

C. SOWERS.
TIE AND RAIL FASTENER.
APPLICATION FILED JUNE 10, 1911.

1,001,470.

Patented Aug. 22, 1911.

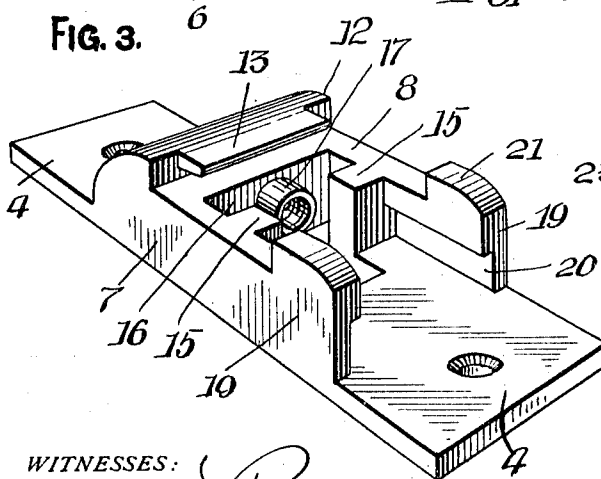
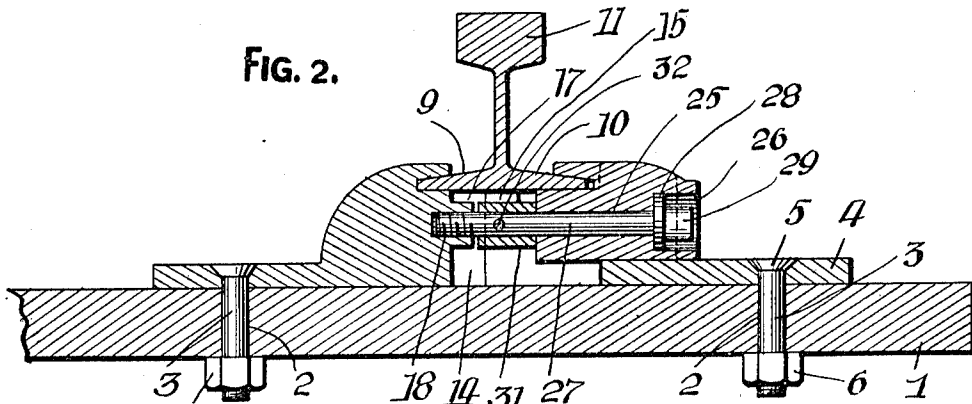
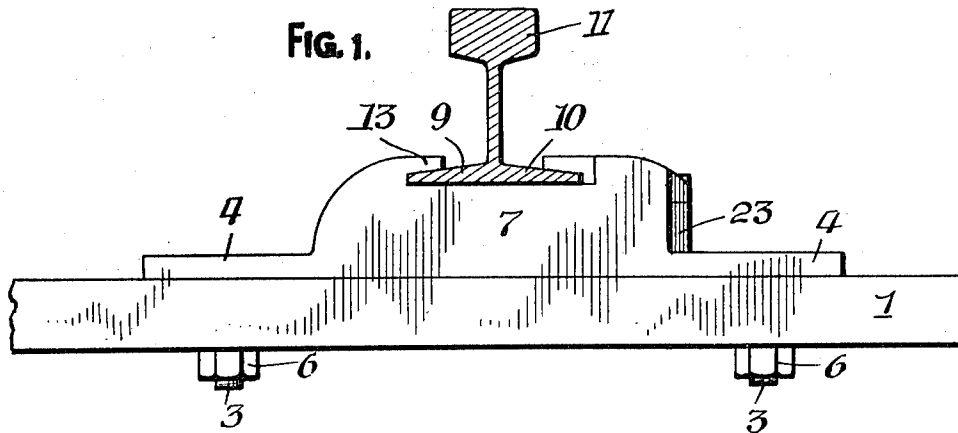


FIG. 4.

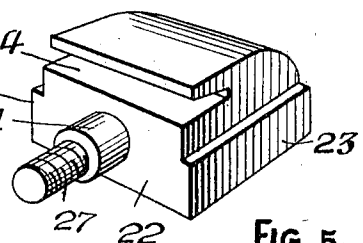
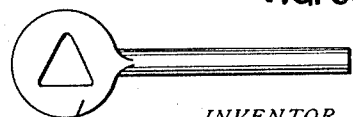


FIG. 5.



WITNESSES:

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CHARLES SOWERS, OF JEROME, PENNSYLVANIA.

TIE AND RAIL-FASTENER.

1,001,470.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed June 10, 1911. Serial No. 632,316.

To all whom it may concern:

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

This invention relates to ties and rail fasteners, and the objects of my invention are to provide a tie possessing sufficient strength and firmness to support the great weight of rolling stock, and to provide a tie having a bearing surface which will afford a sure and ready means for attaching rail chairs.

Other objects of my invention are to furnish a tie with positive and reliable means in a manner as will be hereinafter set forth for preserving alinement of rails, and preventing lateral and vertical displacement.

Further objects of my invention are to furnish a metallic tie with a fastener that may be repeatedly adjusted to compensate for wear, expansion and contraction, and to provide a fastener that can be installed by unskilled labor, manufactured at a comparatively small cost and used in connection with various types of railways.

With the above and other objects in view the invention resides in a novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

Figure 1 is a side elevation of a portion of a tie and rail fastener in accordance with this invention, Fig. 2 is a longitudinal sectional view of the same, Fig. 3 is a perspective view of a detached rail chair, Fig. 4 is a perspective of a detached outer fastener, and Fig. 5 is an elevation of a key or wrench especially designed for the fastener.

The reference numeral 1 denotes an oblong metallic slab constituting a tie, and this slab, at the ends thereof is provided with vertical openings 2 for bolts 3 employed for retaining a chair plate 4 upon the slab, said bolts having the heads 5 thereof countersunk in the chair plate and the lower ends provided with nuts 6. When the slab is tamped in the ballast of a roadbed, the nuts 6 are embedded and cannot become accidentally displaced relatively to the bolts 3,

consequently the chair plate 4 will be firmly held.

Formed integral with the chair plate 4 is a transverse enlargement 7 providing a seat 8 for the base flanges 9 and 10 of a rail 11. The inner edge of the enlargement 7 has a transverse rib 12 providing an abutting surface for the inner base flange 9, and said rib has an over-hanging flange 13 adapted to extend over the base flange 9 and prevent vertical displacement of said base flange. The enlargement 7 and the chair plate 4 are cut away, as at 14 to provide a vertical opening and vertical oppositely disposed ribs 15. The wall 16 of the opening 14 has an integral boss 17, which is provided with a threaded socket 18, for a purpose that will presently appear. The side walls 19 of the enlargement are chamfered or grooved to provide guide ways 20 and the upper edges of said walls have vertical projections 21.

Slidably mounted upon the chair plate 4 is an outer fastener 22 having the side walls thereof provided with tongues 23 adapted to slide in the guideways 20, while the upper end of the inner fastener is braced by the projections 21. The outer fastener is adapted to ride under the base flange and is provided with a transverse slot 24 to receive the base flange 10 of the rail 11.

The outer fastener is provided with a longitudinal central opening 25, the outer end of said opening terminating in a recess 26 in the outer end of the fastener. In the opening 25 there is rotatably mounted a tie rod 27 having the inner end thereof threaded to enter the socket 18 of the boss 17. The outer end of the tie rod 27 has a collar 28 within the recess 26, also a triangular-shaped head 29 adapted to receive a spanner wrench 30. To prevent the tie rod 27 from becoming accidentally displaced when the outer fastener is detached, said tie rod has a collar 31 which is keyed or otherwise connected to the tie rod, as at 32 adjacent to the threaded end thereof. This collar causes the outer fastener and tie rod to move in unison longitudinally of the chair plate 4, the tie rod freely rotating in the inner fastener, whereby the threaded end thereof can be screwed into or out of the socket 18.

From the foregoing it will be observed that the outer fastener can be shifted relatively to the enlargement or inner fastener,

consequently the base flanges 9 and 10 can be firmly gripped to retain the rail in engagement with the chair. Through the medium of the tie rod, the outer fastener can be repeatedly adjusted and when it is desired to remove the rail, the outer fastener can be easily and quickly detached from the enlargement. Vertical displacement of the outer fastener is prevented by the tongues 23 and lateral displacement is prevented by the walls 19 of the enlargement 7.

What I claim is:—

1. In a tie and rail fastener, the combination with a slab, of a chair secured thereto and adapted to support a rail, said chair comprising an enlargement having an overhanging flange adapted to engage the inner base flange of the rail and side walls provided with guideways, an outer fastener slidably mounted upon said chair and provided with tongues engaging in the guideways of the enlargement, said outer fastener having a transverse slot formed therein to receive the outer base flange of the rail, and a tie rod rotatably mounted in said outer fastener and having an inner screw threaded end thereof to engage in said enlargement.

2. In a tie and rail fastener, the combination with a slab, of a chair secured thereto and adapted to support a rail, said chair comprising an enlargement having an overhanging flange adapted to engage the inner base flange of the rail and side walls provided with guideways, an outer fastener slidably mounted upon said chair and provided with tongues engaging in the guideways of the enlargement, said outer fastener having

a transverse slot formed therein to receive the outer base flange of the rail, a tie rod rotatably mounted in said outer fastener and having an inner screw threaded end thereof to engage in said enlargement, a collar carried by said tie rod and adapted to retain said rod in engagement with said outer fastener, and a head carried by said tie rod and adapted to receive a wrench to facilitate the rotating of said tie rod.

3. In a tie and rail fastener, the combination with a metallic slab, of a chair secured thereto and providing a seat for a rail, an inwardly projecting flange carried by said chair and adapted to engage the inner base flange of the rail said chair having vertical side walls provided with guide ways and a boss provided with a screw threaded socket, an outer fastener slidably mounted in said chair and provided with tongues adapted to engage in the guide ways of said chair, said fastener having a transverse slot formed therein to receive the outer base flange of the rail, a tie rod rotatably mounted in said outer fastener and adapted to have the inner end thereof engage in the socket of said chair, a collar mounted upon said tie rod and adapted to retain said tie rod in engagement with said fastener, and means to facilitate the rotating of said tie rod.

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

CHARLES SOWERS.

Witnesses:

G. C. MEEK,
A. P. MYERS.