

F. GUILLOT.
SECTION INSULATOR.
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1,045,972.

Patented Dec. 3, 1912.

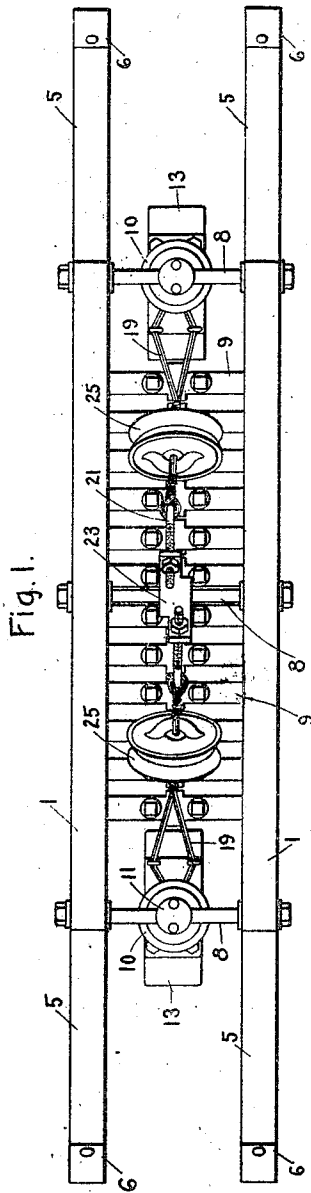


Fig. 1.

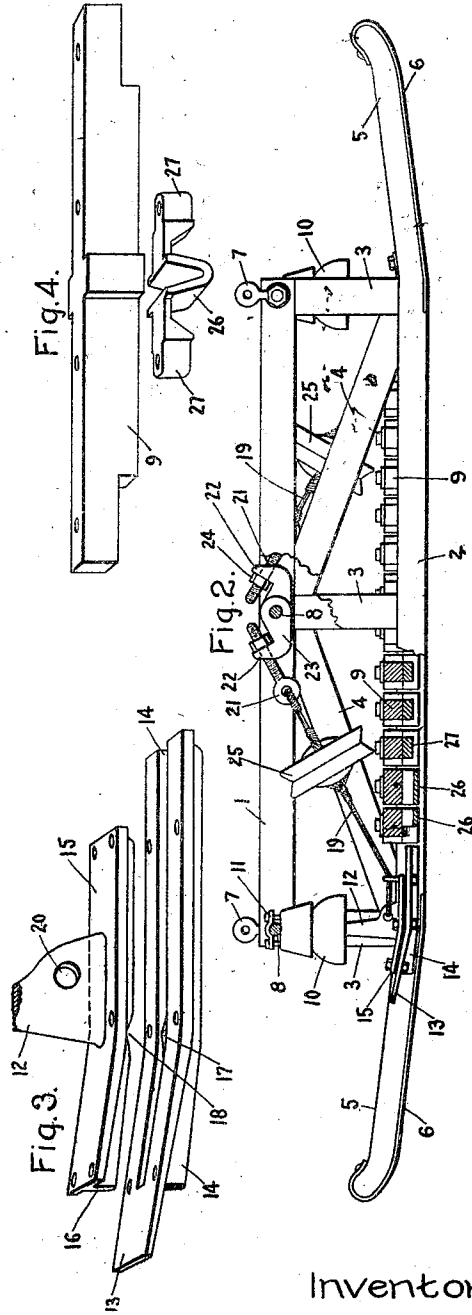


Fig. 4.

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK GUILLOT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

SECTION-INSULATOR.

1,045,972.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed October 10, 1907. Serial No. 396,701.

To all whom it may concern:

Be it known that I, FRANK GUILLOT, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Section-Insulators, of which the following is a specification.

This invention relates to overhead systems of electric railways, and its object is to provide a section insulator for trolley lines operating with current of high tension. The insulator hereinafter shown and described is designed for eleven thousand volts, and can be used with either a wheel collector or a sliding collector. The space between the ends of the sections of trolley wire is filled with insulated wheel-track segments, separated by air-gaps to extinguish the arc that follows the departure of the collector from the end of a section.

Other features of novelty will appear in the following specification and claims.

In the accompanying drawing, Figure 1 is a top plan view of a section insulator embodying my improvements; Fig. 2 is a side elevation, partly in section; Fig. 3 is a disassembled view of the clamp for the end of the trolley wire, and Fig. 4 is a similar view of one of the track segments.

The frame of the device is composed of two parallel wooden side-frames connected by cross-bars. Each side-frame consists of a top rail 1, a bottom rail 2, upright posts 3, and suitable braces 4. The bottom rail has long upturned ends 5, shod with metal 6, and the top rail is provided with ears 7 by which the entire device can be suspended from an arm on a trolley pole, or some other suitable support. The top rails of the two side frames are connected at each end and at the middle by transverse rods 8, and the bottom rails are connected by a plurality of wooden bars 9 bolted upon the tops of said rails.

A petticoat insulator 10 is pivotally suspended by a clip 11 from each of the end cross-rods 8. Depending from each insulator is a hanger 12 which carries at its lower end a clamp for the end of the trolley wire. This clamp consists, preferably, of two plates, the lower one 13 having a longitudinal trough 14, open at one end to admit the trolley wire. The upper plate 15 has a rib 16 adapted to fit down into the trough and clamp the wire when the two plates are

bolted together. In order to prevent the wire from pulling out, the trough has a hump 17 and the rib a corresponding notch 18 which put a bend or kink in the wire and effectually lock it in the clamp.

Means are provided for swinging the insulator and thus putting a tension on the trolley wire: preferably consisting of a flexible wire cable 19 attached at one end to an eye 20 in the hanger 12, and at the other end to an eyebolt 21, which passes through an ear 22 on a block 23 mounted on the middle cross-rod 8. A nut 24 on the eyebolt enables it to be adjusted in order to put the cable and trolley wire under tension. The cables from both the insulators 10 are both connected to the same block 23, and in order to interrupt the electrical continuity of the structure, a strain insulator 25 of approved design is interposed between the hanger and the eyebolt, the cable 19 being cut and the ends fastened to the strain insulator.

The cross-bars 9 are spaced a little distance apart, and on the bottom of each one between the bottom rails is secured a metallic segment having a depending V-shaped middle portion 26 and arms 27 for the attaching bolts. The portions 26 on the several segments are arranged in line with each other and with the trolley wires, and form a track for the grooved trolley wheel, when a wheel collector is used. Being separated by air-gaps, the segments serve to extinguish any arc which may be drawn from the end of the trolley wire when the wheel runs off it. A sliding collector rides along the under surface of the bottom rails, in passing from one section of trolley wire to the other.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. A section insulator for overhead conductors, comprising a frame of insulating material, an insulated hanger at each end, a clamp on each hanger for the end of a conductor, and insulated means for adjusting said clamps toward each other.

2. A section insulator for overhead conductors, comprising a frame of insulating material, an insulator pivotally suspended at each end thereof, a clamp for a conductor depending from each insulator, and means for swinging said insulators toward each other.

3. A section insulator for overhead con-

ductors, comprising a frame of insulating material, an insulator pivotally suspended at each end thereof, a hanger depending from each insulator, a trolley-wire clamp on each hanger, a flexible wire cable attached to each hanger, a strain insulator attached to said cable, and means for putting a tension on said cable.

4. A section insulator for electric conductors, comprising two clamps for the conductor ends connected through insulation, a track for enabling a wheel collector to pass from one conductor to the other, and two rails located on opposite sides of said track and adapted to enable a bow collector to pass from one conductor to the other out of contact with said track.

5. A section insulator for overhead conductors, comprising a frame of insulating material having parallel bottom rails, and wheel-track segments between said rails.

6. A section insulator for overhead conductors, comprising a frame of insulating material having parallel bottom rails, cross-bars secured to said rails, and wheel-track segments secured to said bars with air-gaps between them.

7. A section insulator for overhead conductors, comprising a frame having parallel

top rails, parallel bottom rails with up-turned ends, cross-rods between said top rails, and cross-bars secured on said bottom rails, wheel-track segments attached to said cross-bars, and trolley-wire clamps suspended from the end cross-rods in line with said segments.

8. In an electric line structure, the combination with an interrupted line conductor and insulating means for holding the line terminals at a predetermined distance apart, of a pair of laterally spaced bars for guiding the trolley across the break in the line conductor.

9. In an electric line structure, the combination with an interrupted line conductor and insulating means for holding the line terminals at a predetermined distance apart, of a pair of laterally spaced guide bars disposed parallel to the line conductor at the sides thereof for guiding the trolley over the break.

In witness whereof, I have hereunto set my hand this 8th day of October, 1907.

FRANK GUILLOT.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.