No. 832,312. PATENTED OCT. 2, 1906.

E. E. GILMORE.

SECTION INSULATOR FOR ELECTRIC RAILWAYS.

APPLICATION FILED SEPT. 27, 1905.

Fig. 1.

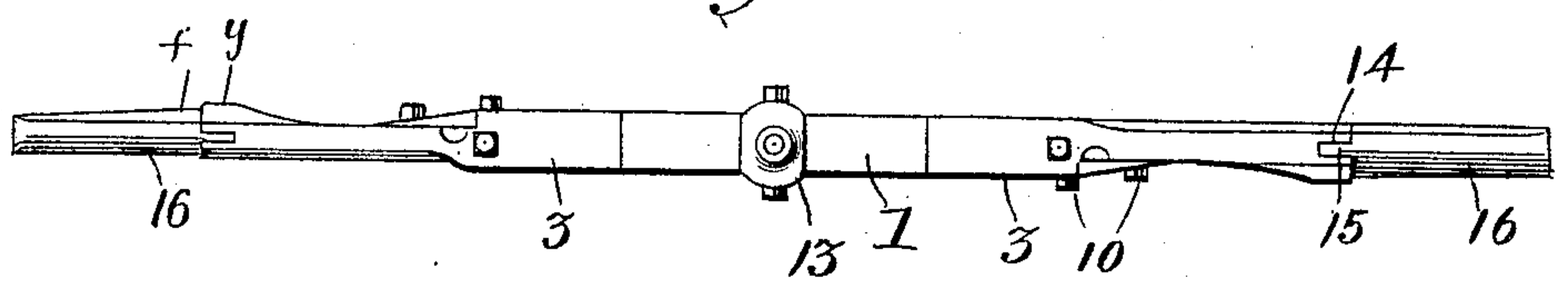


Fig. 2.

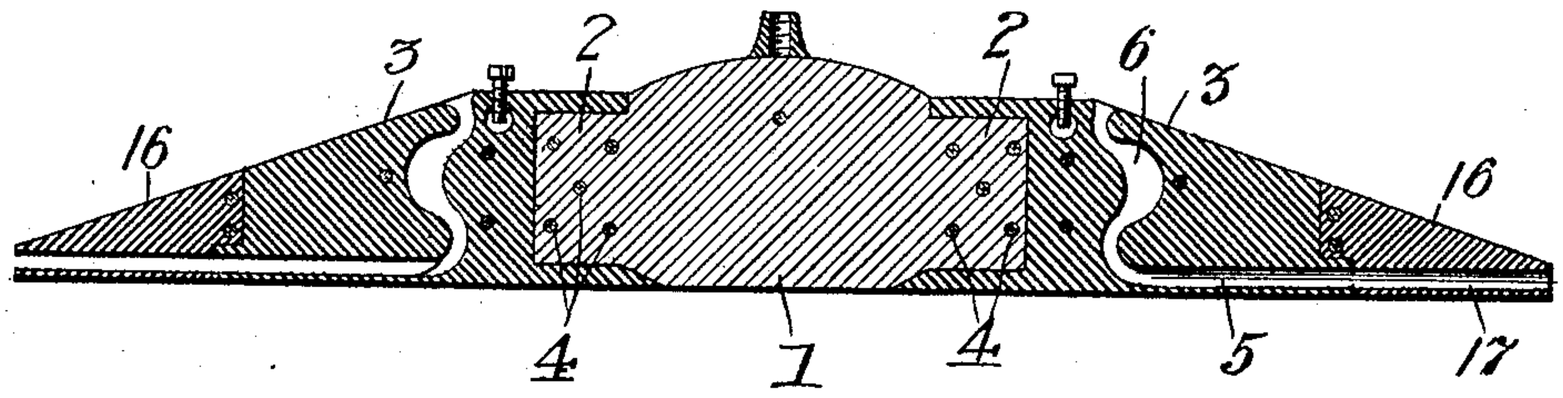


Fig. 5.

Fig. 6.

Fig. 3

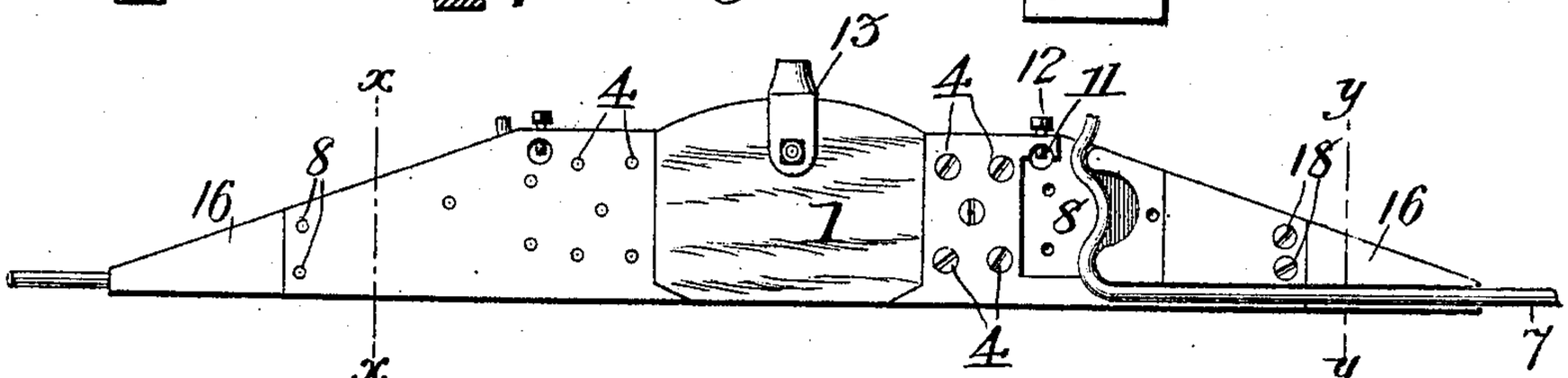
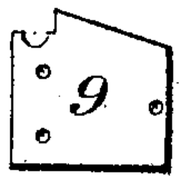


Fig. 4.



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SECTION-INSULATOR FOR ELECTRIC RAILWAYS.

No. 832,312. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed September 27, 1905. Serial No. 280,321.

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 Section-Insulators for Electric Railways, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to section-insulators or circuit-breakers for electric trolley systems. Heretofore these insulators have been made so as to expose the trolley-wire to much wear at the points where it joins the casting. Again, in most insulators the wooden block is extremely long and soon wears out or twists out of shape, so that the trolley-poles jump and cause much annoyance, with the possibility of serious accidents.

It is the object of this invention to obviate these difficulties and to that end provide a side groove in the casting which receives the trolley-wire and gives the trolley-wheel a direct underrun upon the casting instead of upon the wire, and I further provide a removable end wear-plate with corresponding side groove which is removable and can be replaced when worn out. With other circuit-breakers the entire device has to be replaced. Again, when the wooden insulating-block wears out it can be renewed; but in using the short stiff block, as in my device, it is not necessary to change this for years, as the gap from casting to casting while sufficiently long to prevent an arc is short enough to prevent wear or warping. The side grooves of the casting of the end wear-plate are made with flanges adapted to grip the trolley-wire, making an excellent smooth joint.

In the drawings which form a part of this application, Figure 1 is a top plan view. Fig. 2 is a longitudinal section. Fig. 3 is a side view with one of the clamp-plates removed, and Fig. 4 is a view of said clamping-plate. Fig. 5 is a section on line X X of Fig. 3. Fig. 6 is a section on line Y Y of Fig. 3.

Referring to the drawings, 1 represents an insulating-block which constitutes the body of the device and which is provided with tongues 2, adapted to enter duplicate castings 3 at either end thereof and be secured thereto by bolts or screws 4. These castings are provided with a side groove 5 near their bottom, which merges into a sinuous groove 6, extending substantially at right angles to the groove 5 and adapted to receive a continuation of the trolley-wire 7. This groove 6 is at the bottom of the opening 8, which is covered by a plate 9, held in place on the casting by bolts 10 and adapted to clamp the wire within the sinuous groove. Each casting is provided with an aperture 11 and a set-screw 12 therein adapted to hold guy-wires for the better alinement of the device, and the body of insulating material is provided with a supporting-clevis 13, adapted to hang the device from the poles or other means of support. Each casting 3 is provided with a vertical-extending groove 14, adapted to receive a tongue 15 of the end wearing-shoe 16, which is provided with a side groove 17, communicating with the groove 5 of the casting 3. This end wearing-shoe is secured to the casting 3 by screws 18 passing through the side flanges formed by the groove 14 and through the tongue 15. Near the junction of the casting 3 and the wearing-shoe 16 where the two grooves 5 and 17 communicate the flange formed by said grooves is widened out, as at x y, to form a means for lapping over and clamping the trolley-wire within the grooves.

It will be seen from the foregoing that castings 2 and 3 are identical and that the shoes 16 at either end are identical, so that it only requires one casting to make either, or, in other words, one pattern to make either, casting 3 and one pattern to make either casting 16. These parts being interchangeable, should one wear more quickly than the other for any reason they can be changed. Thus if the casting 3 on the right-hand side becomes worn more than the casting 3 on the left-hand side or should the shoe 16 on the left-hand side be worn more than the shoe on the right-hand side either one could be interchanged to advantageously prolong the life of the breaker, and any of these parts may be replaced at moment's notice, avoiding the expense of replacing the entire circuit-breaker or the expense of removing it from its position for repairs.

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

1. A section-insulator for trolley systems comprising an insulating-body, wire-holding members secured to said body and wear-shoes secured to said wire-holding members and forming a continuation thereof.

2. A section-insulator for trolley systems comprising an insulating-body, wire-holding members secured to each end thereof and

provided with grooves, and wear-shoes having grooves forming a continuation of those of the wire-holding members and adapted to be secured to said wire-holding members.

3. A section-insulator for trolley systems comprising an insulating-body, wire-holding members secured to said body and provided with side grooves, wear-shoes having grooves corresponding with those in the wire-holding members and secured to said members so that the trolley-wheel is afforded a direct underrun upon the shoes and means carried by said members and by said shoes for attaching the trolley-wire.

4. A section-insulator for trolley systems having its wire-holding members interchangeable with relation to each other removable wear-shoes upon said wire-holding members and means carried by said shoes for holding the trolley-wires.

5. A section-insulator for trolley systems comprising a body, wire-holding members removably secured thereto, means carried by said wire-holding members for securing the wire thereto, wear-shoes removably secured to said wire-holding members and means carried by the wear-shoes for securing the trolley-wire to said shoes.

6. A section-insulator for trolley systems comprising an insulating-body, wire-holding members removably secured to each end thereof and provided with side grooves, means for holding the wire within said side grooves, end wear-shoes having grooves corresponding with the above-mentioned groove in the wire-holding members, and means cooperating with said above-mentioned wire-holding means to hold the wire in the grooves of the wear-shoes.

7. A section-insulator for trolley systems having the trolley-wires leading in from opposite sides thereof so that the parts holding the wires may be cast interchangeable.

8. A section-insulator for trolley systems comprising an insulating-body, wire-holding members secured to each end thereof, each of said wire-holding members provided with a sinuous groove for holding the wire, and a clamping-plate for pressing the wire within said groove.

9. A section-insulator for trolley systems comprising an insulating-body, means for supporting said body, wire-holding castings each having a sinuous groove to receive the trolley-wire, a clamping-plate to secure wire in said groove, a straight side groove, means for holding the wire within said side groove, wear-shoes removably secured to the wire-holding castings and provided with side grooves, and means for securing the wire in the side grooves of the wear-shoes whereby the trolley-wheel may have an uninterrupted underrun upon the insulator without engaging the wire.

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

EDWARD E. GILMORE.

Witnesses:

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