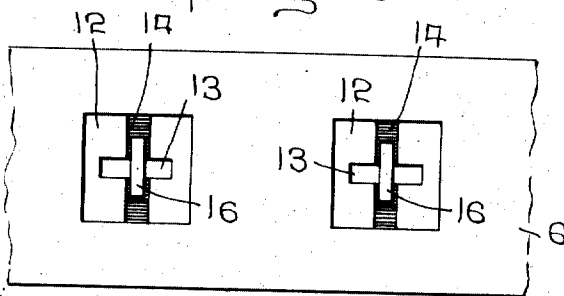
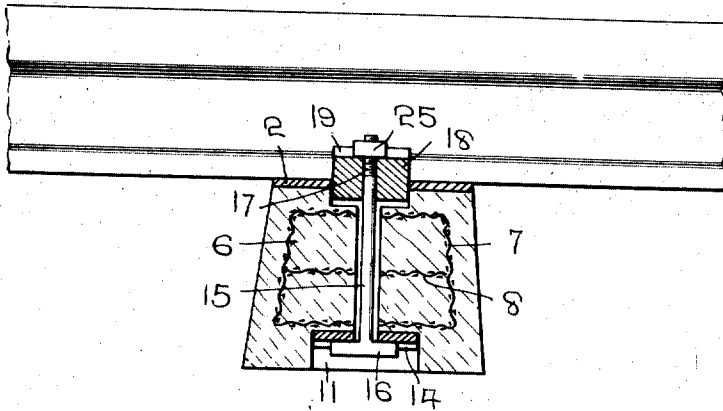
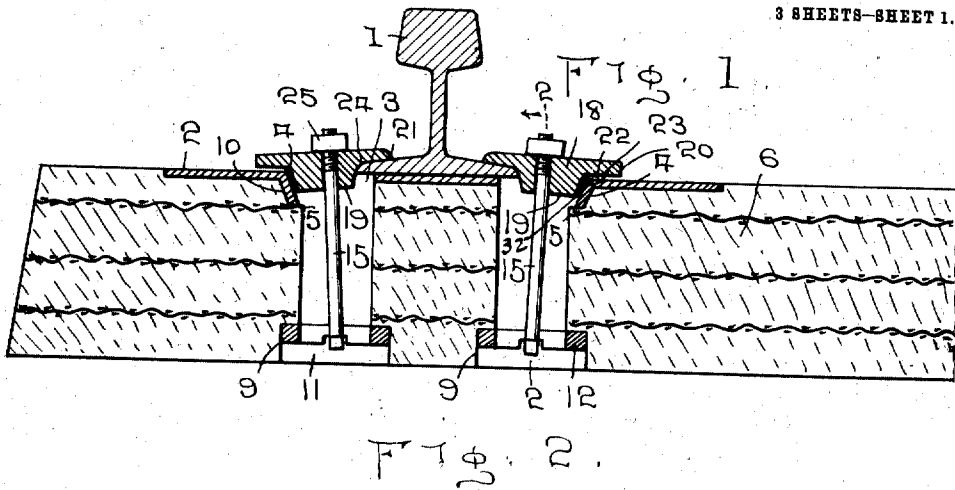


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RAILWAY TIE AND FASTENER.  
APPLICATION FILED APR. 10, 1911.

1,001,999.

Patented Aug. 29, 1911.

3 SHEETS—SHEET 1.



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3 SHEETS-SHEET 2.

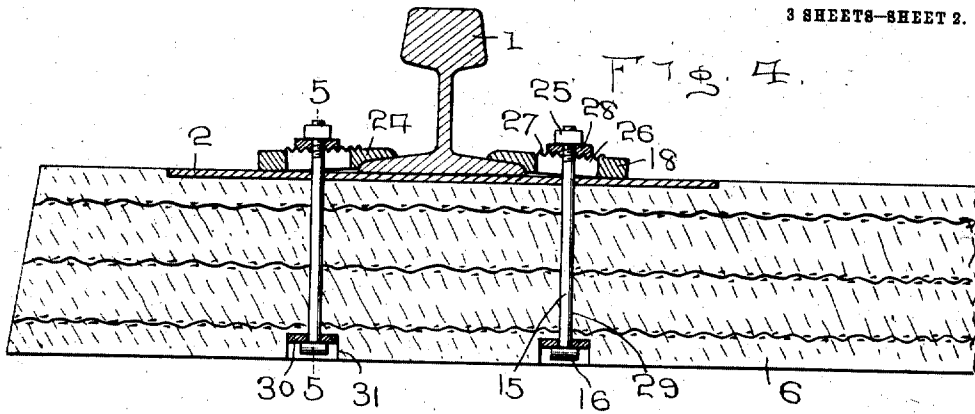


Fig. 5

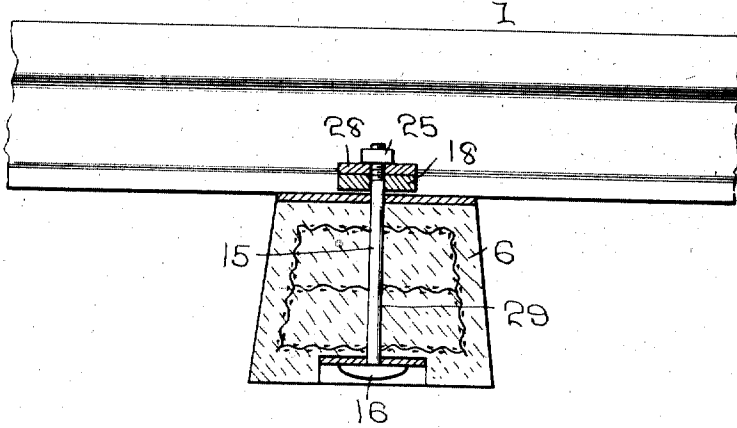
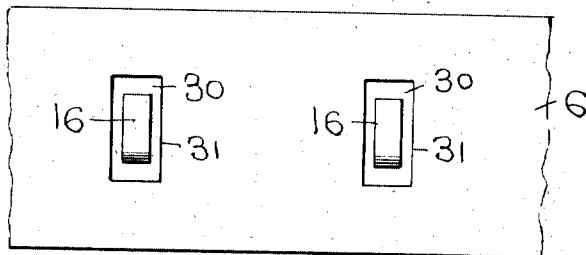


Fig. 6



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INVENTOR

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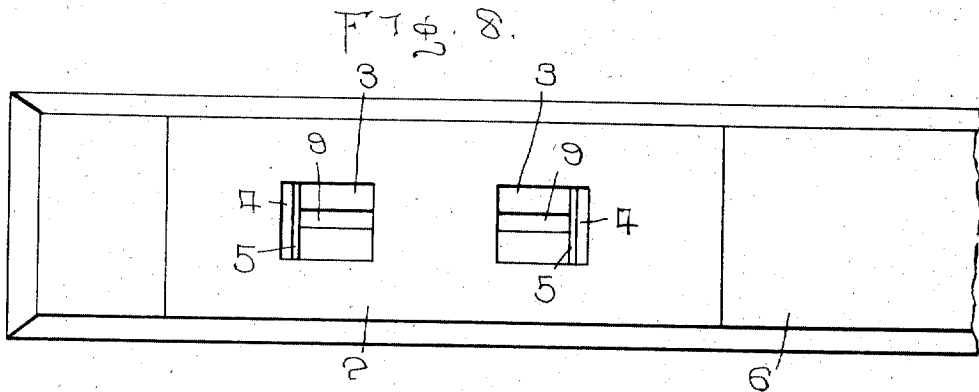
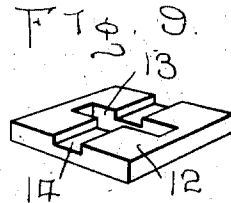
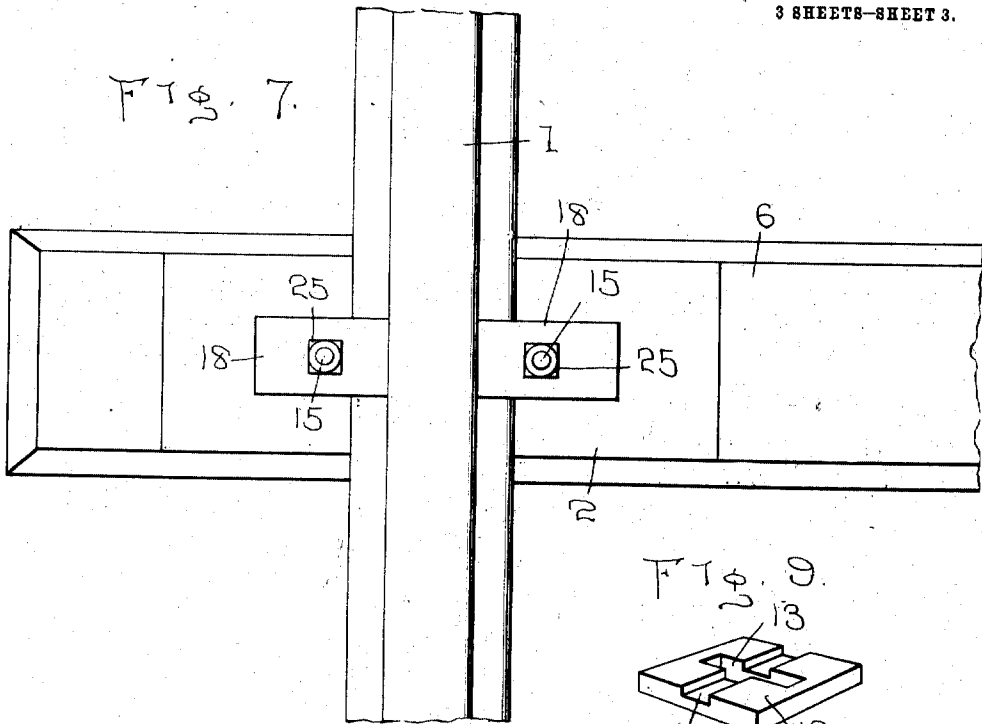
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3 SHEETS-SHEET 3.



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# UNITED STATES PATENT OFFICE.

JOHN W. SHEATZLEY, OF DETROIT, MICHIGAN.

RAILWAY-TIE AND FASTENER.

1,001,999.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed April 10, 1911. Serial No. 620,115.

To all whom it may concern:

Be it known that I, JOHN W. SHEATZLEY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Railway-Ties and Fasteners; and I do hereby 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 railroading and more particularly to railway ties and fasteners.

The object of the invention is to provide a tie fastener of novel construction and which will allow the rail to be adjusted at any time longitudinally of the tie.

Another object is to provide a fastening, in combination with a specially constructed tie, which will have binding engagement against the sides of the base portion of the rail, and, another object is to provide a fastening which will have a binding and wedging engagement against the rail and which may be locked in said binding position.

Other objects and advantages will be hereinafter set forth and pointed out in the specification.

In the accompanying drawings forming a part of this application, Figure 1 is a vertical longitudinal section through the tie and the rail fastener carried thereby, applied to a rail. Fig. 2 is a sectional view on the line 2-2 of Fig. 1, looking in the direction of the arrow. Fig. 3 is a bottom plan of Fig. 1. Fig. 4 is a view similar to Fig. 1, showing a modified form of fastener. Fig. 5 is a cross sectional view on the line 5-5 of Fig. 4. Fig. 6 is a bottom plan view of Fig. 4. Fig. 7 is a top plan view of Fig. 1. Fig. 8 is a view similar to Fig. 7, the rail and fasteners being removed, and, Fig. 9 is a detail perspective view of one of the bottom bolt locking plates.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the rail which rests upon the metallic plate 2 having fastener openings 3 and in-

wardly and downwardly directed projecting portions 4, the lower ends of which rest upon the shoulders 5 of the tie 6, within the upper face of which the plate 2 is seated.

The tie 6 is composed of a suitable composition and is reinforced by the wire mesh reinforcing material (preferably No. 7 wire, two-inch mesh), which is composed of the pieces 7 and 8. The tie 6 is usually formed by adding to any good strong cement, asbestos, wood pulp and blast furnace cinder to render the material more elastic and capable of resisting the shocks to which it is subjected instead of breaking, as composition ties often do. The piece 7 is preferably substantially U-shaped in cross section and extends from end to end of the tie. It is positioned a spaced distance from the edge of the tie and conforms to the shape of the latter, the straight or horizontal portion extending transversely of the tie near its upper surface. One of the pieces 8 is embedded within the tie near the bottom thereof, extending from end to end, the edges of said member touching the lower edges of the member 7. The other section 8 is embedded within the tie substantially midway of the first member 8 and the straight portion of the U-member, parallel with these two horizontal portions, the long edges of the second member 8 resting against the inner sides of the depending arms of the U-member 7.

Extending vertically through the tie 6 are the spaced slots 9, communicating at their upper ends with the openings 3 of the plate 2, the upper ends of said slots widening at their outer sides forming the shoulders 5, previously mentioned, and the beveled portions 10, against which rests the slanting portions of the downward extensions 4, also previously mentioned. The slots 9 are preferably elongated in cross section. The lower ends of the slots 9 communicate with square recesses 11 in the lower surface of the tie 6, said recesses being somewhat larger than the slots 9 and adapted to receive the square locking plates 12, which are provided with the openings 13 communicating with the slots 9, and the roughened channels 14 at 10

right angles to said openings 13, the purpose of which will later appear.

Passing through the slots 9 are the bolts 15 having the T-heads 16 and the opposite threaded ends 17. The locking blocks 18 are adapted to be loosely received upon the bolts 15. The blocks 18 have the parallel upper and lower surfaces 19 and the rear and forward portions 20 and 21, respectively. From the rear portion 20 the block is cut parallel with the upper surface 19, as shown at 22. From this point the block is beveled at an angle, as shown at 23, said beveled portion terminating at the lower surface 19. The front portion 21 is slightly curved, as will be seen. From the point 21 the block is cut arcuately to the straight bottom surface 19 thereof, forming the concave portion 24, the purpose of which will presently be described.

The tie is placed in proper position with the plate 2 embedded in its upper side, as previously described. The rail is then rested upon the plate 2 between the openings thereof. The bolts are then passed downwardly through the passages 9, the T-heads thereof passing through the openings 13 of the locking plates 12 and are turned to bring the T-heads into the channels 14. The locking blocks 18 are then placed upon the upper ends of the bolts 15, in the position shown, and the nuts 25 screwed upon the threaded ends thereof, wedge blocks 32 being positioned between their beveled portions 23 and the projections 4 of the plates 2. The nuts 25 press against the upper surface 19 of the locking blocks 18, pressing them securely against the rail and the wedge blocks 32, at the same time drawing the bolts 15 upwardly to firmly press the heads 16 against the rough portion of the channels 14. On account of the peculiar construction of the locking blocks 18, the tighter the nuts 25 are drawn the stronger will be the binding action of the blocks 18 upon the sides of the rail base to hold the latter in position. Should it become necessary, on account of wear or working loose of parts, to tighten the blocks 18 against the rail, all that is necessary is to tighten the nuts 25, which operation will force the beveled portions 23 downwardly against the extensions 4 of the plate 2 and cause the blocks 18 to move closer to the rail, the concave or curved portions 24 thereof holding the base of said rail. It will also be apparent that should it be necessary to adjust the rail in either direction in respect to the length of the tie, such adjustment could be readily accomplished by loosening the nut 25 upon the side toward which the rail is to be moved and tightening the nut upon the opposite side, shifting the blocks 18. If necessary both of the wedge blocks 32 may be positioned upon one side of

the rail, to force the latter in the opposite direction. The blocks 18, after this adjustment, will bindingly engage the sides of the rail base the same as when in their former positions.

As shown in Figs. 4 to 6, inclusive, the locking blocks 18 may be provided with the elongated passages 26 to either side of which upon the upper face of the block 18, are provided the teeth 27, which are adapted to be engaged by the teeth upon the under side of the adjusting washer 28, projecting between the block 18 and the nut 25. In this form the locking blocks 18 are provided with the curved or concave portion 24, but the rearward beveled portion is dispensed with. In this form the bolts 15 pass through elongated openings 26 and through the circular vertical passages 29 of the tie 6 and the lower ends or T-heads 16 rest upon the oblong securing blocks 30 positioned within the recesses 31 in the under face of the tie 6. The block 30 being oblong and slightly larger than the head 16 and said block and head resting within the recess 31 secures the bolt against rotation. By means of the teeth 27 and the teeth 28 and the elongated slots 26, the securing blocks 18 may be adjusted longitudinally of the tie 6 to adjust the rail 1 in respect to the rail positioned parallel therewith. As shown, the edges of the blocks 18 adjacent the rail rest a short distance above the plate 2 and the curved portions thereof bindingly engage the sides of the rail base, as described in connection with the preferred form of binding blocks. It is evident that tightening of the nuts 25 will serve to increase the binding action of the binding blocks 18 upon the rail 1 to secure the latter against movement in any direction.

It will thus be seen that the above described tie and fastener will serve to securely hold rails in proper position and prevent spreading thereof. It will also be impossible for a rail secured by my fastening means to become separated from the tie, and it will be apparent that the above described device is of novel form and that any of the parts may be readily replaced should they become worn or broken, at a very small expense.

What I claim is:

The combination with a plastic reinforced tie carrying a bearing plate upon its upper surface and a rail resting upon said bearing plate, of binding blocks upon said bearing plate to either side of said rail, means secured in said tie for securing said binding blocks upon said bearing plate in binding engagement with the sides of the rail, means for forcing either of said binding blocks in binding engagement with a side of the rail independently of the other binding block,

means for adjusting said binding blocks to  
bindingly engage the sides of said rail when  
the latter is adjusted longitudinally of said  
tie, and interchangeable wedge blocks be-  
5 tween said binding block and said bearing  
block.

In testimony whereof I have signed my

name to this specification in the presence of  
two subscribing witnesses.

JOHN W. SHEATZLEY.

Witnesses:

CHARLES SLAGLE,  
BLANCHE A. WILSON.