

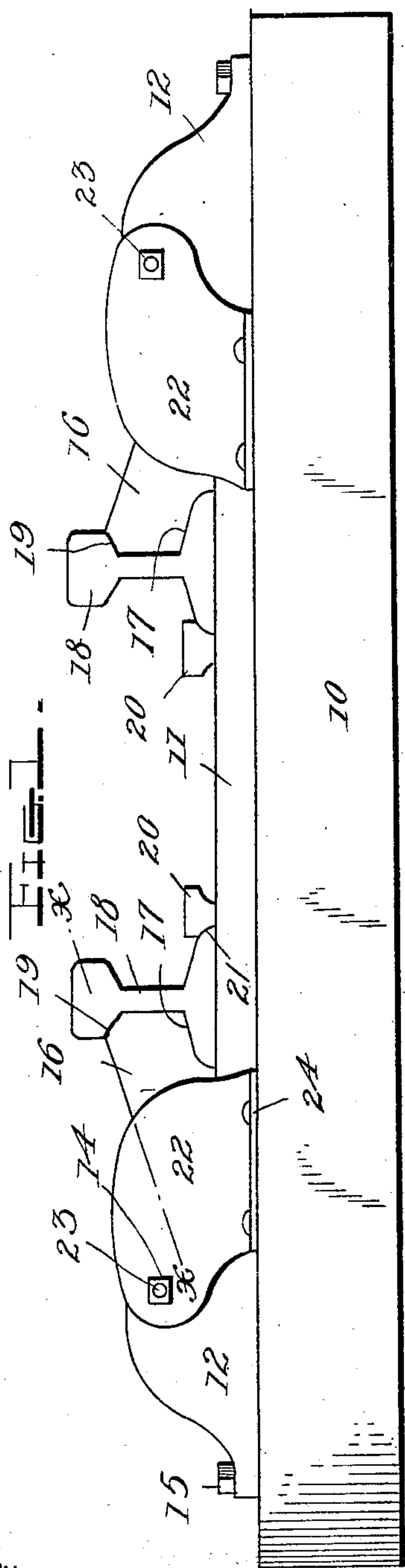
DEVICE FOR PREVENTING SPREADING OF RAILROAD RAILS.

APPLICATION FILED AUG. 28, 1907.

Patented Nov. 10, 1908.

3 SHEETS--SHEET 1.

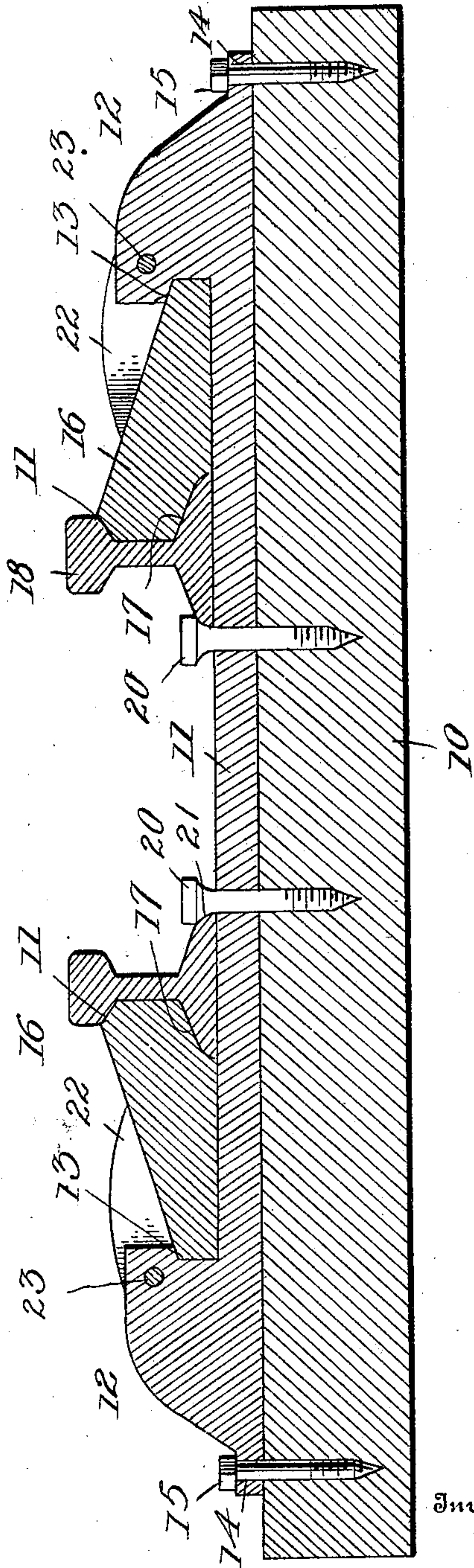
903,485.



Witnesses

James Earl  
Johns Bowers

平江府志



Inventor

By *Joseph Larivee,*  
*Horner & Smith.*  
Attorneys

Attorney

J. LARIVEE.

DEVICE FOR PREVENTING SPREADING OF RAILROAD RAILS.

APPLICATION FILED AUG. 28, 1907.

Patented Nov. 10, 1908.

3 SHEETS—SHEET 2.

903,485.

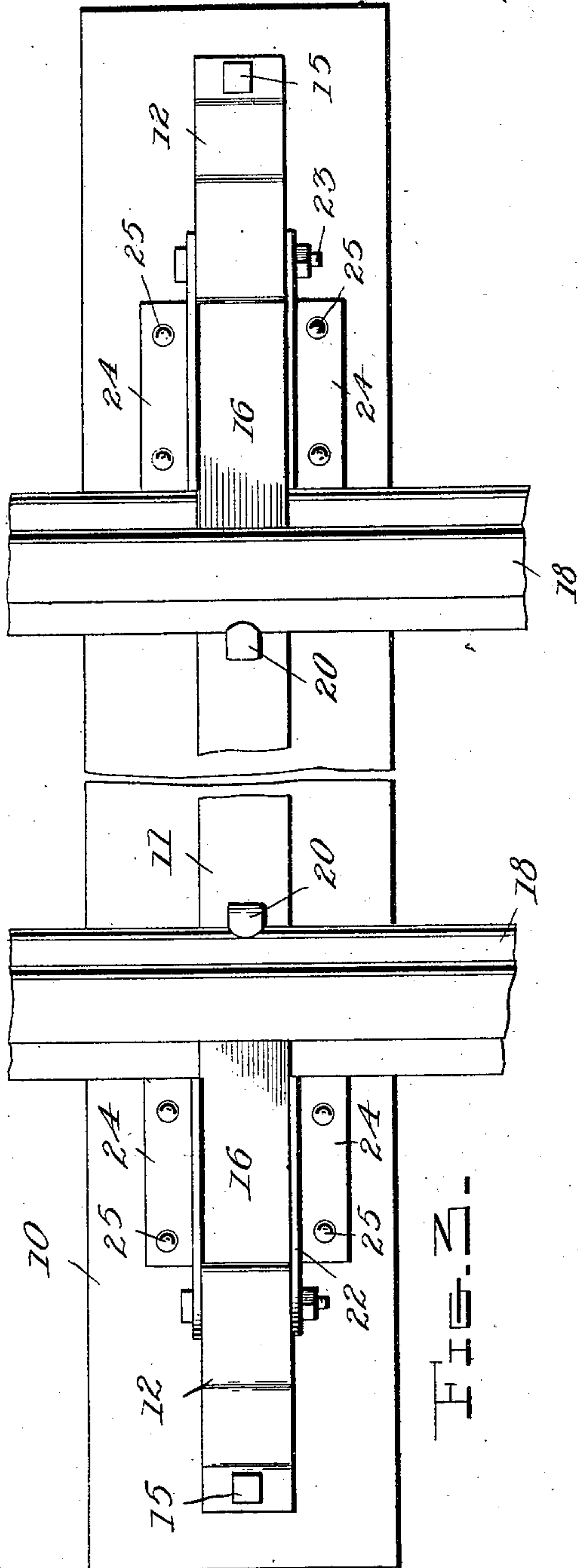


FIG. 2.

Witnesses

*John A. Koch*  
*John B. Davis*

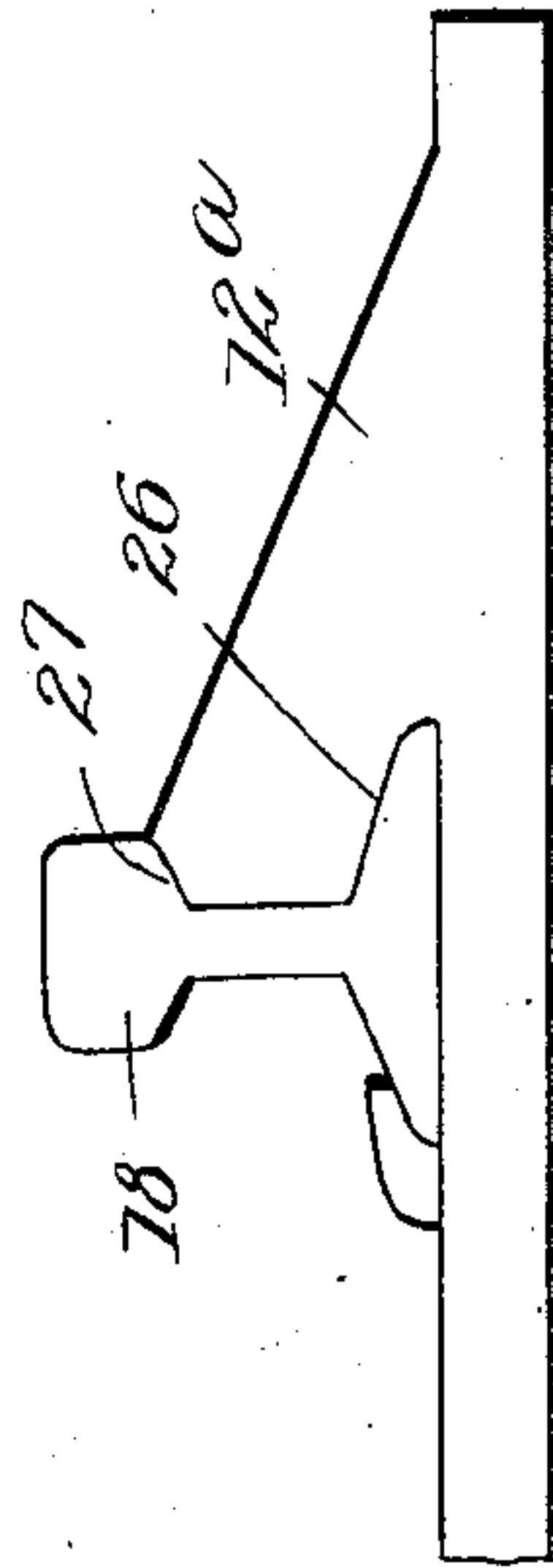


FIG. 5.

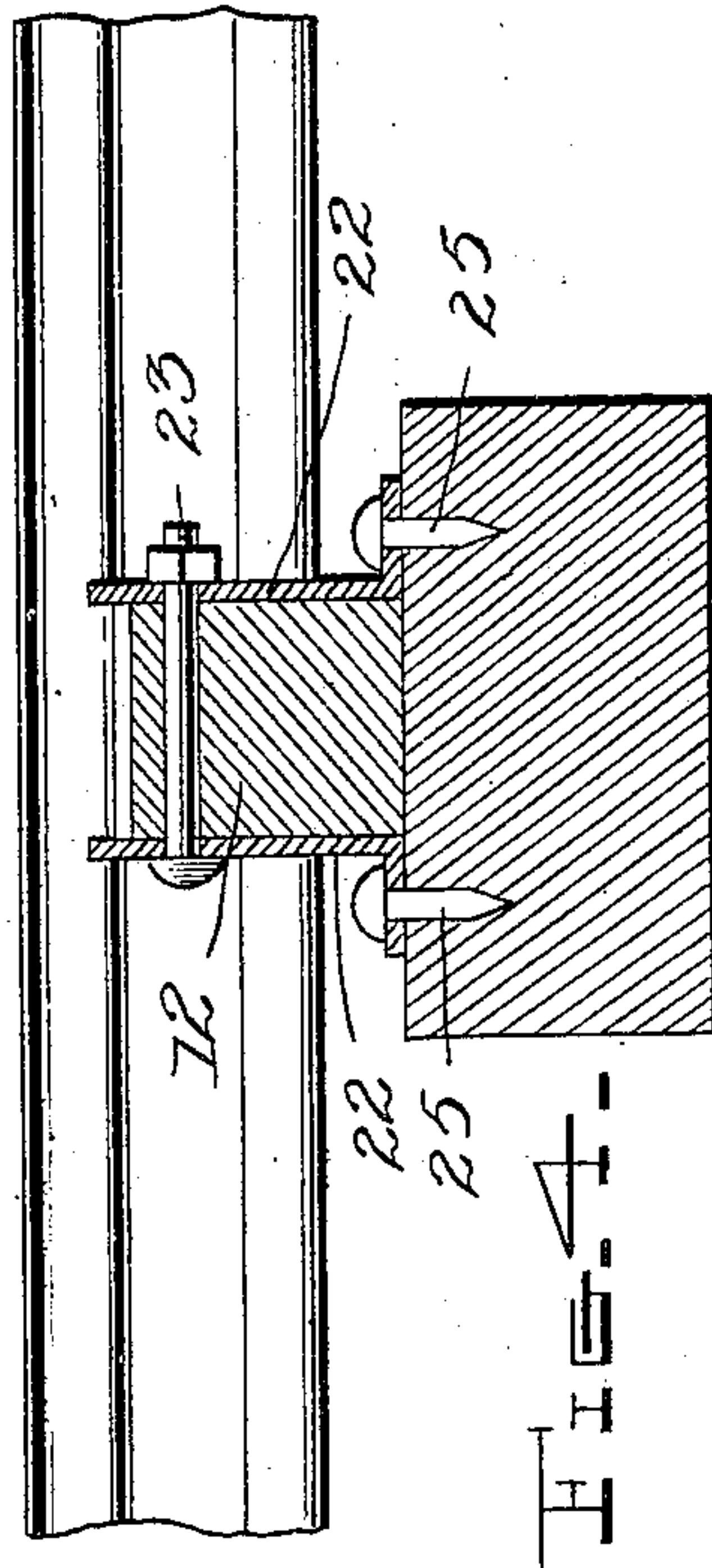


FIG. 4.

Inventor

*Joseph Larivee.*

By

*Forrest G. Smith.*

Attorney

J. LARIVEE.

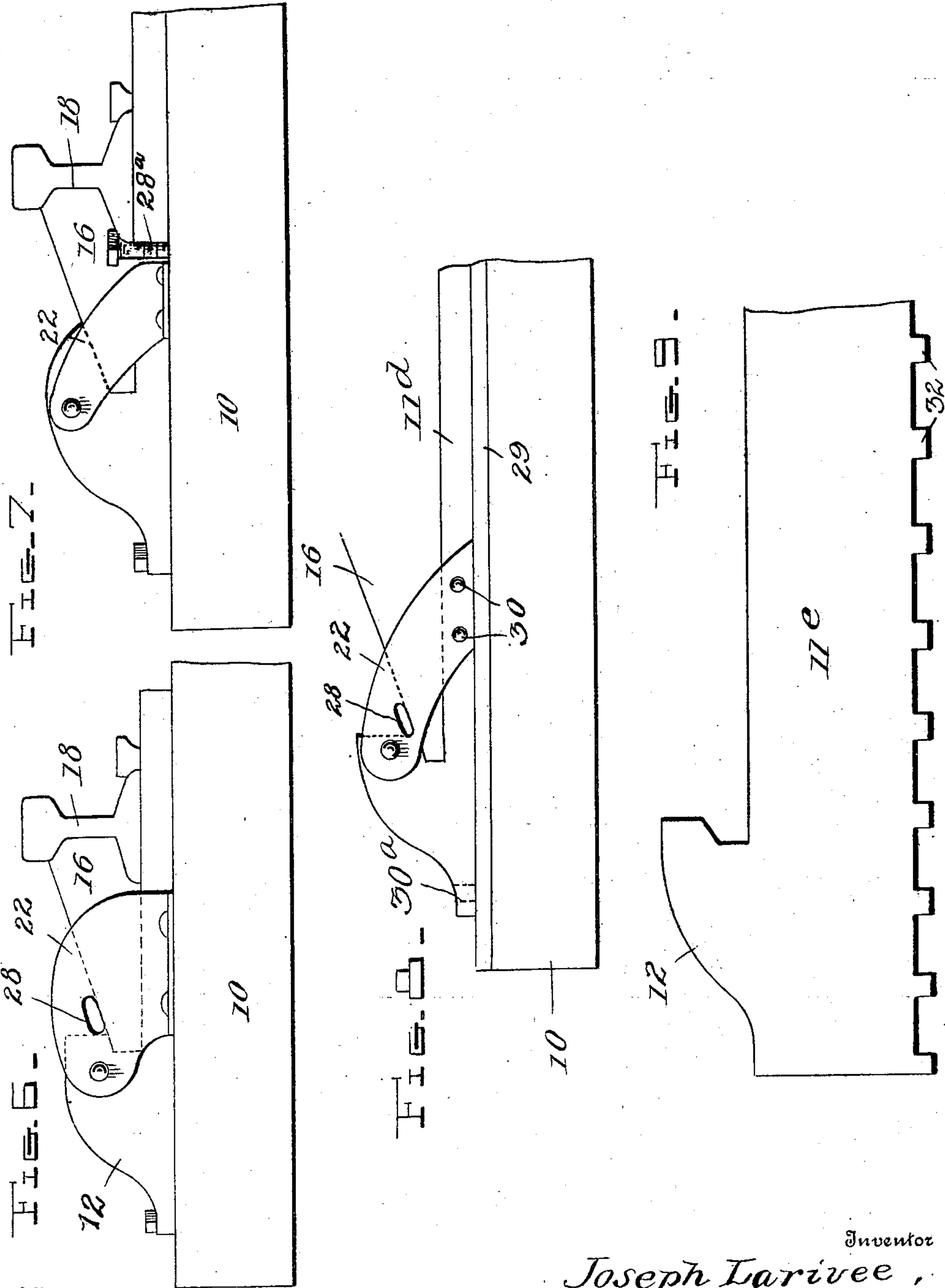
DEVICE FOR PREVENTING SPREADING OF RAILROAD RAILS.

APPLICATION FILED AUG. 28, 1907.

Patented Nov. 10, 1908.

3 SHEETS—SHEET 3.

903,485.



Witnesses

*Jan. A. Koehl*  
*John S. Murrill*

Inventor

*Joseph Larivee*

By

*Forrest G. Smith*

Attorney



# UNITED STATES PATENT OFFICE.

JOSEPH LARIVÉE, OF MOUNT VERNON, NEW YORK.

## DEVICE FOR PREVENTING SPREADING OF RAILROAD-RAILS.

No. 903,485.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed August 28, 1907. Serial No. 390,427.

*To all whom it may concern:*

Be it known that I, JOSEPH LARIVÉE, a citizen of the United States, residing at Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Devices for Preventing Spreading of Railroad-Rails, of which the following is a specification.

10 This invention relates to devices for preventing spreading of railroad rails and has for its object to provide a device of this class which will be particularly effective at curves and switches.

15 It is a well known fact that on a curve, the line of force exerted upon the outside rail is in a plane extending through the inner edge of the tread of said rail. The tendency is therefore for the rail to turn over or to buckle in its web. In carrying out my invention, I have, in consideration of these facts, provided a rail supporting member which may be either in the form of a tie or a brace and which is provided at each of its  
25 ends with a boss which is undercut to receive the outer end of a block against which latter the outer side of the corresponding rail seats. That end of each block which rests against the rail is cut away to snugly fit the rail and the upper face of each block is inclined in the  
30 plane of the line of force exerted upon the rail. These blocks, by reason of their peculiar formation, effectually prevent overturning of the rails and also prevent spreading.  
35 ing.

In the accompanying drawings: Figure 1 is a side elevation of a track brace embodying my invention, Fig. 2 is a vertical longitudinal sectional view therethrough, Fig. 3 is  
40 a top plan view, Fig. 4 is a vertical transverse sectional view taken in a plane with the bolt for securing the guards to the bosses at the ends of the brace, Fig. 5 is a view similar to Fig. 1 showing one end of a brace embodying a slightly modified form of the invention, Fig. 6 is a similar view showing  
45 another modification, Fig. 7 is a similar view showing a still further modification, Fig. 8 is a view similar to Fig. 7 and showing the application of this form of the invention to a switch rail, and, Fig. 9 is a view similar to Fig. 5 showing the embodiment of the preferred form of the invention in a tie.

55 In the first four figures of the drawings, illustrating one form of the invention, there is shown a tie 10 which is of the ordinary con-

struction and upon which the brace embodying my invention is supported. The brace comprises a plate which is indicated by the numeral 11 and which is of the same length 60 as the tie but is of less width. Formed upon the plate at each end thereof is a boss 12 which is undercut as indicated at 13 for a purpose to be presently explained. Formed through the plate 11 at the extreme ends 65 thereof are openings 14 for the passage of screw bolts 15 which enter the tie and serve to secure the plate 11 thereon.

Snugly received in the undercut portion of each boss 12 is the outer and smaller end of a 70 wedge shaped block 16 which block rests with its under face upon the upper face of the plate 11 and consequently has its upper face inclined. The inner and larger end of the block is undercut as at 17 to snugly re- 75 ceive the outer base flange of the corresponding rail 18 and the inner end face of the block fits against the outer face of the web of the rail. The upper and inner corner of the block is cut away or recessed as indicated at 80 19 to engage snugly the under portion of the outer surface of the tread of the rail and as indicated by the dotted line  $x-x$  in Fig. 1, the upper face of the block is located in a plane coincident with the line of force ex- 85 erted upon the rail by the passage of a train.

From the foregoing it will be seen that under no conditions can either rail of the track turn over in an outward direction.

In order to hold the inner base flanges of 90 the rails to the plate 11, screw bolts 20 similar to the bolts 15 are engaged through the plate and into the tie and have their heads beveled to fit the edges of the said flanges as indicated at 21. 95

As a means for holding the blocks 16 in position, I have provided plates 22 which are secured at their upper ends to the opposite sides of the respective bosses by means of bolts 23 which are engaged through the said 100 plates and through the upper ends of the bosses as clearly shown in Fig. 4 of the drawings, it being understood that one plate is disposed at each side of each boss and that a single bolt is engaged through the plates and 105 the boss. It will further be understood that these plates serve effectually to prevent movement of the wedge shaped blocks and hence act as guard plates for the blocks. These plates 22 extend partly across the side 110 faces of the respective blocks 16 and at their lower edges are flanged as at 24, spikes or



bolts being engaged through the flanges and into the tie 10.

In the form of my invention shown in Fig. 5 of the drawings, the blocks 16 are omitted and the boss, which in this figure is indicated by the reference numeral 12<sup>a</sup>, is provided with an under cut portion 26 for the reception of the outer base flange of the rail and with a recess 27 which embraces the under and a portion of the side face of the tread of the rail. The end face proper of the boss abuts the outer face of the web of the rail and the upper face of the boss is inclined in a plane corresponding to that of the block in the preferred form of the invention, it being understood that the principle remains the same and that the only change lies in the omission of the blocks.

It will be observed that in the form of my invention illustrated in Fig. 6 of the drawings, I have provided each of the guard plates 22 with an opening 28 in a line with the intersection of the end faces of the bosses and the upper faces of the blocks so that any snow or rain lodging in the valley formed by these two faces will be drained off. I have also found that by providing the bosses with convexed upper faces and correspondingly curving the upper edges of the guard plates, this collection of snow or rain will be prevented. This construction is clearly illustrated in Fig. 7 of the drawings.

When the brace is to be used to connect two switch rails, as shown in Fig. 8 of the drawings, a plate 29 is interposed between the tie and the plate 11 and is secured to the tie, the plate 11<sup>d</sup> or in other words the brace, being movable over the said plate 29. In the application of the invention illustrated in this figure, the flanges 24 upon the guard plates are, however, omitted and the bolts 30 are engaged through the lower end portions of the plates and into the plate 11<sup>d</sup>.

If desired, the plate 11 may be formed thicker and provided upon its under face with transversely extending ribs 32 as clearly shown in Fig. 9 of the drawings, and when so constructed, may be used as a tie and the tie 10 dispensed with. In connection with this last described form, it will be understood of course that the ribs 32 prevent creeping of the tie.

What is claimed is:

1. A device of the class described comprising a base formed at each end with an under-cut boss, rail engaging blocks seated removably upon said base and against the bosses, plates connected with the bosses for upward

swinging movement, and securing elements removably passed through the lower edges of the plates.

2. A device of the class described comprising a base formed at each end with an under-cut boss, rail engaging blocks seated removably upon said base and against said bosses, plates disposed one against each side of each boss and the rail engaging block seated thereagainst, a bolt passed through each of the bosses and the plates disposed thereagainst, the said bolts serving to connect the said plates with the bosses in such manner as to permit of upward swinging of the plates, and securing elements passed removably through the lower edges of the plates.

3. A device of the class described comprising a base, formed at each end with an under-cut boss, rail engaging blocks seated removably upon said base and against the said bosses, plates disposed one against each side of each of the bosses and the rail engaging block seated thereagainst, the upper faces of the blocks being inclined and the plates being formed each with an opening at a point coincident with the point of intersection of the upper face of the respective block with the respective boss, a bolt passed through each of the bosses and the plates disposed thereagainst, the said bolts serving to connect the plates with the bosses in such a manner as to permit of vertical swinging movement of the said plates, and securing elements passed removably through the lower edges of the plates.

4. In a device of the class described, the combination with a tie, of a base plate seated upon the tie, bosses formed one at each end of the said base plate, rail engaging blocks seated one against each of the said bosses, a plate disposed against each of the bosses at each side thereof, a bolt engaged through each of the bosses and the plates disposed thereagainst, the said plates serving to hold said blocks in place and the said bolts serving to connect the plates with the bosses in such a manner as to permit of upward swinging movement of the plates, flanges formed at the lower edge of each of the plates, and securing elements driven through each of the flanges and into the tie.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH LARIVEE.

Witnesses:

ROBERT A. ANDERSON,  
DAVID L. EMMELUTH.