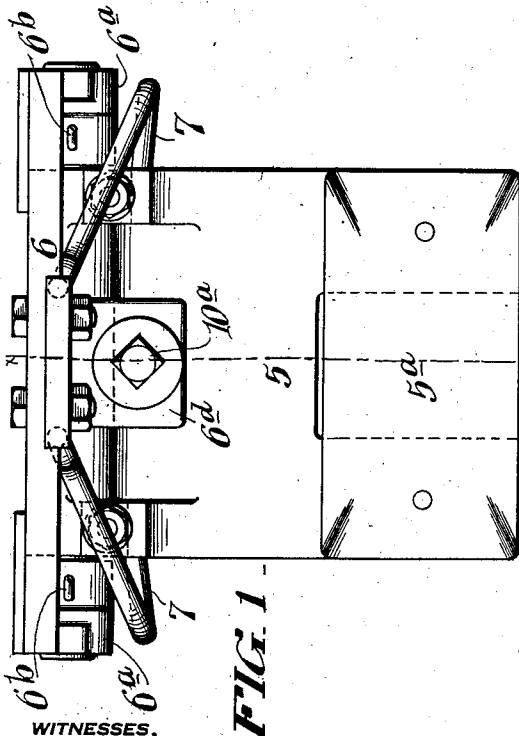


L. A. McCoubrie & C. F. Raydure.
SHOE FOR THIRD RAIL ELECTRIC CARS.
APPLICATION FILED DEC. 21, 1911.

1,021,420.

Patented Mar. 26, 1912.



WITNESSES.

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Helen F. Miller

FIG. 1

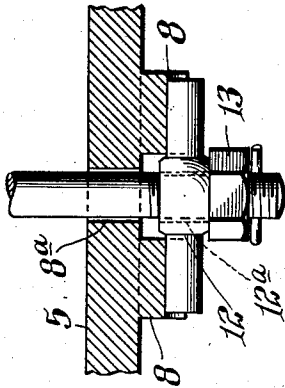


FIG. 4

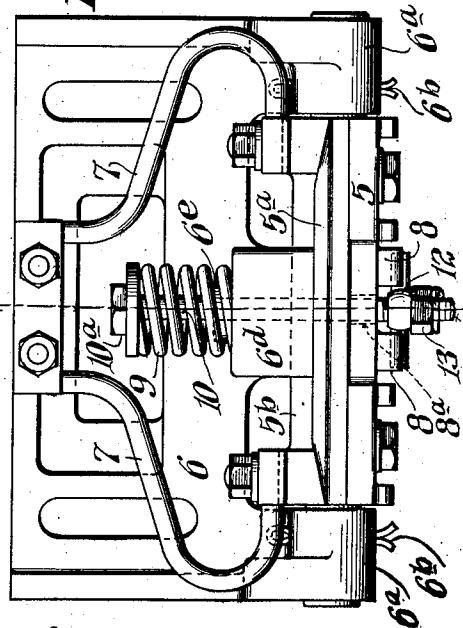


FIG. 2

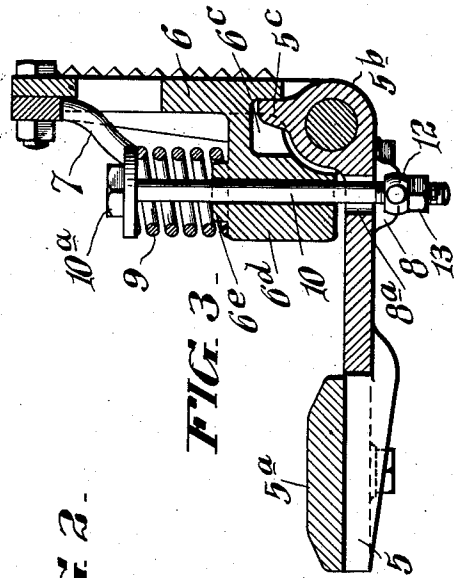


FIG. 3

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UNITED STATES PATENT OFFICE.

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SHOE FOR THIRD-RAIL ELECTRIC CARS.

1,021,420.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed December 21, 1911. Serial No. 667,141.

To all whom it may concern:

Be it known that we, LOUDEN A. MCCOUBRIE and CHARLES F. RAYDURE, both citizens of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have jointly invented certain new and useful Improvements in Shoes for Third-Rail Electric Cars, of which the following is a specification.

Our invention relates to certain improvements in third-rail shoes for electric cars of the type patented to us February 28th 1911, No. 985,430, and November 28th 1911, No. 1,009,767, relating in the present instance to the operative arrangement of the shoe contact member with the supporting member thereof, in order that the shoe contact member may be held uniformly in operative condition under the influence of a movable spring controlled vertical connecting device and any take-up due to wear of the shoe to be readily compensated for thereby, from underneath the shoe contact member within the range of permitted movement of the back-stop of such member in the chambered part of the supporting member therefor.

With the foregoing ends in view, our present invention will be more fully understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1, is a top or plan view of a third-rail shoe embodying main features of our said invention. Fig. 2, is a front elevation of the same. Fig. 3, is a vertical central sectional view on the line x, x , of Figs. 1 and 2; and Fig. 4, is an underneath broken elevational and sectional view of the vertical spring controlled movable connecting device, of our said invention, seated underneath the shoe contact member of the same.

Referring to the drawings 5, is the horizontal shoe contact member, as shown, provided with a removable contact-piece 5^a.

6, is the vertical supporting member in which the member 5, is pivoted by means of a bolt passing through end journals 6^a, of the member 6, and which bolt is held in place against displacement by means of cotter-pins 6^b, as clearly shown in Fig. 2. The journal bearing 5^b, of the member 5, is provided with a vertically arranged back-stop 5^c as shown in Fig. 3 to engage in the

chambered part 6^c, of the perforated projection 6^d, of the member 6, as also clearly shown in Fig. 3.

7, are insulated electric wire connections of the member 5, with the member 6, as clearly shown in Fig. 2. The member 6, by a ratcheted surface on the back, is adapted to be securely attached to a complemental surfaced plate suspended from the car-truck frame, not shown, for maintaining when secured the two firmly to each other against displacement.

The member 5, on the underneath side in the rear, is provided with two recessed hump portions 8, 8, and with an opening 8^a, extending through the said member of greater length than width, for a vertical bar to be inserted therethrough, for a purpose to be presently fully explained. This opening is arranged between the two humped portions of the member 5, as clearly shown in Figs. 2 and 4.

The perforated projection 6^d, of the member 6, is formed with a seat 6^e, for a helical spring 9, to bear against at one end and at the opposite end against the head 10^a, of a vertical bar 10, extending through the said projection 6^d, and the enlarged opening 8^a, of the member 5, and which is threaded along the lower portion for loosely mounting underneath the shoe contact member 5, a cross-bar 12, with an enlarged central opening 12^a, the limbs of this bar on both sides of the central opening thereof, engaging in the recessed humped portions 8, 8, of the bottom of the member 5, and afforded play therein. The said vertical bar at its lower extremity is provided with a tightening nut 13, adapted to be brought into close contact with the surface about the central opening of the cross-bar 12, as clearly shown in Fig. 4. The above arrangement for holding the members 5 and 6, in operative relation with each other under spring tension also and principally as so arranged insures with uniformity, the shoe contact member being maintained always in good electrical contact with the third-rail, not shown, by reason of the ease of movement that the member 5, can be maintained in its operative relation with the member 6, and take-up also as required from time to time from underneath the said member 5, due to wear of the shoe of said member through the sim-

ple turning of the nut 13, on the vertical bar 10, as will be apparent and readily understood from Fig. 3, of the drawings.

Having thus described the nature and objects of our invention, what we claim as new and desire to secure by Letters Patent is:—

5 A shoe for electric railway cars, comprising a supporting member having a front perforated projection provided with a chamber in one part thereof and with a recessed
10 seat in another part, a shoe contact member having a rear portion provided with an enlarged opening and a back-stop and on the under side with recessed hump portions,
15 said back-stop extending into the chambered part of said supporting member, a vertical bar carrying and supporting one end of a helical spring and engaging at the

opposite end the recessed seat of said projection, a cross-bar having an enlarged central opening freely fitting said vertical bar and said cross-bar movably engaging in the recesses of said hump portions and a tightening means threaded to said vertical bar from the underside of said shoe contact member,
25 substantially as and for the purposes described.

In witness whereof, we have hereunto set our signatures in the presence of the two subscribing witnesses hereto.

LOUDEN A. MCCOUBRIE.
CHARLES F. RAYDURE.

Witnesses:

THOMAS M. SMITH,
HELEN F. MILLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."