L. A. McCOUBRIE & C. F. RAYDURE.

SHOE FOR THIRD RAIL ELECTRIC CARS.

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985,430. Patented Feb. 28, 1911.

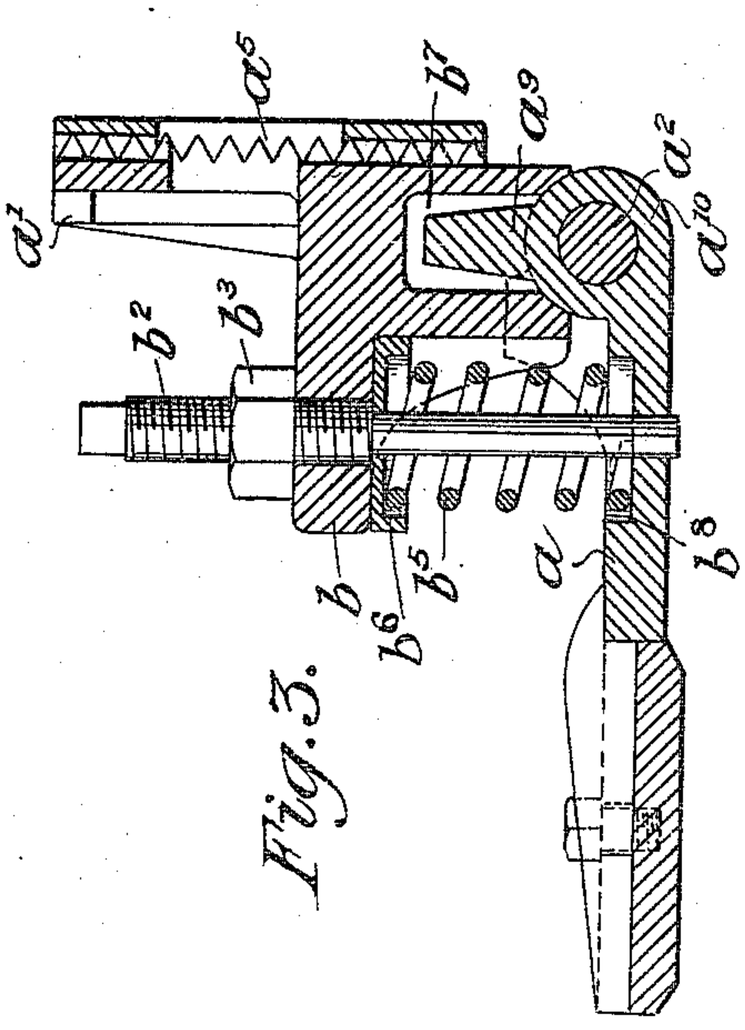

Fig. 3.

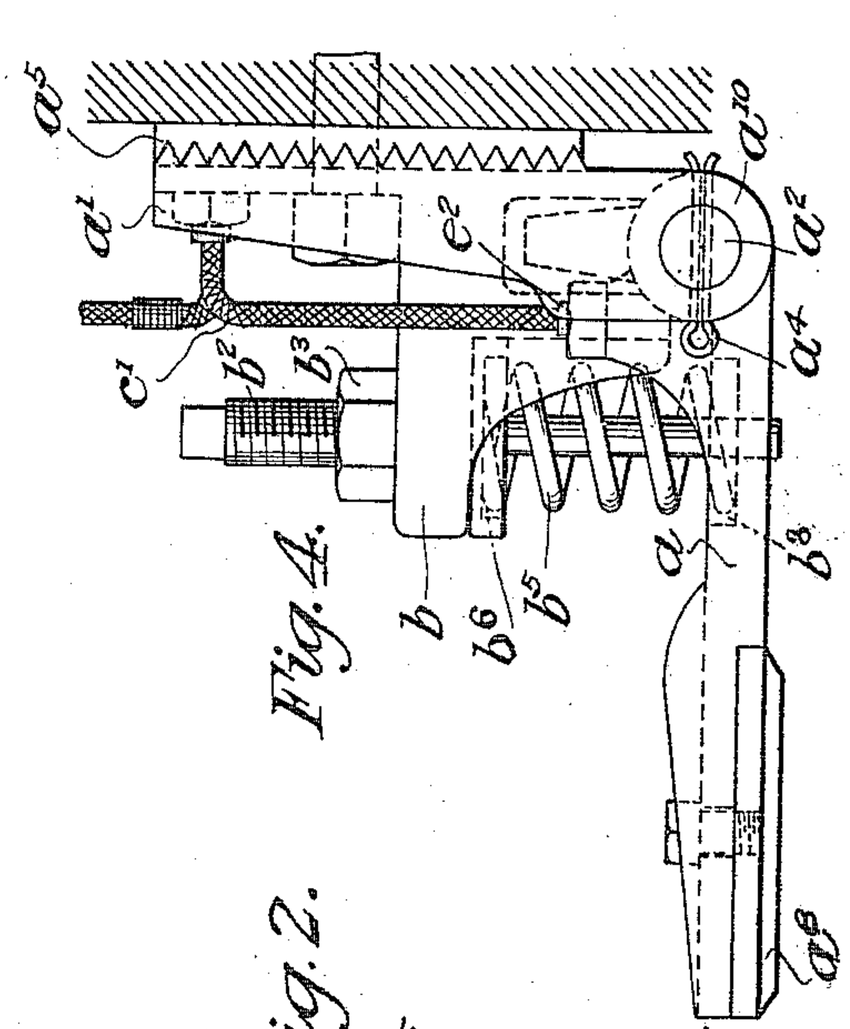

Fig. 4.

Fig. 1.

Fig. 2.

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SHOE FOR THIRD-RAIL ELECTRIC CARS.

985,430. Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed April 24, 1909. Serial No. 492,017.

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 has relation to a shoe with a removable contact-piece for third-rail electric railway cars; and in such connection it relates to the particular constructive arrangement of the same, for the defined purpose.

The principal object of our invention is to provide a shoe for a third-rail electric railway car, in which the shoe proper, can be replaced, without disturbing associated parts, for rendering operative.

Our 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 shoe with the rail contact-piece located underneath, embodying in constructive arrangement essentially the main features of our said invention. Fig. 2, is a front elevational view thereof. Fig. 3, is a vertical central sectional view on the line y, y, of Fig. 2; and Fig. 4, is an end elevational view of the shoe of Figs. 1 and 2, showing the detailed arrangement thereof.

In the drawings a, is a shoe or contact-member and a^1, a device to which the shoe or contact-member is pivotally attached and arranged so as to be adjustably secured to a plate adapted to form part of a car-truck frame, not shown, but which attachment to said plate in a preferred manner, will be hereinafter fully described.

The shoe-member a, has a central perforated portion arranged to provide a bearing to fit between two end perforated portions of the device a^1. Formed with the central portion of the member a, is a tapering projection a^9, as clearly illustrated in Figs. 3 and 4, for a purpose to be presently described. Through the perforated portions of both member a and device a^1, is inserted a pin a^2, to form a pivotal connection of the one member a, with the other member a^1, as clearly shown in Figs. 1 and 3. The respective ends of the pin a^2, are perforated to receive cotter-pins a^3 and a^4, Fig. 1, so that when the cotter-pins are removed, the pin a^2, may be readily withdrawn and thereby the shoe-member a, released from its connecting device a^1. This device a^1, is preferably arranged with an upper rear ratcheted surface, Fig. 3, to register with a ratchet-plate a^5, intended to be secured to the car-truck frame. The ratchet surface of the device a^1, by registering with the ratchet-plate a^5, permits of adjustably securing to required position, the said device a^1, carrying the shoe-member a, by means of tightening bolts a^6 and a^7, as clearly shown in Fig. 2, so that the shoe-member a, may thereby be quickly and securely brought into proper operative relation with respect to the electrified rail of a road-bed, not shown. The said shoe-member a, is recessed in the front underneath portion to receive the rail contact-piece a^8, which is held thereto, by means of removable bolts, Figs. 1, 3 and 4. As shown, the contact-piece or shoe a^8, is beveled off adjacent to the respective edges thereof, as clearly shown in Fig. 1. The connecting device a^1, of the shoe member a, is provided with a block-like extension b, in cross-section as shown in Fig. 3, perforated at b^1, and provided with a chamber b^7 into which the tapering projection a^9, of the member a, extends to limit the range of movement of the shoe or contact-member held under spring tension with respect to the supporting member a^1, by any pressures exerted at the forward end of the shoe or contact member a, in use of the same.

The connecting device a^1, Fig. 3, is cut away to provide space for interposing a helical spring b^5, therebetween, the ends of which spring engage respectively, a seating-cap b^6, arranged in the offset portion of the device a^1, and a cup-shaped recess b^8, of the member a, with a bolt b^2, extending through the rear opening of the shoe-member a, about the cup-shaped recess b^8, and with the enlarged threaded portion of the bolt b^2, entering the threaded offset extension b, of the device a^1, and carrying thereon a nut b^3.

As wear of the contact-piece a^8, of the shoe-member a, takes place from the underside, by manually turning the bolt b^2, in the threaded portion of the projection b, of the supporting member a^1, the required maintained tension of the helical spring b^5,

will thereby be readily compensated for to tension the spring b^5, more firmly between the cap b^6, and cup-shaped recess b^8, as clearly illustrated in Fig. 3, and then tightening the nut b^3, thereon so as to be brought into contact with the upper surface of the said projection b, of the said member a^1, without having to disarrange either the electrical or mechanical parts of the said appliance to accomplish such take-up or in replacing a worn contact piece or shoe a^8. The two members a and a^1, can be parted by the foregoing arrangement thereof, by removing first the cotter-pins a^3 and a^4, and then withdrawing the pin a^2.

c and c^1, are insulated electric wire connections of the shoe-member. These wires are detachably connected with binding posts d and d^1 and e' and e^1, of a plate e, which latter is suitably bolted to the upper portion of the device a^1, as clearly shown in Figs. 1, 2 and 4.

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

A shoe for electric railway cars, comprising a supporting-member and a member provided with a removable contact-shoe, said members pivoted together, said supporting-member in one portion formed into an extension having a chamber, said contact-shoe member provided with a projection extending into said chamber, a bolt extending through both of said members, a spring surrounding said bolt, a stop for one end of said spring and mounted on said bolt, said bolt provided with a threaded enlargement screwed into one of said members and bearing against said stop, a nut carried on said enlargement and electrical connections for said contact-shoe member.

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

LOUDEN A. McCOUBRIE.
CHARLES F. RAYDURE.

Witnesses:
J. Walter Douglass,
Thomas M. Smith.