

No. 842,781.

PATENTED JAN. 29, 1907.

E. E. GILMORE.

INSULATED CROSSOVER FOR ELECTRIC RAILWAYS.

APPLICATION FILED SEPT. 27, 1905.

Fig. 1.

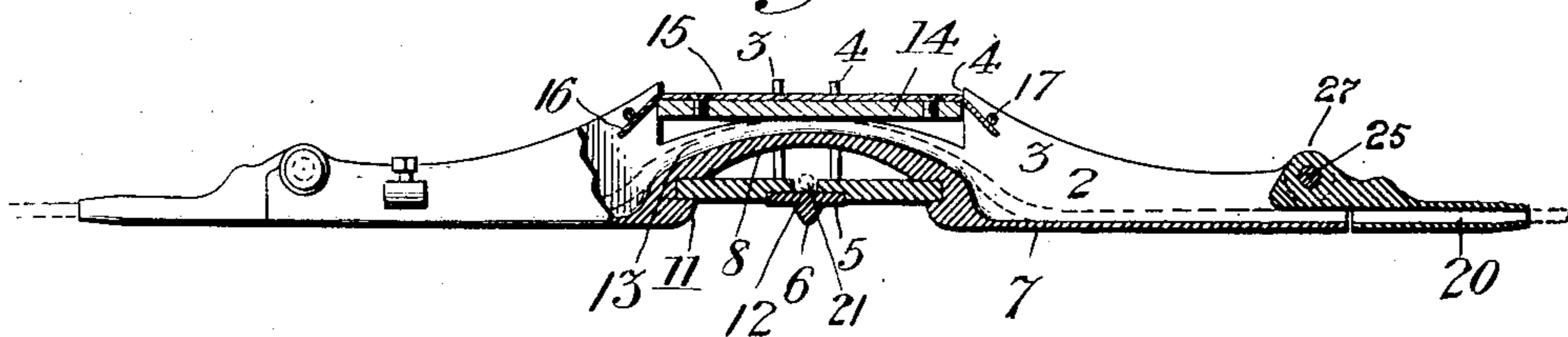


Fig. 2.

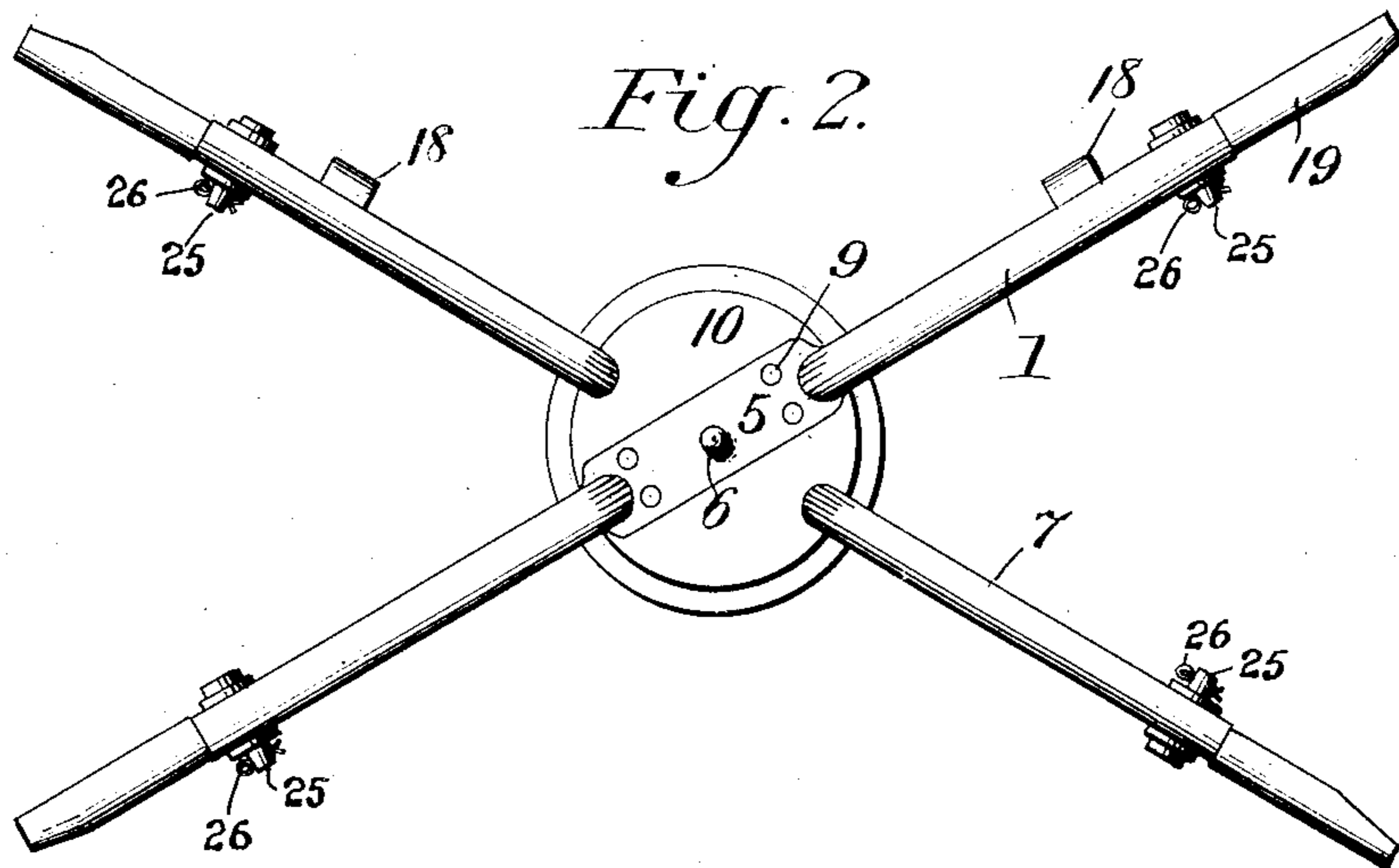
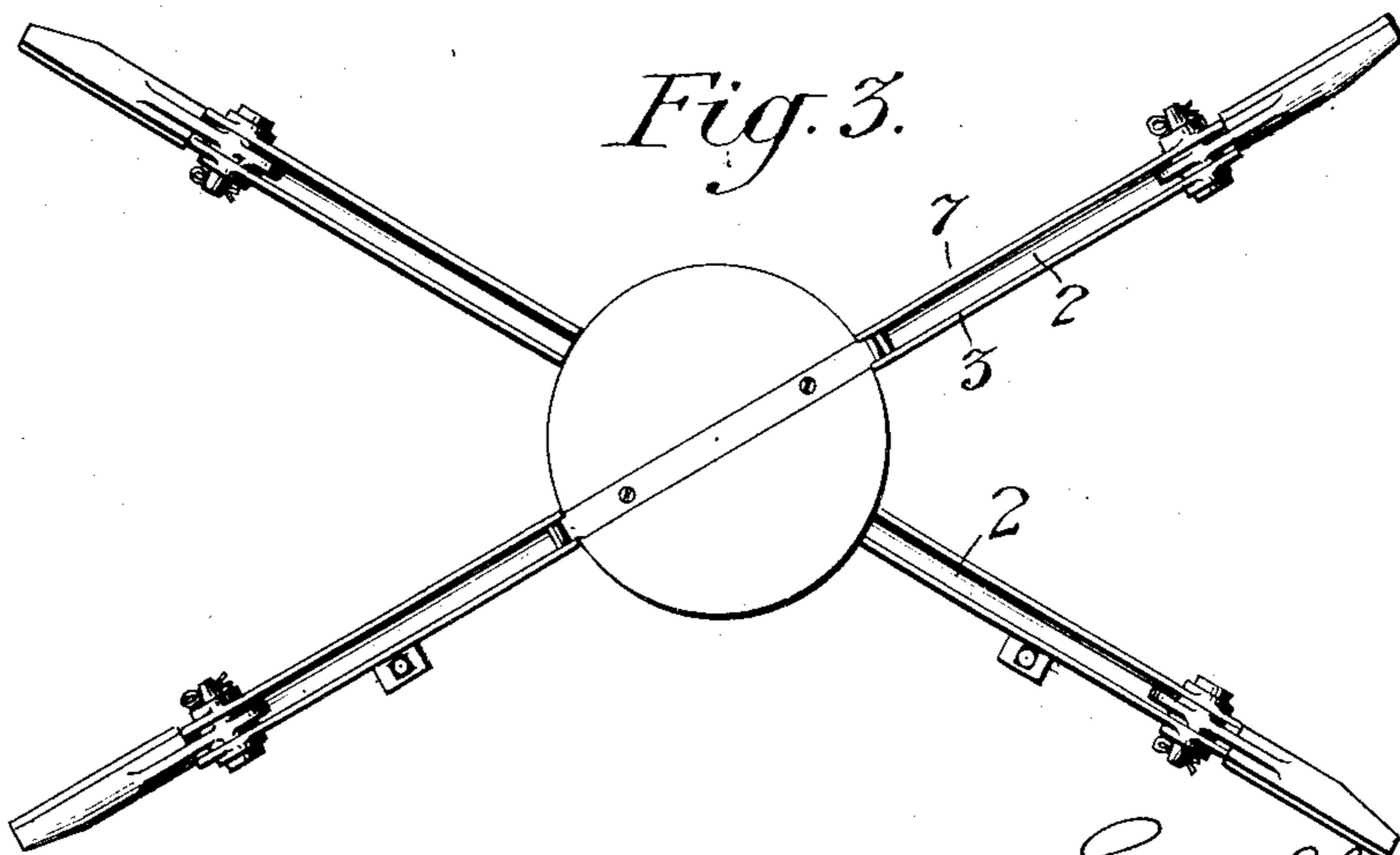


Fig. 3.



Witnesses

W. W. Edlin.
James A. Mann

By

Edward E. Gilmore
Edward E. Clement
Attorney

Inventor

UNITED STATES PATENT OFFICE.

EDWARD E. GILMORE, OF PHILADELPHIA, PENNSYLVANIA.

INSULATED CROSSOVER FOR ELECTRIC RAILWAYS.

No. 842,781.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed September 27, 1905. Serial No. 280,318.

To all whom it may concern:

Be it known that I, EDWARD E. GILMORE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Insulated Crossovers for Electric Railways, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to insulated crossovers for electric trolley systems; and the object of the invention is to so construct the cross-arms that the wires of two separate sections or two distinct lines may pass each other without communicating one to the other relatively different pressures of current.

A further object of the invention is the provision of an insulated crossover which is adapted to be adjusted from a right-angle to an acute-angle crossover.

Heretofore most of the insulated crossovers have been constructed with their respective arms relatively rigid, and two different styles have had to be provided for acute and right angle crossings. With my invention such necessity is entirely obviated and a crossover provided which can be adjusted to almost any angle.

Further objects of the invention will make themselves evident upon reading the following specifications in connection with the accompanying drawings, which form a part of this application, and in which—

Figure 1 is a side elevation of the device shown, partly in section, to better illustrate the connection with the cross-arms. Fig. 2 is a bottom plan view, and Fig. 3 is a top plan view, of the device.

Referring to the drawings, 1 represents a cross-arm provided with a wire-holding groove 2, which groove defines inclined flanges 3, cut away at each side of the center to form shoulders 4. Between these shoulders is a flat connecting portion 5, slightly raised above the bottom of the groove 2 and provided with a central guiding-stud 6 on its under side, adapted to guide the trolley-wheel from one side of the arm to the other.

7 represents a cross-arm similar with respect to the grooves 2, the flanges 3, and the shoulders 4, but different from the first cross-arm in that it is provided with a centrally-bowed portion 8, rising above the flat connecting portion 5. Secured to the connect-

ing portion by bolts 9 is a strong fiber disk 10, adapted to receive bearing in an aperture formed by tongues 11, extending toward the center from each side of the arm 7 and located below the bowed portion 8. This fiber disk 10 is divided and its halves somewhat separated at the divisional line, so as to form a groove 12, which carries the wire across the connecting member 5.

A groove or trough 13 forms a continuation of the groove 2 in the arm 7 over the bowed portion between a pair of flanges, upon which rests an insulating-disk 14, of hard fiber or other suitable substance, which is held in place upon said flanges by a metallic strip 15, which passes across the disk and has its ends 16 depressed within the groove 2 and held therein by pins 17.

Each arm 1 and 7 is provided with apertured lugs 18, adapted to receive strain-wires for alining the device, and at each end of the respective cross-arms there is pivoted a side-groove end runner 19, having a groove 20 communicating with the groove 2 of the cross-arm and provided with a lower flange defining the groove 20 and adapted to clamp upon the wire and hold it in position. Further description of this end-groove runner is thought to be unnecessary, as the subject-matter has been claimed in another application filed of even date herewith, Serial No. 280,319.

For the sake of clearness I have shown the trolley-wires 21 in dotted lines where they pass across the respective cross-arms.

In assembling my device each side-groove runner or shoe is placed on the trolley-wire and slid in place by the aid of a wrench made for the purpose and when in place is made fast by placing pin 25 in opening 27, securing it by the cotter pin or spring 26. This brings the trolley-wire down to the bottom of the groove and gives a smooth straight underrun for the wheel.

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

1. In a device of the class described the combination with a cross-arm having a bowed central portion adapted to carry a trolley-wire, of another cross-arm provided with a central connecting portion adapted to carry a second trolley-wire, a bearing element formed on the first-mentioned cross-arm underneath the central bowed portion, an insulating-disk secured to the second-mentioned

cross-arm adapted to engage the bearing element on the first-mentioned arm, whereby adjustment of the cross-arms may be had, and an insulating-disk secured to the first
5 cross-arm adapted to brace each cross-arm in any position to which it is adjusted.

2. In a device of the class described, the combination with a pair of crossed arms having wire-holding grooves, one of said arms
10 having a central bowed portion and with openings forming bearing elements, the other of said arms having a divided bearing ele-

ment engaging said openings and with a groove formed by its division for the reception of a trolley-wire, means for bracing each
15 arm in its adjusted position, and means for insuring a straight run from one end of each arm to the other.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD E. GILMORE.

Witnesses:

JAMES HEYWOOD,
DAVID M. ASHLEY.