

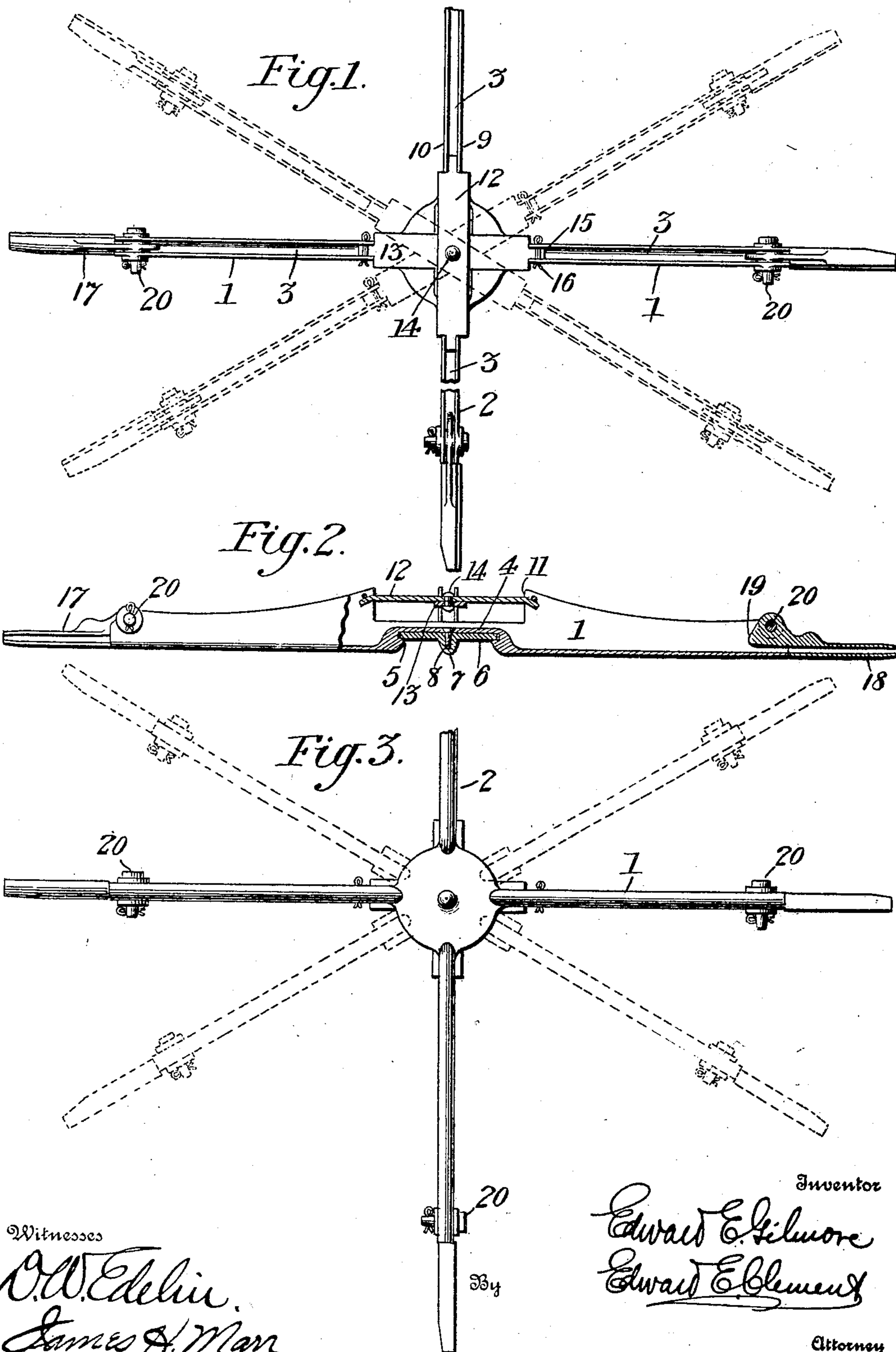
No. 832,185.

PATENTED OCT. 2, 1906.

E. E. GILMORE.

RIGHT ANGLE ADJUSTABLE CROSSING FOR ELECTRIC RAILWAYS.

APPLICATION FILED SEPT. 27, 1905.



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RIGHT-ANGLE ADJUSTABLE CROSSING FOR ELECTRIC RAILWAYS.

No. 832,185.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed September 27, 1905. Serial No. 280,317.

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 Right-Angle Adjustable Crossings for Electric Railways, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to overhead crossings for electric trolley systems, and has for its object, among other things, the provision of means whereby the device may be utilized on crossings of different angles. Heretofore crossings of this character, whether right-angle or acute-angle crossings, have been made rigid and on account of this there have been many accidents, owing to the fact that the trolley-pole does not always travel in the line of the car. The wire between the pole-sections of the crossings will assume the line of travel of the pole because of its flexibility; but the crossing being rigid does not move to accommodate the line of travel of the trolley, and consequently the trolley-pole is caused to jump, causing damage to the cross-arm or the trolley-pole. With this invention the former objections are obviated, as the arm over which the trolley-wheel is passing will turn so as to enable the wheel to ride easily past the center of the crossing.

Another object of the invention is to enable the device to be used in any position, thus obviating the necessity of having different styles of crossing for different angles.

Where adjustable crossings have been used heretofore there has been some difficulty in gaining the required strength to stand the constant strain put upon them, and it is one object of my invention to so construct the crossing that it shall be braced in every direction, whether in a right-angle or in an acute-angle position, and at the same time superfluous parts shall be dispensed with.

Further objects of the invention will appear as the specification is read in connection with the accompanying drawings, which form a part of the application, in which—

Figure 1 is a top plan view showing in full lines the device as used at right-angle crossings and in dotted lines as used on an acute-angle crossing. Fig. 2 is a side elevation of Fig. 1, shown partly in section to better illustrate the pivotal connection of the cross-

arms. Fig. 3 is a bottom plan view with positions shown similar to those in Fig. 1.

Referring to the drawings, 1 and 2 represent cross-arms, both of which are formed with wire-holding grooves 3. The cross-arm 1 is provided with a raised central portion 4, upon the under side of which are formed shoulders or tongues 5, adapted to receive and support a central disk 6, integral with the cross-arm 2. This central disk 6 is provided with a depending guiding-lug 7, adapted to guide the trolley-wheel from one side of the cross-arm to the other and adapted to receive a pivot-screw 8, which passes through and has its head seated within the raised portion 4 of the cross-arm 1. The groove in each cross-arm is formed by flanges 9 and 10, upwardly inclined toward the center of each cross-arm and then cut away to form shoulders 11. Engaging these shoulders on each cross-arm is a saddle which comprises two crossed members 12 and 13, centrally pivoted together at 14 and having reduced ends 15, adapted to enter the grooves in each cross-arm, so that the movement of the member 13 will correspond with the movement of the arm 3 and that of the member 12 will correspond with the movement of the arm 2, and thus brace each arm and the entire structure in whatever position it is placed. This saddle is held in place by pins 16, adapted to engage the reduced ends 15 of the member 13, and both members being pivoted together at their center both are thereby held, so that it is unnecessary to use pins for the other member 12.

At each end of each cross-arm there is provided what I term a "side groove end runner" 17, having a groove 18, lying ninety degrees from the groove 3, but communicating therewith, so as to form a continuance and uninterrupted path for the trolley-wire. The groove 18 of the runner 17 is formed by flanges, the lower one of which is wider than the upper and adapted to clamp around the trolley-wire, so as to securely hold it in position, and an inner extension or foot 19 on the runner 17 is adapted when the trolley-pole strikes the tip of the runner to press down upon the wire within the groove 3, so as to further clamp the wire to the structure at the moment when the greatest strain is placed thereupon, the end runners being pivotally secured within the grooves by pivot-bolts 20.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. An overhead crossing for electric trolley systems comprising adjustable cross-arms and bracing means secured to each of said cross-arms adapted to hold said arms braced in any position to which they have been adjusted.

2. An overhead crossing for electric trolley systems comprising adjustable cross-arms and bracing members removably secured thereto, said cross-arms and said bracing members being centrally pivoted so that each bracing member moves in unison with its respective cross-arm whereby it is braced in any position to which it may be adjusted.

3. An overhead crossing for electric trolley systems comprising cross-arms one of which is provided with a raised portion adapted to form a bearing-seat, a plate upon the other cross-arm pivotally secured to revolve upon said seat and a saddle connected to each of the cross-arms adapted to brace them throughout their movement of adjustment.

4. In a device of the class described, the combination with cross-arms pivotally secured together, each of said cross-arms pro-

vided with wire-holding grooves defined by flanges, shoulders upon said flanges, and bracing means adapted to bear against the shoulders of each flange, said bracing means being centrally pivoted so that its members may move in unison with the cross-arms.

5. In a device of the class described the combination with cross-arms centrally pivoted so as to move about the pivotal center, each of said cross-arms provided with wire-holding grooves defined by inclined flanges and terminating in shoulders at the ends of said inclined flanges, of a saddle comprising rigid cross members centrally pivoted together and adapted to engage the shoulders of the aforesaid flanges, each member provided with reduced ends adapted to enter the grooves formed by the flanges aforesaid, and means for removably securing said saddle to the cross-arms so that the movement of each is identical.

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

EDWARD E. GILMORE.

Witnesses:

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