No. 763,435. PATENTED JUNE 28, 1904.

F. R. SLATER.

CONTACT DEVICE FOR UNDER CONTACT THIRD RAILS.

APPLICATION FILED JUNE 20, 1903.

NO MODEL.

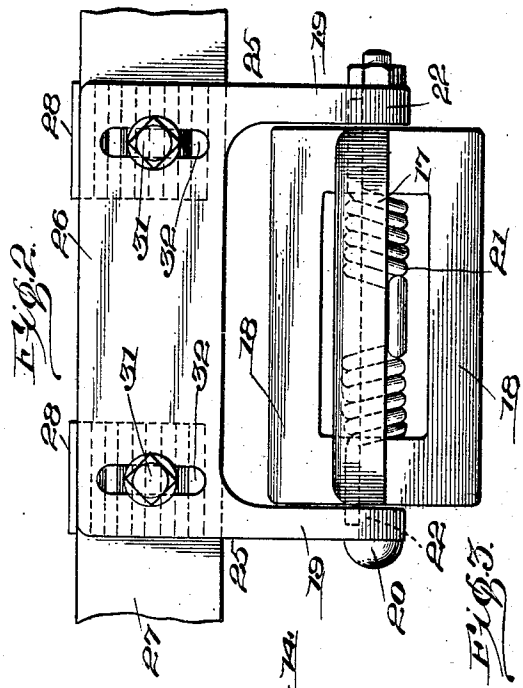


Fig. 2.

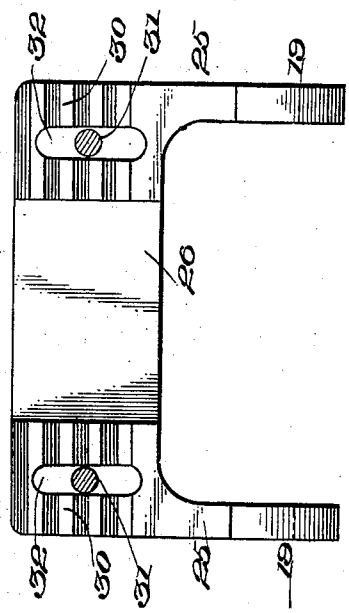


Fig. 3.

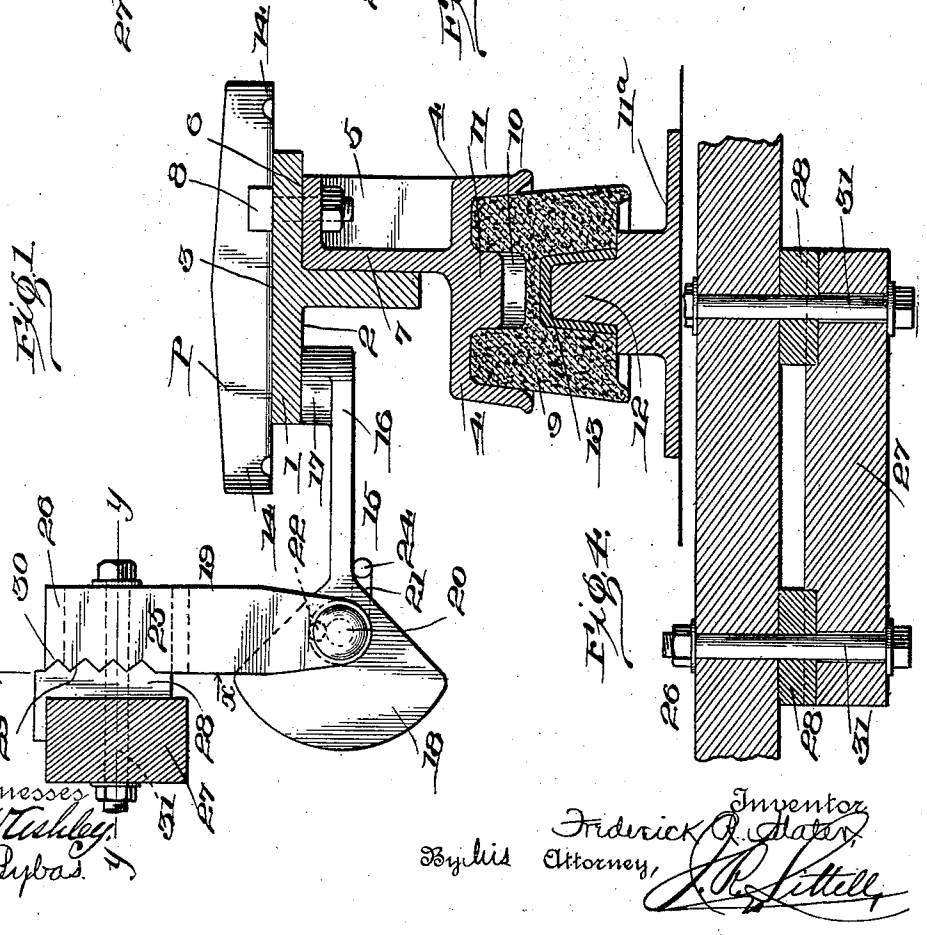


Fig. 1.

Fig. 4.

Witnesses:
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Frederick R. Slater,
By his Attorney,
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 763,435. Patented June 28, 1904.

UNITED STATES PATENT OFFICE.

FREDERICK R. SLATER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO ROBERT W. LYLE, OF NEW YORK, N. Y.

CONTACT DEVICE FOR UNDER-CONTACT THIRD RAILS.

SPECIFICATION forming part of Letters Patent No. 763,435, dated June 28, 1904.

Application filed June 20, 1903. Serial No. 162,356. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK R. SLATER, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Contact Devices for Under-Contact Third Rails, of which the following is a specification.

This invention relates to contact devices for that class of "third rails" which are employed in electrical railways as a conductor for the current and which are adapted to be engaged on the under side by the shoe which transmits the current to the motor mechanism of the cars.

The object of my invention is to provide a simple and improved contact device of the character just set forth which will effectively operate by gravity action, whereby the employment of springs or analogous means for forcing the shoe into its contact with the rail will be obviated, such springs or analogous means being disadvantageous in devices of this character, inasmuch as they are apt to become clogged or otherwise uncertain in their action.

A further object of my present invention and improvements is to provide a contact device of the character set forth which will possess advantages in point of simplicity, inexpensiveness, facility of adjustment, positive operation, convenience, effectiveness, and general efficiency.

In the drawings, Figure 1 is a sectional view taken transversely of the rail through the contact-shoe-supporting structure and rail structure, the contact-shoe devices being shown in side elevation. Fig. 2 is a front or face view of the contact device. Fig. 3 is a detail vertical sectional view taken on the line x x, Fig. 1, and looking in the direction indicated by the arrow. Fig. 4 is a detail horizontal sectional view taken on the line y y, Fig. 1.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring to the drawings, 1 designates a third rail or electrical conductor, which may be of any suitable shape or structure, embodying an under or bottom surface, as at 2, adapted for a true sliding contact of the shoe of the contact device or mechanism. I prefer to employ an ordinary T-rail, such as is illustrated in the accompanying drawings, having a flat top surface 3.

The rail 1 may be mounted in any suitable or adapted manner; but I prefer in this connection to employ the mounting or support herein illustrated, which comprises an inverted cup 4, at one side of the top of which projects a suitable bracket, as at 5, conforming to one side of the under portion of the T-head of the rail, as at 6, and to one side of the web portion of the rail, as at 7, the rail being bolted or otherwise secured to this bracket, as indicated by the bolt at 8, preferably at its top portion. The rail-supporting cup 4 rests over the corresponding top of an insulating supporting-block 9, which may be formed of vitrified clay or other adapted material, and said block preferably has in its top a central downwardly-extending recess or hollowed-out portion, as at 10, in which is accommodated a downwardly-projecting spindle or enlargement 11, formed at the bottom of the cup 4. The connection between the rail-carrying means and the insulating-block is thus relatively loose, so that vertical movement or play of the block and rail-carrying means independently of each other is permitted, this play sometimes happening by reason of the depression of the ties or sleepers of the railway. The insulating-block may itself be supported in any suitable or adapted manner, preferably upon a base 11^a, having an upright spindle or standard 12, received in a recess or hollowed-out portion 13 in the bottom or under side of the block. The spindle 12 may be permanently connected or fixed to the block by the employment of cement filled in the recess or the connection between said spindle and block may be loose, as desired.

I preferably employ upon the top of the rail a protective structure, which may, as in the instance herein illustrated, consist simply of a board or plank p, secured to the top of

sustaining means, and means for adjustable engagement between said sustaining and carrying means.

6. An improved contact device for under-contact third rails, comprising an upwardly-bearing gravity-shoe, primary and auxiliary means for sustaining said shoe in operative position, and a vertically-adjustable bracket pivotally carrying the same.

7. An improved contact device for under-contact third rails, comprising a gravity contact-shoe having an upwardly-bearing arm, and antirattling means operating upon said arm to maintain the normal gravity action.

8. An improved contact device for under-contact third rails, comprising a gravity-lever having an upwardly-bearing contact-arm and a weighted or counterbalanced opposite end, and antirattling means operating upon said arm forward of the fulcrum for maintaining the normal gravity action.

9. An improved contact device for under-contact third rails, comprising a pivoted or fulcrumed gravity-lever having an upwardly-bearing contact-arm, and a spring bearing under said arm and constituting an antirattling means for maintaining the normal gravity action.

In testimony whereof I have signed my name in the presence of the subscribing witnesses.

FREDERICK R. SLATER.

Witnesses:

J. M. HOCTOR,

M. M. DURKIN.