

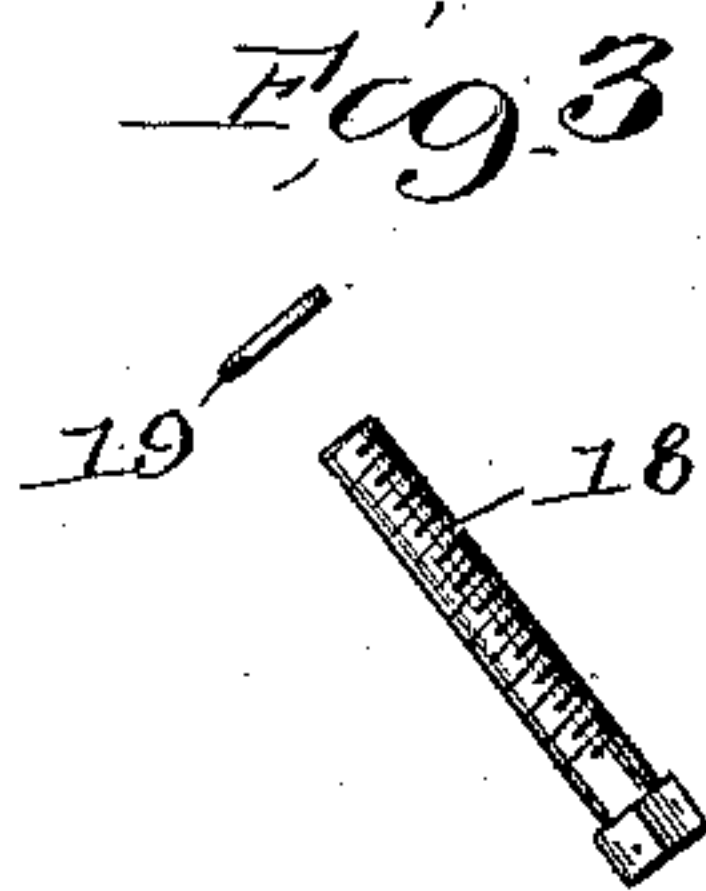
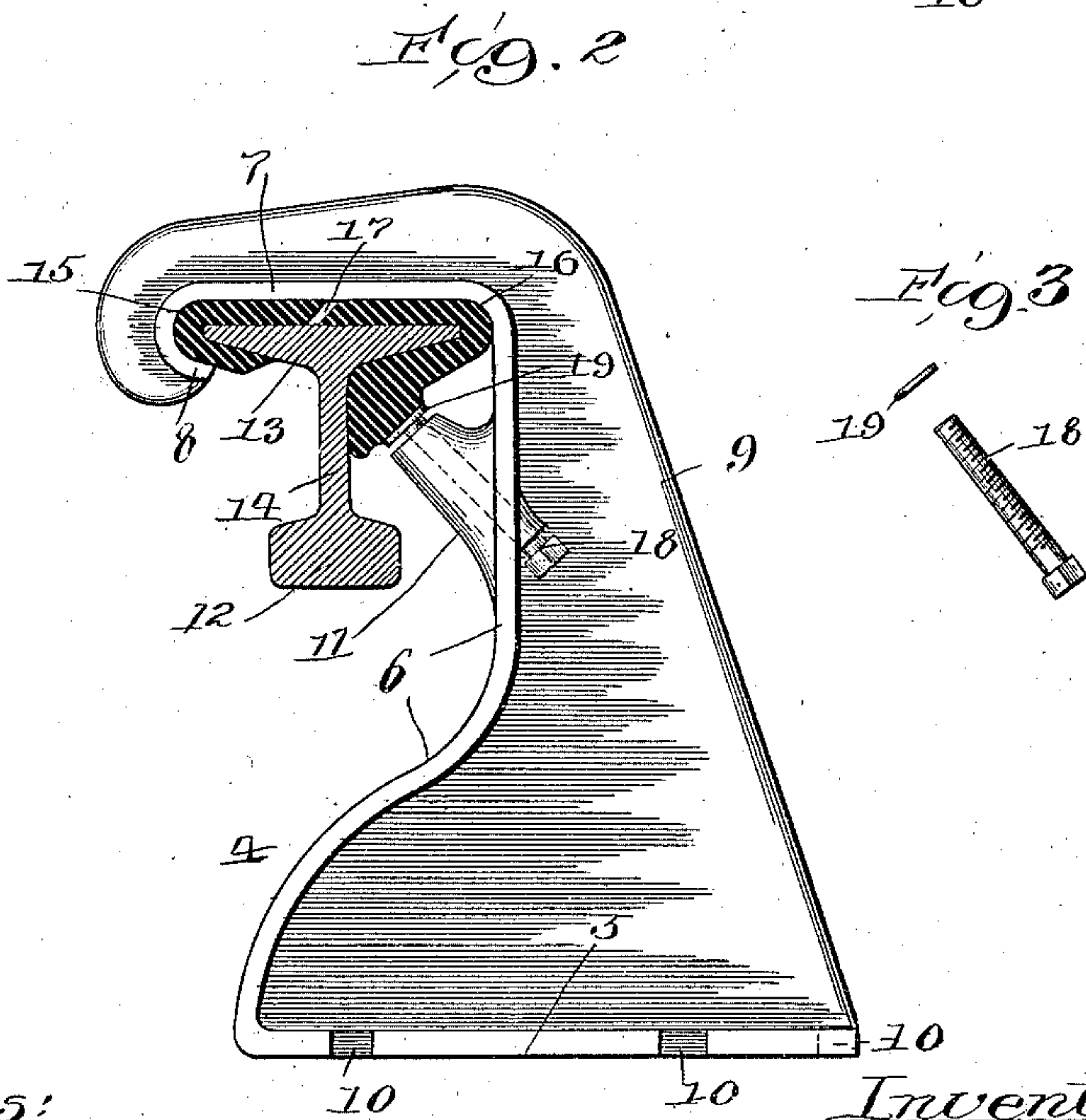
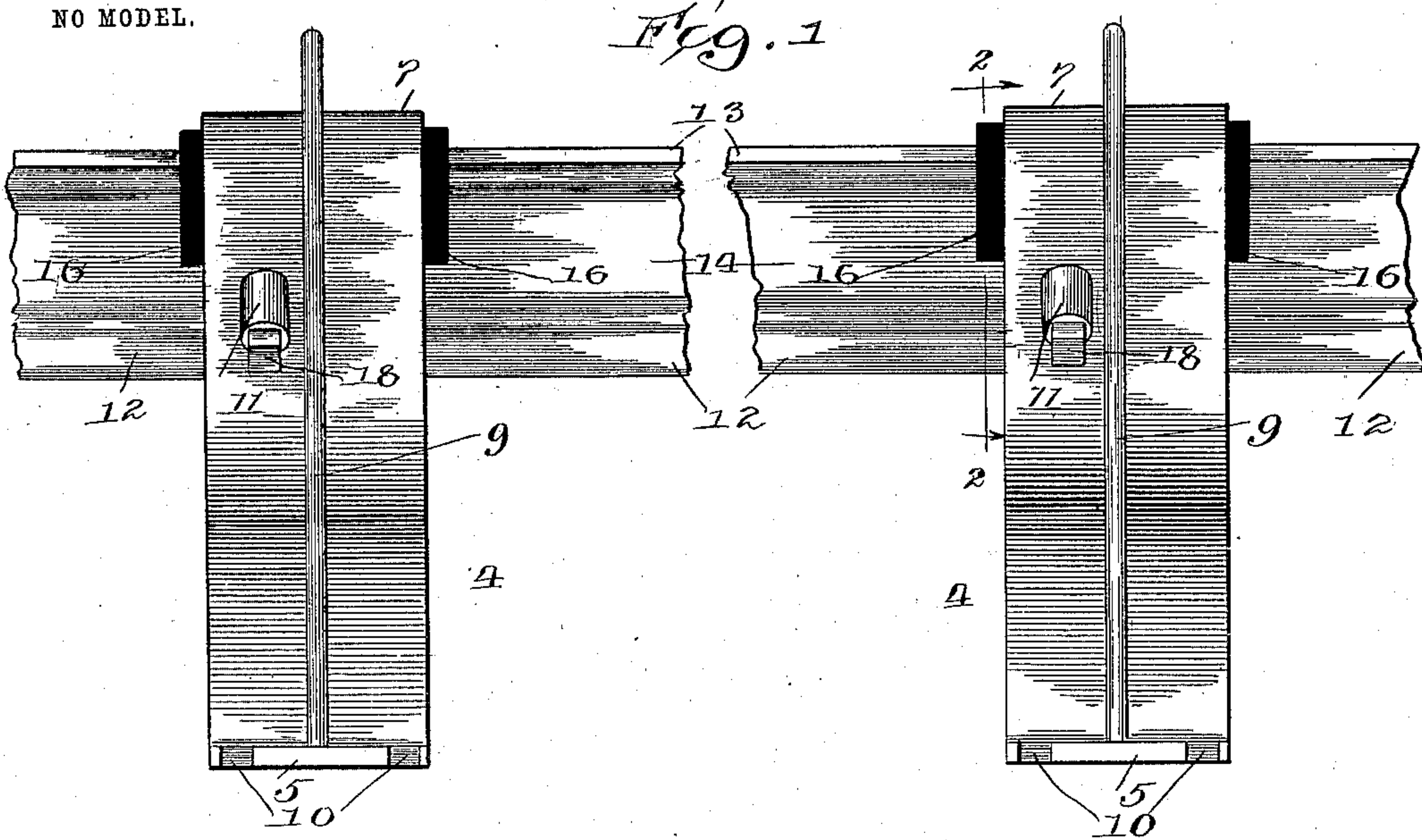
No. 726,599.

PATENTED APR. 28, 1903.

L. WHEELER & J. T. MURPHY.  
THIRD RAIL SUPPORT FOR UNDERRUNNING THIRD RAIL  
ELECTRIC RAILWAYS.

APPLICATION FILED FEB. 24, 1903.

NO MODEL.



Witnesses:

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# UNITED STATES PATENT OFFICE.

LEONARD WHEELER, OF WHEATON, AND JOHN T. MURPHY, OF CHICAGO,  
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THIRD-RAIL SUPPORT FOR UNDERRUNNING THIRD-RAIL ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 726,599, dated April 28, 1903.

Application filed February 24, 1903. Serial No. 144,599. (No model.)

*To all whom it may concern:*

Be it known that we, LEONARD WHEELER, of Wheaton, in the county of Dupage, and JOHN T. MURPHY, of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Third-Rail Supports for Underrunning Third-Rail Electric Railways; and we hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to third-rail supports for underrunning third-rail electric railways.

One of the objects of our invention is to provide a third-rail support and insulator of the class described, obviating the employment of bolts for securing the rail therein.

A further object is to provide a support of the class described arranged and adapted to permit the ready insertion or removal of the rail and insulation.

A further object is to generally improve the construction of third-rail supports and insulators of the class described.

With a view to attaining these and further objects, which will become apparent to those skilled in the art from the following description, our invention consists in the novel features of construction and arrangement of parts hereinafter more fully described, and specified in the claims.

In the drawings, Figure 1 indicates two supports associated with a rail. Fig. 2 is a transverse vertical section through the rail and insulating material, taken on line 2-2 of Fig. 1. Fig. 3 is a detail illustration of the retaining-screw and washer.

4 indicates as a whole the supporting-standard, which comprises in its construction a flat base 5, an upright portion 6, the upper part of which is preferably substantially vertical, a horizontal overhanging portion 7, and a depending reentrant end portion 8. The portions mentioned are preferably formed by a continuous plate of substantially uniform thickness properly contorted.

9 indicates a centrally-disposed rib or web projecting vertically from the said plate and so proportioned as to width and thickness as

to afford the requisite strength to the construction.

The illustration in the drawings is suggestive of a proper design; but it will be apparent that the precise configuration of the supporting member might be considerably varied to suit the requirements of particular cases.

10 indicates spike-apertures adapted to receive spikes for securing the support to suitable ties.

11 indicates a boss projecting from the upright portion 6 of the supporting member intermediate the overhang 7 and the base 5 and provided with an internally-screw-threaded perforation whose axis is inclined toward the reentrant end 8 of the standard.

12 indicates a rail of any preferred form suitable for third-rail distribution systems, whose base 13 is narrower than the length of the overhang 7 of the standard and whose web 14 extends below the outer end of the boss 11.

15 indicates a strip of insulating material embracing one side of the rail-base 13 and snugly fitting within the reentrant portion of the standard.

16 indicates a complementary insulating member embracing the opposite side of the rail-base and having a thickened portion extending downward in contact with the web 14 of the rail to a point beyond the outer end of the boss 11 of the standard. A slight space 17 is preferably left between the adjoining edges of the two insulating-sections. This space may be filled with some suitable soft insulating compound, such as Chatterton's compound or the like. The insulation preferably extends longitudinally of the rail beyond the sides of the standard, as illustrated.

18 indicates a screw extending upward through the perforation in boss 11, and 19 a suitable washer interposed between the end of said screw and the insulating-section 16.

The use and operation of our invention will be apparent.

It will be noted that the portion 8 forms a depending abutment to prevent lateral outward movement of the rail and insulating sections and that the screw 18 is so disposed as



to exert its pressure in a direction which forces the rail and insulation upward and outward toward the overhang 7 and the part 8. Thus the single screw 18 will serve to re-  
 5 tain the parts rigidly in position against any possibility of movement. It will further be noted that in order to remove the rail or insulation it is only necessary to retract the screw 18 within the boss, thereby releasing the  
 10 parts from pressure, when either of the insulating members may be slipped out of its position longitudinally of the rail and the rail then easily removed. By extending the insulation longitudinally of the rail beyond the  
 15 sides of the standard 4 liability of leakage from the rail to the standard is practically overcome, as will be well understood by those skilled in the art.

While we have described in some detail for  
 20 purposes of full disclosure one operative embodiment of our invention, it will be apparent that numerous changes in form and details of construction might be made without departing from the spirit and scope of our  
 25 invention.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In combination with a third rail for underrunning electric-railway systems, a support comprising a standard having a base, an upright, an overhang, and an abutment depending from the overhang, suitable insulation interposed between the rail and support,  
 30 and a pressure device interposed between said insulator and the upright of the standard, and exerting its pressure to force the insulation and the rail upward and outward against the overhang and depending abut-  
 40 ment.

2. In an underrunning third-rail system for electric railways, a rail-supporting standard comprising a base, an upright, a laterally-extending overhang, and an abutment de-  
 45 pending from said overhang, in combination with a rail insulated from the support, and a pressure device taking through the upright

of the standard and arranged to exert its pressure upon the insulated rail to press the same upward and outward against the over- 50 hang and the abutment.

3. In an underrunning third-rail system for electric railways, the combination of a rail-supporting standard having a laterally-extending overhang and opposing members ex- 55 tending downward from the overhang, a rail, an insulator interposed between the rail and the standard to abut against the overhang and one downwardly-extending member, and a pressure device interposed between the op- 60 posing downwardly-extending member and the rail, arranged to exert its pressure to force the insulator against the overhang and the first-said member.

4. In combination with the rail of an underrunning third-rail electric-railway system, a sectional insulator adapted to embrace the rail-base divided longitudinally of the rail, and a support comprising a standard having an overhang against which the insulator 70 bears, disposed transversely of the rail, a depending abutment at one side of the insulator, an upright at the other side of the insulator, and a pressure device interposed between said upright and the insulator arranged 75 to press the insulator upward and outward against the overhang and the abutment, whereby the insulator-sections are held together, and the rail secured.

5. In a rail-support of the class described, 80 a standard comprising a base, an upright, an overhang, a reëntrant abutment at the end of the overhang, and a screw carried by the upright disposed intermediate the base and overhang and extending in the direction of 85 the reëntrant abutment.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

LEONARD WHEELER.  
 JOHN T. MURPHY.

Witnesses:

MARY F. ALLEN,  
 GEO. T. MAY, Jr.