

No. 682,708.

Patented Sept. 17, 1901.

W. F. JENKINS.

SUSPENSORY DEVICE FOR TRAILING CONTACTS FOR CONDUIT ELECTRIC RAILWAYS.

(Application filed Feb. 7, 1901.)

(No Model.)

2 Sheets—Sheet 1.

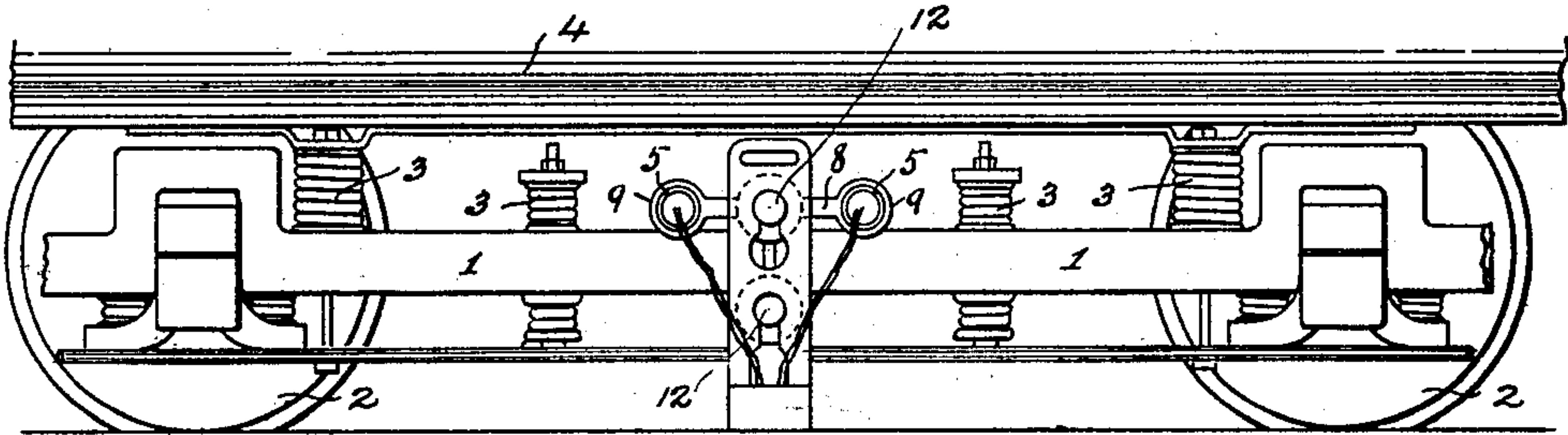


Fig. I.

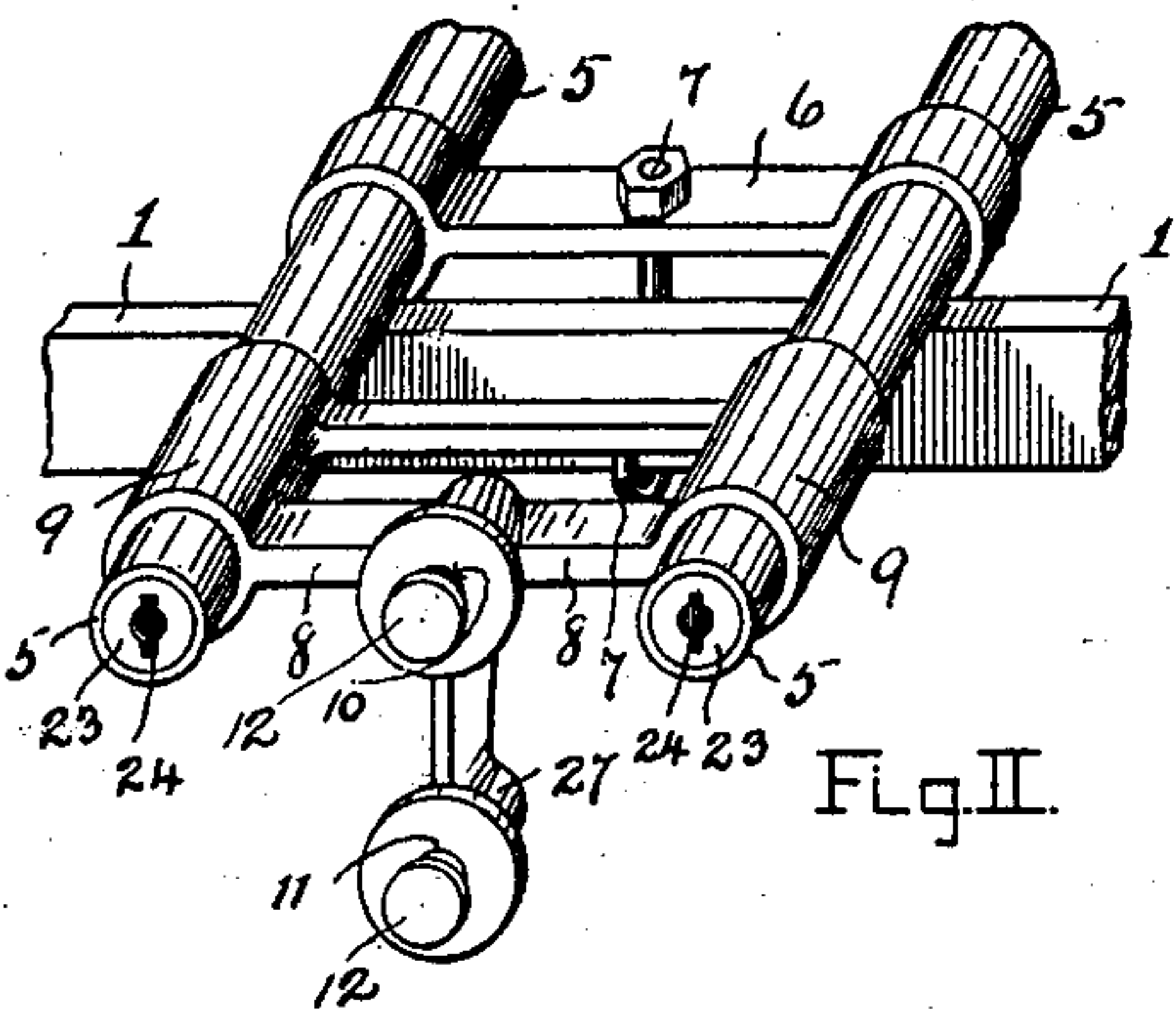


Fig. II.

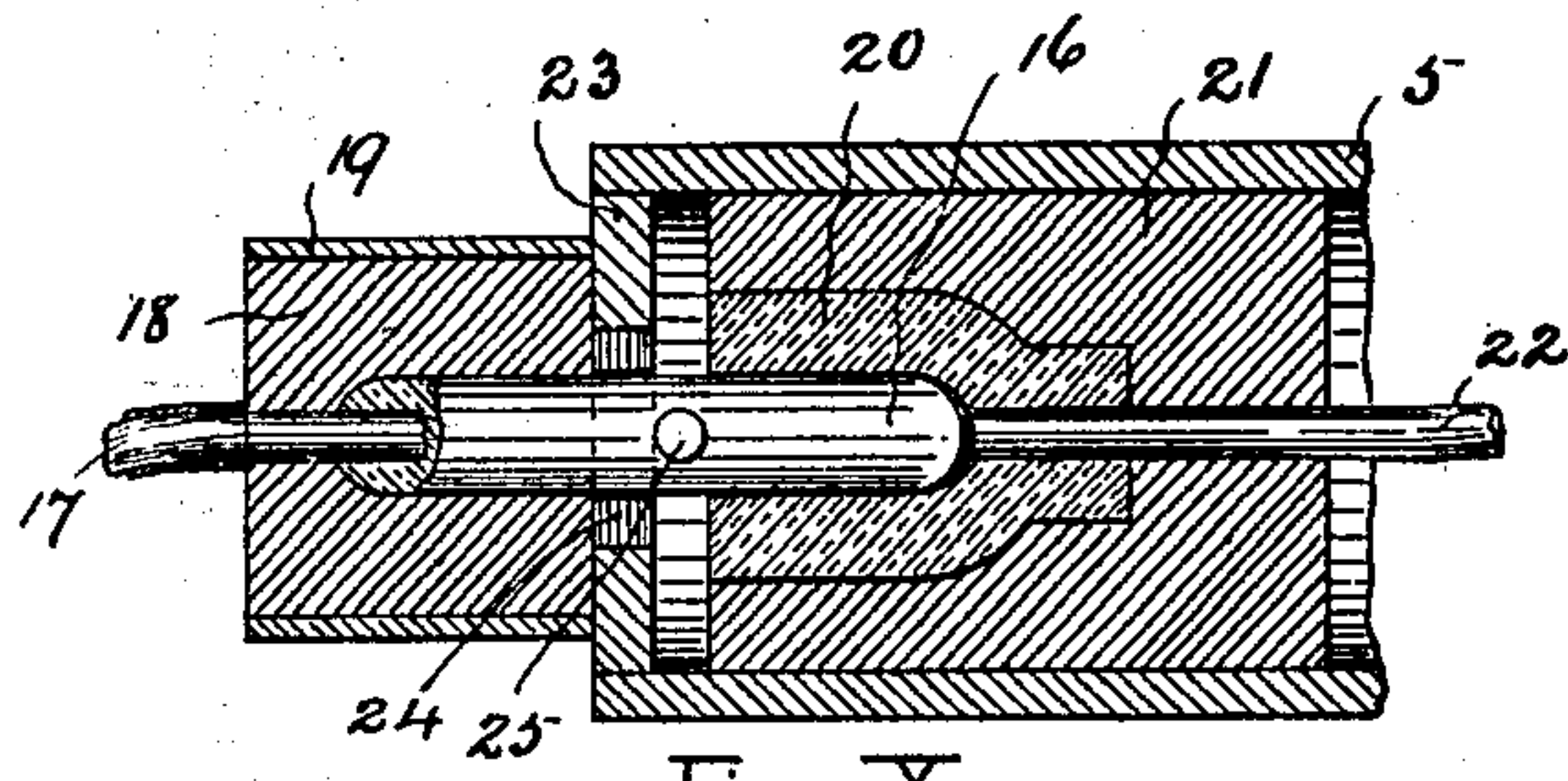


Fig. X.

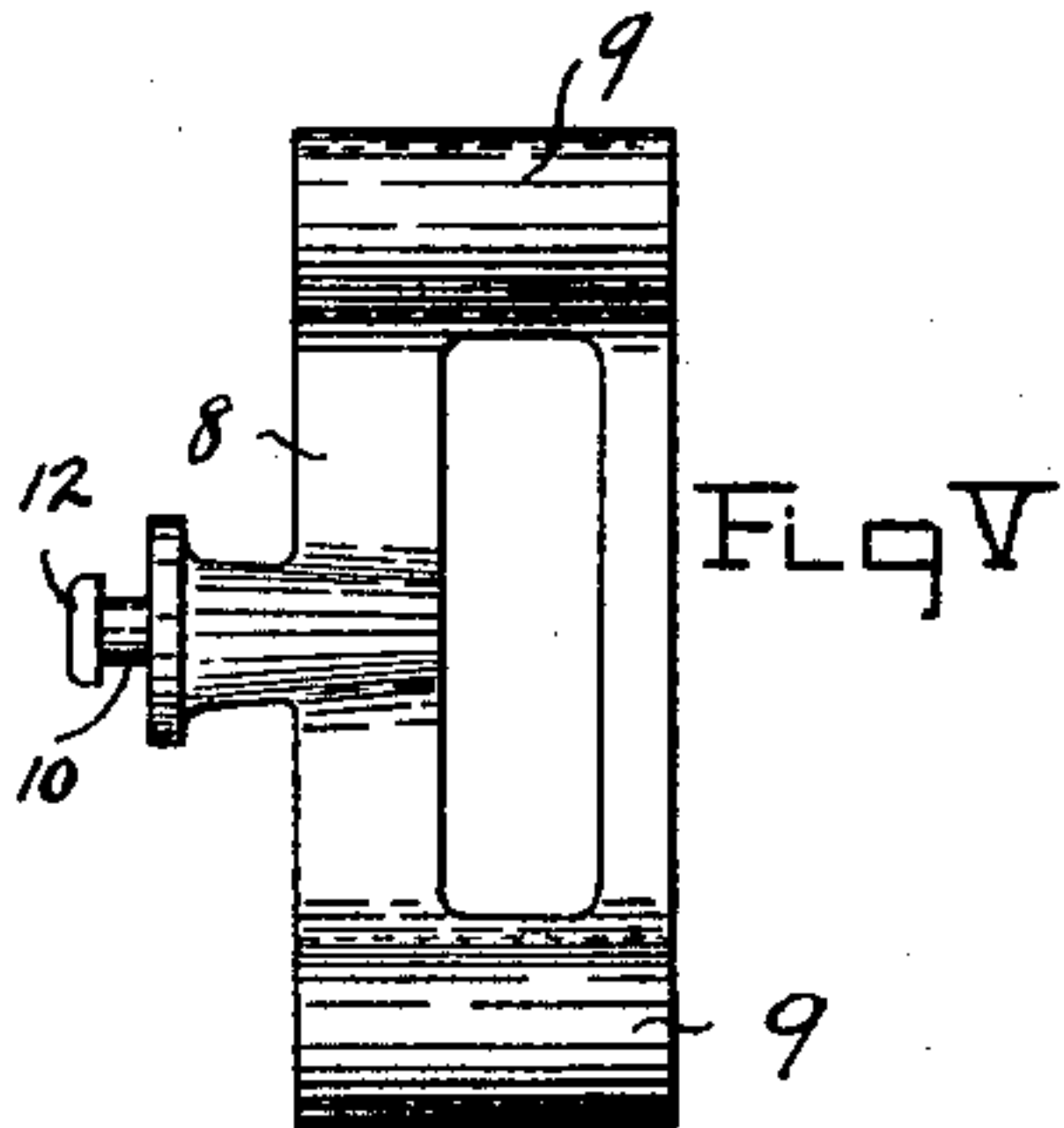


Fig. V.

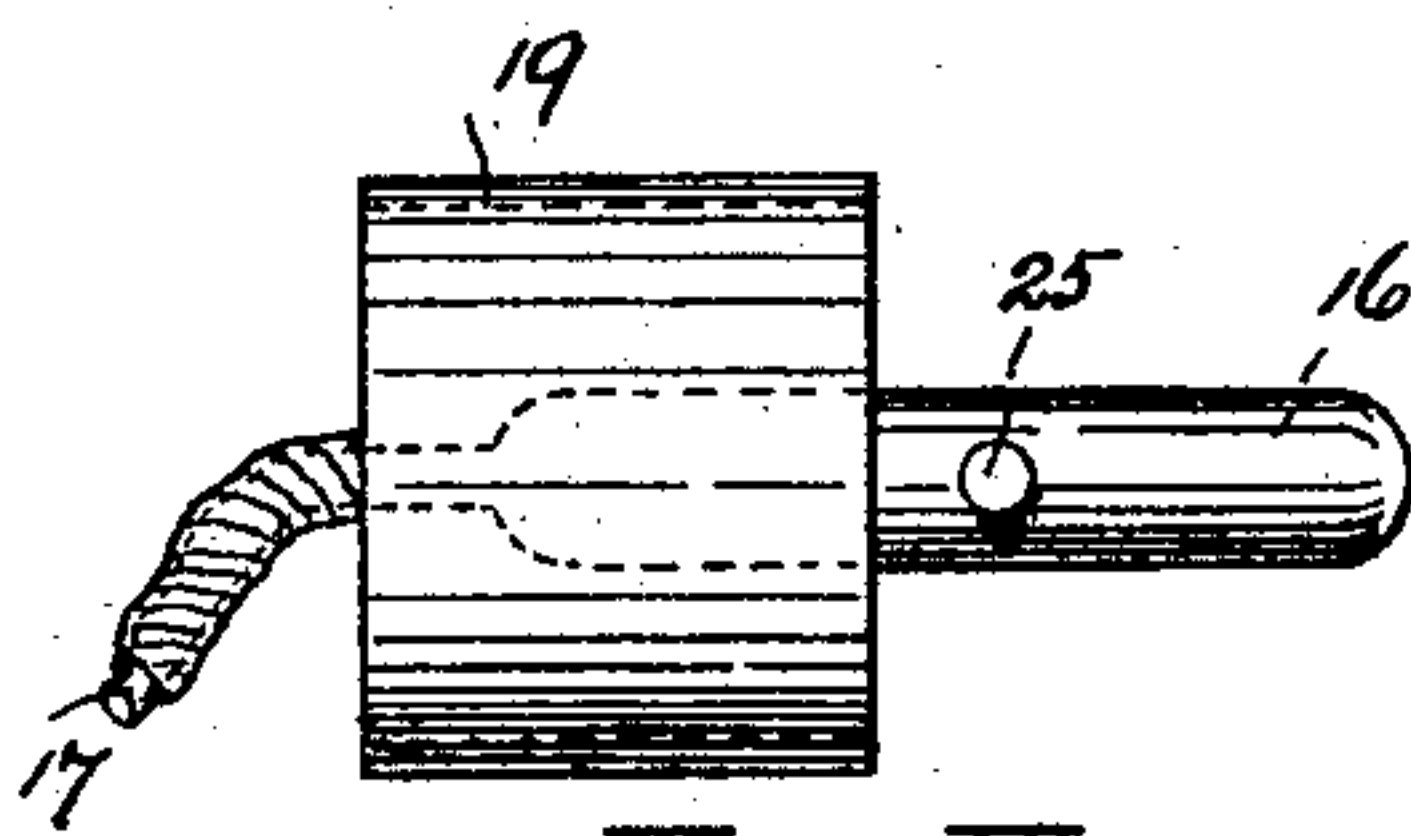


Fig. XI.

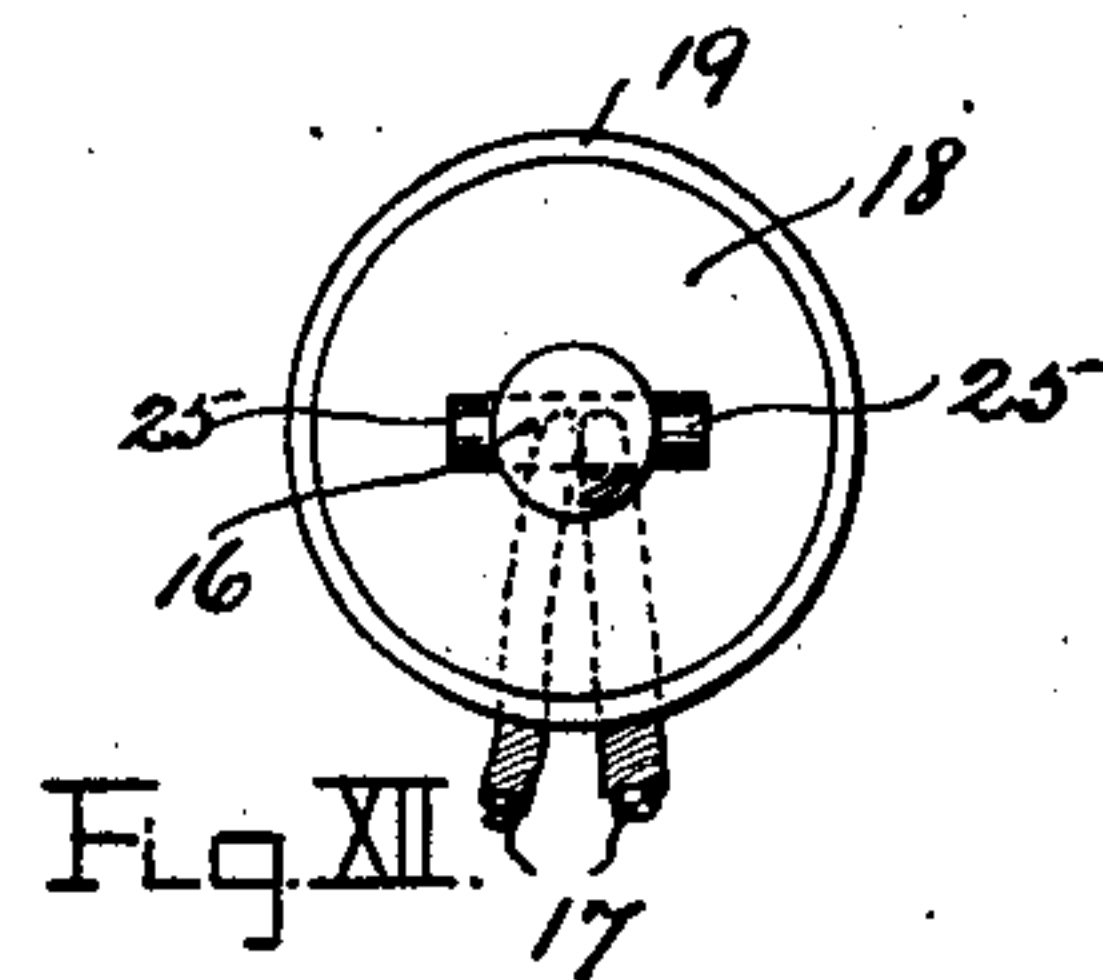


Fig. XII.

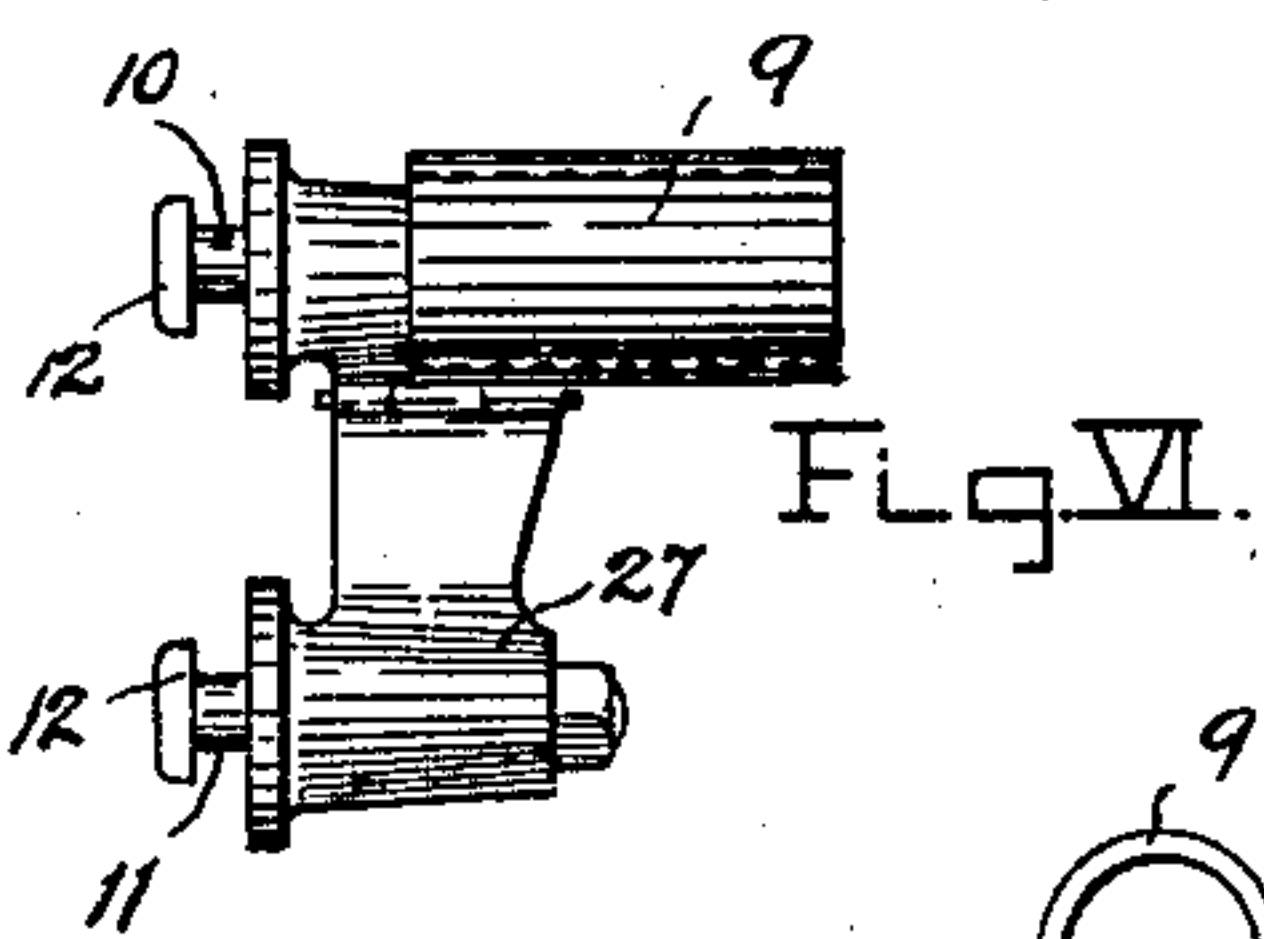


Fig. VI.

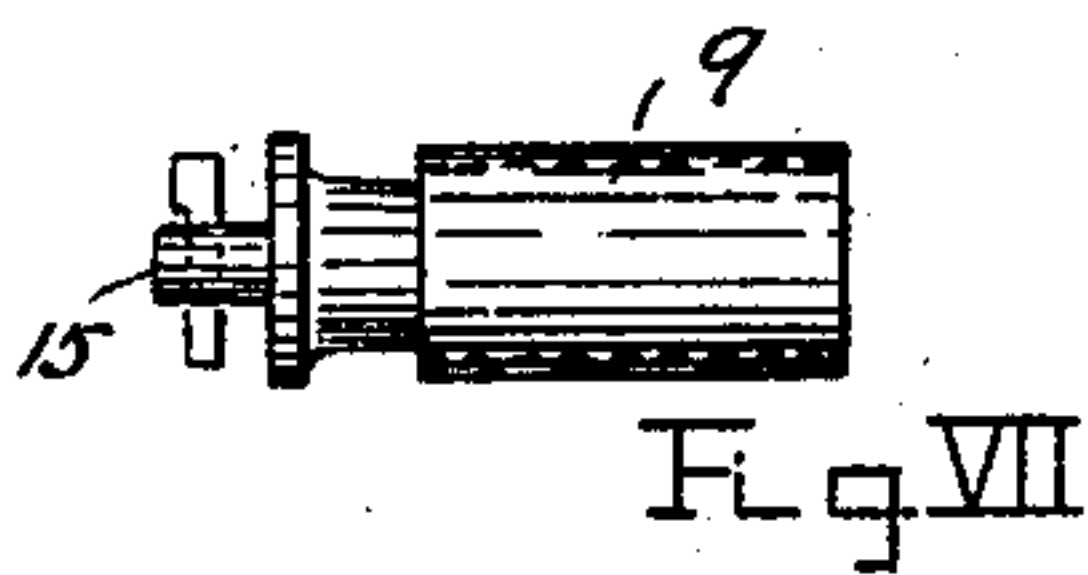


Fig. VII.

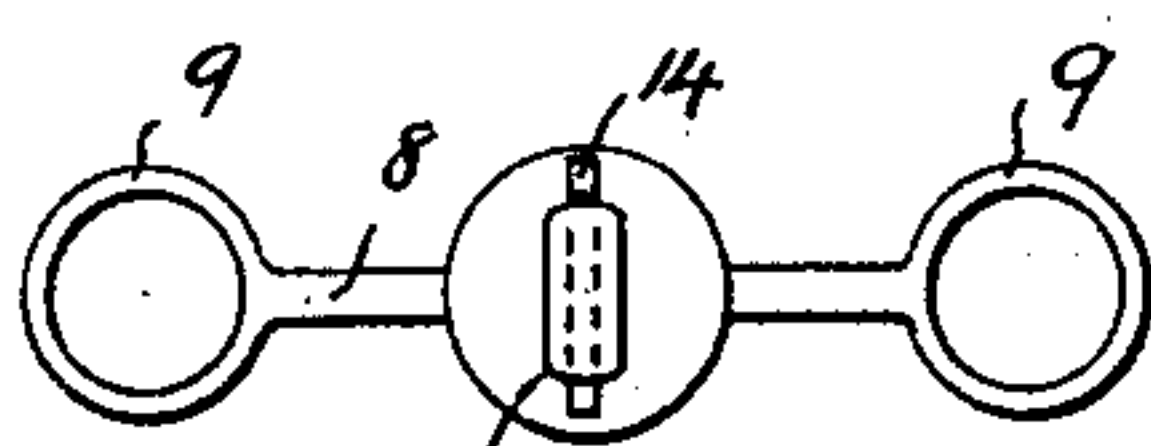


Fig. VIII.

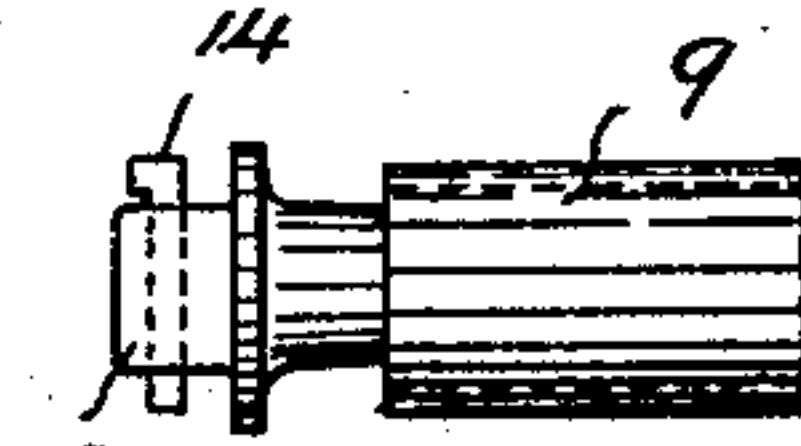


Fig. IX.

Witnesses
Henry E. Baskerville
Aubrey Chesterman

Inventor
Wilton F. Jenkins.
by
Stewart & Stewart.
his Attorneys.

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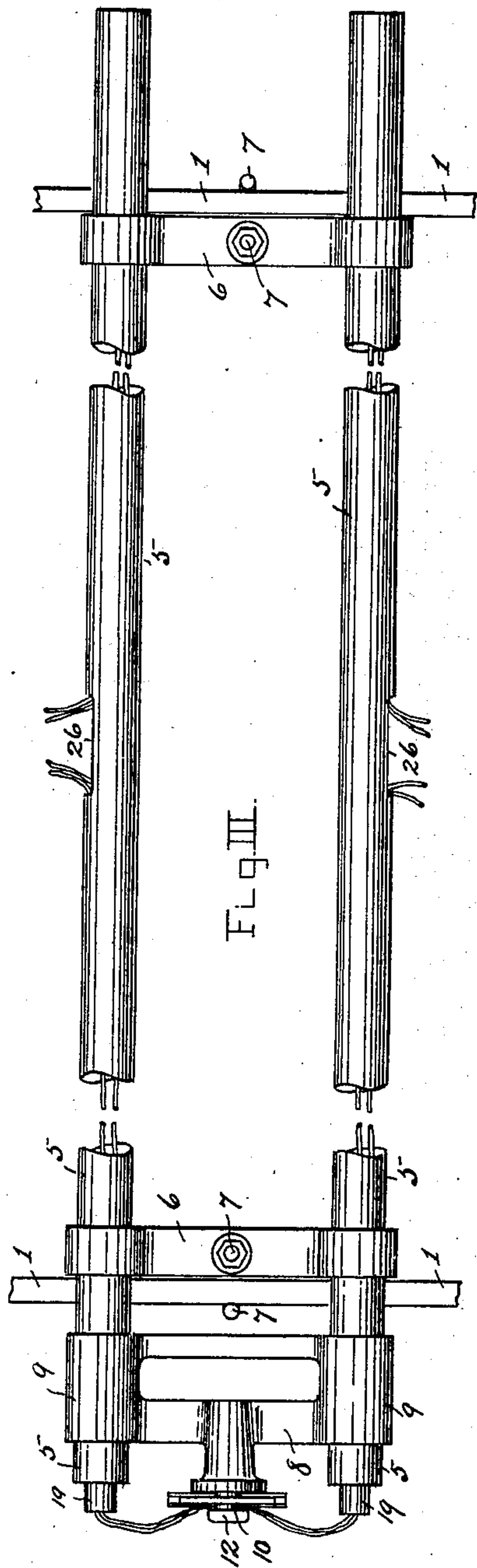


Fig. III.

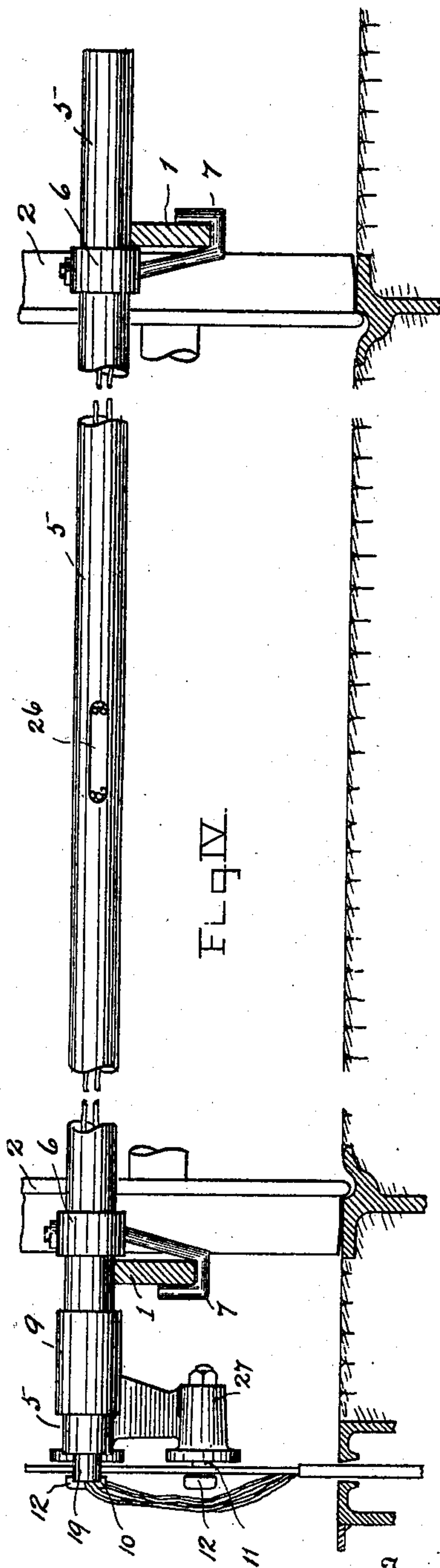


Fig. IV.

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.

SUSPENSORY DEVICE FOR TRAILING CONTACTS FOR CONDUIT ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 682,708, dated September 17, 1901.

Application filed February 7, 1901. Serial No. 46,404. (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 Suspensory Devices for Trailing Contacts for Conduit Electric Railways, of which the following is a specification.

My invention relates to underground conduit electric railways; and it has for its object the provision of means for establishing a flexible or self-adjusting connection between the car and the contact device; and it consists of a carrier or suspensory device on which the contact device may be hung and which carrier is slidably attached to the car.

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 broken view inside elevation of a car, showing the car-truck with a contact device attached thereto by means of the carrier. Fig. II is a view in perspective showing the carrier mounted upon its supports. Fig. III is a view in plan showing the supports with the carrier mounted at one end thereof, and Fig. IV is a view of the same in side elevation. Fig. V is a view in plan of the carrier. Figs. VI, VII, VIII, and IX show modified forms of the carrier. Fig. X shows the means whereby an electric connection is made between the contact device and the motors. Figs. XI and XII show in side and end elevation, respectively, the connecting-pin.

In Fig. I, 1 is the truck-beam; 2 2, the car-wheels; 3 3 are springs, and 4 represents a portion of the lower part of the car-body. Across the truck-beams 1 1 (see also Figs. II, III, and IV) are laid the supports 5 5, the said carriers being allowed to project beyond the beams and being held in place and at the proper distance apart by means of the links 6 6, through which are passed the bolts 7 7, the said bolts having their ends bent up to engage the under side of the truck-beams. (See Fig. IV.) The supports 5 5 may conveniently be formed of wrought-iron pipe cut to the proper length. On the projecting or overhanging ends of the supports there slides the carrier 8. The carrier 8 is provided with

two sleeves 9 9, the bore of which is such that they may slide easily on the supports 5 5. The carrier is also provided with means for supporting the contact device. In Figs. II and IV the carrier is shown as having two pins 10 11, adapted to engage in slots in the head of the contact device to support the latter. (See Figs. I and IV.) If it is desirable to allow the contact device to have a swinging motion in the direction of the motion of the car, the lower pin 11 may be dispensed with, when the contact device will be supported by the pin 10 alone.

The lug 27, Figs. II and VI, which carries the lower pin 11, may, instead of being rigidly attached to the carrier, be pivotally attached thereto (see Fig. VI) and in such a manner as to allow it to swing in the same direction as that in which the car moves. This form of carrier, having the pivoted pendent lug, is advantageous when the trailing form of contact device such as I have described and illustrated in another application, filed on the same day with this application and bearing the Serial No. 46,403, is used. The said contact device, pivotally attached to the said lug, reverses itself—that is, reverses the direction in which it trails or is inclined—upon a change of direction in the motion of the car. As soon as the car is reversed the contact device, responding to the pressure between it and the conductors, raises the pendent pivoted lug and passing the vertical position takes an inclined position opposite to that in which it was first inclined.

If it be desirable to allow the contact device to have a vertical motion, the apertures in the head of the contact device which engage the pins 10 and 11 may be slotted, as shown in Fig. I, and the said pins 10 and 11 may be provided with solid heads 12, as shown in Figs. II, V, and VI, to keep the contact device in place. If the contact device is not allowed either a vertical or a swinging movement, the form of pin or boss shown at 13 in Figs. VIII and IX may be conveniently used, the head of the contact device being provided with an aperture of a shape similar to that of the said boss and being kept in place by means of the cotter 14. Again, if the contact device is to be allowed a swinging and still not a ver-

tical movement the form of pin shown at 15 in Fig. VII may be used, said pin being cylindrical and engaging in a circular aperture in the head of the contact device. It is evident
 5 that the boss 13 (shown in Figs. VIII and IX) may be replaced by two cylindrical pins of the form shown at 15, Fig. VII, the said pins engaging in circular apertures in the head of the contact device and the contact device be-
 10 ing kept in place by means of cotters.

The wires connected with the contact device and connecting the latter with the motors terminate in metallic pins 16, as shown in Figs. XI and XII. These pins, which are
 15 connected to the ends of the wires 17, are held in sockets composed of insulating material, (see 18, Fig. X,) the latter being preferably bound by a ring 19. These pins 16 engage in metallic sockets 20, which are embedded in
 20 insulating material 21, conveniently located in the interior end at the ends of the supports 5 5, the said sockets 20 being connected with the motors by means of insulated wires 22, (see also Figs. III and IV,) which leaves the sup-
 25 ports at the openings 26 26. The said supports are provided at both ends with sockets 20, so that the contact device may be connected at either end. In the end of the supports 5 5 there are fixed plates 23 23, formed
 30 of insulating material, the said plates being pierced by the slotted apertures 24, Fig. II. The connecting-pins 16 are provided with laterally-projecting pins 25 25, and the size and shape of the apertures 24 in the plates 23 are
 35 such as to allow the pins 16, with their projecting pins 25 25, to pass easily through them. To make the connection between the contact device and the motors, the pins 16, together
 40 with their casings 18, are turned so that the pins 25 25 may pass through the apertures 24 in the plates 23. The pins 16 after being inserted are allowed to resume that position in which their projecting pins lie in a hori-
 45 zontal plane, Figs. X, XI, and XII, when the said projecting pins, bearing against the inner face of the plates 23, will prevent the connecting-pins 16 from being accidentally withdrawn. The resistance of the wires 17
 50 to torsion will prevent the connecting-pins from being turned by vibration or other accidental causes.

In operation the carriers 5 5, fitted with the sockets 20, feed-wires 22, &c., are placed in position across the truck-beams and are secured
 55 firmly thereto by means of the links 6 6 with their hooked bolts 7 7. The carrier 8 is slipped onto that end of the supports 5 5 which is nearest to the conduit and it is left free to slide on the said end of the supports. Since
 60 the contact device, the lower end of which is of course within the conduit, is hung from the carrier 8, it is evident that any irregularity in the track or in the conduit necessitating a sidewise motion—that is, in a direc-
 5 tion at right angles to the track—of the con-

tact device is met by the sliding of the carrier 8 upon the supports 5 5.

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

1. In a suspensory device, the combination of a pair of parallel supporting-bars secured to the frame of the car-truck transversely of the car and projecting on one side beyond the same, with a contact-device carrier consist-
 75 ing of a yoke having a sleeve on either end fitted upon the projecting ends of the supporting-bars and adapted to slide freely thereon, and a contact device suspended from the carrier.

2. In a suspensory device, the combination of a pair of parallel supporting-bars secured to the frame of the car-truck transversely of the car and projecting on one side beyond the same, with a contact-device carrier con-
 85 sisting of a yoke having a sleeve on either end fitted upon the projecting ends of the supporting-bars and adapted to slide freely thereon and having a pendent lug, and a contact device suspended from the lug.

3. In a suspensory device, the combination of a pair of parallel supporting-bars secured to the frame of the car-truck transversely of the car and projecting on one side beyond the same, with a contact-device carrier con-
 95 sisting of a yoke having a sleeve on either end and fitted upon the projecting ends of the supporting-bars and adapted to slide freely thereon and having two lugs in a vertical line with one another and a central de-
 100 vice suspended from the lugs.

4. In a suspensory device, the combination of a pair of parallel supporting-bars secured to the frame of the car-truck transversely of the car and projecting on one side beyond
 105 the same, with a contact-device carrier consisting of a yoke having a sleeve on either end fitted upon the projecting ends of the supporting-bars and adapted to slide freely thereon and having pivotally attached to it
 110 a pendent lug and a contact device suspended from the lug.

5. In a suspensory device, the combination of two tubular parallel supports secured to the frame of the car-truck transversely of
 115 the car and projecting on one side beyond the same, with a contact-device carrier consisting of a yoke having a sleeve on either end fitted upon the projecting ends of the tubular supports and adapted to slide freely
 120 thereon, a contact device suspended from the carrier, and means for electrically connecting the contact device with the motors.

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

W. F. JENKINS.

Witnesses:

EUGENE JONES,
 ARTHUR SCRIVENOR.