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INSULATOR FOR THIRD RAILS.  
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928,709.

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Fig. 1.

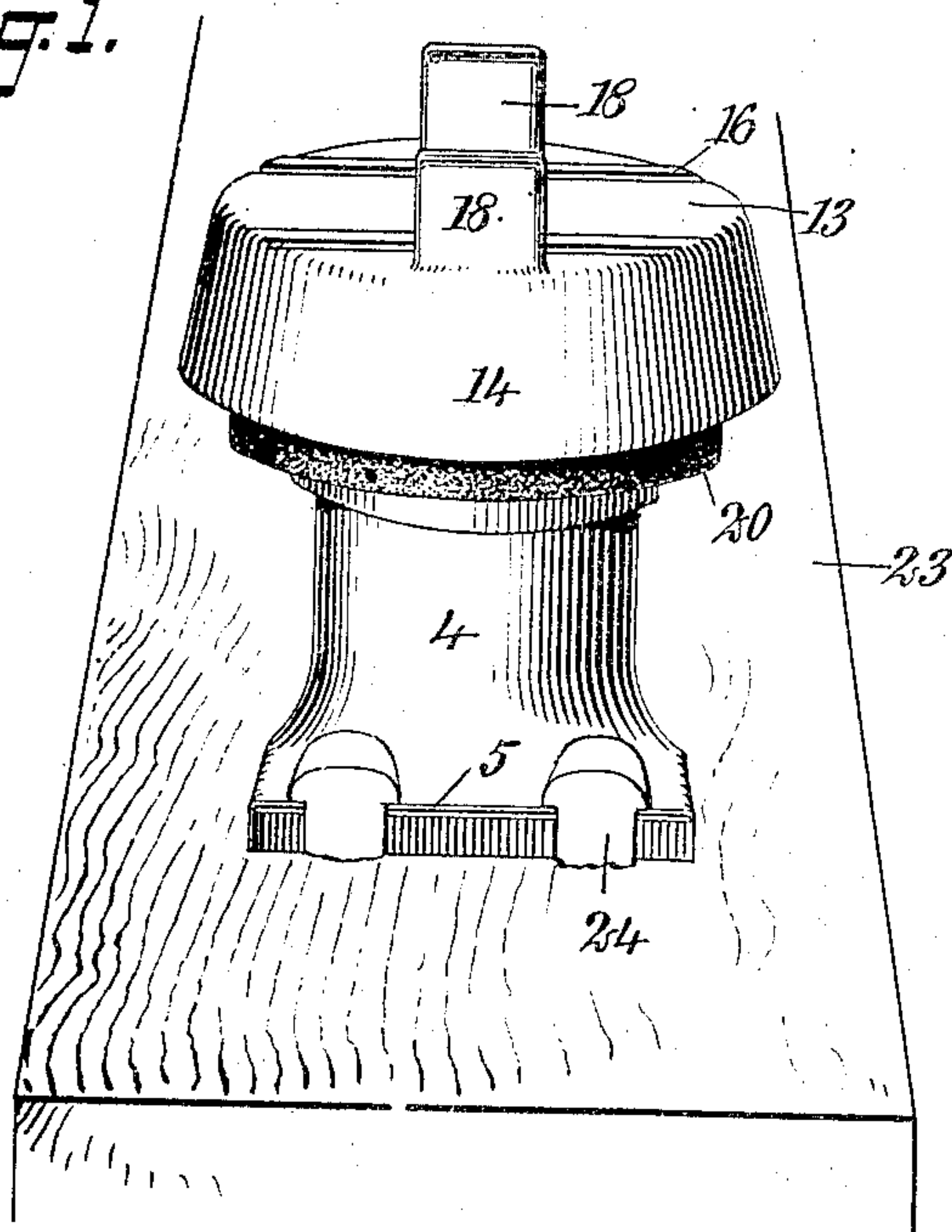


Fig. 2.

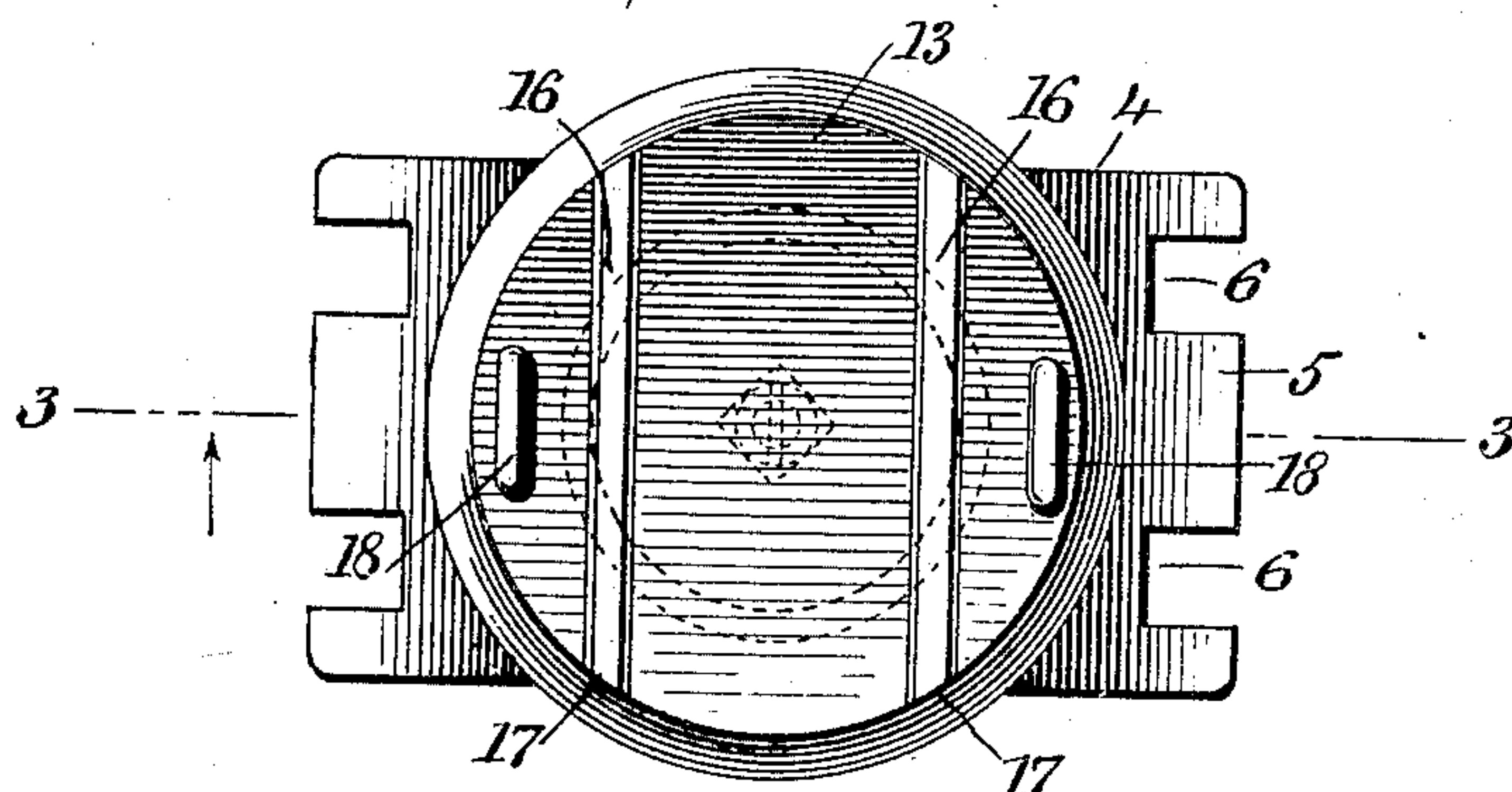
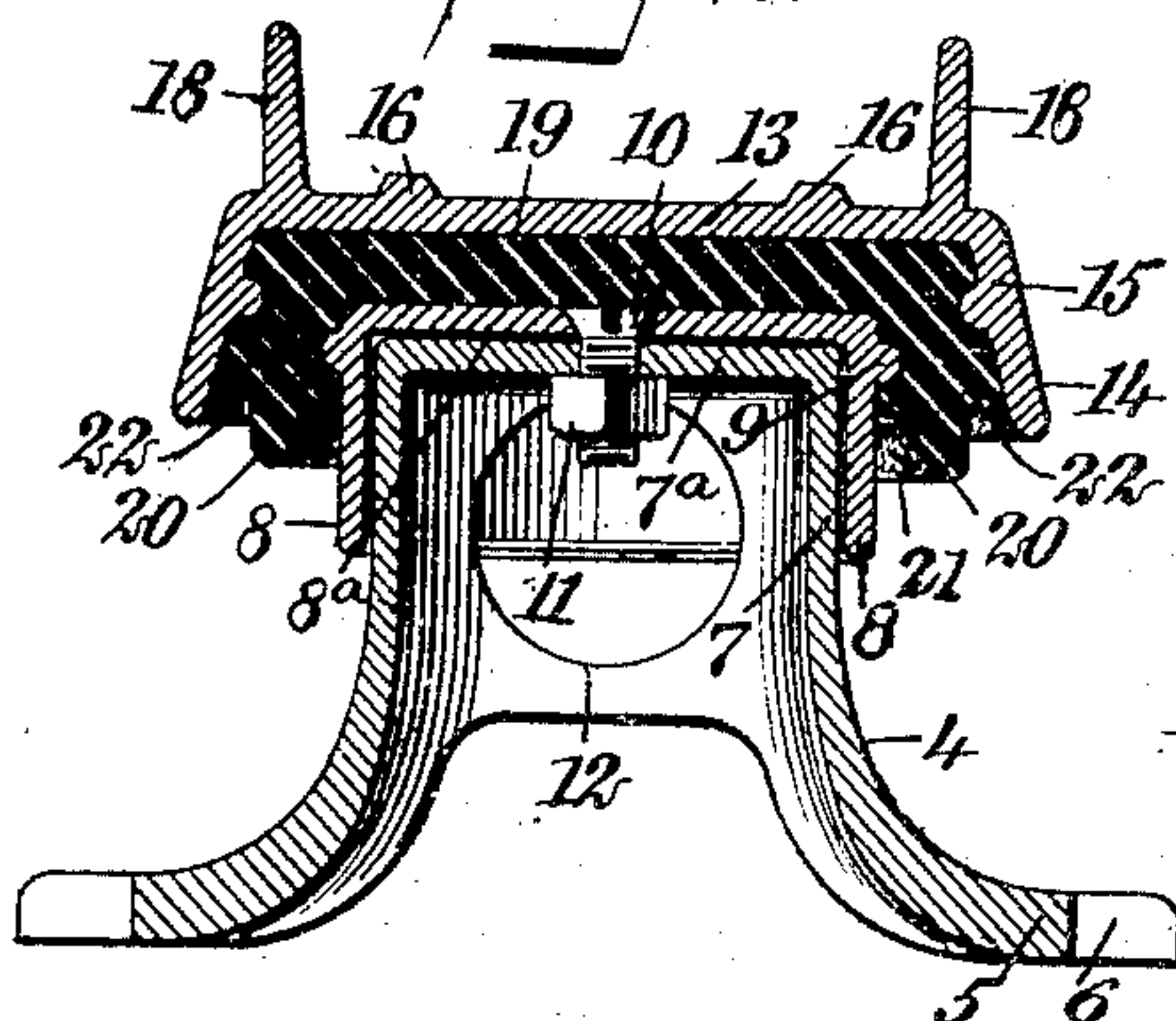


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

LOUIS STEINBERGER, OF NEW YORK, N. Y.

## INSULATOR FOR THIRD RAILS.

No. 928,709.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed February 2, 1909. Serial No. 475,584.

*To all whom it may concern:*

Be it known that I, LOUIS STEINBERGER, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Insulator for Third Rails, of which the following is a full, clear, and exact description.

My invention relates to insulators for third rails, my special purpose being to produce an insulator of this general type, so constructed and arranged as to afford a maximum of mechanical strength coupled with good insulation, a minimum of working parts and low cost.

Among the particular objects sought to be accomplished by my invention are the following: I. To provide means for protecting the insulator from mechanical injury. II. To so dispose a portion of insulating material in the construction as to reduce to a minimum the evil effect of moisture. III. The provision of means whereby a movable portion of the insulator may be connected with the rail and so arranged as to turn relatively to a stationary portion of the insulator. IV. The adaptation of improved means for securing the insulator to a separate base, thus enabling the operator to handle the entire device as a single unit if desired. V. The provision of mechanism for locking the insulator in a predetermined position relatively to the support. VI. The provision of mechanism for taking up the pounding action otherwise taking place between the insulator and the base, owing to the alternate depression and rebounding of a cross tie when a train passes over it. VII. The means for mounting the insulator upon the rail so as to retain the insulator securely in position.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective showing my improved insulator mounted upon a cross tie and ready for use; Fig. 2 is a plan view of the insulator complete, showing it as removed from the cross tie; and Fig. 3 is a vertical central section upon the line 3—3 of Fig. 2, looking in the direction of the arrow, and showing the internal construction of the insulator.

A base 4 is provided with outwardly turned toes 5, the latter being provided with slots 6. The base 4 is provided with a substantially

cylindrical portion 7 and with a web 7<sup>a</sup> integral with it, whereby the cylindrical portion 7 is closed at its upper end. A cap 8 having generally a cylindrical form is provided with an annular bead 9 extending entirely around it, this bead being a little below the top 8<sup>a</sup> of the cap and occupying substantially the same plane as the web 7<sup>a</sup>.

A bolt 10 extends through the top 8<sup>a</sup> of the cap and also through the web 7<sup>a</sup>. This bolt is threaded and mounted upon it is a revoluble nut 11. By loosening this nut the cap 8 may be turned relatively to the base 4, and after the cap is thus turned the nut 11 may be tightened, thereby locking the cap rigidly in a new position. The base 4 is provided with openings 12 which facilitate access to the interior of the base 4, in order to apply a wrench to the nut 11, thus locking all the parts rigidly together, and also conserving the metal used in constructing this base.

A plate 13 is provided with a flange 14 integral with it and turned obliquely downward. This plate and flange together constitute a cup which is provided internally with a bead 15. This bead is disposed a little out of alinement with the bead 9. The plate 13 is provided with bearers 16 integral with it, these bearers extending from edge to edge of the plate and terminating in beveled surfaces 17. The plate 13 is made of malleable metal and is provided with lugs 18 integral with it and also malleable. These lugs are adapted to be bent inwardly for the purpose of securing the flange of the rail. The tread of the rail rests upon the bearers 16.

Disposed intermediate the cap 8 and the outer cup is a mass 19 of insulating material. The lower edge of this mass of insulating material is provided with a downwardly extending portion 20 and within and without this portion are annular grooves 21, 22. The downwardly extending edge 20 tends to facilitate the dripping of any moisture which may gather upon the insulating material, and especially such as may collect in the grooves 21, 22, and at the same time increases the extent of insulating surface between the outer cup and inner cap.

The annular beads 15 and 9 being out of alinement with each other, the mechanical strength of the member of insulating material is virtually increased, because the beads 9, 15 extend into the mass of insulating material, but as they do not extend directly toward each other, the mass is not rendered



much thinner at any particular point than would be the case if the beads were omitted entirely.

The cap 8 is normally free to turn in relation to the base and in this way can accommodate slight changes in the position of the rail. The toes 5 of the base 4 are secured firmly upon a cross tie 23 by aid of spikes 24.

I do not limit myself to the use of any particular insulating material, but prefer to employ the insulating material well known in the art as "electrose". Nor do I limit myself to the exact form nor to the details of any or all of the parts herein shown and described, nor to any particular combination of elements entering into the construction of my insulator, as it will be evident to those skilled in the art that changes in the construction, form and arrangement of the parts may be resorted to without departing from the scope or spirit of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

25 1. A device of the character described, comprising a base, a bearing member supported by and engaging said base, means for locking said bearing member to said base, a body of insulating material engaging said bearing member, and a rail supporting member mounted on said insulating material.

30 2. A device of the character described, comprising a cap provided externally with a projection, a cup provided internally with a projection and further provided with a surface for engaging a rail, a mass of insulating material molded rigidly to said cap and said cup, and a hollow base provided with a portion extending into said cap.

40 3. A device of the character described, comprising a metallic base provided with securing portions and with a hollow cylindrical supporting portion, a metallic cap engaging said supporting portion and concentric thereto, means for locking said cap to said supporting portion, a cup-like member for supporting a rail, and a mass of insulating material connected rigidly to said cap and to said cup-like member.

4. A device of the character described, 50 comprising a base provided with a cylindrical portion, a cap engaging said cylindrical portion, locking mechanism for holding said cap and said cylindrical portion together, a cup-like member provided with a 55 portion for supporting a rail, and a mass of insulating material disposed intermediate said cap and said cup-like member.

5. The combination of a base provided with a cylindrical top, a member journaled 60 upon said cylindrical top and provided with a surface for engaging a rail, and locking mechanism connecting said member with said cylindrical top and controllable at will for the purpose of locking the same together. 65

6. A device of the character described, comprising a base provided with a cylindrical portion, a member provided with a cup 70 for engaging said cylindrical portion, said member being further provided with a surface for supporting a rail, and locking mechanism mounted upon said member and controllable at will for the purpose of securing said member rigidly in relation to said base.

7. A device of the character described, 75 comprising a base provided with an upturned portion, a member mounted upon said upturned portion and revoluble in relation to said base for the purpose of supporting a rail, and locking mechanism controllable at will 80 for securing said member rigid in relation to said base.

8. A device of the character described, comprising a base provided with a supporting portion having a hole through it, a revoluble member mounted upon said supporting portion and adapted to sustain a rail, a screw connected rigidly with said member and extending through said opening in said supporting portion, and a nut mounted upon 90 said screw.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS STEINBERGER

Witnesses:

WALTON HARRISON.

JOHN P. DAVIS.