

No. 780,316.

PATENTED JAN. 17, 1905.

P. WINSOR.

THIRD RAIL INSULATOR.

APPLICATION FILED JUNE 10, 1904.

3 SHEETS—SHEET 1.

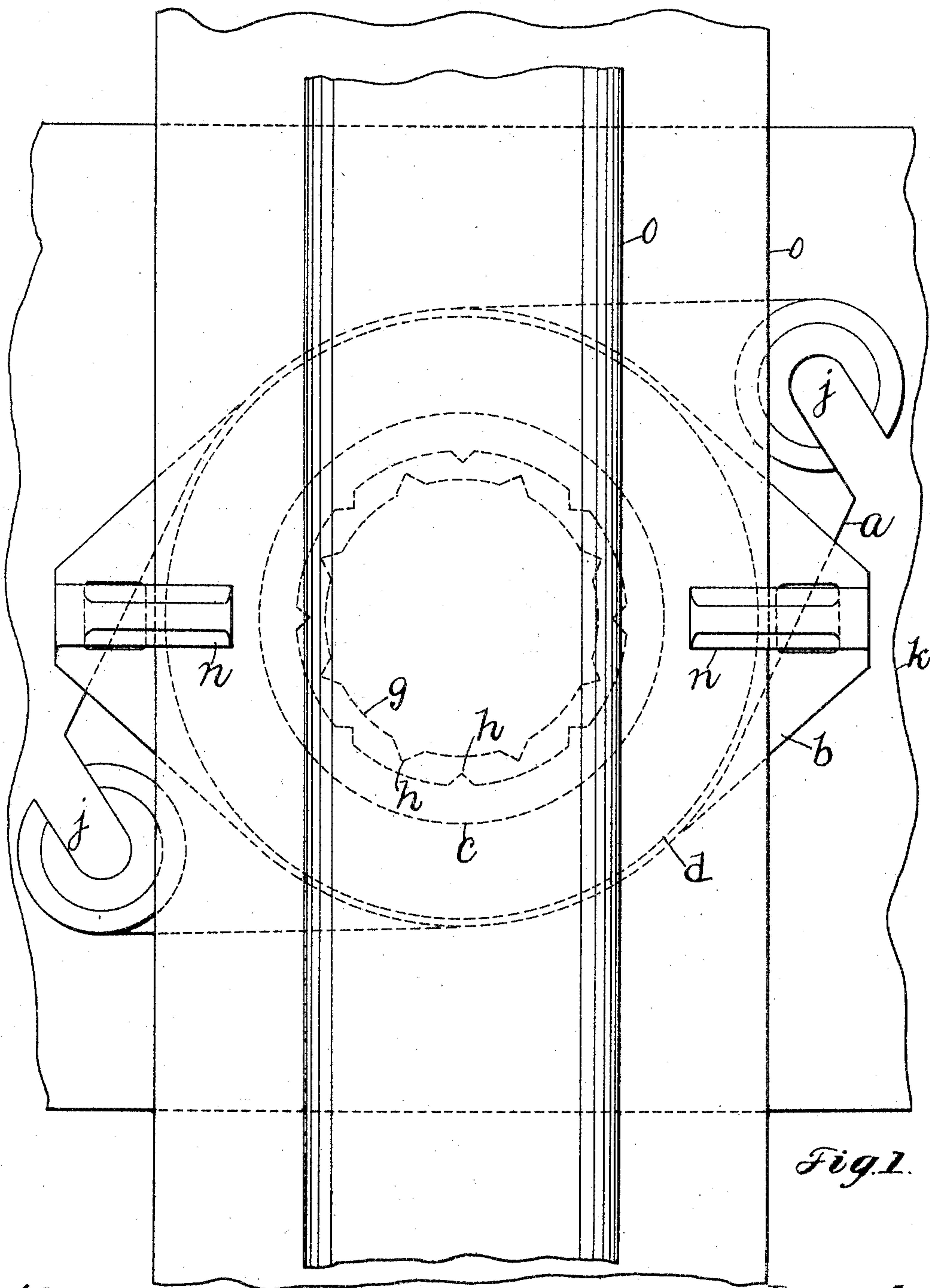


Fig. 1.

Witnesses.

C. H. Barnett

J. Murphy.

Inventor.

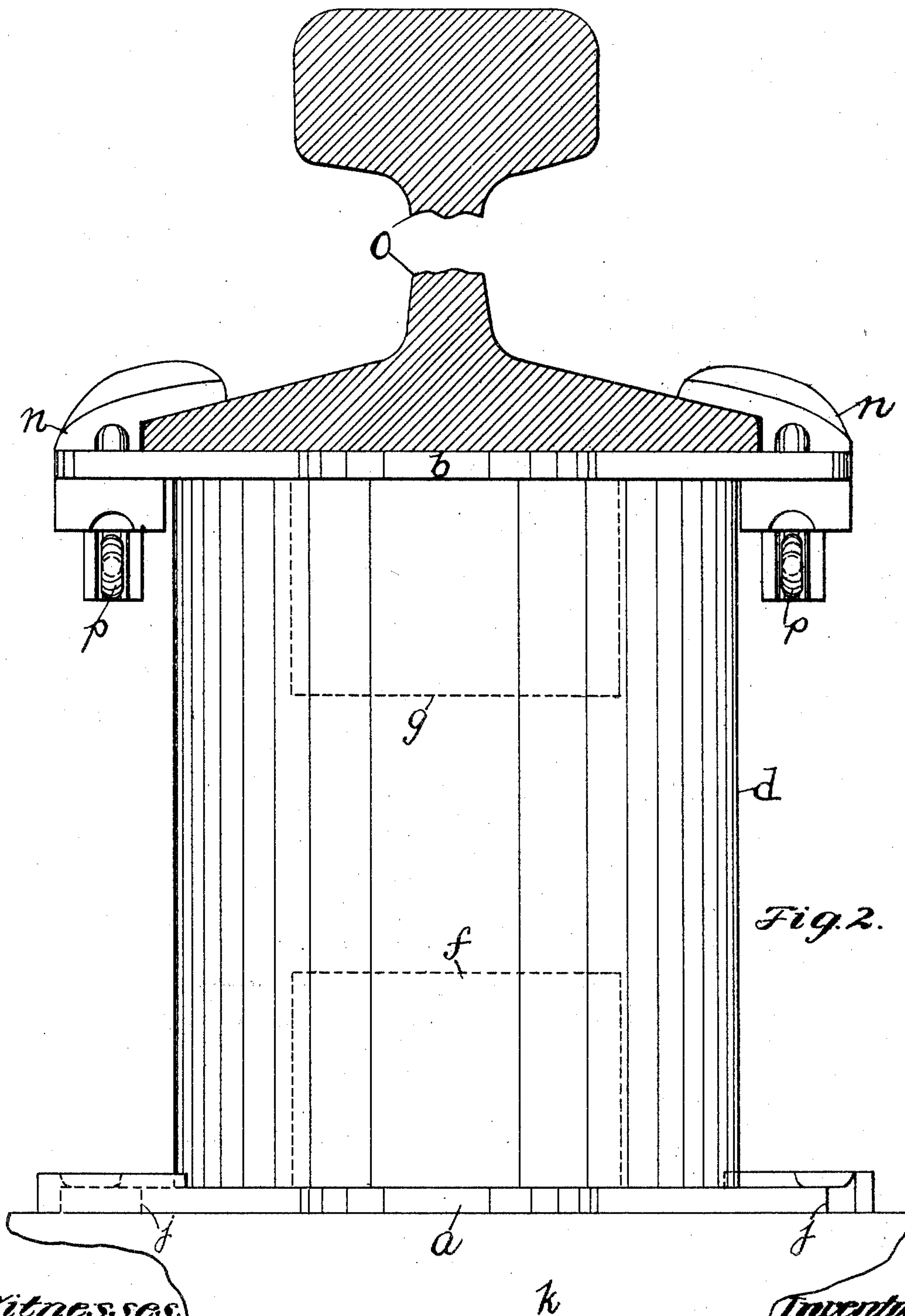
Paul Winsor  
by Jas. H. Churchill  
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3 SHEETS—SHEET 2.



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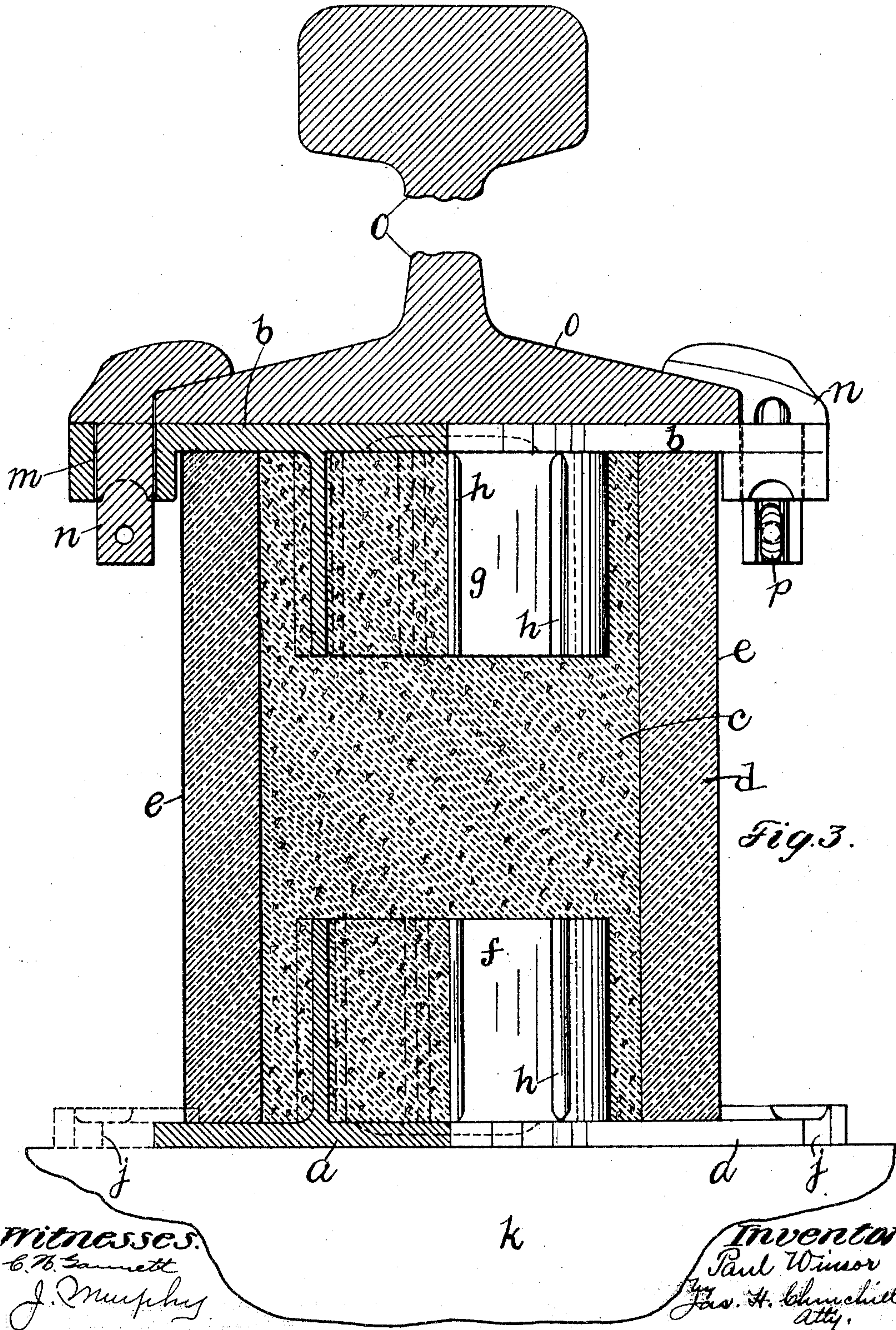


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3 SHEETS—SHEET 3.





# UNITED STATES PATENT OFFICE.

PAUL WINSOR, OF WESTON, MASSACHUSETTS.

## THIRD-RAIL INSULATOR.

SPECIFICATION forming part of Letters Patent No. 780,316, dated January 17, 1905.

Application filed June 10, 1904. Serial No. 211,889.

*To all whom it may concern:*

Be it known that I, PAUL WINSOR, a citizen of the United States, residing in Weston, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Third-Rail Insulators, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to an electric insulator, and more particularly to an insulator employed as a support for the third rail of electric-railway systems.

15 The invention has for its object to provide a simple inexpensive, yet highly efficient, insulator for the purpose specified.

The particular features of this invention will be pointed out in the claims at the end of this specification.

20 Figure 1 represents in plan view a portion of a third rail supported by an insulator embodying this invention. Fig. 2 is an elevation of the insulator shown in Fig. 1, the third rail being shown in section; and Fig. 3 a partial section and elevation of the insulator shown in Fig. 2, the third rail being shown in section.

In accordance with this invention the insulator herein shown as embodying this invention consists of a metal base *a*, a metal cap or top *b*, and an interposed non-metallic composite body portion composed of a center *c*, of concrete or like hard and solid non-metallic material capable of sustaining a substantial weight, and an outer envelop or shell *d*, also of non-metallic material and which may and preferably will be made of terra-cotta or like vitreous material, which is provided with a glazed exterior surface *e*. The base *a* and cap *b* are firmly secured together by the concrete center *c*, and for this purpose the said base and cap may be provided with projections *f g*, preferably made in the form of cylinders, which may be provided with flutes, grooves, or channels *h* on their inner and outer surfaces.

45 The base *a* may be provided with suitable slots or openings *j* for the reception of spikes (not shown) by which the insulator may be firmly secured to a tie *k* of the railway sys-

tem, and the cap *b* may be provided with suitable holes *m* for the reception of clips or devices *n*, by which the third rail or conductor *o* may be secured to the insulator. The clips or fastening devices *n* may be secured to the cap or top plate by cotter-pins *p* or in any other suitable manner. From an inspection of Fig. 3 it will be seen that the top plate or cap *b* is firmly united to the base *a* by an interposed body *c*, of cement or like non-metallic material, which may be Portland or other cement mixed with quartz, coarse sand, or other material, and that this cementitious body imparts to the insulator the strength desired or required to properly support the third rail.

The envelop or shell *d* may be made of terra-cotta or like material capable of having imparted to it a glazed outer surface, which acts to shed the moisture, and thereby increase the effectiveness of the insulator employing a cement center portion. Furthermore, in case it is so desired—as, for instance, in case of emergency—the insulator can be readily removed by breaking the shell *d* and the cement center *c* by means of a sledge or heavy hammer.

I claim—

1. In an insulator of the class described, in combination, a metallic base, a metallic cap, and an interposed composite body of insulating material, composed of a center portion of cementitious material firmly joining said cap and base, and an envelop or shell of non-metallic material provided with a glazed outer surface, substantially as described.

2. In an insulator of the class described, in combination, a metallic base provided with an upwardly-extended projection, a metallic cap provided with a depending projection, and an interposed composite body of insulating material, composed of a center portion of cementitious material embracing said projections and firmly joining said cap and base, and a shell of non-metallic material surrounding said center portion, substantially as described.

3. In an insulator of the class described, in combination, a base, a cap, and an interposed composite body composed of a center portion of cement, and an envelop of terra-cotta having a glazed outer surface, substantially as described.

4. In an insulator of the class described, in combination, a base, a cap, and an interposed composite body composed of a cementitious center portion and a separate envelop or  
5 shell of insulating material, substantially as described.

5. In an insulator of the class described, in combination, a metallic base, a metallic cap, and an interposed composite body of insulating material comprising a center portion, and

a shell or envelop separate from said center portion, substantially as described.

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

PAUL WINSOR.

Witnesses:

JAS. H. CHURCHILL,  
J. MURPHY.