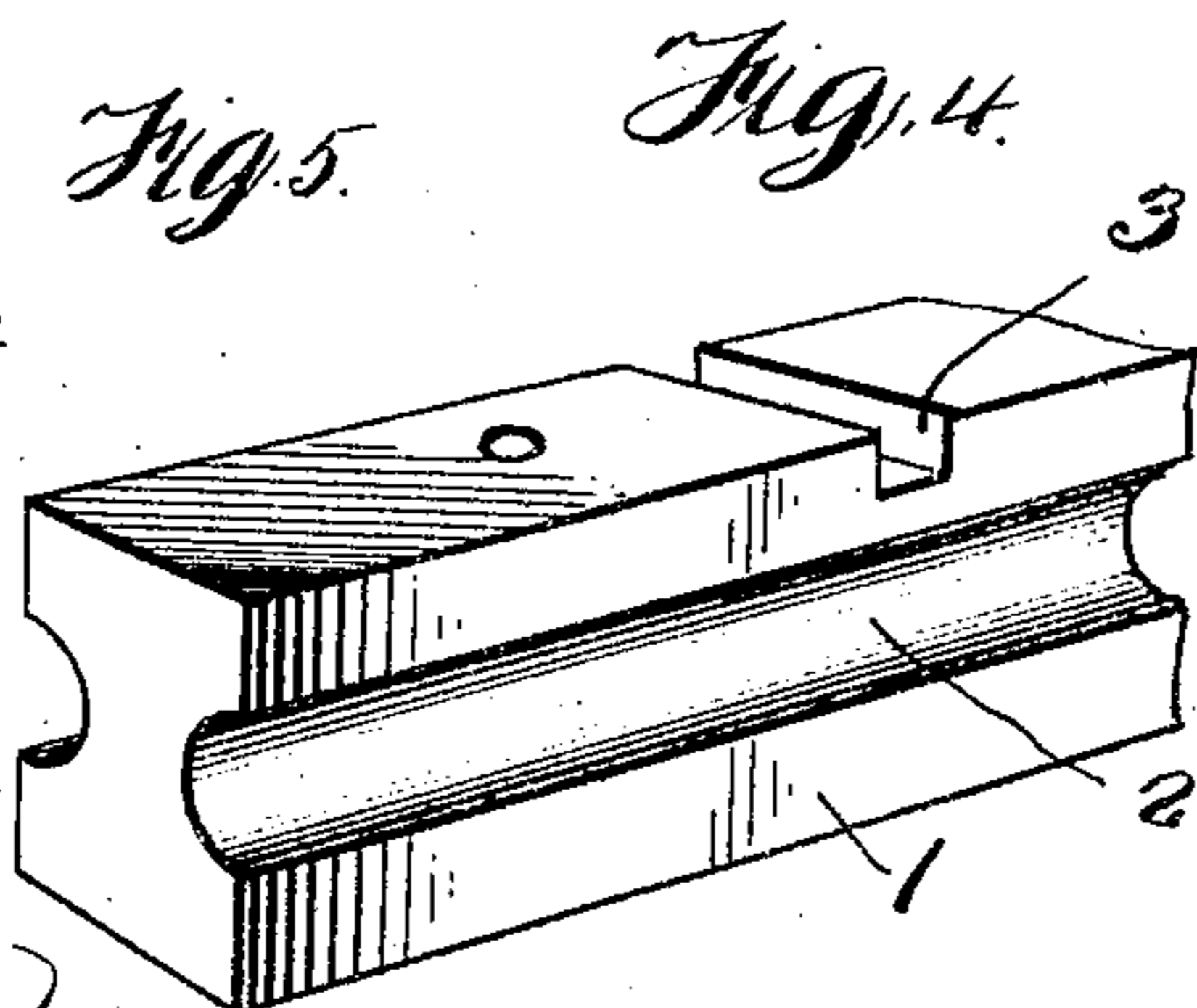
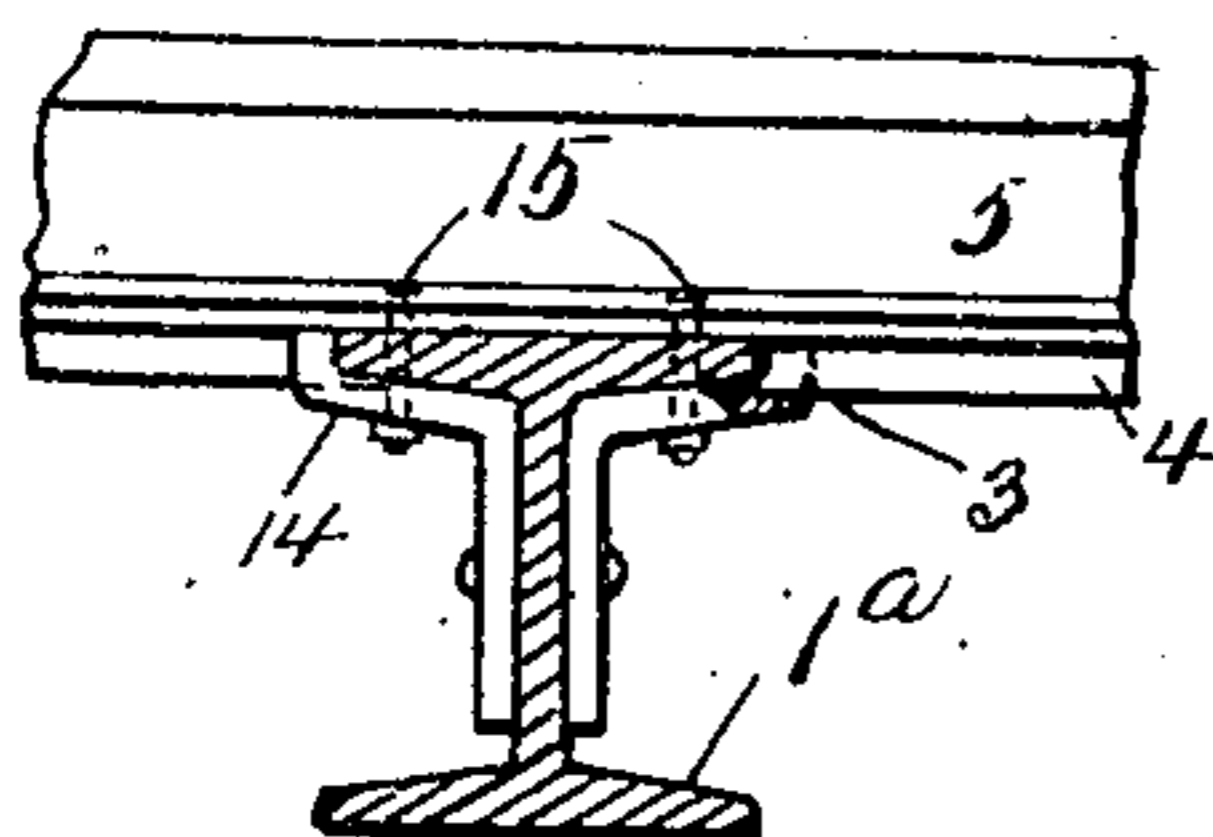
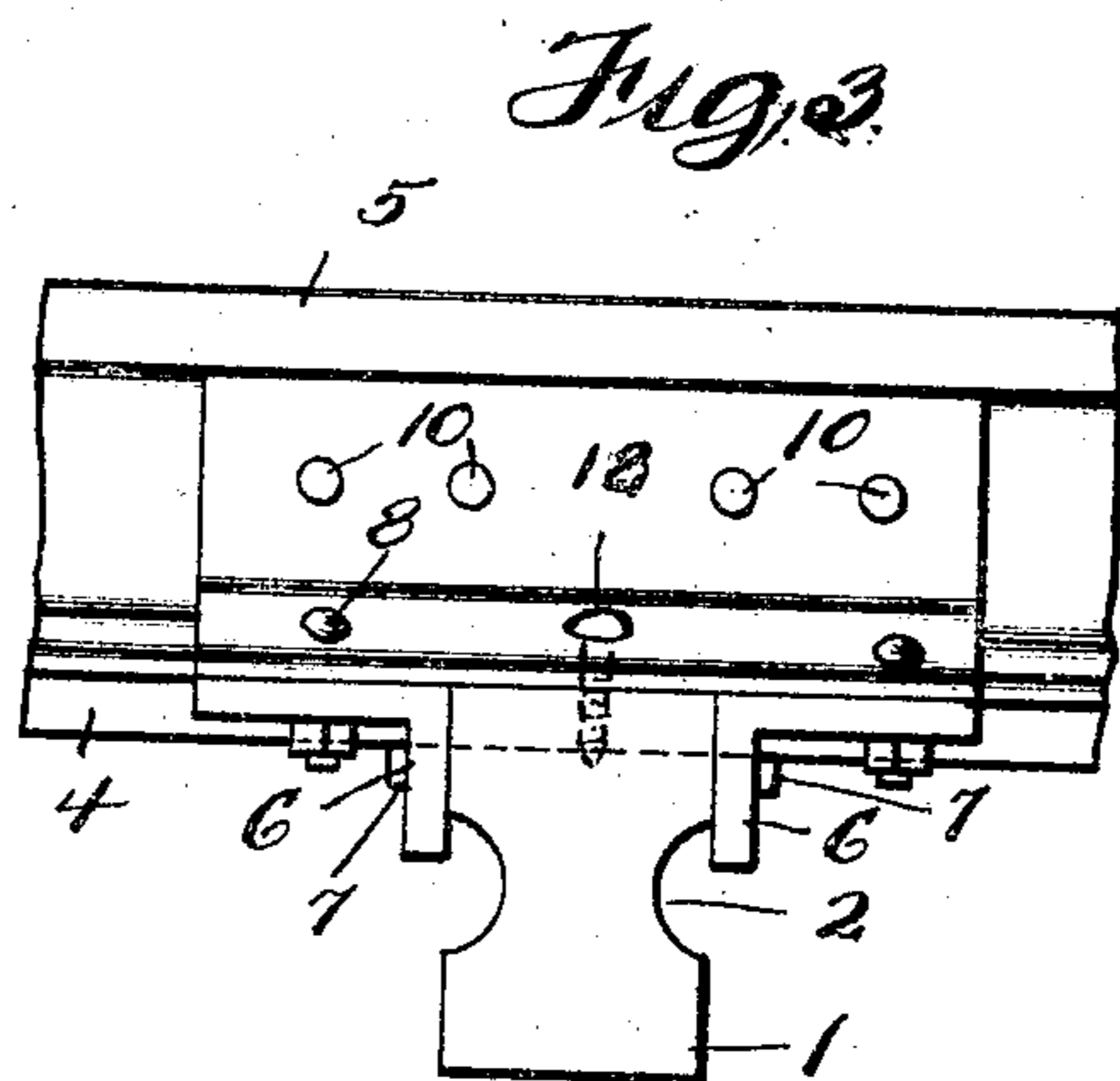
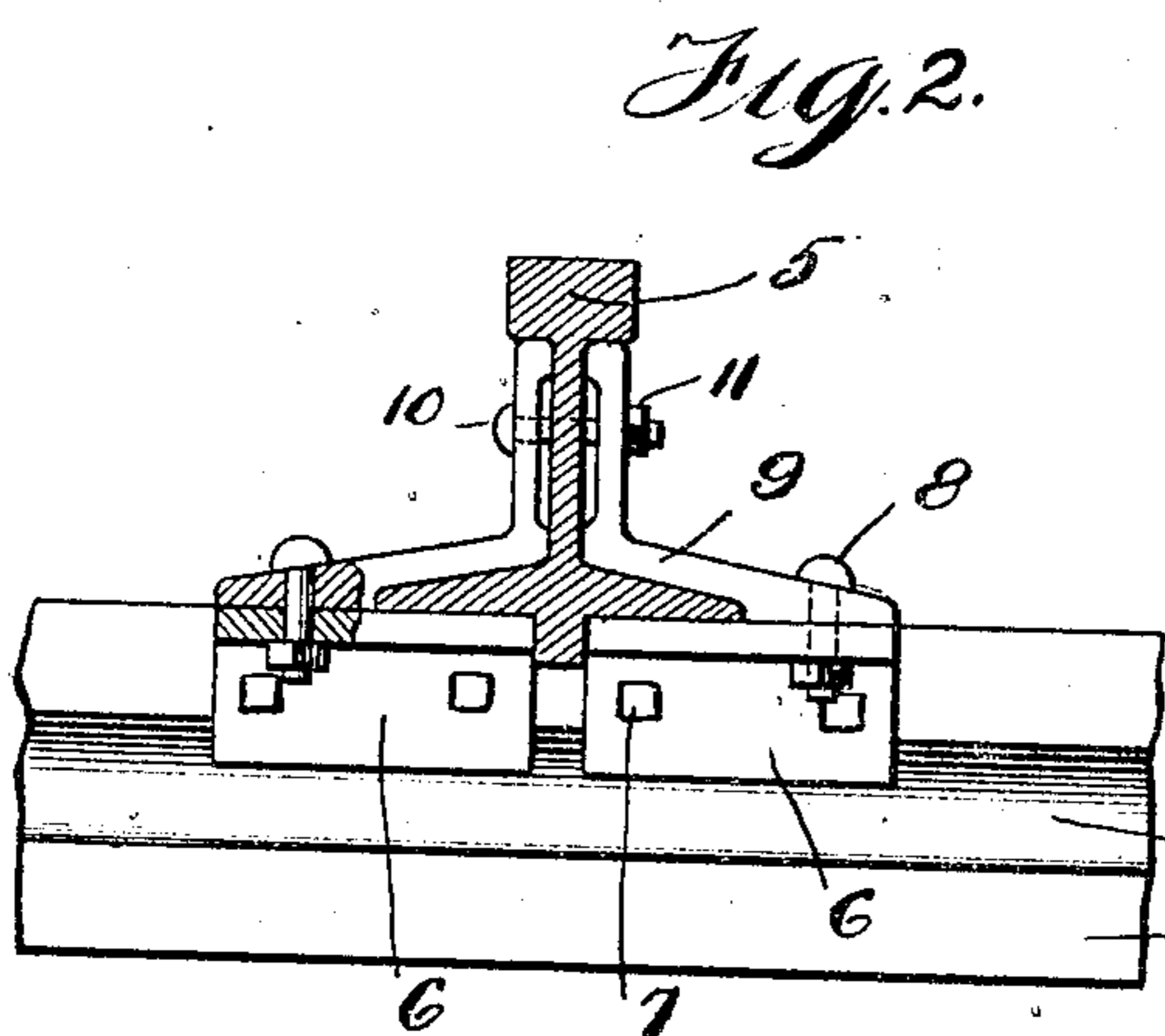
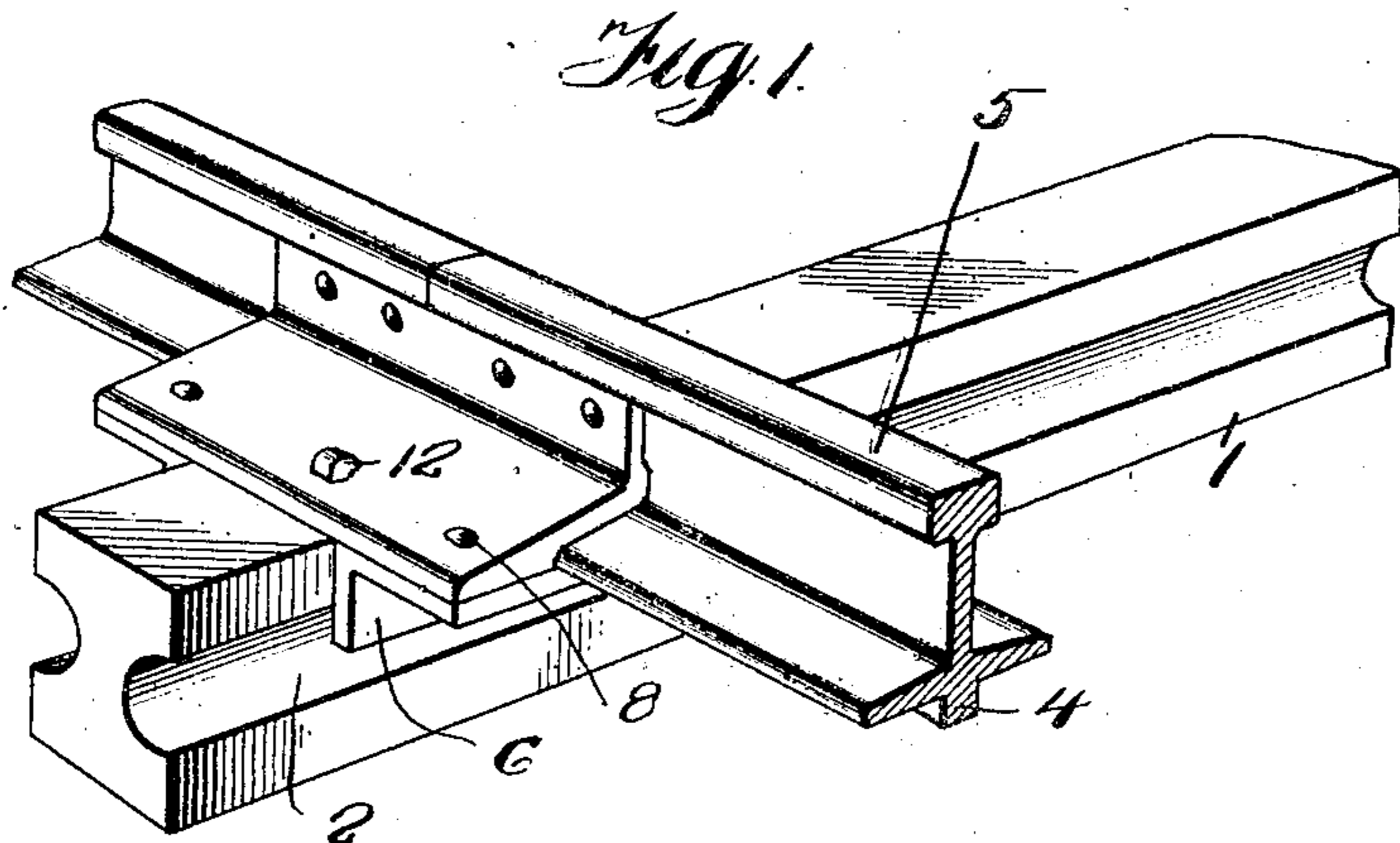


No. 886,841.

PATENTED MAY 5, 1908.

L. McFARLAND.
METALLIC TIE AND RAIL FASTENER.
APPLICATION FILED JUNE 11, 1907.



WITNESSES:

Samuel Taylor
R. H. Butler

INVENTOR
Lewis McFarland.

By *H. E. Everitt & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

LEWIS MCFARLAND, OF PITTSBURG, PENNSYLVANIA.

METALLIC TIE AND RAIL-FASTENER.

No. 886,841.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed June 11, 1907. Serial No. 378,381.

To all whom it may concern:

Be it known that I, LEWIS MCFARLAND, citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to metallic ties and rail fasteners, and the invention has for its object to provide a novel tie for supporting rails, particularly the confronting ends of two rails, whereby the rails cannot become vertically or laterally displaced with relation to a tie. To this end, I have devised a simple and inexpensive tie and a novel rail fastener for retaining the confronting ends of two rails upon a tie, the fastener being easily and quickly placed in position to embrace the sides of a rail and retain the rails in such a position that practically a continuous tread will be provided for the rolling stock adapted to pass over the rails.

Another object of this invention is to provide a novel tie for supporting rails, which will receive the stresses and strains to which a rail is subjected, independent of a rail fastener, thus preventing the vibratory strains and stresses of the rails from loosening the fastener used in connection with the rails and allowing the vertical displacement of said rails.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts to be hereinafter more fully described and then specifically pointed out in the appended claims.

Referring to the drawing forming part of this specification, like numerals of reference designate corresponding parts throughout the several views, in which:

Figure 1 is a perspective view of my improved metallic tie illustrating the confronting ends of two rails secured thereon. Fig. 2 is an elevation of a tie illustrating the fastener used in connection therewith. Fig. 3 is an end view of my improved tie illustrating a fastener in side elevation. Fig. 4 is a perspective view of one end of the tie

constructed in accordance with my invention. Fig. 5 is a sectional view of the tie illustrating a modified form of construction.

My improved tie comprises an oblong structure 1 having longitudinally disposed grooves 2 formed therein whereby the ballast of a roadbed will take a firm grip upon the tie and prevent the same from becoming displaced when subjected to the action of rolling stock passing over the same. The tie 1 is also provided with transverse grooves 3 to receive the depending tongues 4 of rails 5 mounted upon the tie, the tongues 4 preventing lateral displacement of said rails.

The sides of the tie 1, upon each side of the grooves 3, are provided with brackets 6 said brackets being suitably secured to the tie, preferably by screw bolts 7. The brackets assist in supporting the rails 5 and upon said brackets are secured by nuts and bolts 8, splice bars 9, said bars embracing the sides of the rails 5 and being secured thereto by bolts 10 and nuts 11. To further secure the splice bars 9 to the tie, I use screw bolts 12, which pass downwardly through the splice bars 9 and engage in the top of the tie 1.

Where the track is of a small gage and the rolling stock of a light construction, the fastening means of the brackets 6 can be dispensed with, as the tongue 4 in connection with the screw bolt 12, is sufficient to prevent lateral displacement of the rails 5 upon the tie, while the splice bars prevent vertical displacement. It is also possible to use my improved rail fastener in connection with a wooden tie, by providing the same with the transverse grooves 3 for the reception of the tongues 4 of the rails 5, spikes being used in connection with the splice bars 9 in lieu of the screw bolts 12, and if necessary, the brackets 6 spiked to the sides of the tie.

In Fig. 5 of the drawing, I have illustrated a modified form of my invention wherein a tie 1^a of the I-beam construction is used and provided with grooves 3 to receive the depending tongues 4 of the rails 5. Suitably secured to the web portion of the tie 1^a are brackets 14, said brackets being cut away to clear the tongues 4. The rail 5 can be bolted to the tie 1^a and to brackets 14 by bolts and nuts 15.

It is thought from the foregoing descrip-

tion that the manner of assembling my improved rail fastener will be fully understood, and it is obvious that such changes in the size, proportion and minor details of construction, as are permissible by the appended
 5 claims, may be resorted to without departing from the spirit and scope of the invention.

What I claim and desire to secure by Letters Patent, is:—

- 10 1. In a tie and rail fastener, the combination with an oblong structure having longitudinally disposed grooves formed in its side and transverse grooves in its top, of rails having depending tongues adapted to engage in
 15 said transverse grooves, brackets carried by the sides of said tie, splice bars secured to said brackets and embracing the sides of said

rails, and means to secure said splice bars to the top of said tie, substantially as described.

2. The combination with a metallic tie 20 having transverse grooves formed therein, of rails having longitudinally disposed tongues adapted to fit in said grooves, brackets engaging the sides of said tie, splice bars secured to said brackets and embracing the 25 sides of said rails, and means to secure said splice bars to said tie.

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

LEWIS McFARLAND.

Witnesses:

MAX H. SROLOVITZ,
 E. S. ELLIOTT.