

(No Model.)

E. M. BENTLEY.  
CONTACT DEVICE FOR ELECTRIC RAILWAYS.

No. 446,420.

Patented Feb. 17, 1891.

FIG. 1

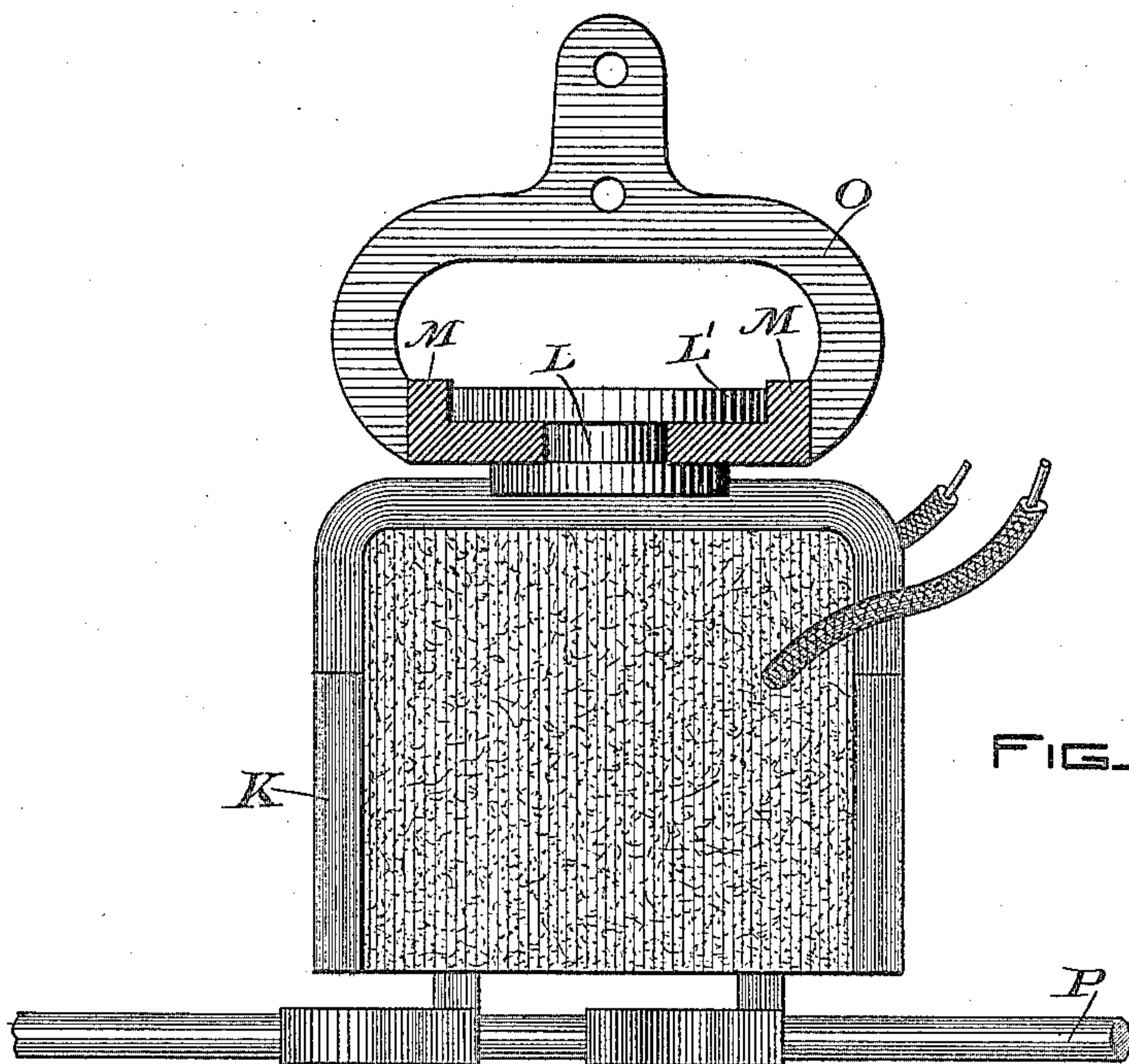
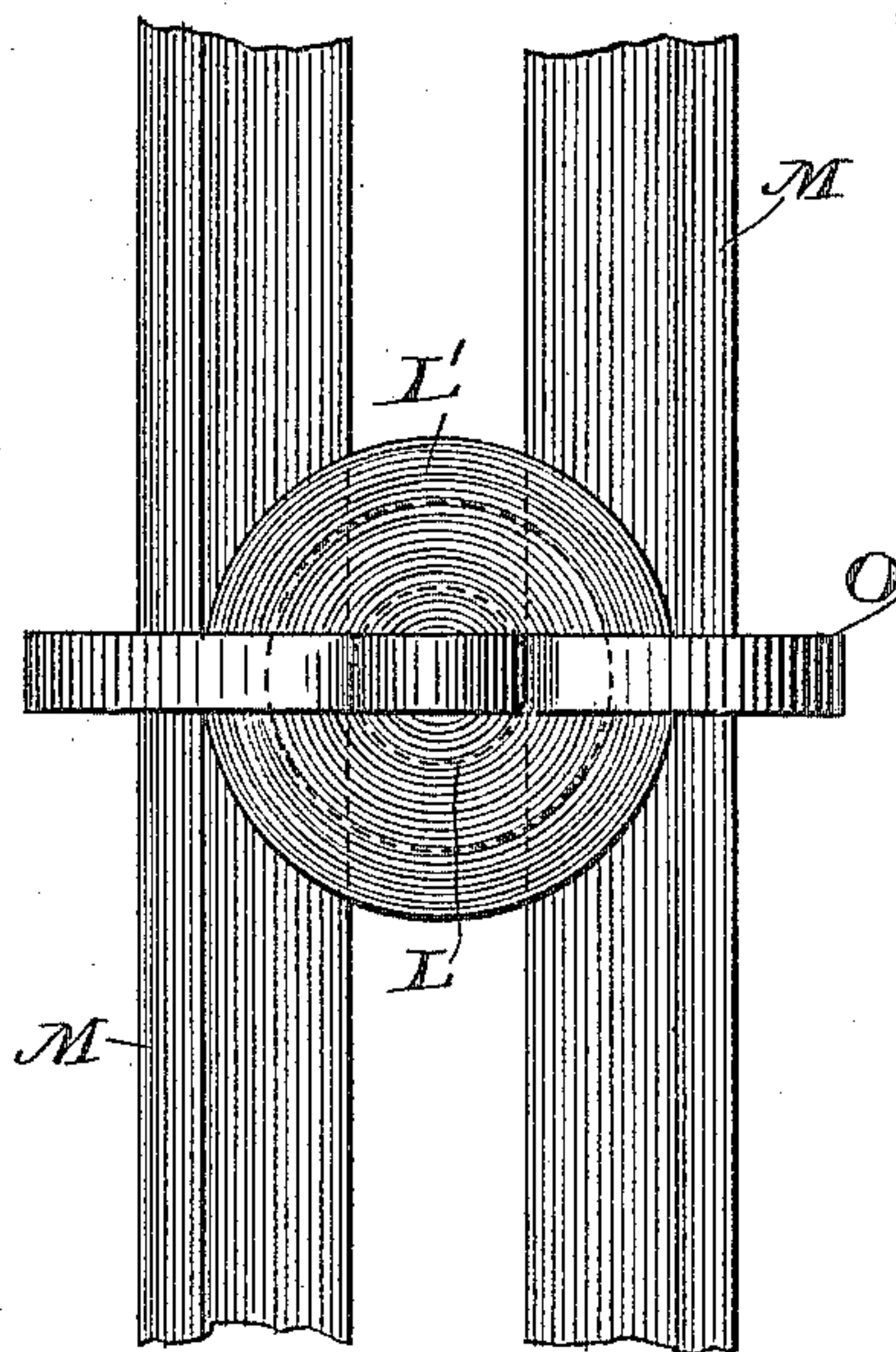


FIG. 2

WITNESSES:

*A. C. O'Neil*  
*H. J. Hayes.*

INVENTOR:

*Edward M. Bentley*  
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ATTYS.



# UNITED STATES PATENT OFFICE

EDWARD M. BENTLEY, OF BOSTON, MASSACHUSETTS.

## CONTACT DEVICE FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 446,420, dated February 17, 1891.

Application filed July 11, 1890. Serial No. 358,412. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD M. BENTLEY, 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 Contact Devices for Electric Railways, of which the following is a specification.

My invention relates, primarily, to contact devices adapted to maintain a traveling electrical connection with a supply-conductor located in a slotted underground conduit. In general design it is not unlike others already well known in which such a contact device is allowed a free lateral movement along a transverse guide carried by the car.

The improvements sought to be protected in this application consist in so constructing the contact device and guide that the former may have a free swiveling or rotary movement, as well as the sliding transverse movement above mentioned.

The accompanying sheet of drawings illustrates my improvements, in which Figure 1 is a plan view of the guide and contact device, and Fig. 2 is a side view of the same, the guide being shown in section.

The transverse guide consists, as shown, of two angle-irons M M, between which there is a central opening. The angle-irons are held in place, and the guide thus formed may be attached to the car by one or more hangers or brackets O, as has been done heretofore. P represents a supply-conductor which may be inclosed in a conduit or, where the requirements of service permit, may be otherwise arranged. To maintain a traveling connection between this conductor and the car, I provide a contact device or plow K, consisting of a frame carrying insulated conductors embedded in a panel of insulating material, and which rub against the supply-conductor. At the upper end of the contact-plow there is a traveler which consists of a contracted neck

L, passing through the opening between the angle-plates and an enlarged collar L', which forms a vertical bearing upon the guide. The neck L is circular in shape and therefore permits a free rotary movement to the contact device, the collar L' being also so shaped as to permit this movement. In this manner it will be seen that I provide a contact-plow, simple in construction and having few parts which may adjust itself to any curves or irregularities in the slot of the conduit or line of the conductor, inasmuch as the connection between the guide and plow permits both transverse and rotary movements.

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

1. The combination, with a transverse guide, of a contact device connected with said guide by a traveler having both transverse and rotary movements relatively to the guide.

2. The combination, with a contact device adapted to extend into a slotted conduit, of a transverse guide and a head or traveler for said contact device engaging with said guide by means of a neck, permitting both lateral and rotary movements of the traveler and contact device.

3. The combination, with a transverse guide, of a contact device for an electric railway, adapted to extend into a slotted conduit and having a traveling head having combined rotary and transverse movements relatively to the guide.

4. The combination, with a transverse guide having a longitudinal opening, of the contact device having a neck free to rotate in said opening and having also a vertical bearing upon said guide, permitting both rotary and transverse movements.

EDWARD M. BENTLEY.

Witnesses:

S. G. CROSWELL,  
W. H. KNIGHT.