper, upon which are mounted the track-rails C C', the latter serving, also, as one of the slot-rails. An opening is formed in the web of the yokes to one side of the channel proper B, and an insulating-block D, preferably of porcelain, is fitted in this opening. This is shown in Fig. 1, where the block rests against the flange on one side of the yoke and is held in place by pins a, engaging its front face. Through perforations in the block D are strung electric service-wires E, one or more of which will feed the railway-circuit and the others may supply lighting or power circuits along the line of the road. Metal tubes F may be employed to inclose the conductors, the tubes resting directly on the insulation-blocks. Between yokes there is a boxing G, which surrounds and protects the wires and pipes.

Between the two yokes seen in Fig. 1 there is a catch-pit to which access may be had by removing the cover J. Other pits will be placed along the line at desired points, and at the pits the feed-wire (designated by H) is tapped and connected with the supply-conductor I, one such connection being shown at b.

As already described, the rail C' forms one edge of the slot. The opposite slot-rail consists of an inverted channel-iron K, of considerable width, which rests upon brackets L

on the yokes, reaching up nearly to the surface of the pavement. One side flange c of the rail forms a drip-edge for shedding water away from the insulators, and the corresponding flange c' is cut away at f to allow it to fit down over the upper end of the yokes, where it is bolted by bolts d, passing through slots e, sufficiently elongated to allow for expansion and contraction.

The insulator-hangers M are preferably of the construction described in a former application filed by me, and openings O to receive them are left in the channel-iron over the bracket-seats. In this way they are exposed at the surface of the street and can be replaced with ease.

I make use of a wooden beam or guard N to secure a maximum degree of insulation, as in my former application; but as in all conduit constructions too much precaution in protecting the supply-conductor from moisture cannot be exercised, I find it advantageous to support this guard N directly over the conductor I, where it will form an additional water-shed, drip-points h being formed thereon, if desired.

Contact is made with the supply-conductor by an underrunning hinged contact-shoe of a type well known in the art, which folds up under the action of a spring when displaced from under the conductor, and is then liable to establish a short circuit to the metal of the conduit. This the guard effectually prevents, for, as will be observed, the shoe cannot reach the metal of the conduit until the plow is entirely clear from the conductor itself.

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

1. An electric-railway conduit comprising transverse yokes and slot-rails, one, at least, of which consists of an inverted channel-iron set substantially flush with the street-surface and bolted to the yokes, as set forth.

2. An electric-railway conduit comprising transverse yokes and slot-rails, one, at least, of which consists of an inverted channel-iron, one flange forming a drip-edge and the other bolted to the yokes, as described.

3. In an electric-railway conduit, the combination of transverse yokes and an inverted

channel-slot iron forming a shield over the supply-conductor with an upright slot-rail forming the other edge of the slot, as set forth.

4. The combination, in an electric-railway
5 conduit, of the transverse yokes having inwardly-extending bracket-seats, with the inverted channel-iron substantially flush with the street-surface and provided with perfora-

tions which receive the insulator-hangers, as set forth. 10

In testimony whereof I have hereunto set my hand this 2d day of December, 1890.

FRANCIS O. BLACKWELL.

Witnesses:

A. O. ORNE,

W. M. TWOMBLY.