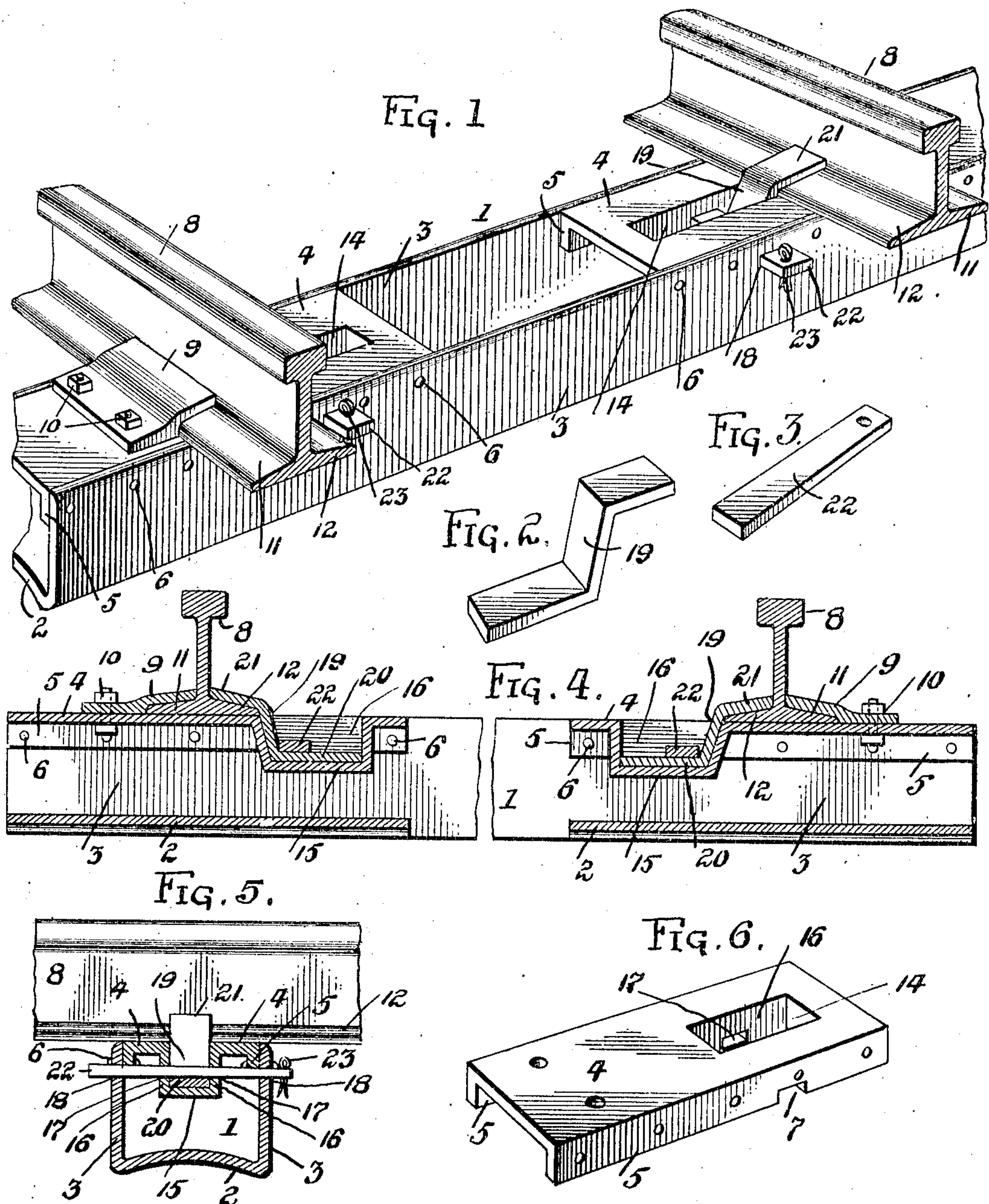


No. 843,351.

PATENTED FEB. 5, 1907.

H. W. MULVEY.  
METALLIC TIE AND RAIL FASTENER.

APPLICATION FILED AUG. 14, 1906.



Witnesses  
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# UNITED STATES PATENT OFFICE.

HUBERT W. MULVEY, OF GLASSPORT, PENNSYLVANIA.

## METALLIC TIE AND RAIL-FASTENER.

No. 843,351.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed August 14, 1906. Serial No. 330,539.

*To all whom it may concern:*

Be it known that I, HUBERT W. MULVEY, a citizen of the United States of America, residing at Glassport, 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 drawings.

This invention relates to certain new and useful improvements in metallic ties and rail-fasteners; and the invention has for its object to provide simple and inexpensive metallic ties to which rails can be easily and quickly secured.

My improved tie is constructed whereby it will take a firm grip in a ballasted road-bed and can be readily tamped or embedded therein. In connection with the tie I employ novel means to secure rails to the tie, whereby the rails cannot spread or become otherwise displaced.

With the above and other objects in view the invention consists in the construction, combination, and arrangement of parts, to be presently described in detail, and specifically pointed out in the appended claims.

Reference will now be had to the drawings forming part of this specification, wherein like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a perspective view of my improved tie. Fig. 2 is a perspective view of a rail-fastener. Fig. 3 is a similar view of a locking-key. Fig. 4 is a fragmentary longitudinal sectional view of the tie. Fig. 5 is a cross-sectional view of the tie, and Fig. 6 is a perspective view of a top plate carried by the tie.

My improved tie consists of a channel-bar 1, having a curved or concave bottom 2 and sides 3. Suitably secured to the upper edges of the sides 3 at the ends of the tie are plates 4, said plates having depending pierced side flanges 5, which I have illustrated as being secured to the sides 3 by rivets 6. The flanges 5 are cut away, as at 7, the object of which will be hereinafter described.

The plates 4 provide seats for rails 8, and to secure said rails upon the plates I secure clamps 9 to said plates by bolts and nuts 10, said clamps engaging the outer base-flanges 11 of the rails and preventing said rails from spreading.

To secure the inner base-flanges 12 of the rails 8 to the tie, I provide the plates 4 with countersunk recesses 14, having a bottom 15 and side walls 16, said walls having oppositely-disposed slots 17 formed therein, which aline with the cut-away portions 7 of plates 4 and slots 18, formed in the sides of the tie 1. Rail-fasteners 19 are placed in the recesses 14, said fasteners consisting of Z-shaped bars which rest in the recesses 14, as at 20, and bear upon the inner base-flanges 12, as at 21. The fasteners 19 are retained in the recesses 14 by the tapering locking-keys 22, which pass through the slots 18, cut-away portions 7, and slots 17 of the tie and bear upon the fasteners within the recesses 14. The smaller protruding ends of the keys 22 are provided with cotter-pins 23 to retain said keys in the tie 1.

It is apparent from the foregoing description that I have devised a simple and durable tie and positive means for fastening rails to the tie.

It is obvious that such changes in the details of construction 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 a channel-bar having a concave bottom, plates carried by said bar and supporting said rails, clamps secured to said plates and engaging the outer sides of said rails, said plates having countersunk recesses formed therein, Z-shaped fasteners mounted in said recesses and engaging the inner sides of said rails, tapering keys passing through said tie and bearing upon said fasteners within said recesses, and means to lock said keys in said tie, substantially as described.

2. In a metallic railroad-tie, the combination with a sheet-metal tie comprising a bottom and side wall, of plates fitted in the tie at the ends thereof and secured to said side walls, rail-clamps secured to said plates, each plate having a depression, rail-fasteners seated in said depressions, and keys passed through registering openings in the side walls of the tie and the side walls of the depressions in said plates and holding said rail-fasteners in the depressions.

3. In a metallic railroad-tie, the combination with a sheet-metal tie having a bottom

and side flanges, of flanged plates fitted within the tie at the ends thereof, each plate having a depression with notches in the flanges of the plates and with apertures in the side  
5 walls of the tie, rail-clamps fixed to said plates to engage the outer base-flange of a rail, substantially Z-shaped rail-fasteners seated in the depressions of said plates to engage the inner base-flange of said rail, and

keys passed through said registering openings for securing said Z-shaped rail-fasteners within the depressions of said plates.

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

HUBERT W. MULVEY.

Witnesses:

G. W. COURSIN,  
WM. F. BARBETTA.