

E. W. FARNHAM.  
INSULATING SUPPORT FOR THIRD RAILS  
APPLICATION FILED JUNE 27, 1904.

Fig. 3.

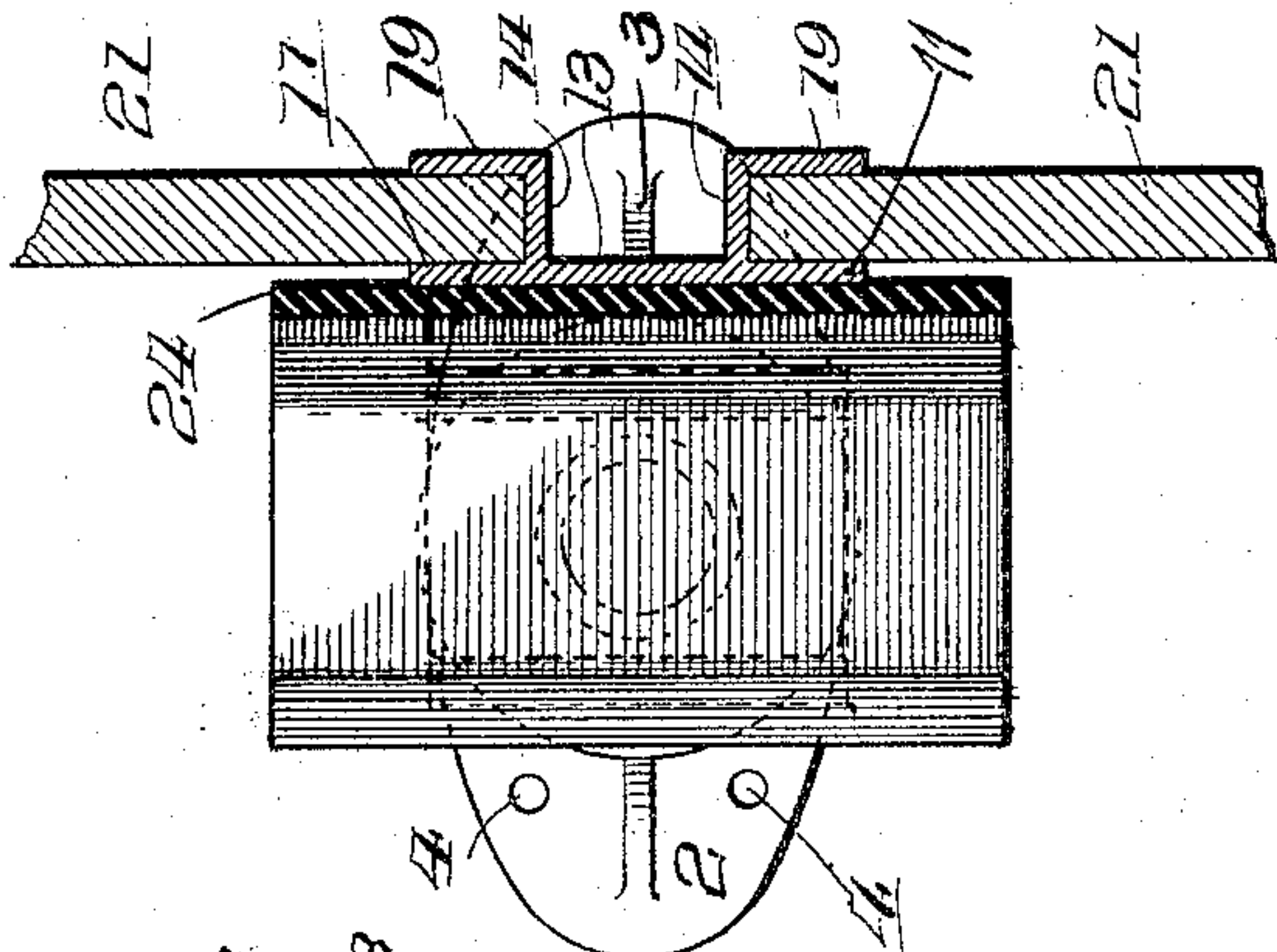


Fig. 2.

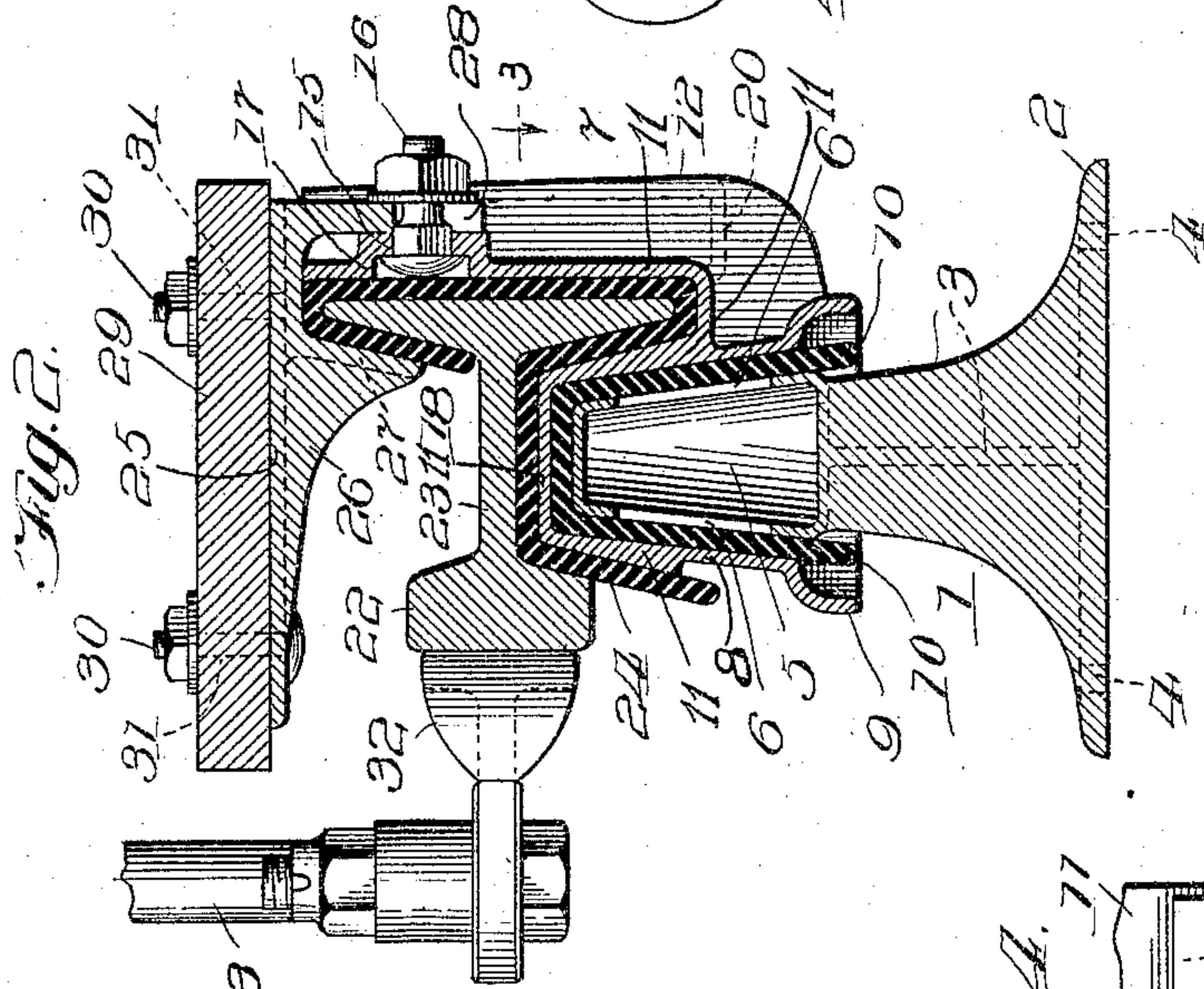


Fig. 1.

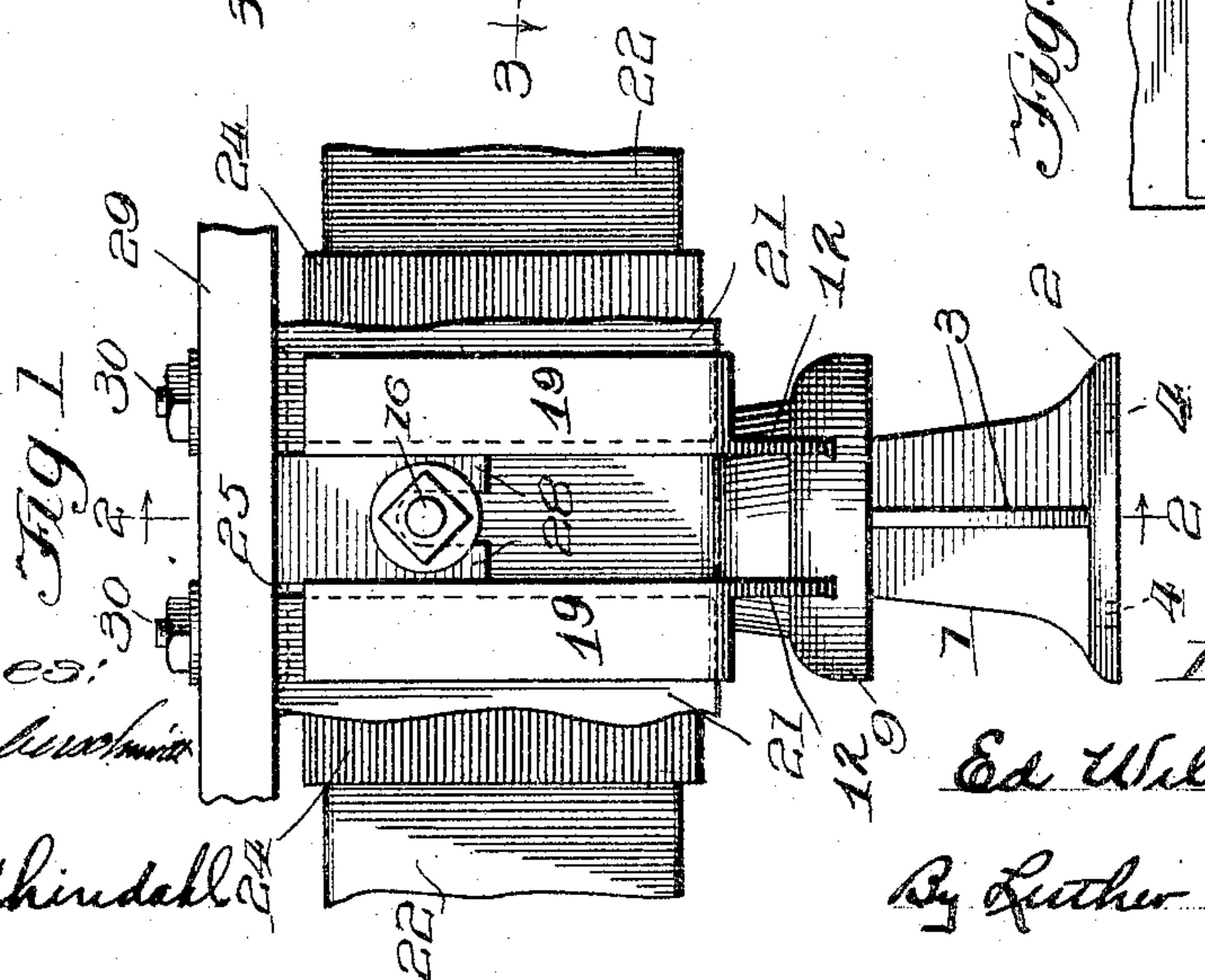
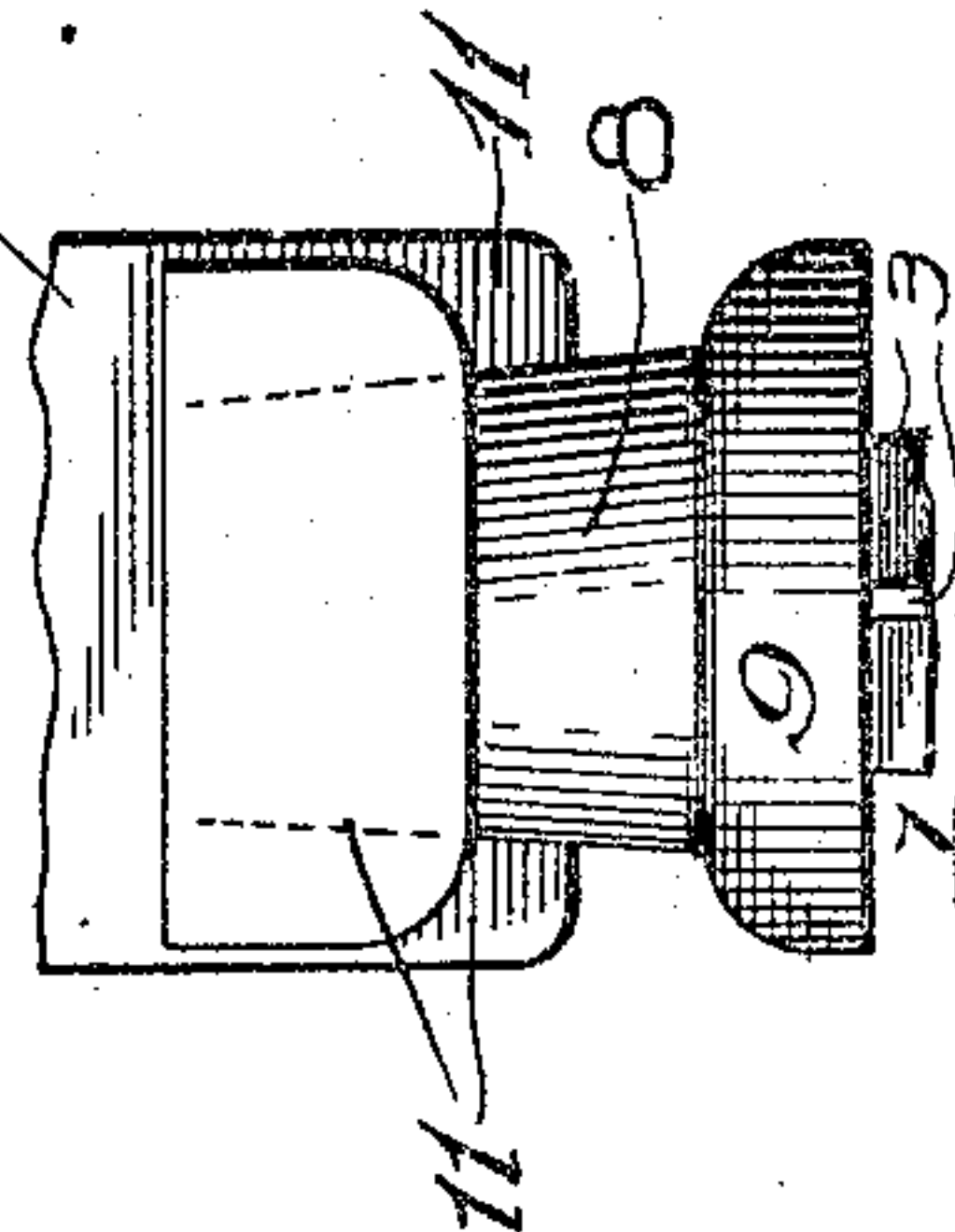


Fig. 4.



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## INSULATING-SUPPORT FOR THIRD RAILS.

SPECIFICATION forming part of Letters Patent No. 790,957, dated May 30, 1905.

Application filed June 27, 1904. Serial No. 214,365.

*To all whom it may concern:*

Be it known that I, ED WILSON FARNHAM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Insulating-Supports for Third Rails, of which the following is a specification.

One of the objects of this invention is the production of an improved insulating-support for side-contact electrical third rails.

The invention also refers to means for protecting the third rail so supported from accidental contact with persons, trespassing animals or objects, and from ice and snow.

The invention further refers to a means for firmly supporting and securely insulating, as a third rail, a common T-rail.

The invention further refers to a means for providing a double insulation between the third rail and the ground and, further, to a supporting-standard from which the rail may readily be removed.

The invention further refers to the details of construction of the supporting means herein shown and described.

In the accompanying drawings, Figure 1 is a rear side elevation of a rail-support embodying the features of my invention. Fig. 2 is a transverse vertical sectional view taken on dotted line 2 2 of Fig. 1, showing the contact-shoe in elevation. Fig. 3 is a horizontal sectional view on dotted line 3 3 of Fig. 2 with the contact-rail removed. Fig. 4 is a fragmental front elevation of the rail-support.

In the construction of a rail-support embodying this invention I provide a standard 1, comprising a base 2 and radial webs 3. The base is provided with suitable perforations 4 for receiving lag screws or bolts by means of which it is secured in position. At its upper end the standard terminates in a hollow truncated conical head 5, having an opening 6 in two of its side walls. A supporting-bracket 7, having a bell-shape socket 8 with an annular skirting-flange 9, is adapted to fit upon the conical head 5, with a space between said socket and said head sufficiently large to permit the insertion of a specially-conformed cap 10, of insulating material. At its front and rear

sides and over the top of the socket 8 the bracket 7 is provided with an apron 11, and at the rear side of said apron, near the bottom edge thereof, with an integral upwardly-extending arm 12. The arm 12 comprises a facing-flange 13 and two integral strengthening-webs 14. Near its upper end and between the webs 14 the arm 12 has an opening 15 in the facing-flange, adapted to receive a bolt 16, the head of which bolt lies within a depression 17 in said facing-flange. Between the facing-flange and the apron 11 a seat 18 is formed of suitable outline to receive one side of the base of a T-rail. The strengthening-webs 14, with their rear flanges 19 and bottom portions 20, form pockets for receiving the ends of covering-boards 21 for protecting the rear side of the third rail.

A contact-rail 22, in this instance of T form, is adapted to lie upon its side, with its center web 23 supported by the apron 11, but separated therefrom by means of a sheet 24 of insulating material, which sheet of insulating material also entirely surrounds the base of the rail 22, lying between said rail and the apron 11 of the bracket 7.

To hold the rail firmly in position upon the apron 11 and in the seat 18, I provide a top bracket 25, having a transverse flange 26 and a downwardly-extending web 27. At its rear end the bracket 25 is provided with the integral fingers 28, adapted to pass upon opposite sides of the bolt 16, by means of which fingers and bolt the top bracket 25 is secured in position. The downwardly-extending web 27 of the top bracket 25 is adapted to hold the upper end of the sheet 24 of insulating material in contact with the upper side of the base of the rail 22.

A top cover-board 29 is secured upon the top bracket 25 by means of bolts 30 passing through suitable openings 31 in said top bracket and said cover-board.

A contact-shoe 32, supported from the car (not shown) by means of an arm 33, extends beneath the top board and lies in contact with the face of the third rail 22.

In installing this rail-support the standard 1 is secured upon the upper face of a tie, outside of the running-rail, by means of lag-



screws passing through the openings 4 in the base 2 of said standard. A cap 10, of insulating material, is then placed upon the head 5 of the standard and the socket portion 8 of the bracket 7 fitted over said cap. A sheet 24 of insulating material, properly formed, is then placed upon the rail 22 and said rail laid in proper position within the bracket 7. The top bracket 25 is then put in place and secured by means of the bolts 16. Coverboards 21, cut to the proper length to extend between adjacent standards 1, are then placed with their ends in the pockets at the rear side of the bracket 7, and top coverboards 29 are secured in position upon the top bracket 25 by means of bolts 30.

The third rail 22 may readily be removed from its support by loosening the nut upon the bolt 16 and removing the top bracket 25. While this single bolt secures the rail in position, the weight of the rail is borne directly by the bracket 7, and no considerable strain is thrown upon the bolt 16. The top bracket 25 likewise is supported by the rail 22 and the upper end of the arm 12. The coverboards 21 and 29 protect the rail fully from persons or animals upon the right of way and from objects that might fall upon said rail. The insulating material may be of any suitable description.

My invention is not restricted to the precise construction and arrangement of parts herein shown and described, as such construction and arrangement may be modified or varied by those skilled in the art without departing from the spirit and scope of the invention.

I claim as my invention—

1. In an insulating-support for third rails, in combination, a rail-holding member adapted to hold the T-shape base of a rail; means for insulating the rail from said member; a support for said rail-holding member; and insulating material between said member and said support.

2. In an insulating-support for third rails, in combination, a rail-holding member adapted to firmly hold the base of a rail and to support horizontally the central web of such rail; means for insulating the base and central web of the rail from said member; a support for said rail-holding member; and insulating material between said member and said support.

3. In an insulating-support for third rails, in combination, a rail-holding member provided with means of support and comprising separable parts providing between them a space adapted to receive the base of a rail, said member also providing a means for supporting the central web of the rail in a horizontal position; and means for insulating the base and central web of the rail from said rail-holding member.

4. In an insulating-support for third rails, in

combination, a rail-holding member comprising separable parts, said parts providing between them a space adapted to receive the T-shape base of a rail; means for insulating the rail-base from said rail-holding member; a support for said rail-holding member; and insulating material between said member and said support.

5. In an insulating-support for third rails, in combination, a rail-holding member comprising separable parts providing between them a space adapted to receive the base of a rail, said member also providing a means for supporting the central web of the rail in a horizontal position; means for insulating the base and central web of the rail from said rail-holding member; a support for said rail-holding member; and insulating material between said member and said support.

6. In an insulating-support for third rails, in combination, a standard comprising a head; an insulating-cap adapted to fit over said head; and a rail-holding member having a socket adapted to fit over said cap.

7. In an insulating-support for third rails, in combination, a standard comprising a head; a rail-holding member having a socket adapted to fit over said head; and means for insulating the rail from said member.

8. In an insulating-support for third rails, in combination, a standard comprising a head; a rail-holding member having a socket adapted to fit over said head and a rail-receiving space; and a lining of insulating material for said rail-receiving space.

9. In an insulating-support for third rails, in combination, a standard comprising a head; a rail-holding member having a socket adapted to fit over said head, said member being adapted to firmly hold the base of a rail and to support horizontally the central web of such rail; and means for insulating the base and central web of the rail from said member.

10. In an insulating-support for third rails, in combination, a standard comprising a head; a rail-holding member having a socket adapted to fit over said head, said member comprising separable parts providing between them a space adapted to receive the base of a rail; and means for insulating the rail-base from said member.

11. In an insulating-support for third rails, in combination, a standard comprising a head; a rail-holding member having a socket adapted to fit over said head, said member comprising a horizontal portion adapted to support the central web of a rail in a horizontal plane, and having means for securing the rail to said member; and means for insulating the central web of the rail from said horizontal portion of the rail-holding member.

12. In an insulating-support for third rails, in combination, a standard comprising a head; an insulating-cap adapted to fit over said head;



a rail-holding member having a socket adapted to fit over said cap; and a lining of insulating material for said bracket.

13. In an insulating-support for third rails, 5 in combination, a standard comprising a head; a member having a socket adapted to fit over said head, said member comprising a removable upper portion and having a seat adapted to support a rail lying upon its side; and a lining of insulating material for said seat. 10

14. In an insulating-support for third rails, in combination, a rail-holding member provided with means of support and comprising separable parts providing between them a rail-receiving space, a portion of said rail-holding 15 member overhanging the rail; a protecting-

cover secured to said overhanging portion; and means for insulating the rail from said member.

15. In a support for third rails, in combination, a rail-holding member provided with means of support and comprising separable parts, said rail-holding member being adapted to support a rail with its contact-face extending in a vertical plane, a portion of said member overhanging the rail; and a protecting- 25 cover secured to said overhanging portion.

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Witnesses:

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