C. F. RAYDURE.

CONTACT SHOE FOR THIRD RAIL ELECTRIC CARS.

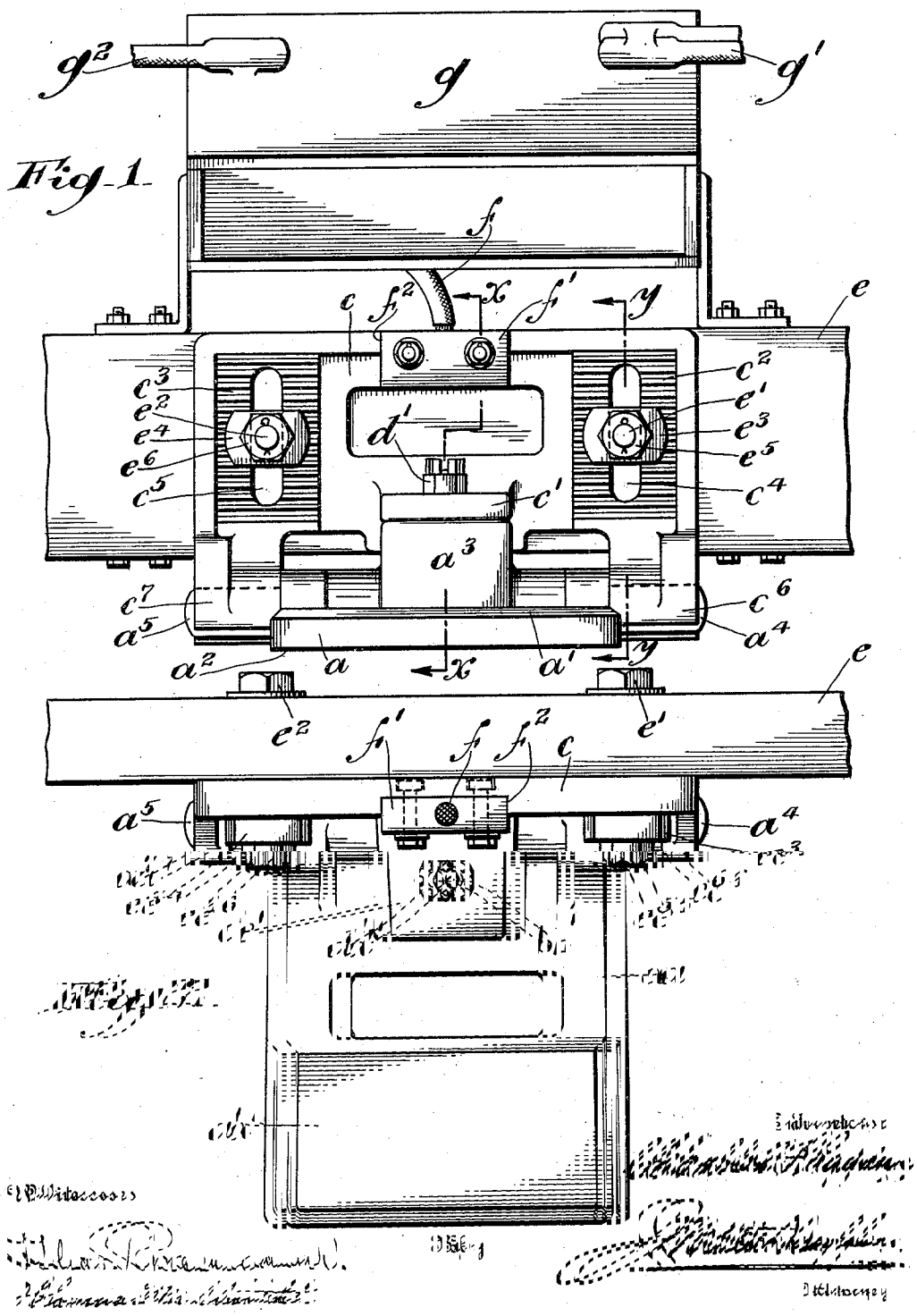
APPLICATION FILED JUNE 14, 1915.

1,169,865.

Patented Feb. 1, 1916.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

Inventor

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2 SHEETS—SHEET 2.

Fig. 3.

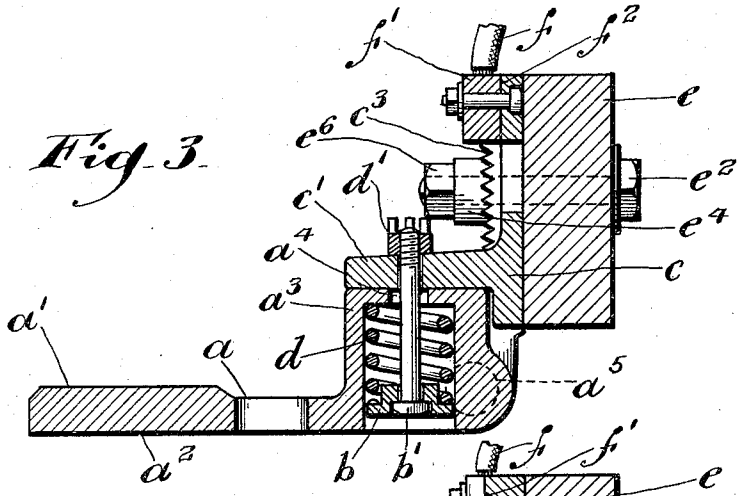


Fig. 4.

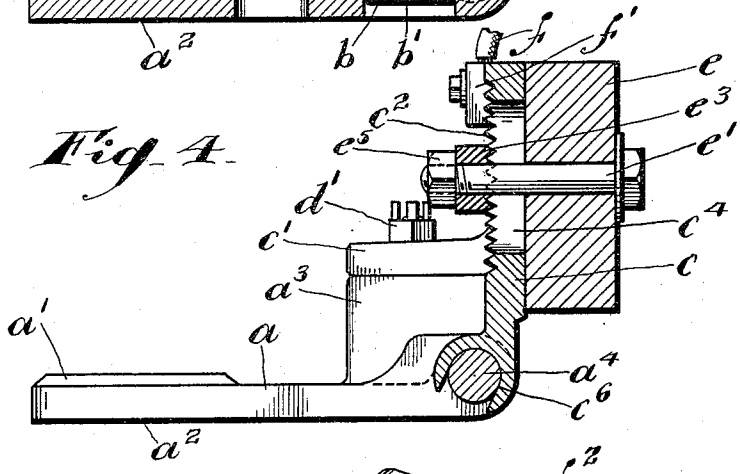


Fig. 5.

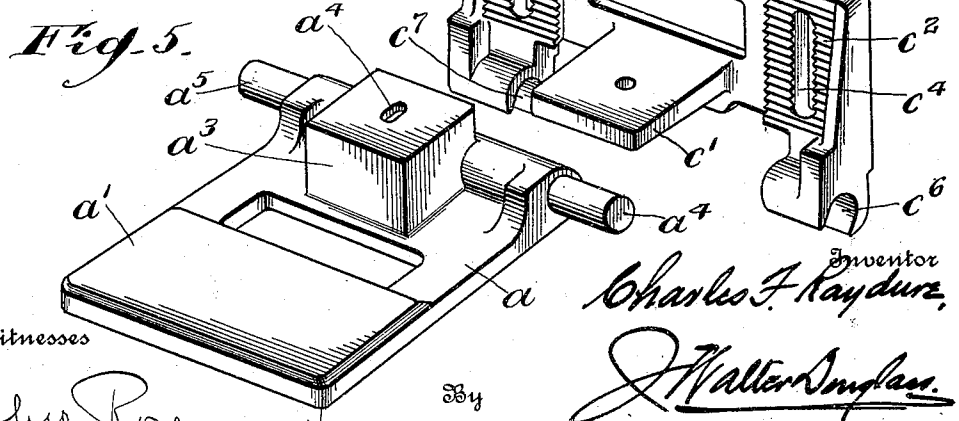


Fig. 6.

Witnesses

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CONTACT-SHOE FOR THIRD-RAIL ELECTRIC CARS.

1,169,865. Specification of Letters Patent. Patented Feb. 1, 1916.

Application filed June 14, 1915. Serial No. 33,873.

To all whom it may concern:

Be it known that I, CHARLES F. RAYDURE, a citizen of the United States, residing at West Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Contact-Shoes for Third-Rail Electric Cars, of which the following is a specification.

My invention relates to a third rail contact-shoe device, comprising the contact-shoe member having a central housing for a spring and bolt and having end pintles, and the supporting member having a ribbed surface for a complemental surface nut to engage on each side and a central projecting perforated plate to fit over the housing for the spring controlled bolt of the contact-shoe member and through which plate the said spring controlled bolt of said member is held by means of a tightening nut against disengagement, but free to yield under the tension of the spring of said bolt and with substantially semi-circular end bearings to embrace the end pintles of said contact-shoe member to thereby provide a contact shoe for the defined purpose that can be readily separated from the supporting member, without disturbing it or the electric connections applied thereto and in connection with a fuse-box carried by the insulating car truck-beam.

The principal objects of my present invention are, first, to provide a contact shoe cast in two members so that subsequent machining is unnecessary to adapt it to use and a shoe readily adapted to variable car conditions with respect to location of the third-rail with which such shoe must establish and maintain a good working contact for practical service; and second, to provide a contact-shoe in which the electrical connection therewith as well as the detachment of the supporting member from the insulating car truck-beam may be facilitated and the contact shoe member without disturbing said supporting member and its connections as well as permitting of the parting of said contact shoe member from its said supporting member by the mere breaking or removing the tightening nut applied to the spring controlled vertical bolt holding normally the said contact shoe member in spring acting relationship with said supporting member to insure good contact of the same at all times with the third rail for efficient service.

The nature, scope and characteristic features of my said defined 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 front elevational view of the complete contact-shoe in a position adapted for use, with the electric connections therewith to a fuse box carried by the car truck-beam and the line cables therefrom through the car; the said view embodying as to the contact-shoe member and the supporting member both constructively as arranged in their connected relationship with each other the main features of my said invention. Fig. 2, is a top or plan view of the said contact shoe device. Figs. 3 and 4 are vertical sectional views on the line x, x and y, y of Fig. 1; and Figs. 5 and 6, are detached views in perspective respectively, of the contact shoe member and the supporting member thereof, showing the detail arrangement of each of the said members.

Referring to the drawings, a is the contact-shoe member, consisting of a rectangular-shaped casting, as shown, with an integral shoe plate a^1, having a smooth bottom a^2, throughout and in rear is formed a box-like vertically projecting housing a^3, with an oblong slot a^4, in the top thereof, as shown in Fig. 5, and without a bottom, as clearly shown in Fig. 3. In the opening in the bottom is inserted a dish-shaped flanged nut b, engaging the head of a bolt b^1, extending vertically through the said housing and body of said nut engaging one end of a coiled or helical spring d, mounted on the said bolt, all as clearly shown in Fig. 3. The rear raised portion of the member a, on both sides of the said housing a^3, terminates in pintles a^4 and a^5, as clearly shown in Fig. 5.

The supporting member c, is cast with a smooth surface back and sunken face having on both sides of a horizontally arranged perforated plate c^1, ribbed or ratcheted surfaces c^2 and c^3, with oblong slots c^4 and c^5, therein, the lower end of the said member c, is formed into substantially semi-circular bearings c^6 and c^7, to embrace the pintles a^4 and a^5, of the member a, with at the same time the projecting plate c^1, covering the top

of the housing a^3, so that the upper threaded end of the bolt b^1, may have applied a notched nut d^1, such as shown in Figs. 1, 2, 3 and 4, for holding securely the two pivotal members a and c, in operative relationship and under such a spring tension as to insure good working contact of the contact-shoe of one of the said members with the third rail of the road-bed, not shown and without regard particularly to what the relation may be of the positioned contact-shoe in connection with the insulating car-truck beam and in respect to the position of the third-rail, as that can to a marked degree, be readily regulated by the tightening nut d^1, on the bolt b^1, to increase or decrease the tension under which the said bolt b^1, is maintained.

The supporting member c, is connected with the longitudinal insulating truck-beam e, of the car by means of bolts e^1 and e^2, carrying ribbed surface washers e^3 and e^4, and capped by nuts e^5 and e^6, to hold securely the said bolts against movement in either direction of the said member c, as clearly shown in Fig. 1.

The electric connection f, fits a removable block f^1, bolted to the recessed upper edge portion f^2, of the member c, as clearly shown in Figs. 1 and 2. The cable of said connection leads to a fuse-box g, carried by the car-truck beam e, and therefrom lead line cables g^1 and g^2, as shown in Fig. 1, to and through the car to the source of supply.

The important feature of the foregoing described contact shoe device is that it is cast and employed without further machining to readily fit the supporting member and to establish a pivotal connection therewith and to be held under required spring tension for a good working contact of the shoe with the rail. Moreover, when it becomes necessary to replace the shoe member due to wear or for any other reason, by simply splitting or removing the nut d^1, this is quickly accomplished, without disturbing the supporting member held to the insulating truck-beam of the car. Such a defined arrangement of the shoe member is very desirable in practice and advantageous by reason of the saving of time and the little manipulation required to make repairs or to replace an old shoe member by a new one, as the electric connection with the device is in such part of the same as not to require being disturbed in making such repairs or in the replacing of one part to restore the device again to good working conditions.

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

1. A contact shoe for a third rail, comprising a contact shoe member having a projecting housing, a spring controlled vertical bolt mounted in said housing, said member having end pintles, a supporting member with slotted ratcheted surfaces and with a central horizontal projecting plate fitting the top of said housing and through which said spring controlled bolt extends, a nut for tightening the same thereto, said supporting member connected with the car-beam and bolted thereto and a ribbed washer to engage the ratcheted surface of said supporting member, with a nut for securing said member against movement and said supporting member having substantially semicircular end bearings to engage the pintles of said contact-shoe member, substantially as and for the purposes described.

2. A contact shoe for a third rail, comprising a contact shoe-member having integrally cast therewith a central projecting slotted housing and end pintles, a supporting member having substantially semicircular end bearings to embrace said pintles and a central perforated plate spanning the top of said housing, a bolt carrying a dish-shaped washer with a coiled spring engaging said washer and surrounding said bolt and said bolt extending through the housing of said contact shoe member and plate of said supporting member and means detachably applied thereto for facilitating separation of said members from each other, substantially as and for the purposes described.

In witness whereof, I have hereunto set my signature in the presence of two subscribing witnesses.

CHARLES F. RAYDURE.

Witnesses:
THOMAS M. SMITH,
THEO. ROSEMANN.

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