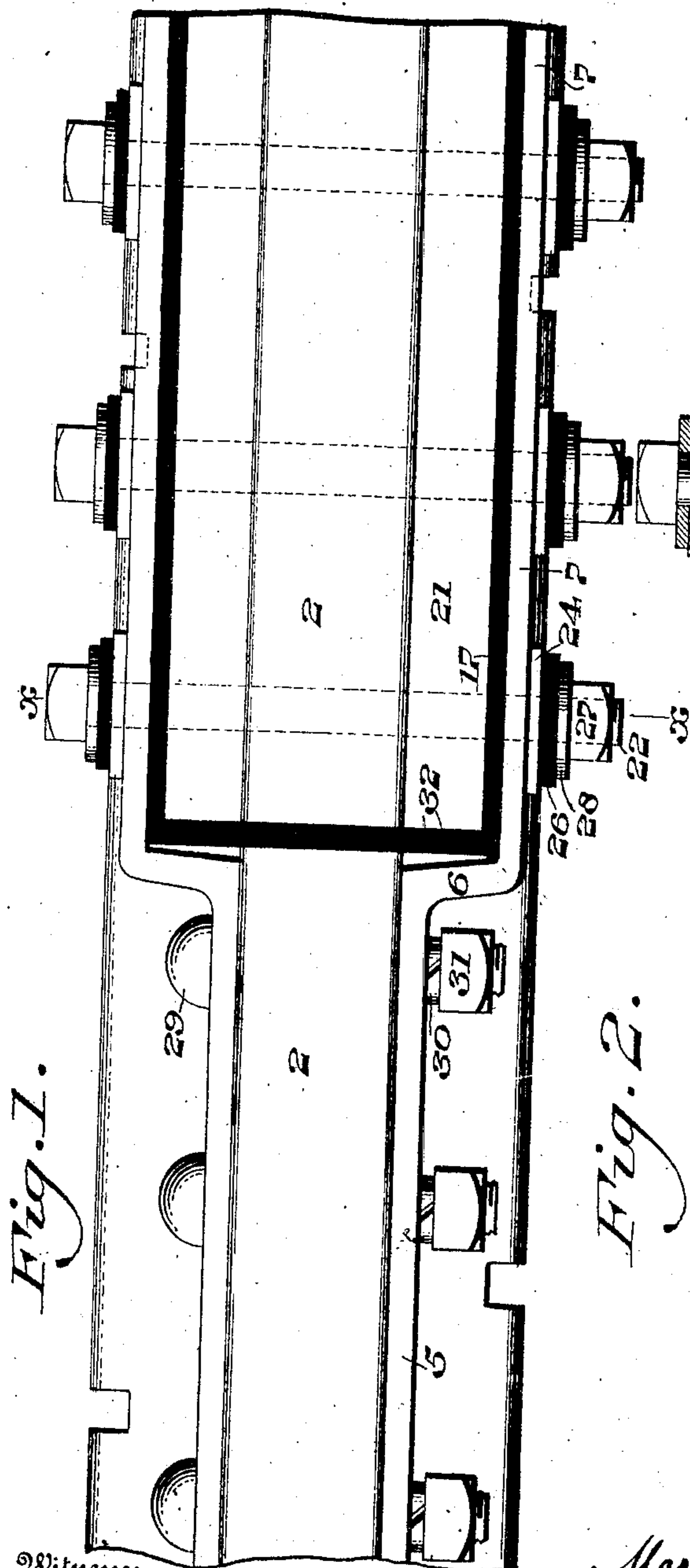


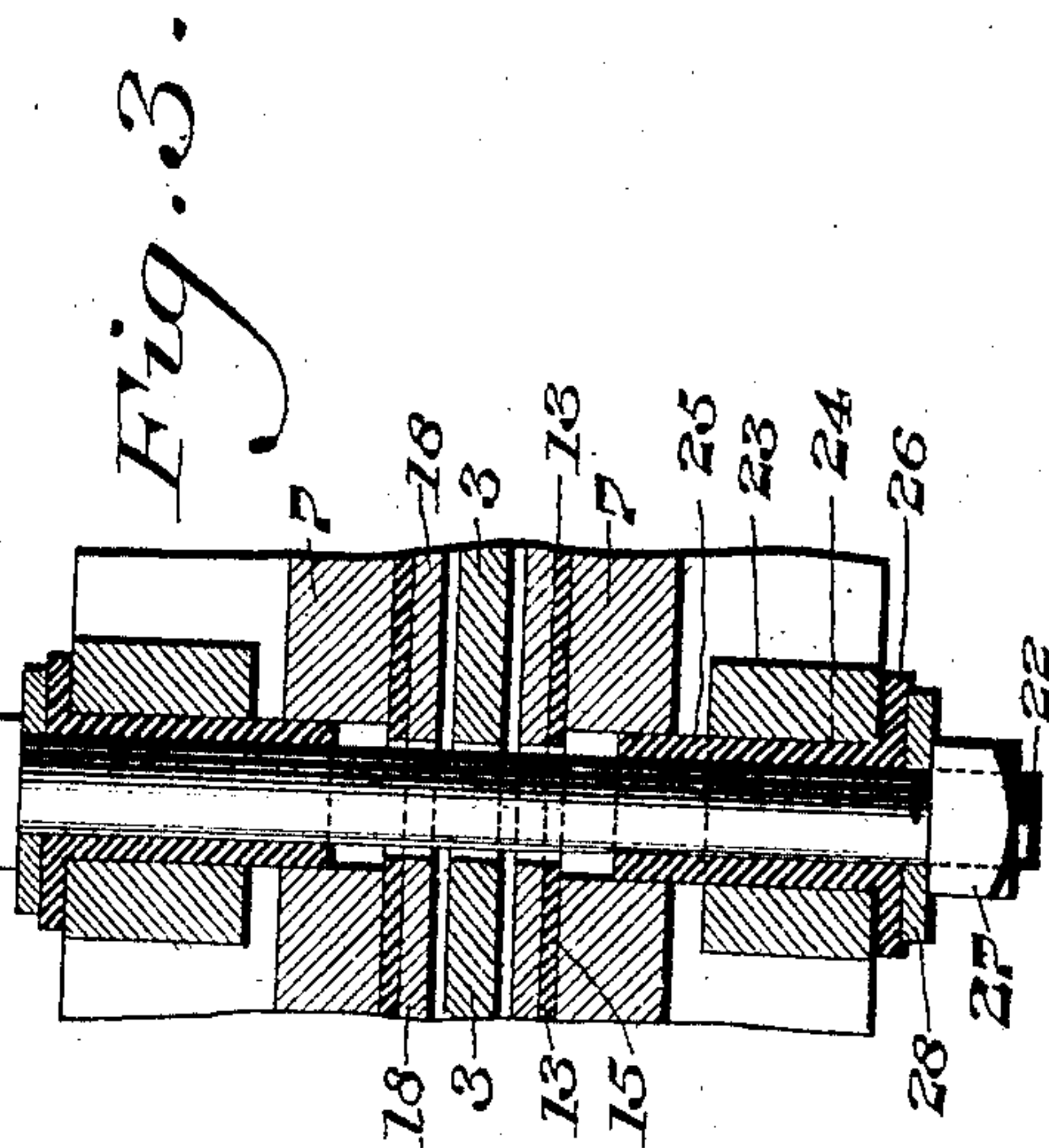
No. 837,903.

PATENTED DEC. 4, 1906.

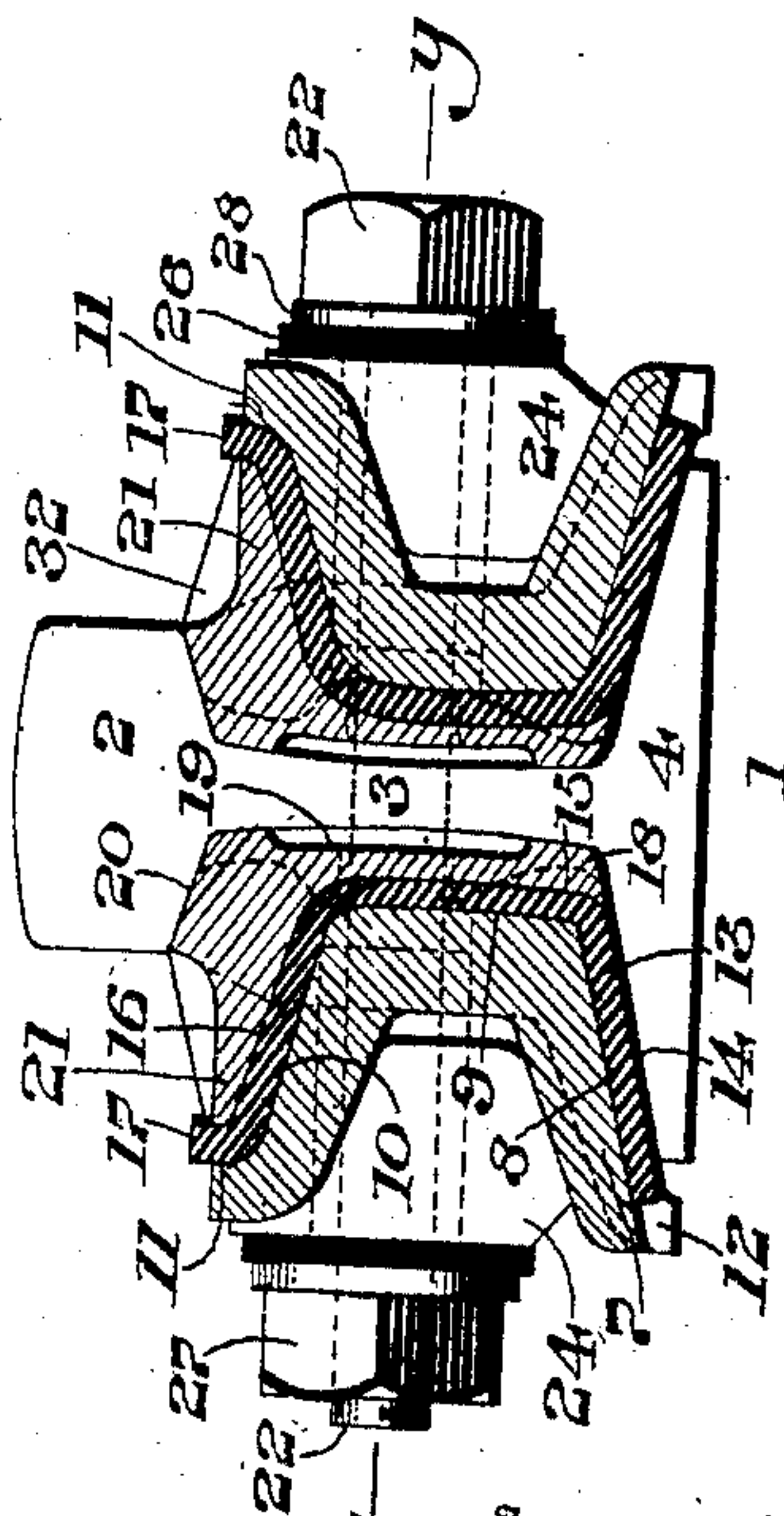
M. D. HANLON.  
INSULATED RAIL JOINT.  
APPLICATION FILED APR. 4, 1906.



Witnesses  
P. B. Nagle.  
L. Douville.



*Fig. 2.*



Inventor  
Marquis S. Hanlon.

By  
Wiedersheim & Fairbanks.  
Attorneys



# UNITED STATES PATENT OFFICE.

MARQUIS D. HANLON, OF WILKINSBURG, PENNSYLVANIA.

## INSULATED RAIL-JOINT.

No. 837,908.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed April 4, 1906. Serial No. 309,866.

*To all whom it may concern:*

Be it known that I, MARQUIS D. HANLON, a citizen of the United States, residing at Wilkinsburg, Allegheny county, State of Pennsylvania, have invented a new and useful Insulated Rail-Joint, of which the following is a specification.

My invention relates to a novel construction of insulated rail-joint by the employment of which the desired insulation is effected under all conditions.

It has heretofore been proposed to place the insulating material between the rail and the splice-bar, said material being in contact with both the rail and the splice-bar over its entire surface; but owing to the small area under the head of the rail, at which point the greatest pressure is exerted, this insulation is rapidly worn away.

It is the object of my present invention to overcome this defect, which has heretofore been present in devices of this character, and to this end I employ between the rail and the insulation fillers having projections therefrom and the upper edges exposed to the insulating material, the area of which is greater than the area of the under side of the rail-head.

To the above ends my invention consists of a novel construction of insulated rail-joint in which two splicing-bars are employed, there being contiguous to each splicing-bar an insulating-plate, and between this plate and the web of the rail and the under side of the rail-head is inserted a filler-block, the upper edge of which is provided with projections or flanges exposed to the insulating material, the area of which is greater than the area of the under side of the rail-head.

It further consists of a novel construction of filler-block and a novel construction of a splicing-bar, between which and said filler-block the insulating member is located.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

In the accompanying drawings I have shown a preferred embodiment of my invention which has been found in practice to give very good and reliable results.

Figure 1 represents a plan view of an insulated rail-joint embodying my invention. Fig. 2 represents a sectional view on line *a x*,

Fig. 1. Fig. 3 represents a sectional view on line *y y*, Fig. 2.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a rail of any usual or conventional type having a head 2, a web 3, and a base 4.

5 designates a splice-bar which is deflected or offset, as seen at 6, from which projects the longitudinal extension 7, which overlaps the adjacent rail. This longitudinal extension 7 has angularly-inclined inner faces 8 9 10 and the face 11, which is a continuation of the face 10 and inclines upwardly therefrom. The portion 5 of the splice is the original rolled splice-section, and its lower edge is turned down through the entire length of this portion of the splice, while the lower surface of the portion 7 is one continuous plain surface, as shown at 8. The change from one section to the other exposes the surface 12, which appears in the section shown in Fig. 2 as abutting against the insulating material, but in reality is beyond the latter. The portion of the splice overlying the insulating material is of the section 7 and is uniform throughout its length.

13 designates an insulating-plate which is deflected to conform to the inner face of the splice-bar and comprises the portions 14, 15, 16, and 17, which engage the faces 8, 9, 10, and 11 when the parts are in assembled position.

18 designates a filler block or member the inner face of which engages the web of the rail and is recessed, as seen at 19, the upper end 20 of said filler-block being adapted to engage the under side of the rail-head and the fillet formed between the head of the rail and the web portion thereof.

21 designates a flange or projection at the upper end of the filling-block 18, the area of said projection, which is exposed to the insulating fiber or plate, being greater than the area of the under side of the rail-head, at which point the greatest pressure is exerted, as is well known in the art. The outer face of the filler member 18 and the projection 21 thereof is so formed that it closely engages the portions 15, 16, and 17 of the insulating member 13, it being seen that when the parts are in assembled position the upper end 17 of this insulating member extends above the splice-bar and the filler member in order that



there will be no liability of dirt or other material bridging over or covering the upper end of the insulating material, and thus producing defective insulation between the different members at this point. In the present instance and for convenience of illustration I have, with a view to economy, shown the splice-bar insulated with respect to only a single rail instead of extended over both

rails. 22 designates the fastening-bolts, which are insulated in the usual manner. The splice-bars are deflected or recessed, as seen at 23, and in this recess is seated an apertured block 24, between which and the bolt an insulated bushing 25 is inserted, said bolt extending through the insulated members 14 and through the web 3 of the rail, as is apparent from Figs. 2 and 3, said insulating-bushing having integral therewith a flange 26, although it will be apparent that instead of employing the flange 26 a separate insulating-washer may be employed, if desired. Between the nut 27 and the insulating member 26 is interposed a washer 28. The bolts 29, which secure the portion 5 of the splice-bars to the rail, are of the usual construction and are provided with a suitable washer 30 and nuts 31.

32 designates insulating-plates interposed between the adjacent ends of the rails in the usual manner, the ends of said insulating-plates abutting against the extension 7 of the splice-bars. I have shown one portion of the rolled spliced bar-sections as bolted directly to the rail and the extension of the splice-bar overlapping the other rail as being offset a sufficient distance to permit the interposition of the filler-blocks and the insulating members instead of overlapping both rails, as may sometimes be desirable.

From the above description it will be apparent that I have produced a novel and useful construction of insulated rail-joint which embodies the features of advantage enumerated as desired in the statement of invention and the above description, and while I have illustrated and described the preferred embodiment of the same it is to be understood that it is susceptible of modification in various particulars without departing from the spirit and scope of the invention or sacrificing any of its advantages.

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

1. In an insulated rail-joint, splice-bars, insulating members contiguous thereto and filler members contiguous to said insulating members and engaging the under side of the rail-head, said filler members each having a projection extending therefrom and contacting with said insulating members, the area of said projections being greater than the area

of the under side of the rail-head, the ends of the insulating members being upturned beyond the splice-bars and filler members.

2. In an insulated rail-joint, splice-bars, insulating members contiguous thereto, filler members contiguous to said insulating members and engaging the under side of the rail-head, said filler members each having a projection extending therefrom, and contacting with said insulating members, the areas of said projections being greater than the area of the under side of the rail-head, the ends of the insulating members being upturned beyond the splice-bars and filler members, and fastening means for securing said members and splice-bars with respect to the rail.

3. In an insulated rail-joint, insulating members engaging the base of the rail, filler members engaging the web of the rail and the under side of the head thereof, said filler members having projections extending therefrom with an area exposed to the insulating members greater than the area of the under side of the rail-head, splice-bars engaging said insulating members, the ends of the insulating members being upturned beyond the splice-bars and filler members and means engaging said splice-bars for securing the parts in assembled position.

4. In an insulated rail-joint, insulating members engaging the base of the rail, filler members engaging the web of the rail and the under side of the head thereof, said filler members having projections extending therefrom with an area exposed to the insulating members greater than the area of the under side of the rail-head, splice-bars engaging said insulating members, the upper ends of said insulating members terminating in a plane above the upper ends of said projections and said splice-bars, and means for securing the parts in assembled position.

5. In an insulated rail-joint, insulating members engaging the base of the rail, filler members engaging the web of the rail and the under side of the head thereof, said filler members having projections extending therefrom with an area exposed to the insulating members greater than the area of the under side of the rail-head, splice-bars having portions thereof engaging said insulating members, said portions being uniform throughout their length, the ends of the insulating members being upturned beyond and receiving the ends of the splice-bars and filler members, and means for securing the parts in assembled position.

6. In an insulated rail-joint, splice-bars secured directly to the rail and having projections deflected therefrom and overlapping the other rail, filler members engaging the under side of the rail-head and the web of the rail, said members having projections ex-



tending therefrom, insulating members engaging the base of the rail and said filler members, said splice-bars engaging said insulating members, the area of said projections exposed to said insulating members being of a greater area than the area of the under side of the rail-head, and means engaging

said splice-bars for securing the parts in assembled position.

MARQUIS D. HANLON.

Witnesses:

G. F. WOOD-SMITH,  
ROBERT KANE.