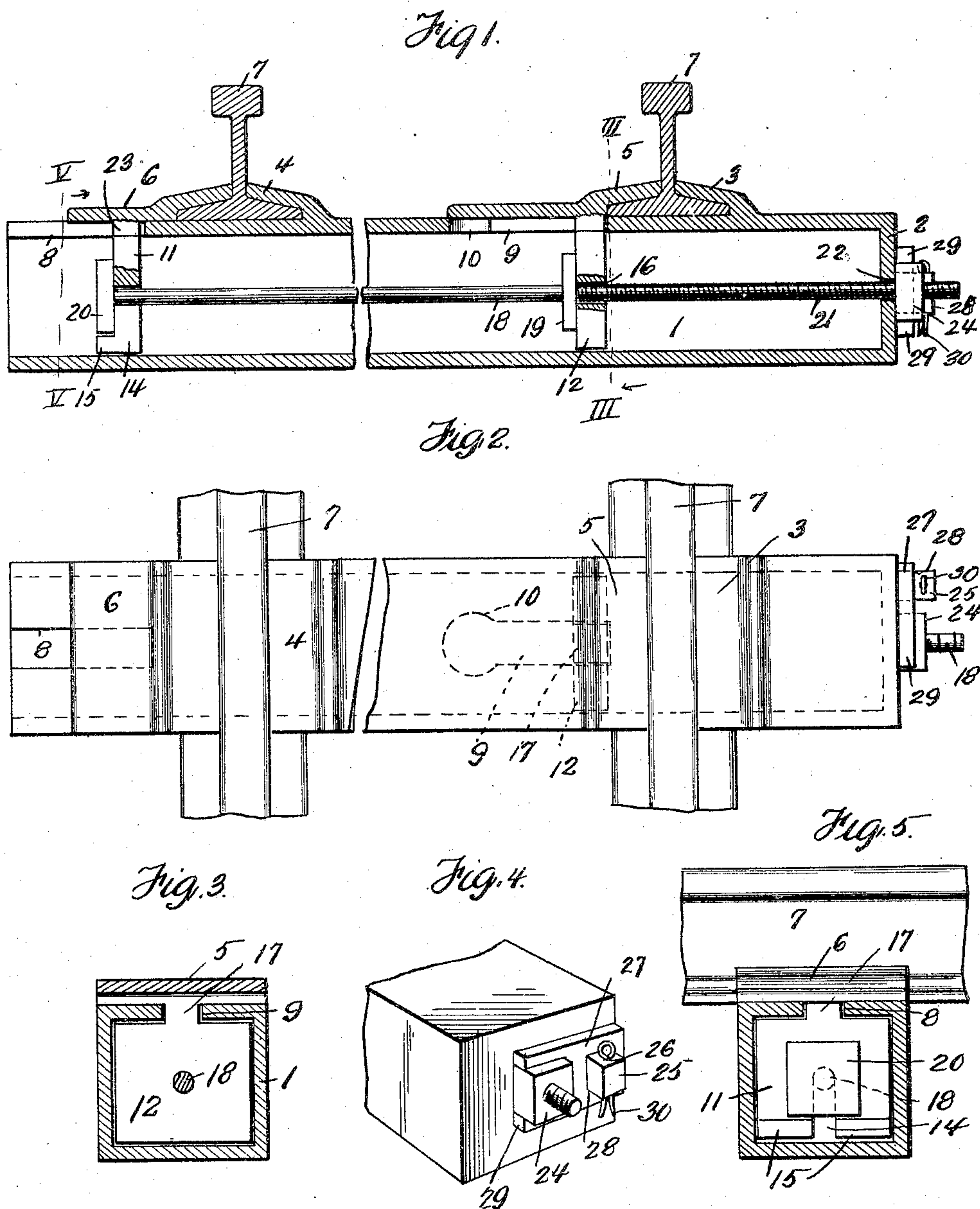


No. 859,675.

PATENTED JULY 9, 1907.

S. J. MANSFIELD.  
METALLIC TIE AND RAIL FASTENER.  
APPLICATION FILED MAY 7, 1907.



WITNESSES:

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Attorneys



# UNITED STATES PATENT OFFICE.

SAMUEL J. MANSFIELD, OF McGRANN, PENNSYLVANIA.

## METALLIC TIE AND RAIL-FASTENER.

No. 859,675.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed May 7, 1907. Serial No. 372,373.

*To all whom it may concern:*

Be it known that I, SAMUEL J. MANSFIELD, a citizen of the United States of America, residing at McGrann, in the county of Armstrong 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 improvements in metallic ties and rail fasteners, and the invention has for its object to provide a strong and durable metallic tie for firmly supporting rails.

Another object of this invention is to provide a novel rail fastener for holding the rails upon my improved tie, the fasteners being constructed to prevent vertical and lateral displacement of the rails.

A further object of this invention is the provision of novel means in connection with my improved tie for preventing the rail fasteners from becoming detached from the tie.

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 fragmentary longitudinal sectional view of the tie and rail fastener, Fig. 2 is a plan of the same, Fig. 3 is a cross sectional view of the tie taken on the line III—III of Fig. 1, looking in the direction of the arrow, Fig. 4 is a perspective view of one end of a tie illustrating nut lock used in connection with the same, Fig. 5 is a cross sectional view of the tie taken on the line V—V of Fig. 1, looking in the direction of the arrow of said figure.

My tie consists of an oblong metallic box-like structure 1 having a closed end 2. The top of the tie is provided with integral fasteners 3 and 4, and detachable fasteners 5 and 6, the fasteners 3 and 6 embracing the outer sides of rails 7 placed upon the tie, while the fasteners 4 and 5 brace the inner sides of said rails. The fasteners are of a width corresponding to the top of the tie, and for placing and retaining the fasteners 5 and 6 upon the tie, I provide the top of the tie with slots 8 and 9, the slot 9 having an enlarged end 10, the object of which will presently appear.

The fasteners 5 and 6 are provided with depending transversely arranged plates 11 and 12, the plate 11 being slotted, as at 14, and provided with flanges 15, while the plate 12 is provided with a central opening 16. To place the fastener 5 upon the tie, the plate 12 is passed

through the slot 9 of the tie, and then the fastener turned a quarter of a revolution, the enlarged end 10 of the slot 9 permitting of free movement of the neck 17 of the plate 12. The fastener is then moved into engagement with the rail 7. The neck 17 of the plate 12 prevents the fastener from turning upon the tie, as said neck fits snugly in the slot 9.

For holding the fastener 5 in position, I use a tie rod, 18 having heads 19 and 20, and a threaded end 21 adapted to extend through an opening 22, formed in the end 2 of the tie. The head 19 is intended for engaging the plate 12 and retaining it in position, but prior to moving the head 19 into engagement with the plate 12, I allow the head 20 of the tie rod to extend beyond the tie, whereby the plate 11 can be placed down over the rod and moved into engagement with the head 20, at which time the fastener 6 and plate 11 can be moved into the slot 8 of the tie. By pushing inwardly upon the tie rod 18, the heads 19 and 20 will engage the plates 12 and 11 respectively. A nut 24 is then screwed upon the threaded end 21 of the tie rod to firmly hold the same within the tie. To prevent the nut 24 from becoming disengaged from the rod 18, I provide the end 2 of the tie with an outwardly extending lug 25 having a key opening 26 formed therein. A plate 27 having an opening 28 and a bifurcated end 29 is then placed in engagement with the lug 25, the bifurcated end 29 engaging the nut 24 and preventing said nut from rotating. A key 30 is placed in the key opening 26 of the lug 25 to retain the plate 27 upon said lug.

From the foregoing description it will be observed that I have devised a novel tie having rail fasteners firmly secured thereto, the detachable fasteners being prevented from turning by the necks 17 and 23 of the plates 12 and 11, while the tie rod 18 prevents lateral displacement of said detachable fasteners.

It is obvious that such changes in the structure of my invention as are permissible by the appended 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:—

1. In a metallic tie and rail fastener, the combination with rails, of an oblong box-like tie for supporting said rails, rail fasteners carried by the top of said tie, detachable fasteners mounted upon said tie and having plates extending therein, a tie rod longitudinally arranged within said tie and having heads to engage said plates, a nut for holding said tie rod in engagement with said plates and said tie, and means carried by the end of said tie for preventing rotation of said nut.

2. The combination with rails, of a box-like tie for supporting said rails, fasteners carried by said tie for engag-

ing said rails, depending plates carried by some of said fasteners, a tie rod passing through said plates, heads carried by said tie rod for engaging said plates, and means located at one end of said tie for holding said tie rod within  
5 said tie.

3. The combination with rails, of a metallic tie for supporting said rails, fasteners carried by said tie for engaging said rails; detachable fasteners mounted upon said tie for engaging said rails, means for retaining said detach-  
10 able fasteners in engagement with said tie, said means in-

cluding depending plates, a tie rod passing through said plates, a nut for holding said tie rod stationary, and means for holding said nut from rotation.

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

SAMUEL J. MANSFIELD.

Witnesses:

FRANKLIN J. MATTER,  
CHARLES E. MCCAWLEY.