

No. 682,706.

Patented Sept. 17, 1901.

W. F. JENKINS.

CONTACT DEVICE FOR CONDUIT ELECTRIC RAILWAYS.

(Application filed Feb. 7, 1901.)

(No Model.)

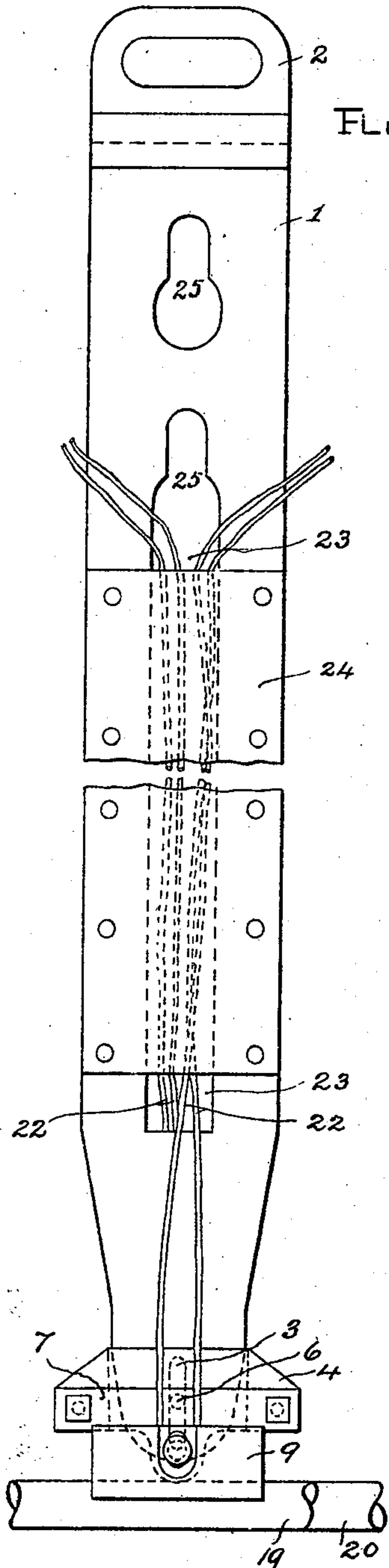


Fig. I.

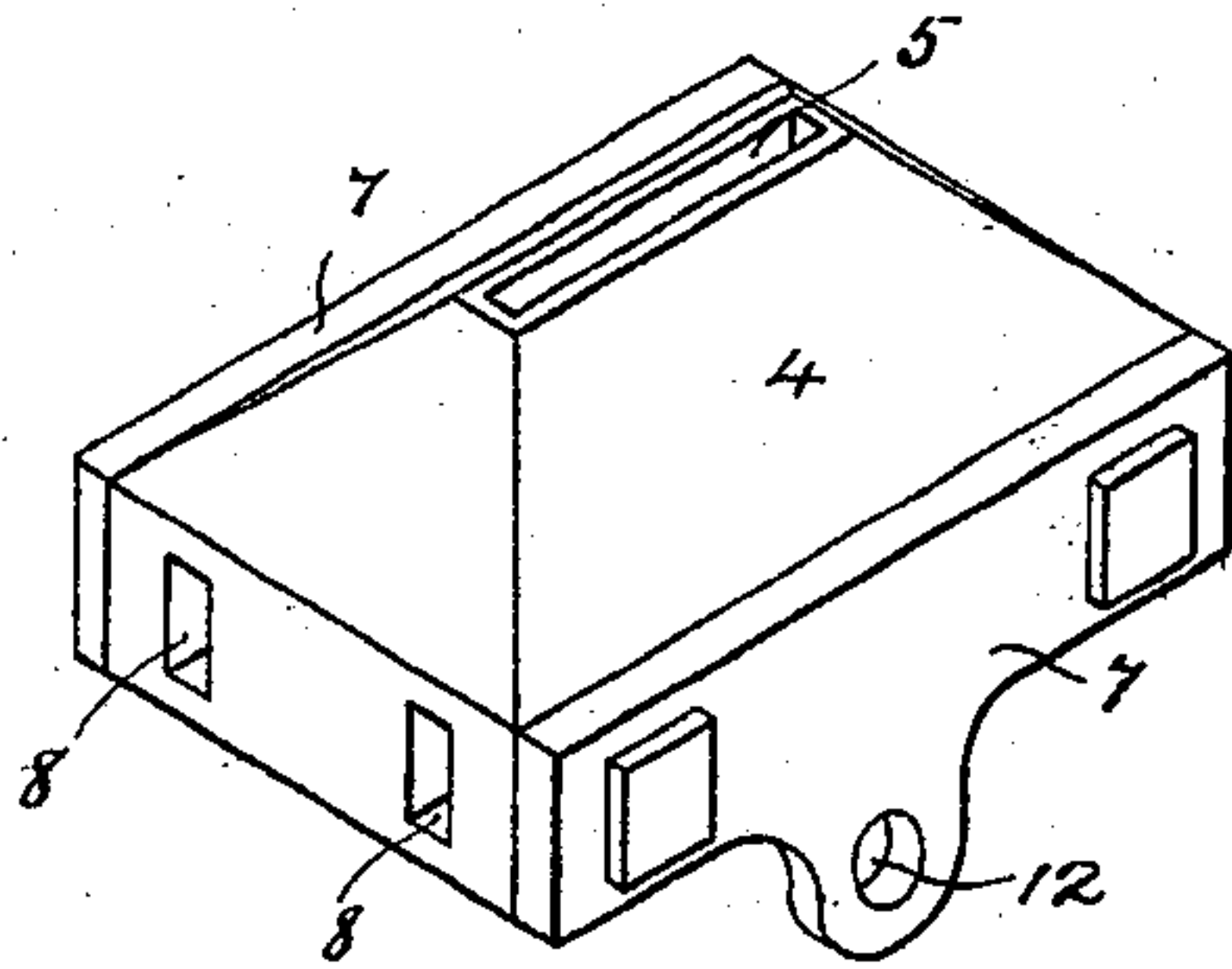


Fig. III.

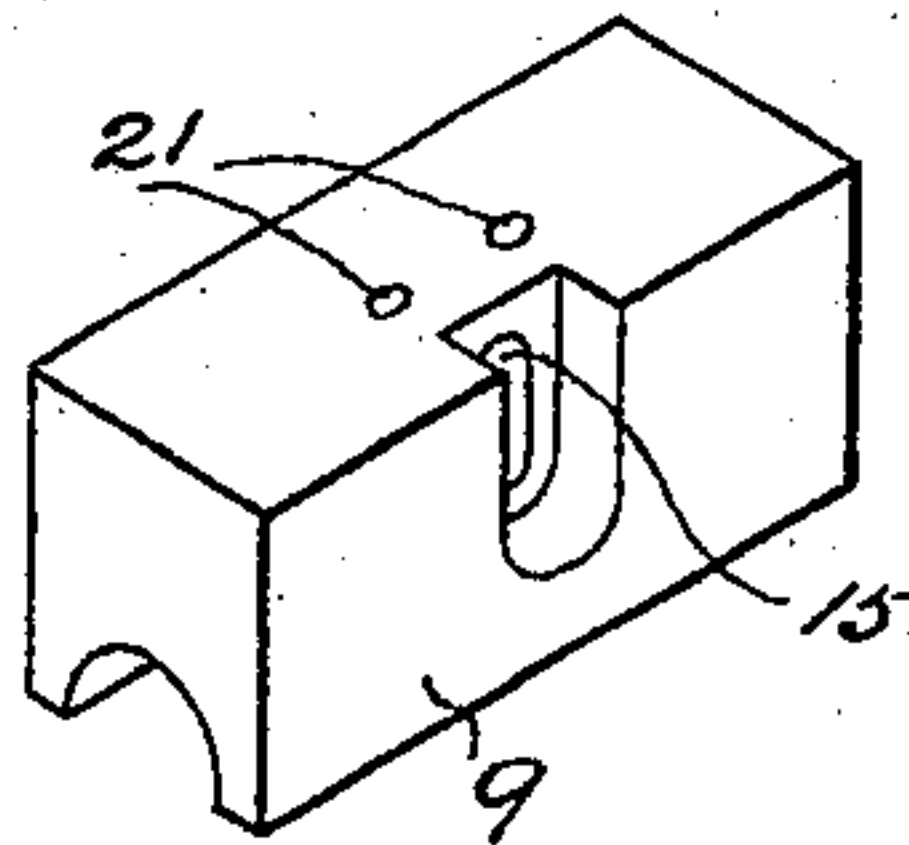


Fig. IV.

Fig. II.

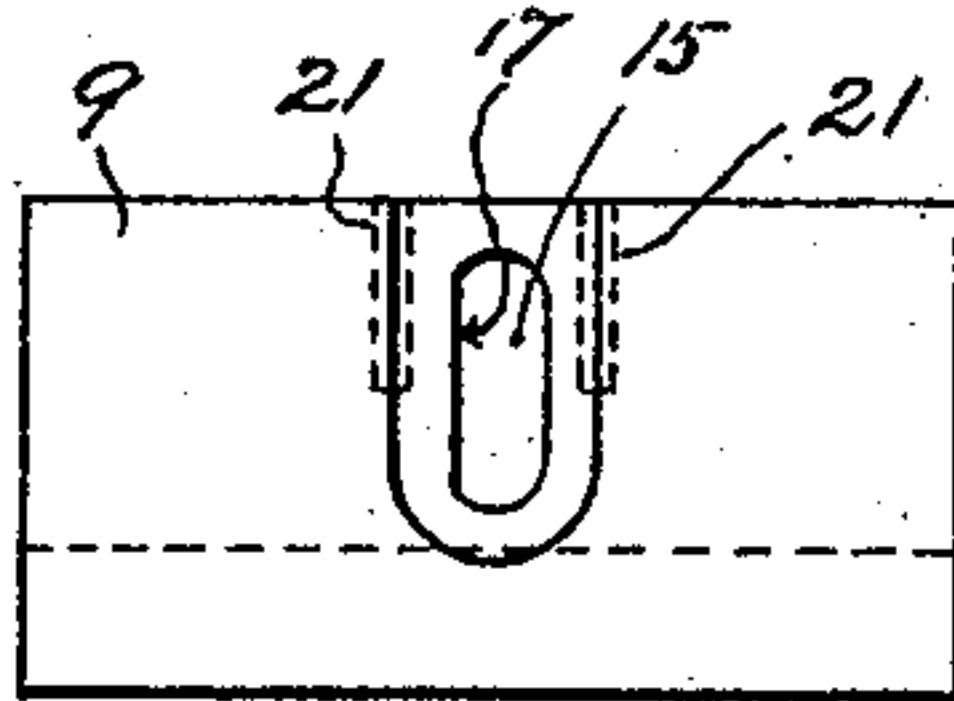
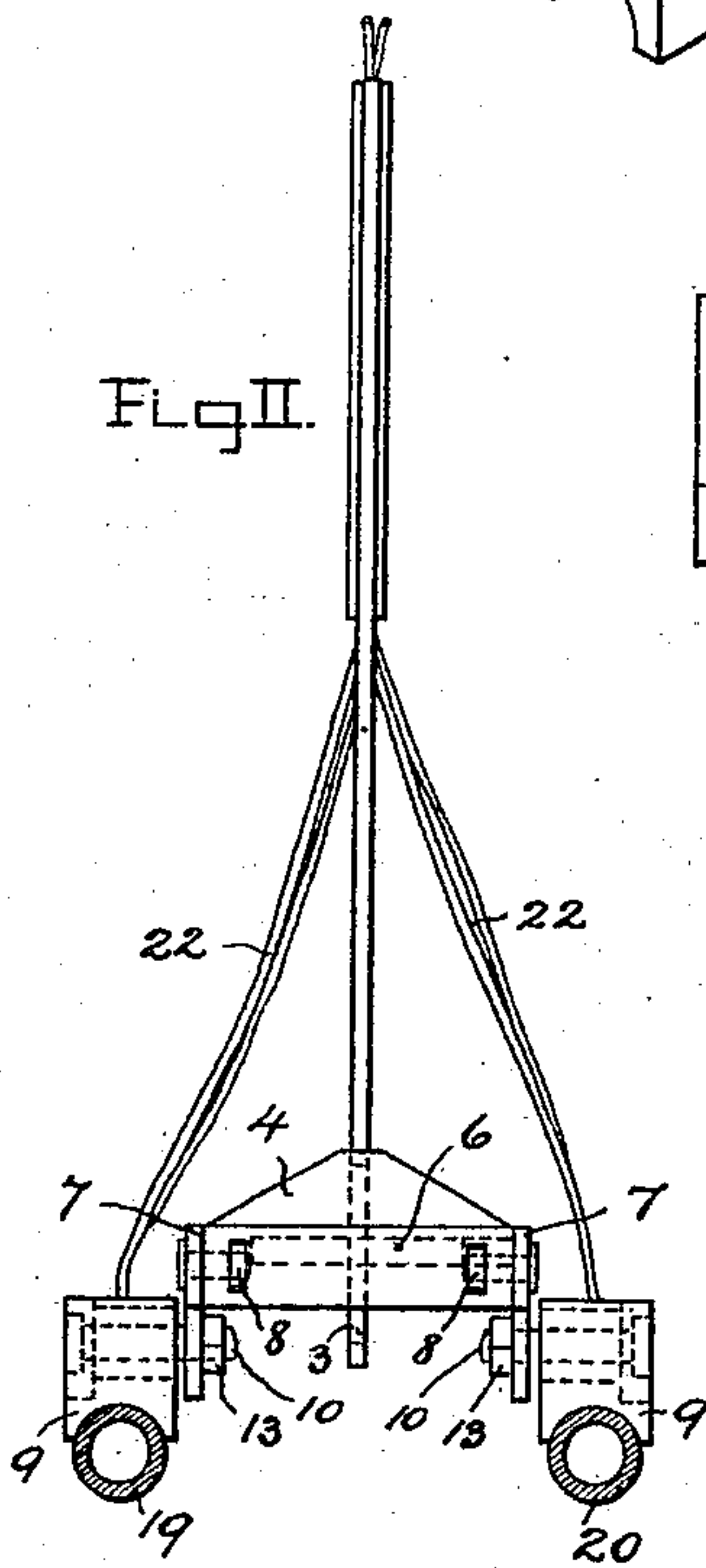


Fig. V.

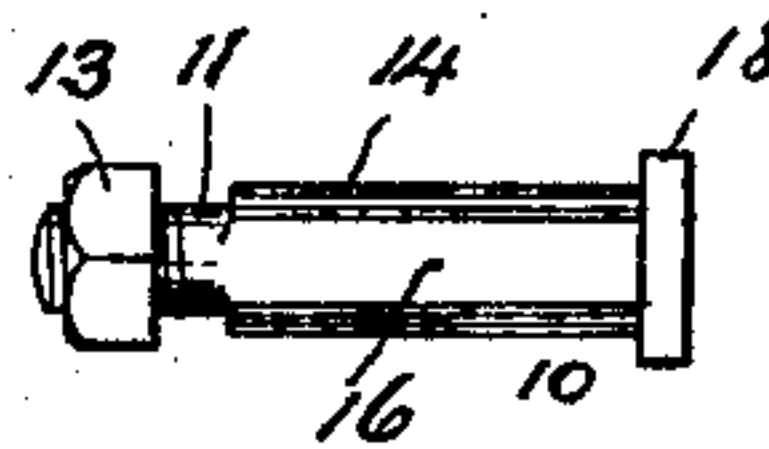


Fig. VI.

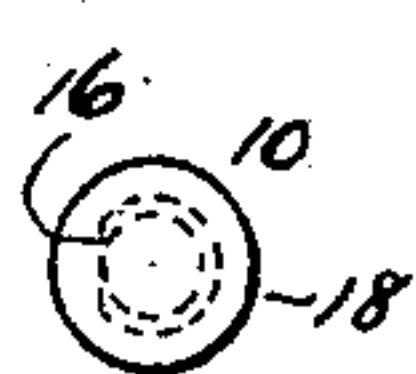


Fig. VII.

Witnesses

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UNITED STATES PATENT OFFICE.

WILTON F. JENKINS, OF RICHMOND, VIRGINIA.

CONTACT DEVICE FOR CONDUIT ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 682,706, dated September 17, 1901.

Application filed February 7, 1901. Serial No. 46,402. (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 consists in a contact device for maintaining electrical connection between the conductors and the car.

The contact device which forms the subject of this application is a modification of that described and claimed in an application filed on the same day with this application and bearing Serial No. 46,401. The contact device described in the said application consists, essentially, of a bar or plow, a link connected to the lower end of the plow, and shoes connected with the link. In the contact device which forms the subject of this application the shoe-supporting block is connected directly to the lower end of the plow.

In the drawings which accompany and form a part of this specification, and in which like numerals refer to like parts in the different views, Figure I is a view of the contact device in side elevation. Fig. II is a broken view of the lower end of the contact device in end elevation. Fig. III is a view of the shoe-supporting block in perspective. Figs. IV and V are views of one of the contact-shoes in perspective and side elevation, respectively. Figs. VI and VII are views of the shoe-pins in side and end elevation, respectively.

In Fig. I, 1 is the plow-bar provided with a handle 2, the said handle being preferably formed of non-conducting material. At the lower end of the plow is cut a slot 3.

4 is the shoe-supporting block, preferably made of non-conducting material and having in its center a slot 5, (see Fig. III,) through which the lower end of the plow 1 is adapted to pass. The function of the block 4 is to support the contact-shoes 9 and to insulate the said shoes from the plow and from one another. A pin 6 passes through the block 4 and also through the slot 3 in the plow. Consequently the block 4 is free to rise and fall vertically a distance limited by the length of the slot 3.

In Figs. I, II, and III, 7 7 are the shoe-brackets, attached to the block 4 by means of bolts, preferably, the nuts of the bolts being sunk in recesses (see 8 8 in Figs. II and III) cut in the block.

9 9 are the shoes, which are suspended from the brackets 7 7 by means of pins 10 10. The smaller ends 11 of these pins (see Fig. VI) are passed through holes 12 in the brackets 7 7 (see Fig. III) and the pins are secured to the said brackets by means of nuts 13 13. The larger parts 14 of the pins engage loosely in slots 15 cut in the shoes 9 9, the said brushes being free to rise and fall vertically a distance limited by the length of the slots 15. The shoes 9 9 are prevented from revolving on the pins 10 10 by flattening that part of the said pins which engages in the slots 15 in the shoes 9 on one side, as at 16, Figs. VI and VII, and by making the shape of the slots 15 conform to the shape of the said parts of the pins, only enough play being allowed between the flats 16 of the pins and the flats 17 of the slots 15 to allow free vertical movement and also a slight rocking or tilting movement to the shoes. The length of pin between the heads 18 and the shoe-brackets 7 is more than the thickness of metal through which the slots 15 in the brackets are cut in order to allow the shoes play upon the pins laterally to allow for possible variation in the distance between the two line conductors. Variations of level between the two line conductors (indicated at 19 and 20 in Figs. I and II) can be taken up by the rising or falling of the shoes on their pins, and variations between the levels of the line conductors and the track can be taken up by the vertical movement either of the shoes or of the block 4 or of both shoes and block. The shoes 9 9, which are hollowed out on their under side to fit the line conductors, are provided with sockets 21 21, (see Fig. IV,) in which the ends of the conducting-wires 22 22 may be secured. The wires after leaving the shoes are led into the slot 23 in the plow and emerge at the upper end of the said slot.

24 is a shield located at that part of the plow which runs between the slot-plates of the conduit and which has a double function—to keep the wires 22 in place in the slot 23 and to form a protection to both the wires

and the plow. The shield may consist of two metal plates riveted on either side of the plow or it may consist of a sheet of metal bent around the plow and held in place by suitable means.

The plow 1, which stands in a vertical position when attached to the car, is preferably suspended from the latter in such a manner that its vertical position may be maintained with certainty should any obstacles—such as snow, ice, stones, &c.—be encountered in the conduit-slot. In another application filed on the same day with this application and bearing Serial No. 46,404 I have described a suspensory device. To this suspensory device the contact device may be attached in any suitable manner. If the said suspensory device be provided with pins having solid heads, the plow is provided with apertures 25, narrower at their upper than at their lower parts, the said lower parts being large enough to pass over the heads of the suspending-pins, and when the contact device is dropped into place the edges of the upper parts engage behind the heads of the pins to hold the plow in place. It will be seen in Fig. 1 that the larger part of the lower aperture 25 may conveniently be formed by continuing the slots 23 upward. Where the suspensory device is provided with headless pins, the apertures 25 may have the form of circular holes, the plow being held in place by means of cotter-pins.

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

1. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car and depending through the conduit-slot into the conduit, a shoe-supporting block pivoted in a slot in the lower end thereof so as to permit vertical motion of the block and shoes, and one or more contact-shoes pivoted to the block and adapted to rest and slide upon the line conductor within the conduit and connected to the motor by suitable electrical conductors.

2. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car and depending through the conduit-slot into the conduit, a shoe-supporting block pivoted in a slot in the lower end thereof so as to permit vertical motion of the block and shoes, and one or more contact-shoes pivoted to the block in such a manner as to allow a limited vertical movement of the shoes, and adapted to rest and slide upon the line conductor within the conduit and connected to the motor by suitable electrical conductors.

3. In a trailing contact for a conduit elec-

tric railway, the combination of a plow connected to the car and depending through the conduit-slot into the conduit, a shoe-supporting block of insulating material pivoted in a slot in the lower end thereof so as to permit vertical motion of the block and shoes, and one or more contact-shoes pivoted to the block and adapted to rest and slide upon the line conductor within the conduit and connected to the motor by suitable electrical conductors, the insulating-block insulating the shoes from one another.

4. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car so as to permit a limited vertical motion and depending through the conduit-slot into the conduit, a shoe-supporting block pivoted in a slot in the lower end thereof so as to permit vertical motion of the block and shoes, and one or more contact-shoes pivoted to the block and adapted to rest and slide upon the line conductor within the conduit and connected to the motor by suitable electrical conductors.

5. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car and depending through the conduit-slot into the conduit, a shoe-supporting block of insulating material pivoted in a slot in the lower end thereof so as to permit vertical motion of the block and shoes, and one or more contact-shoes pivoted to the block in such a manner as to allow a limited vertical movement of the shoes, and adapted to rest and slide upon the line conductor within the conduit and connected to the motor by suitable electrical conductors, the insulating-block insulating the shoes from one another.

6. In a trailing contact for a conduit electric railway, the combination of a plow connected to the car so as to permit a limited vertical motion and depending through the conduit-slot into the conduit, a shoe-supporting block of insulating material pivoted in a slot in the lower end thereof so as to permit vertical motion of the block and shoes, and one or more contact-shoes pivoted to the block in such a manner as to allow a limited vertical movement of the shoes, and adapted to rest and slide upon the line conductor within the conduit and connected to the motor by suitable electrical conductors, the insulating-block insulating the shoes from one another.

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

W. F. JENKINS.

Witnesses:

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ARTHUR SCRIVENOR.