No. 881,531. PATENTED MAR. 10, 1908.

J. G. BAUKAT.

CURRENT COLLECTOR FOR THE THIRD RAIL OF ELECTRIC RAILWAYS.

APPLICATION FILED AUG. 24, 1907.

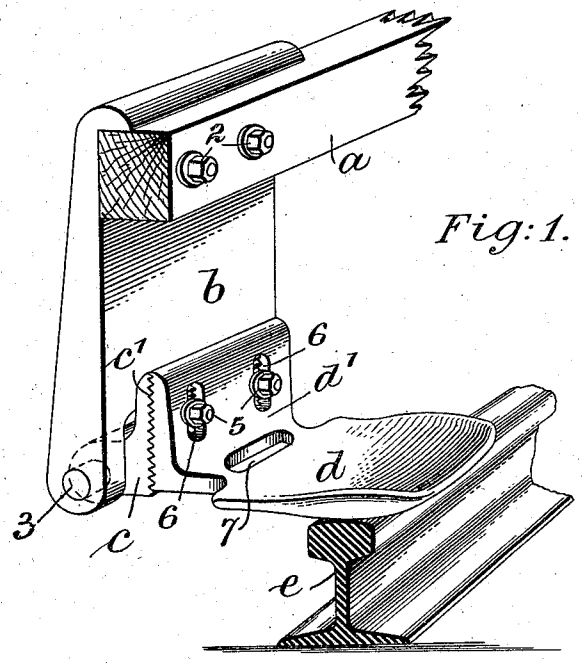


Fig: 1.

Fig: 2.

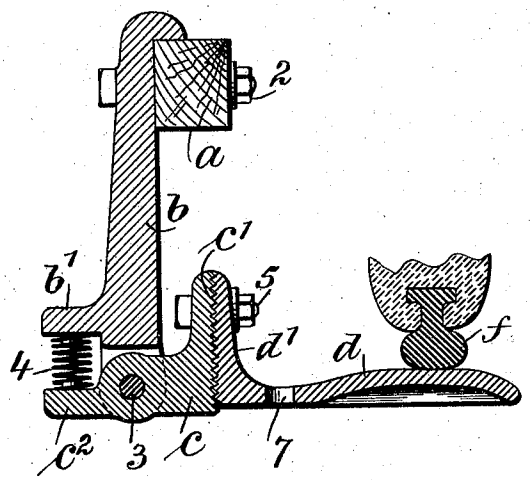
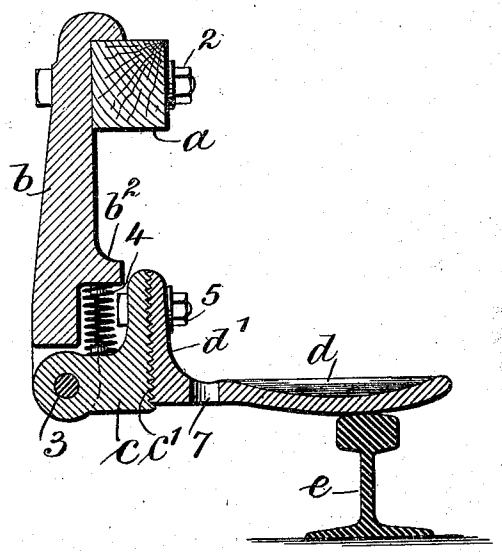


Fig: 3.



Witnesses:
Chas. A. Smith
A. L. Gerrell

Inventor:
John G. Baukat.
By Harold Gerrell
his Attorney

UNITED STATES PATENT OFFICE.

JOHN G. BAUKAT, OF WHITE PLAINS, NEW YORK.

CURRENT-COLLECTOR FOR THE THIRD RAIL OF ELECTRIC RAILWAYS.

No. 881,531. Specification of Letters Patent. Patented March 10, 1908.

Application filed August 24, 1907. Serial No. 389,946.

To all whom it may concern:

Be it known that I, JOHN G. BAUKAT, a citizen of the United States, residing at White Plains, county of Westchester, and State of New York, have invented an Improvement in Current-Collectors for the Third Rail of Electric Railways, of which the following is a specification.

Heretofore the breakage of contact shoes for the third rail of electric railways has been a constant source of trouble, inconvenience and expense, and the waste of time involved in taking out the broken shoe parts and putting in a new shoe in place thereof, has been a considerable item, and the object of my invention is to overcome these objections and at the same time to provide a desirable adjustment of the shoe with reference to the rail.

In carrying out my invention, I provide a shoe and shoe bracket in connected separable parts, the outer shoe part of cast metal adapted to be broken upon accidental contact with an unyielding obstruction, and when so broken, a new part can be attached in a few minutes, even by an inexperienced employee and by means of a simple wrench.

In the device of my improvement and in combination with the shoe beam of a car truck and a hanger of usual construction, I provide a shoe bracket pivotally mounted in the hanger and spring controlled and a removable breakable shoe connected thereto in an adjustable relation. The shoe proper has integral parts at substantially right angles to one another, the one part for attachment to the bracket and the other for contact with the third rail and at the angle I provide a slot in the web connecting these parts so that while the web is strong enough for constant unobstructed service, yet it is the weakest part and will break upon the shoe striking an unyielding obstruction, the remaining part being quickly removed for the attachment to the shoe bracket of a complete new shoe.

In the drawing, Figure 1 is a perspective view of the device of my improvement, together with a third rail of ordinary construction. Figs. 2 and 3 are vertical cross sections at about the center of Fig. 1, Fig. 2 illustrating an underhung third rail with a shoe of a form adapted thereto and a spring control therefor, and Fig. 3 showing the form of third rail and the shoe shown in Fig. 1 with a spring control suitable therefor.

a represents the shoe beam of a truck of an electric railway car of ordinary construction and *b* a shoe hanger connected thereto and suspended therefrom by the bolts 2. This shoe hanger has an overturned upper edge for supporting and steadying the same. The lower edge of the shoe hanger *b* is preferably cut away so as to leave lug ends and is perforated for the pivot pin 3 passed longitudinally through said lugs. The shoe bracket *c* is of a width adapted to be received between the said lugs and is perforated for the passage of the pivot pin 3 employed in connecting the shoe bracket to the shoe hanger and this shoe bracket is provided with a vertically serrated face *c'* substantially at right angles to the lower face of the bracket and which serrated face would normally occupy a plane substantially parallel with the plane of the inner surface of the shoe hanger.

In Fig. 2 I have shown the shoe hanger *b* as provided with a lug *b'* having a projection from the under surface and the shoe bracket *c* with a lug c^2 with a projection from its upper surface and a spring 4 between the lugs *b'* and c^2 held in position by said projections. These lugs and the springs between them may advantageously come at about the central portion of the shoe bracket, the spring being under compression is employed for lifting the shoe, while in Fig. 3 a similar spring 4 is employed for pressing down the shoe.

The shoe *d* is (in Figs. 1 and 3) shown in concave form on the upper side and convex on the lower side, while in Fig. 2 this form is reversed. This shoe is shown with an integral shoe-arm *d'* substantially at right angles thereto; this shoe-arm has an outer serrated surface adapted to mesh and interlock with the serrated face *c'* of the shoe bracket and in this shoe arm there are vertically disposed parallel slots 6 and bolts 5, which pass through holes in the vertical portion of the shoe bracket, extending through the slots 6 with nuts and washers to bear against the outer surface of the shoe-arm in clamping the shoe-arm to the vertical portion of the shoe bracket in an adjustable relation controlled by the length of the slots 6, said adjustable relation being substantially equally divided in height and depth in the full line position, Fig. 1.

The shoe *d*, for liberal contact with either the third rail *e* or the third rail *f*, is wider than the shoe arm *d'* and the intersection of

the substantially horizontal shoe d and its vertical shoe arm d' is provided with a slot 7, so that there are only two webs of metal which connect the shoe d to the shoe arm d; and while these webs are of sufficient strengtt for all ordinary service, they are made purposely so as to break through on the line of the slot 7 should the shoe in service come into accidental contact with an unyielding obstruction, at which time the shoe will break through the webs in the line of the slot 7, and without damaging any of the other parts of the structure, will fall away, leaving the shoe arm d' in place. It then becomes a very simple matter to unscrew the nuts of the bolts 5, take off the shoe arm d' and put another complete new cast metal shoe and shoe-arm in position and then replace the nuts and washers.

In the drawing, Fig. 2 shows the application of my improvement to an underhung third rail where the expansive force of the spring 4 is employed to keep the convex upper surface of the shoe d in contact with the third rail f. In Fig. 3, the shoe hanger b is provided with a lug b^2 and a depending projection, and the shoe bracket c with a flat surface and projection, the spring 4 surrounding the projection and extending between the upper surface of the shoe bracket c and the under surface of the lug b^2 and exerting by its expansive force, a downward pressure of the under convex surface of the shoe against the third rail e.

Except for the reversed form of the shoe d in Figs. 2 and 3, and for the local application of the expansive spring 4, the parts illustrated in the drawing, are identical and form the subject matter of my invention, referring particularly to the shoe member.

I claim as my invention:

1. In a current collector for the third rail of electric railways, a bracket, a part for attachment to the bracket and an integral part at right angles thereto for contact with the third rail, the portion at the intersection of said parts being apertured to leave connecting webs which are breakable when the shoe comes in accidental contact with an unyielding obstruction.

2. In a current collector for the third rail of electric railways, a bracket, a part for adjustable attachment to the bracket and an integral part at right angles thereto for contact with the third rail, the portion at the intersection of said parts being apertured to leave connecting webs which are breakable when the shoe comes in accidental contact with an unyielding obstruction.

3. The combination with the shoe beam of a truck and a shoe hanger connected thereto, of a shoe bracket pivotally connected at the lower end of the shoe hanger and having a substantially vertical serrated outer face and an integral shoe and shoe-arm, the shoe arm having a serrated face to contact with the serrated face of the shoe bracket and means for connecting the shoe and its arm in an adjustable relation with the bracket.

4. The combination with the shoe beam of a truck and a shoe hanger connected thereto, of a shoe bracket pivotally connected at the lower end of the shoe hanger and having a substantially vertical serrated outer face and an integral shoe and shoe-arm, the shoe arm having a serrated face to contact with the serrated face of the shoe bracket, means for connecting the shoe and its arm in an adjustable relation with the bracket, and a spring device for moving the shoe towards the third rail so as to maintain contact between the parts.

5. The combination with the shoe beam of the truck of an electric car, of a shoe hanger and means for connecting the same together, said shoe hanger being cut away at its lower edge so as to produce side lugs, a pin passing through said lugs, a shoe bracket fitting between the lugs and apertured for said pivot pin, said shoe bracket having a rising portion and a substantially vertical serrated face, a shoe and integral shoe arm of cast metal, having slots, a serrated face to the shoe arm having an adjustable relation with the serrated face of the shoe bracket, and bolts passing through the vertical portion of the shoe bracket and through said slots in the shoe arm for connecting the parts together.

6. The combination with the shoe beam of the truck of an electric car, of a shoe hanger and means for connecting the same together, said shoe hanger being cut away at its lower edge so as to produce side lugs, a pin passing through said lugs, a shoe bracket fitting between the lugs and apertured for said pivot pin, said shoe bracket having a rising portion and a substantially vertical serrated face, a shoe and integral shoe arm of cast metal having slots, a serrated face to the shoe arm having an adjustable relation with the serrated face of the shoe bracket, bolts passing through the vertical portion of the shoe bracket and through said slots in the shoe arm for connecting the parts together, the shoe and shoe arm being at substantially right angles to one another and having a slotted connecting web so that the shoe may be broken through the web in the line of the slot upon accidental contact with an unyielding obstruction and without injury to the other parts of the shoe device.

Signed by me this 20th day of August, 1907.

JOHN G. BAUKAT.

Witnesses:
GEO. T. PINCKNEY,
BERTHA M. ALLEN.