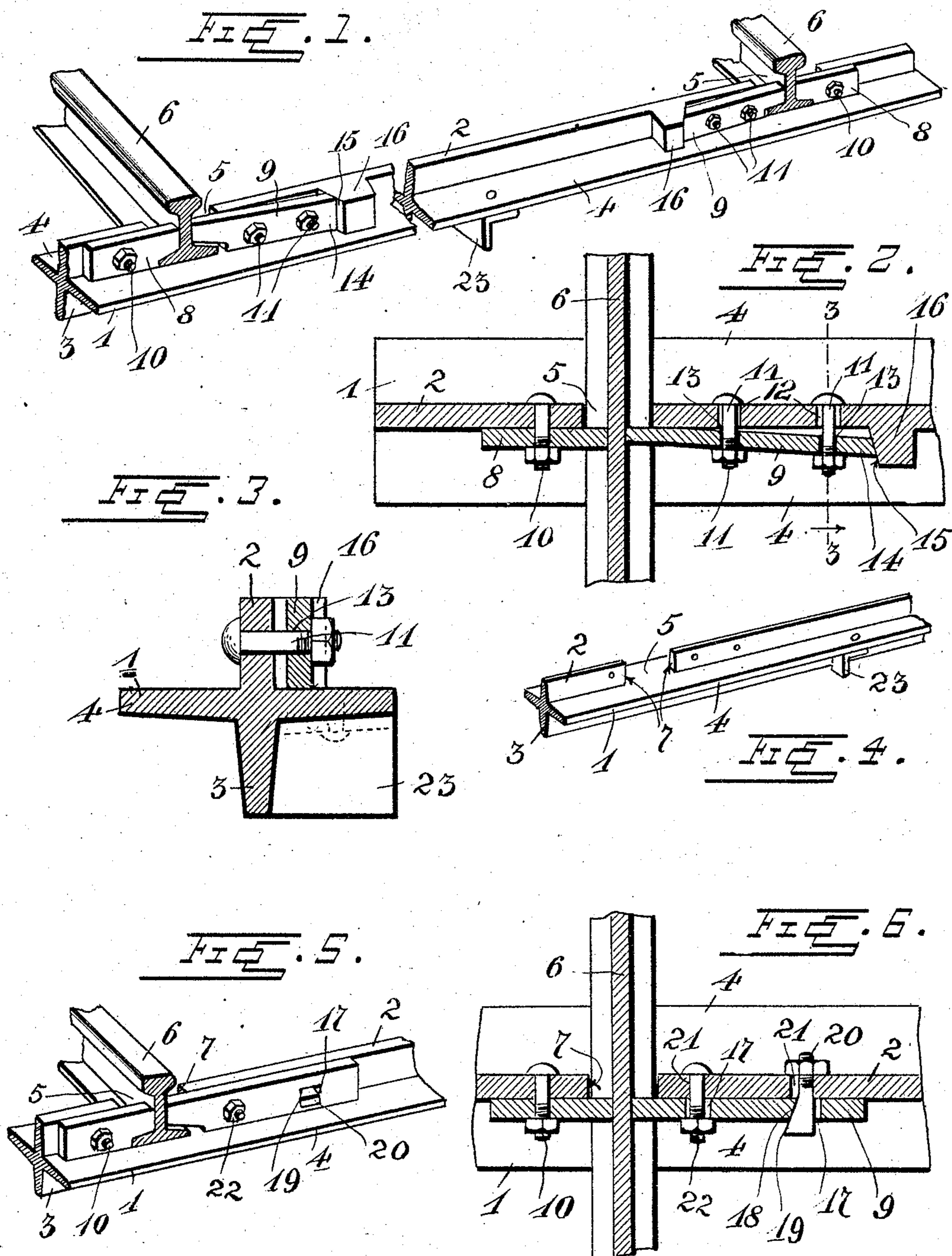


No. 786,982.

PATENTED APR. 11, 1905.

S. McELFATRICK.
RAILWAY TIE.
APPLICATION FILED DEC. 27, 1904.



Witnesses
C. H. Griesbauer.

Inventor
Samuel McElfattrick
by A. B. Wilson
Attorney

UNITED STATES PATENT OFFICE.

SAMUEL McELFATRICK, OF PRINCETON, KENTUCKY.

RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 786,982, dated April 11, 1905.

Application filed December 27, 1904. Serial No. 238,425.

To all whom it may concern:

Be it known that I, SAMUEL McELFATRICK, a citizen of the United States, residing at Princeton, in the county of Caldwell and State of Kentucky, have invented certain new and useful Improvements in Railway-Ties; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in metallic railway-ties, and more particularly to the one set forth in Patent No. 730,787, granted to me June 9, 1903.

The object of the present invention is to improve and simplify the construction of the tie, so that they may be manufactured at a less cost, and to provide an improved means for firmly fastening or securing the track-rails to the ties.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved tie, showing the track-rails secured thereto by my improved fastening means. Fig. 2 is a horizontal sectional view through the same. Fig. 3 is a vertical transverse sectional view taken on the line 3 3 in Fig. 2. Fig. 4 is a detail perspective view of one end of the tie. Fig. 5 is a perspective view of one end of a tie, showing a modified form of rail-fastening means applied thereto; and Fig. 6 is a horizontal sectional view through Fig. 5.

Referring to the drawings by numerals, 1 denotes a railway cross-tie of substantially + form in cross-section, the same having an upper vertical web 2, a lower vertical web 3, and horizontal webs 4, integrally united. The vertical flange or web 2 is formed with slots 5 for the reception of the track-rails 6, these slots extending down to the plane of the horizontal webs 4, on which the base-flanges of the rail are designed to rest. These slots 5 are of equal or slightly greater width than

the track-rails, and they are formed with vertical walls 7, which form abutting shoulders. 50

As shown in Figs. 1 to 4, inclusive, of the drawings, the rails 6 are secured in the slots 5 by means of fastening bars or plates 8 and 9, which are bolted upon the upper vertical web 2 of the tie upon opposite sides of the rails. The fastening bars or plates 8, which are disposed upon the outer sides of the rails, are secured by one or more bolts 10, which are passed through aligned openings formed in the flange 2 and the plates 8, and the inner ends of said plates 8 are shaped to engage the bases of the rail, as shown. The fastening bars or plates 9 upon the inner sides of the track-rails are similarly secured by bolts 11, which are passed through elongated openings or slots 12, formed in the web 2, and through openings 13, formed in the plates 9. The outer ends of said plates 9 are shaped to engage the bases of the rails, and their inner ends 14 are adapted to engage the beveled or inclined faces 15 of plates or projections 16, which are secured to or formed upon the web 2, as shown. 60

It will be seen upon reference to Fig. 2 of the drawings that when the parts have been placed in the position shown and the nuts of the bolts 11 are tightened the plates 9 will not only be securely clamped to the web 2 for the purpose of retaining the track-rails in the slots 5, but owing to the engagement of the ends 14 of said plates 9 with the beveled faces 15 of the plates or projections 16 said plates 9 will be moved longitudinally, so that the rails will be firmly clamped between the said fastening-plates 8 and 9. 85

In Figs. 5 and 6 of the drawings I have shown a slightly-modified form of fastening means for the track-rails, the only difference being the means for forcing the fastening-plates longitudinally when they are tightened or clamped, so that the rails will be snugly or firmly clamped between the fastening plates or bars. As shown, the plate 9 has elongated openings or slots 17, the innermost one of which has one of its walls beveled or inclined, as at 18, to engage the beveled or inclined 95

face 19 of a wedge-shaped bolt 20, which is passed through said opening and an opening 21, formed in the web 2. The bolt 22, which passes through the other of the openings 17 and the web 2, is of the usual form. It will be seen that when the nut of the wedge-shaped bolt 20 is tightened upon the same the plate 9 will be moved longitudinally to cause it to firmly engage the track-rail.

In order to prevent the tie from moving or creeping longitudinally, I provide one or more angle-plates 23, which are bolted, riveted, or otherwise secured to the flanges or webs 3 and 4 at their centers or at any intermediate point or points.

The construction, use, and advantages of my invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings. It will be seen that the ties may be manufactured at a comparatively small cost and that their slots 5 are adapted to receive rails of any shape or size. It will be also noted that the fastening means will hold the track-rails firmly in position and that they may be readily tightened from time to time should they become loose from wear or other causes. By means of this construction it will be seen that the ties may be applied or removed to or from the rails without disturbing them.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be limited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A metallic rail-tie of + form in cross-section, the vertical flange of which is formed with a rail-receiving slot having vertical walls and with a bolt-hole adjacent to said slot, a fastening-bar secured to said vertical flange of the tie upon one side of said rail and engaged with the latter to retain it in said slot, a beveled plate or projection on said vertical flange of the tie upon the opposite side of the rail, a fastening-bar having one end engaged with the rail and its other end beveled to engage the beveled face or projection and a bolt passed through said bolt-hole in the rail for simultaneously securing said bar upon the tie and forcing said bar into engagement with said rail, substantially as described.

2. A metallic rail-tie having a rail-receiving slot formed therein and a beveled plate or projection adjacent to said slot, a fastening-bar having one of its ends engaged with the rail and its other end beveled and engaged with the beveled face of the said plate or projection, and bolts for clamping said bar laterally against said tie to cause said beveled plate or projection to force said bar into engagement with the rail, said bolts passing through slots in the tie, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SAMUEL McELFATRICK.

Witnesses:

R. M. POOL,
EDWARD GARRETT.