

No. 682,707.

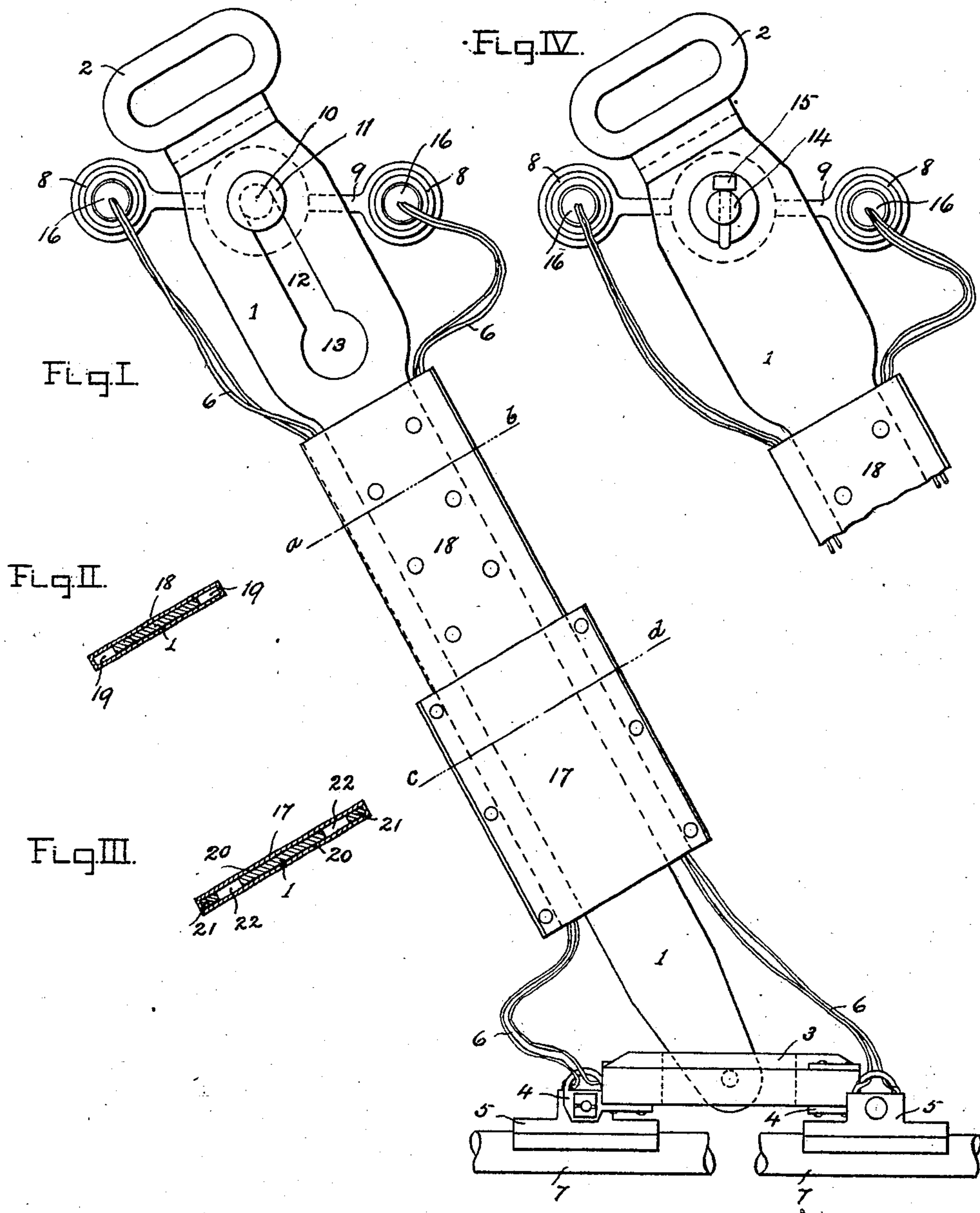
Patented Sept. 17, 1901.

W. F. JENKINS.

CONTACT DEVICE FOR CONDUIT ELECTRIC RAILWAYS.

(Application filed Feb. 7, 1901.)

(No Model.)



Witnesses

Henry E. Baskerville
Aukley Chesterman

Inventor

Wilton F. Jenkins.

by
Stewart & Stewart
his Attorneys.

UNITED STATES PATENT OFFICE.

WILTON F. JENKINS, OF RICHMOND, VIRGINIA.

CONTACT DEVICE FOR CONDUIT ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 682,707, dated September 17, 1901.

Application filed February 7, 1901. Serial No. 46,403. (No model.)

To all whom it may concern:

Be it known that I, WILTON F. JENKINS, a citizen of the United States, and a resident of Richmond city, State of Virginia, have invented certain new and useful Improvements in Contact Devices for Conduit Electric Railways, of which the following is a specification.

My invention relates to conduit electric railways; and it has for its object the provision of an improved form of trailing contact device whereby electric connection may be made between the motors of a car and those forms of conductors from the upper surface of which the electric current is gathered by the contact-shoes.

In the drawings which accompany and form a part of this specification, and in which like numerals refer to like parts in the several views, Figure I is a view of the contact device in side elevation. Fig. II shows a section of the contact device, taken on line *a b* in Fig. I. Fig. III shows a section of the contact device, taken on line *c d* in Fig. I. Fig. IV is a broken view showing a manner in which the contact device may be attached to the car.

In Fig. I, 1 is a flat bar or plow, which is provided with a head or handle 2, the said head being preferably formed of non-conducting material. To the lower end of the plow 1 is pivoted the insulating-block 3, and to this block are attached the shoe-brackets 4 4, which carry the shoes 5 5. The shoes 5 5, to which the connecting-wires 6 6 are attached, slide upon the upper surface of the conductors, (indicated at 7 7.) The block 3, shoe-brackets 4 4, and shoes 5 5 are not shown in detail, nor are they more fully described in this application, as they are so shown and described in another application, bearing the Serial No. 46,401 and filed on the same day with this application.

8 8 are the ends of the suspensory-device supports.

9 is the suspensory device, having the pin 10, upon which the contact device is suspended. The supports 8 and the suspensory device 9 are fully described, illustrated, and claimed in another application, bearing the Serial No. 46,404 and filed on the same day with this application.

There are several ways, two of which are shown in Figs. I and II, in which the contact

device may be suspended from the pin 10 and in which it may be prevented from becoming accidentally detached therefrom. In Fig. I the pin is shown as having a solid head 11 integral with it. When this form of pin is employed, the plow 1 is provided with a slot 12, of a width slightly greater than the diameter of the pin 10 and having an enlarged part 13 of sufficient size to allow the head of the pin to pass through it. The head of the pin having passed through the said aperture 13, the contact device is lowered until the pin 10 engages in the upper end of the slot 12. The sides of the slot 12, engaging behind the head 11 of the pin 10, will then prevent the contact device from being accidentally detached from the carrier 9, and at the same time the contact device is free to swing on the said pin 10. The slot 12 permits an upward movement of the plow 1 on the pin 10, and the upward movement is called into use when the car to which the contact device is connected is reversed. The car being reversed, the shoes are of course in advance instead of in the rear of the point of suspension 10. This position of the shoes would be very well if one could be sure of having perfectly-true line conductors; but as one cannot it is necessary to reverse the position of the plow. This is done automatically. The conductors react against the shoes and force the plow upward. The plow passes the vertical position and takes an inclined position opposite to that which it originally had. In Fig. II the suspensory device is shown as provided with a headless pin 14, the contact device being kept in place thereon by means of a cotter-pin 15, passing through the outer end of the said pin. The form of carrier used with this form of contact device may be that shown in Fig. VI in the drawings of the application for a suspensory device, Serial No. 46,404, mentioned above. This form of carrier is provided with a pivoted pendent lug, to which the contact device is pivoted, and forms a link between the contact device and the carrier. It will be at once seen that this form of carrier allows the contact device to reverse itself upon the reversing of the car, for the pivoted pendent lug allows the contact device to pass the vertical position and assume an inclined position opposite to that which it originally had. In

this case it is not necessary to slot the plow 1, it being sufficient to simply perforate it with a circular hole of a size sufficient to allow the pin 14 to engage in it.

5 The connecting-wires 6 6 have at their upper ends the terminals 16 16, adapted to engage in sockets located in the ends of the supports 8 8, which sockets are electrically connected with the car-motors. The terminals
10 16, the sockets, and the manner in which they connect the wires 6 6 with the motors are fully described in the aforesaid application bearing the Serial No. 46,404.

After leaving the shoes 5 the wires 6 6 are
15 led through the shield 17 and the casing 18, the object of the shield and casing being, so far as the wires are concerned, simply to keep the latter in place. The casing 18 may be formed of a piece of sheet metal bent around
20 the plow 1 and riveted in place, spaces being left between the end walls of the casing and the sides of the plow to receive the wires. These spaces are shown at 19 in Fig. II, which shows a section taken through the plow and
25 casing and in which 1 is the plow and 18 is the casing. The shield 17, a section through which is shown in Fig. III, is preferably formed in the following manner: 20 is a sheet-metal casing, which may be similar to the casing 18 or which may consist of two plates riveted one on either face of the plow 1, between
30 the ends of the walls of which strengthening-strips 21 21 are placed. The channels 22 for the reception of the wires 6 6 are formed between the strengthening-strips and the sides
35 of the plow 1. The object of the shield is to protect the wires from damage that might be occasioned by obstacles lying on the conduit-slot and also to provide a renewable surface
40 to take the abrasion caused by rubbing against the sides of the said slot.

Having now described my invention, what I claim, and desire to protect by Letters Patent of the United States, is—

45 1. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car in such a manner that it may swing on its point of suspension in a vertical plane parallel with the conduit, and depending
50 through the conduit-slot into the conduit, a shoe-supporting block pivoted to the lower end of the plow and having pivoted to it one or more contact-shoes which rest and slide upon the line conductor within the conduit
55 and are by suitable electrical conductors connected to the motor.

2. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car in such a manner that it may
60 swing on its point of suspension in a vertical plane parallel with the conduit, and depending through the conduit-slot into the conduit, a shoe-supporting block of insulating material pivoted to the lower end of the plow and

having pivoted to it one or more contact-shoes which rest and slide upon the line conductor within the conduit and are by suitable electrical conductors connected with the motor, the insulating-block insulating the shoes from one another. 65 70

3. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car in such a manner that it may swing on its point of suspension in a vertical plane parallel with the conduit, and so that
75 it may reverse itself on the reversing of the car, and depending through the conduit-slot into the conduit, a shoe-supporting block of insulating material pivoted to the lower end of the plow and having pivoted to it one or
80 more contact-shoes which rest and slide upon the line conductor within the conduit and are by suitable electrical conductors connected with the motor, the insulating-block insulating the shoes from one another. 85

4. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car in such a manner that it may swing on its point of suspension in a vertical plane parallel with the conduit, and so that it
90 may reverse itself on the reversing of the car, and depending through the conduit-slot into the conduit, a shoe-supporting block of insulating material pivoted to the lower end of the plow and having pivoted to it two contact-shoes which rest and slide one upon the current-supplying conductor and the other upon
95 the current-returning conductor within the conduit, and which are by suitable electrical conductors connected with the motor, the insulating-block insulating the shoes from one another. 100

5. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car in such a manner that it may swing on its point of suspension in a vertical plane parallel with the conduit, and so that
105 it may reverse itself on the reversing of the car, and depending through the conduit-slot into the conduit, a removable protecting-shield, a shoe-supporting block of insulating material pivoted to the lower end of the plow and having pivoted to it two contact-shoes which rest and slide one upon the current-supplying conductor and the other upon the
115 current-returning conductor within the conduit, and which are by suitable electrical conductors connected with the motor, the insulating-block insulating the shoes from one another. 120

Signed at Richmond, in the county of Henrico and State of Virginia, this 24th day of January, A. D. 1901.

W. F. JENKINS.

Witnesses:

EUGENE JONES,
ARTHUR SCRIVENOR.