

No. 610,008.

Patented Aug. 30, 1898.

L. E. WALKINS.

CONTACT RAIL APPLIANCE FOR ELECTRIC RAILWAYS.

(Application filed Feb. 2, 1898.)

(No Model.)

Fig. 1.

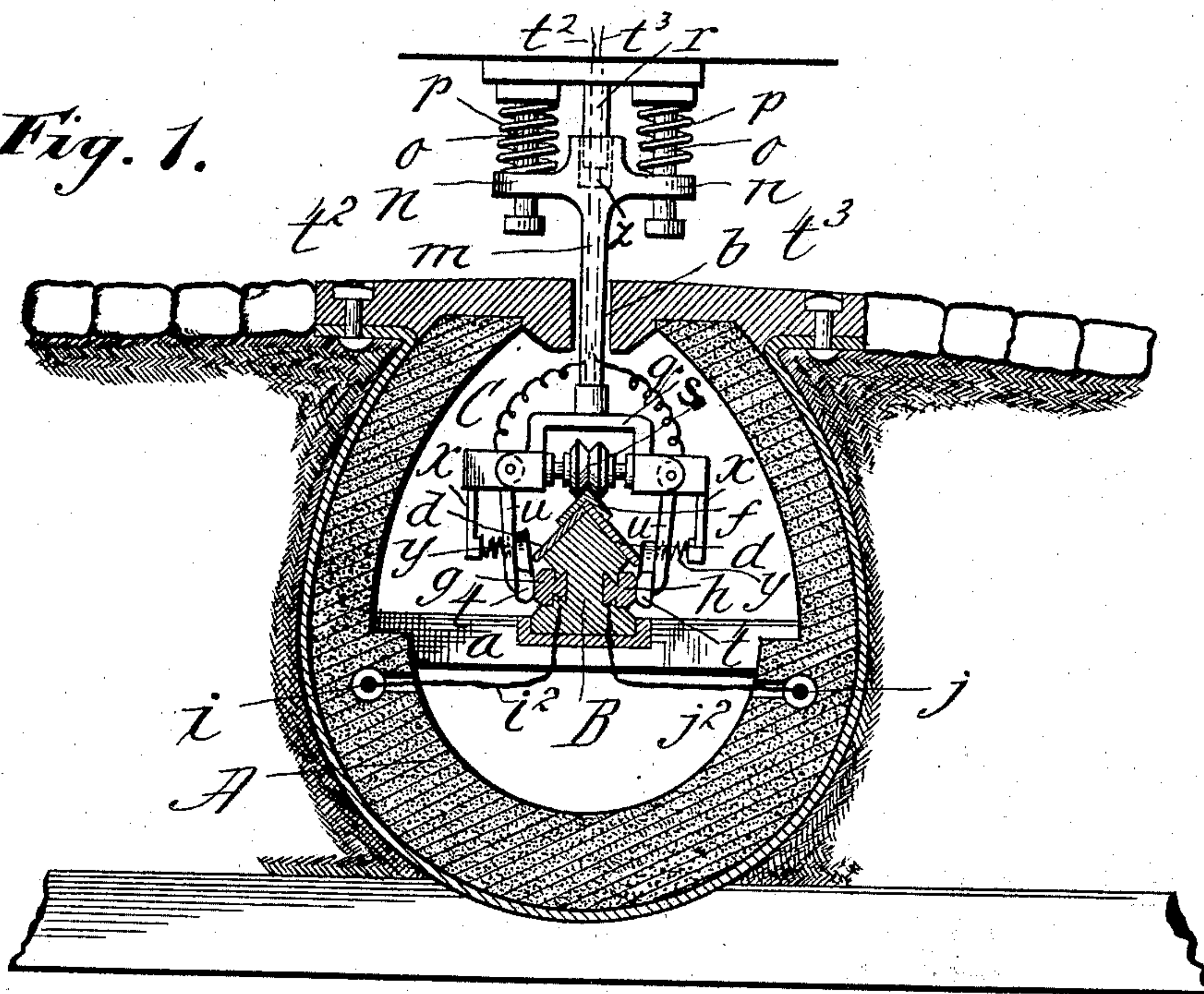
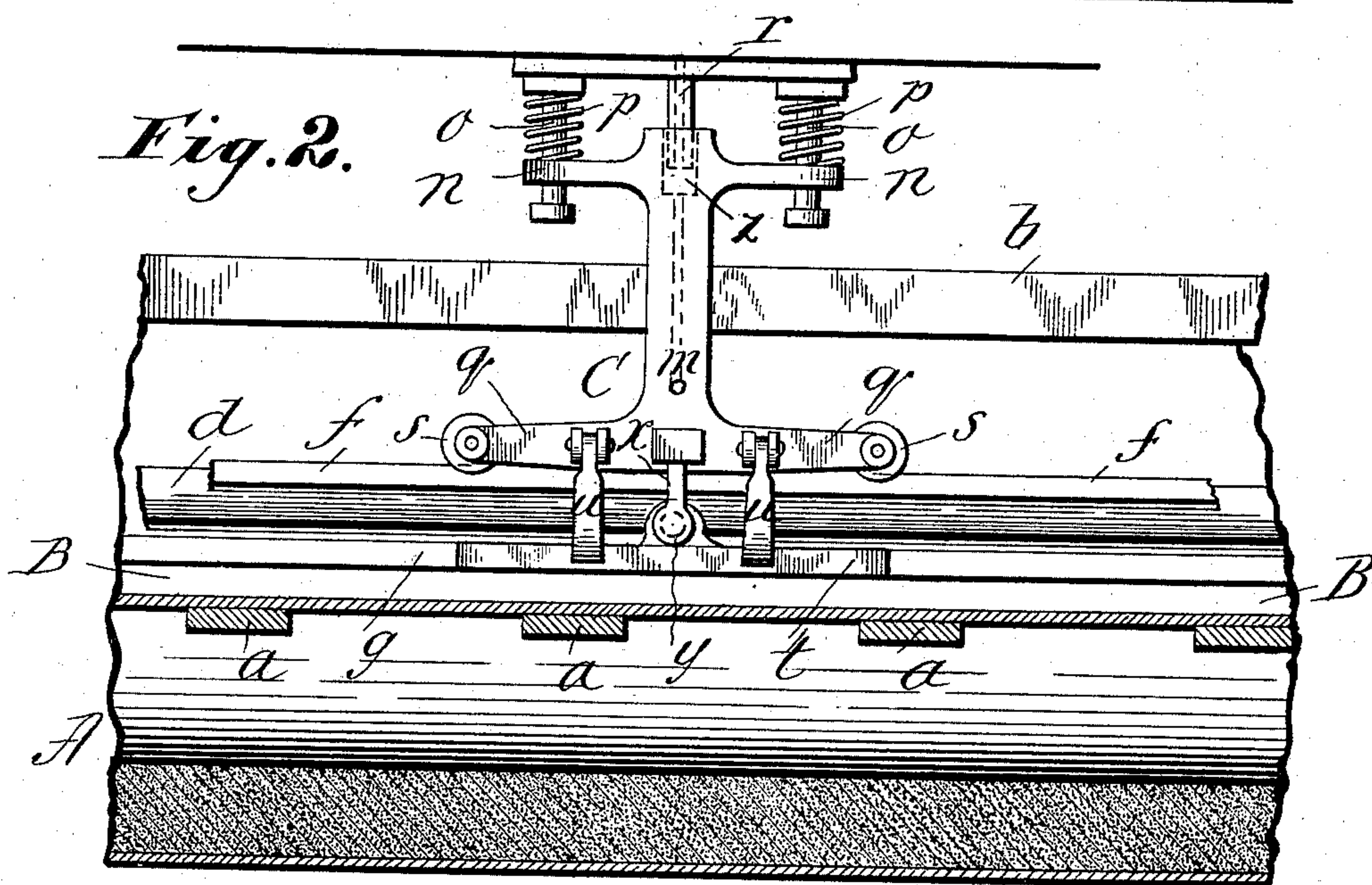


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

LOUIS E. WALKINS, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO GEORGE M. JEWETT, OF GLENVILLE, MARYLAND, AND CHARLES N. KING, OF JERSEY CITY, NEW JERSEY.

CONTACT-RAIL APPLIANCE FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 610,008, dated August 30, 1898.

Application filed February 2, 1898. Serial No. 668,906. (No model.)

To all whom it may concern:

Be it known that I, LOUIS E. WALKINS, a citizen of the United States, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Running Contact-Rail Appliances for Electric Railways, of which the following is a specification.

10 This invention relates to running contact-rail appliances for electric railways, the object of the invention being especially to provide double rail-conductors having the general location of the third rail, as now well known, between the ordinary track-rails and preferably in a conduit below the surface of the railway, the said double conductors being combined and arranged with a common support therefor by which the one is insulated from the other, each being continuous, and also protected against dirt, snow, water, or any substances falling thereupon to interfere with the contact therewith of a device having double shoes adapted to run on the separated continuous and insulated conductors and comprised in a device having a rolling contact and guiding-support on the top of the aforementioned common support.

20 The invention consists in the continuous insulated and separated double contact-conductors and the peculiarly-constructed common support therefor, as hereinafter described and claimed, and in the combination therewith of an underrunning double trolley or shoe constructed as hereinafter set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, in which—

40 Figure 1 is a cross-sectional view of an underground conduit understood as between the two track-rails of a street-railway and showing the double contacts, the line and return wires in connection therewith, and the double bearing-shoe or trolley. Fig. 2 is a sectional elevation longitudinally of the same.

45 A represents the underground conduit supporting therewithin between its top and bottom the ties *a a*, which are arranged cross-wise at proper intervals and which support centrally and longitudinally below the top

slot *b* the rail B, suitably held in place, the same being formed of a hard, durable, insulating material, having its top of inverted-V form and provided with the sections *d d*, arranged to overhang the sides of the rail in the manner of eaves, and having at its apex the inverted-V-shaped longitudinally-continuous metallic bearing-plate *f* for the supporting and guiding roller *s* of the trolley or double-contact-shoe device C.

60 *g h* represent longitudinally-continuous contact-conductors or supplemental rails having the dovetailed shanks, these being embedded in the opposite sides and confined to the rail B, which constitutes not only the common support for both thereof, but also means for insulating the one from the other. The support-rail B may be constructed of the form substantially as shown, with the said contact-conductors *g h* embedded by their dovetailed portions therein by molding, while the substance from which the rail B is in a plastic condition, such substances being understood finally hardening and holding the sections *g h* immovably therein.

75 *i* indicates the line feed-wire, and *j* indicates the line return-wire, both having connection, respectively, with the continuous contact-conductors by the bond-wires *i² j²*.

80 The trolley device C consists of a body or holder *m*, whereby it is adapted to be sustained pendent below the car-body or the car-truck, the same having laterally-extending members in pairs, as indicated at *n n*, which are perforated and through which pass the dependent stems or rods *o o*, the surrounding springs *p* exerting a downward pressure against the members *n* of the trolley-support. The said trolley-support is provided with the forward and rearward yokes *q*, journaled within which are the grooved rollers *s*, adapted to run on the angular wear-plate *f* on the top of the insulating and supporting rail B, aforesaid.

95 *t* represents the oppositely-disposed shoes or trolley-contacts arranged in the form of beams to bear sidewise against the aforesaid contact-conductors *g h*, they being respectively carried by the depending arms *u*, pivotally hung in pairs to the lower portion of 100

the trolley-support *m*. The said trolley-support has depending below each side thereof, preferably at its middle, the rigid arm *x*, between each of which and a portion of the beam-shoe or contact member *t* is interposed a spring *y*.

The trolley device is susceptible of vertical movements against a yielding downward pressure, and it has centrally and vertically within the top of the supporting-body *m* the vertical socket *z*, in which plays the depending guide-post *r*, which is sustained by the car-body or truck-frame.

One of the shoes *t* may be carried upwardly by wire *t*² through the center of the trolley-support *m* and through the post *r*, which parts may be tubular, to connection with the motor, while the return-current may be brought by a similarly-disposed wire *t*³ back from connection with the motor to the other contact-shoe.

Should anything fall down through conduit-slot onto the top of the support-rail B, it would, by reason of the downwardly-sloping and overhanging guard-sections *d d*, be downwardly directed and conveyed to fall into the bottom of the conduit, or, in any event, be prevented from lodging on the continuous contact-conductors *g* or *h*, on which the opposite beam-shoes of the double trolley device have spring-pressure bearing contact.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with the support-rail B of insulating material provided at opposite sides with the continuous longitudinally-ranging metallic contact-conductors, of a double-shoe trolley device consisting of a depending trolley-support *m* having a roller-carrying yoke to run on the top of the support-rail and

provided with the oppositely-arranged depending inwardly spring-pressed shoes, said trolley-support being provided at its upper portion with the paired lateral arms having perforations; and the depending rods or posts downwardly extended through said perforated arms, and the springs *p* all arranged substantially as and for the purposes set forth.

2. The combination with the underground conduit having line feed and return wires *i j* and provided therewithin with the cross-ties, the rail-support B having embedded in and protruding outwardly beyond, the opposite sides thereof, longitudinally continuous metallic contact-conductors which are bonded to said feed and return wire, and having an inverted-V-shaped top formation with the eaves overhanging said contact-conductors, and provided at its top with the angular wear-plate, of the trolley device C consisting of the downwardly spring-pressed support *m* having at its forward and rearward ends the yokes *q q* with V-shaped rollers journaled therein to run on the angular wear-plate of said rail and provided with the downwardly-depending rigidly-supported bars *x x* at opposite sides, the pivoted supporting-bars *u u* carrying the contact-shoes *t t* and the springs *y y* interposed between said depending bars *x* and the shoes, all substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 22d day of December, 1897.

LOUIS E. WALKINS.

Witnesses:

WM. S. BELLOWS,
M. A. CAMPBELL.