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D. R. WILL.

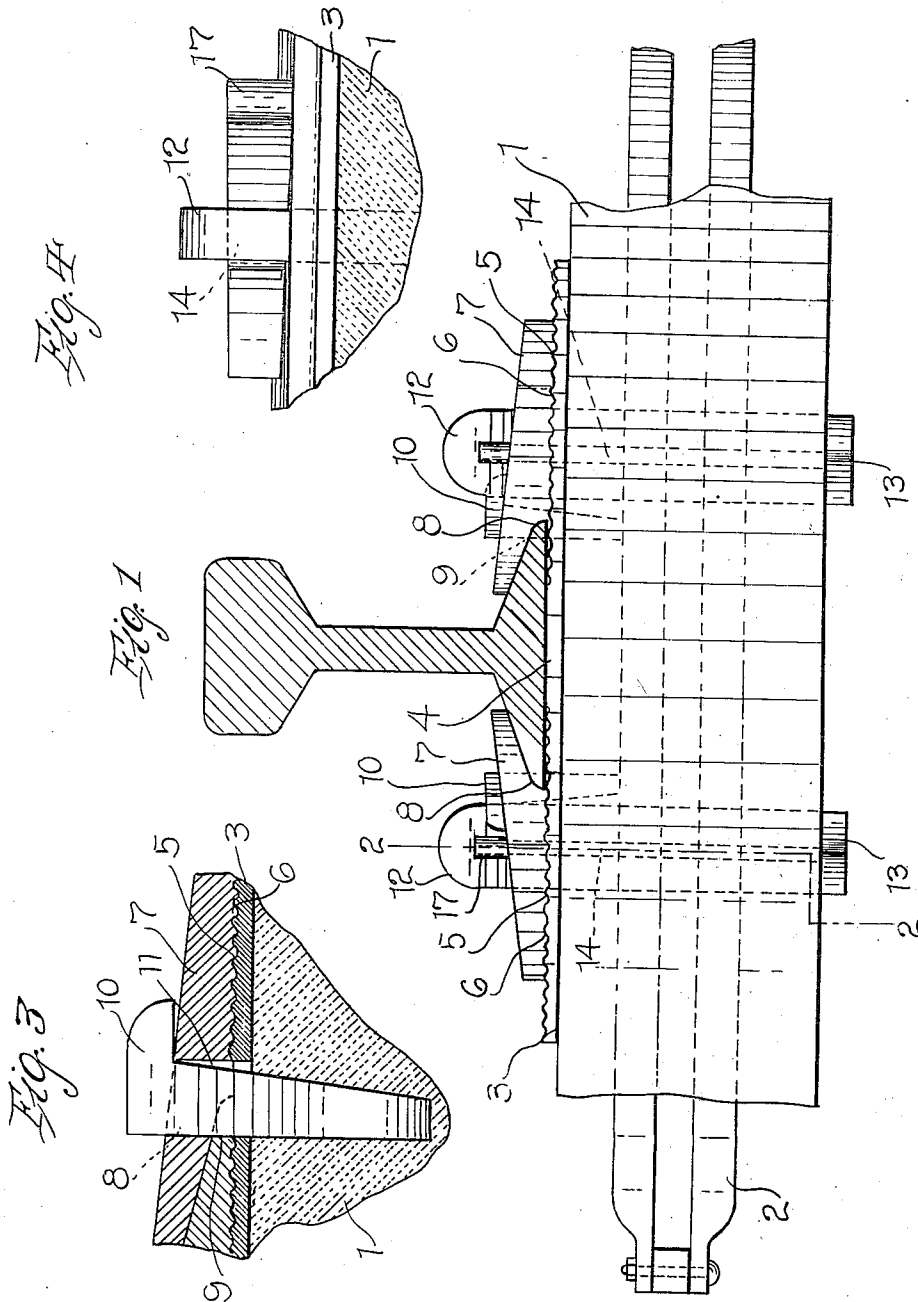
RAIL TIE AND FASTENER.

APPLICATION FILED MAR. 8, 1913.

1,065,416.

Patented June 24, 1913.

2 SHEETS—SHEET 1.



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Witnesses

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2 SHEETS—SHEET 2.

Fig. 6

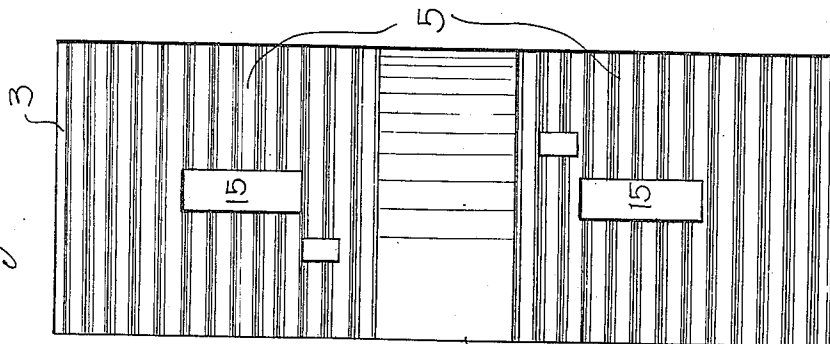


Fig. 7

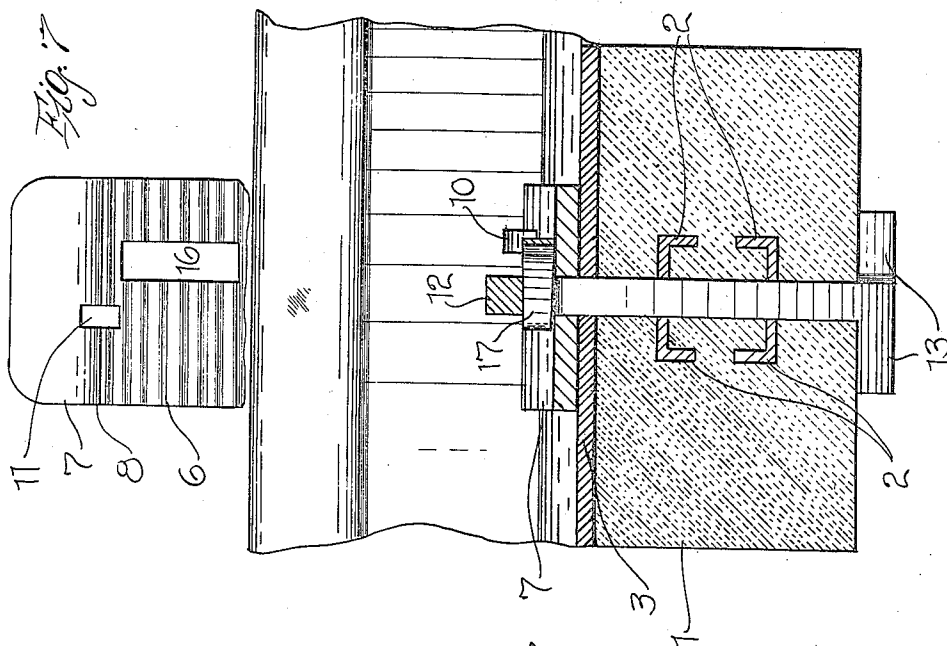


Fig. 5

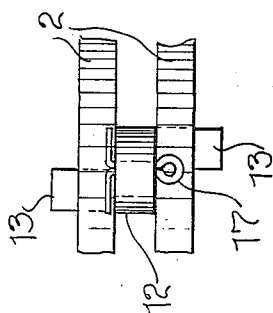


Fig. 2

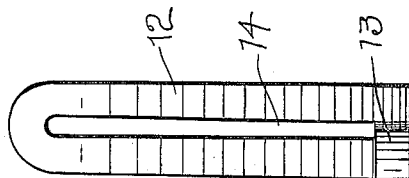


Fig. 8

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# UNITED STATES PATENT OFFICE.

DANIEL R. WILL, OF AVA, ILLINOIS.

## RAIL TIE AND FASTENER.

1,065,416.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed March 8, 1913. Serial No. 752,999.

*To all whom it may concern:*

Be it known that I, DANIEL R. WILL, a citizen of the United States, residing at Ava, in the county of Jackson and State of Illinois, have invented certain new and useful Improvements in Rail Ties and Fasteners, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to new and useful improvements in rail fasteners which are particularly adapted for use in connection with the railway tie, illustrated, described and claimed in the Patent No. 955,928, dated April 26, 1910.

An object of this invention is the provision of a rail fastener comprising slotted bars which are embedded in the tie, and clamping plates engaging the slotted bars, the clamping plates being formed with elongated slots whereby they may be adjusted for clamping different sizes of rails.

A further object of this invention is the provision of fastening means adapted for use in connection with a cement tie, the fastening means comprising slotted bars embedded vertically in the tie, the slots in the bars extending the entire height of the tie so that the cement may enter the slots and securely lock the bars in engagement with the tie.

With these and other objects in view, my invention consists of certain novel constructions, combinations, and arrangements of parts, to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which—

Figure 1 is a side elevation of my device. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a fragmentary vertical section. Fig. 4 is an elevation showing the connection between the slotted bar and the split pin. Fig. 5 is a fragmentary top plan view. Fig. 6 is a top plan view of the base plate. Fig. 7 is a fragmentary bottom plan view of one of the clamping plates; and Fig. 8 is an elevation of one of the slotted bars.

Referring more particularly to the drawing, the numeral 1 designates generally the tie which is used in connection with my improved fastening device, the tie being of cement and having a rectangular reinforcing frame embedded and extending longitudinally therein. The frame comprises spaced angular bars 2 which are connected together at their ends. Arranged on the

upper face of the tie is a plate 3, the upper face of which is smooth as at 4, intermediate of its ends, the opposite ends of the plate being formed with transversely extending corrugations 5, which are adapted to engage the corrugations 6 formed on the lower face of the clamping plates 7 to prevent longitudinal movement of the plates. The opposed ends of the plates 7 are formed on their under faces with recesses 8 which are adapted to engage the base flanges of the rail, and to prevent endwise movement of the rail, the base flanges thereof are formed with recesses 9 for the reception of pins which are disposed through openings formed in the clamping plates 7. Embedded in the tie on the opposite sides of the rail, are bars 12 which are disposed vertically through the tie and project beyond the upper and lower faces thereof. The lower end of the bars 12 are formed with oppositely extending lugs 13 which are disposed out of alinement with each other and which extend transversely of the tie to form a large bearing surface therefor. Each of the bars 12 is formed with a longitudinally extending slot 14.

The plate 5 is formed with an elongated slot 15 on each side of the rail, and each of the clamping plates 7 is also formed with an elongated slot 16 which are adapted to register with the slots 15 in the plate 5, the slots being adapted to receive the upper ends of the bars 12. It will be seen from the drawings that the clamping plates 7 are adjustable to clamp against the base flanges of different sizes of rails, and to secure the clamping plates in their adjusted positions, tapered split locking keys 17 pass through the upper ends of the slots 14 in the bars 12, the upper edge of each key being adapted to engage the upper wall of the slot 14 and the lower edge of the key engaging the upper face of the clamping plates 7. The free ends of the keys are adapted to be spread to prevent them from becoming accidentally disengaged from the slots.

From the above description taken in connection with the accompanying drawings, it may be seen that I have provided fastening means for securing the rail to a tie, which may be readily and easily adjusted to clamp different sizes of rails, and one which comprises a minimum number of parts, and which may therefore be cheaply manufactured. Should the bars 12 become broken,

or otherwise unfit for use, they may be readily removed from the tie and replaced.

Having thus fully described my invention what I claim and desire to secure by Letters Patent is:

- 5 1. In combination with a cement tie having vertically disposed slotted bars embedded therein and projecting beyond the upper and lower face of the tie, the lower  
10 end of said bars being formed with oppositely extending lugs disposed out of alignment with each other and bearing against the lower face of the tie, a rail arranged upon the upper face of said tie, and means  
15 engaged with the upper end of said slotted bars and longitudinally adjustable with relation to said tie for engagement with the base flanges of the rail, as and for the purpose described.
- 20 2. In combination with a tie of the class described, slotted bars embedded in said tie and projecting above the upper face thereof, a plate arranged upon the upper face of  
25 said tie, a rail arranged upon said plate, clamping plates disposed upon said plate and adapted to engage the base flanges of the rail, said plate and clamping plates being provided with registering longitudinally extending slots adapted for engagement with  
30 the projecting portions of said bars, said slots being of a relatively greater length than the width of said bars whereby the

plates are adapted for adjustment longitudinally of the tie, and tapering locking keys disposed through the slots in said bars and bearing against said clamping plates, as and for the purpose described. 35

3. The combination with a tie of the class described, slotted bars embedded in said tie and projecting above the upper face thereon, a plate arranged upon the upper face of said tie, a rail arranged upon said plate, clamping plates disposed upon said plate and adapted to engage the base flanges of the rail, said plate and clamping plates being provided with registering slots adapted for engagement with the projecting portions of  
40 said bars, the base flanges of said rail being provided with recesses, said plate and clamping plates being formed with openings registering with said recesses, spikes disposed  
45 through said recesses and said openings into engagement with said tie whereby creeping of the rail is prevented, and locking keys disposed through the slots in said bars and  
50 bearing against said clamping plates, as and for the purpose described. 55

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

DANIEL R. WILL.

Witnesses:

W. C. DEAN,

E. A. BROWN.