

W. H. J. DOWNEY.
RAILROAD CROSS TIE.
APPLICATION FILED JULY 13, 1910.

979,268.

Patented Dec. 20, 1910.

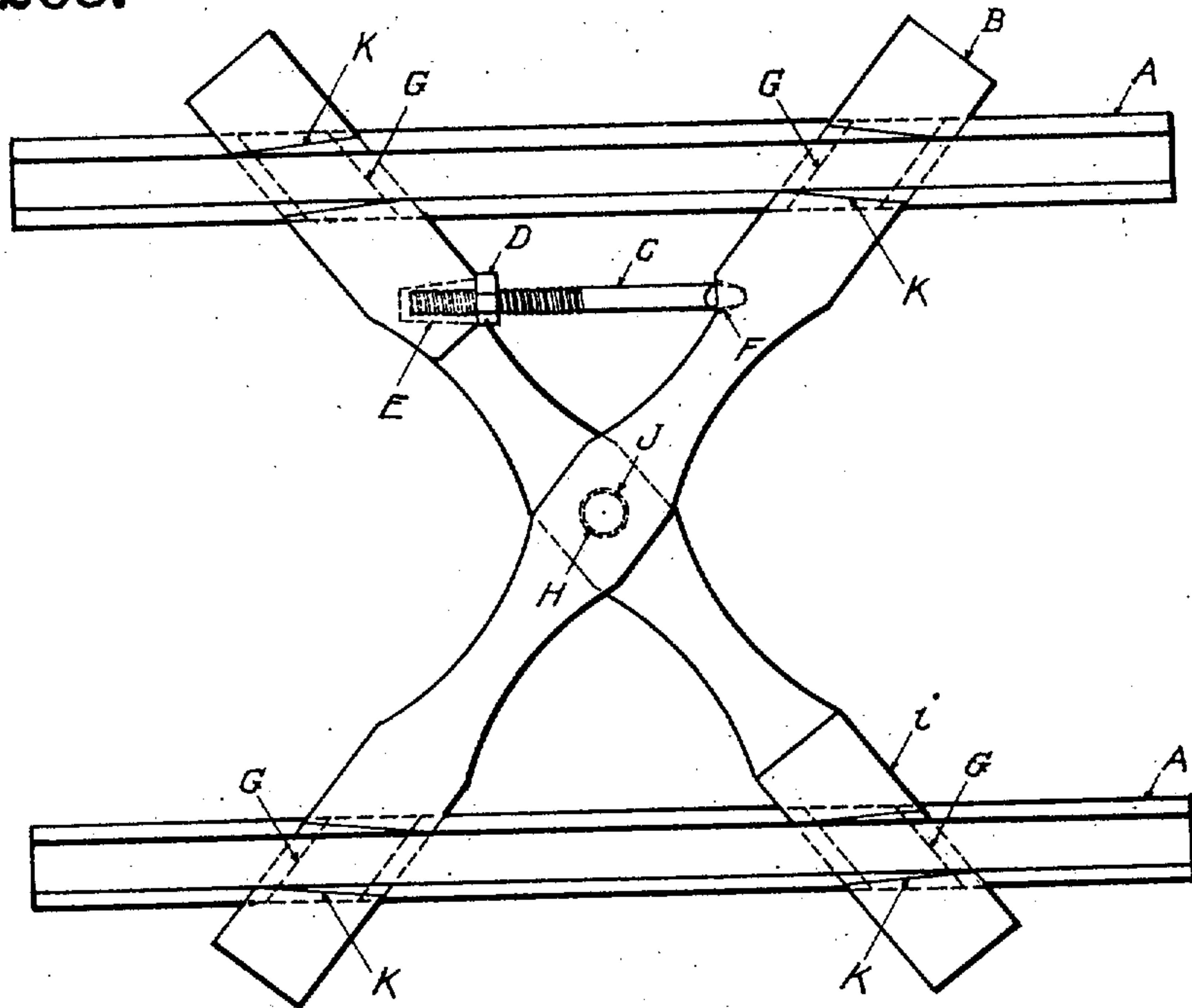


FIG. 1.

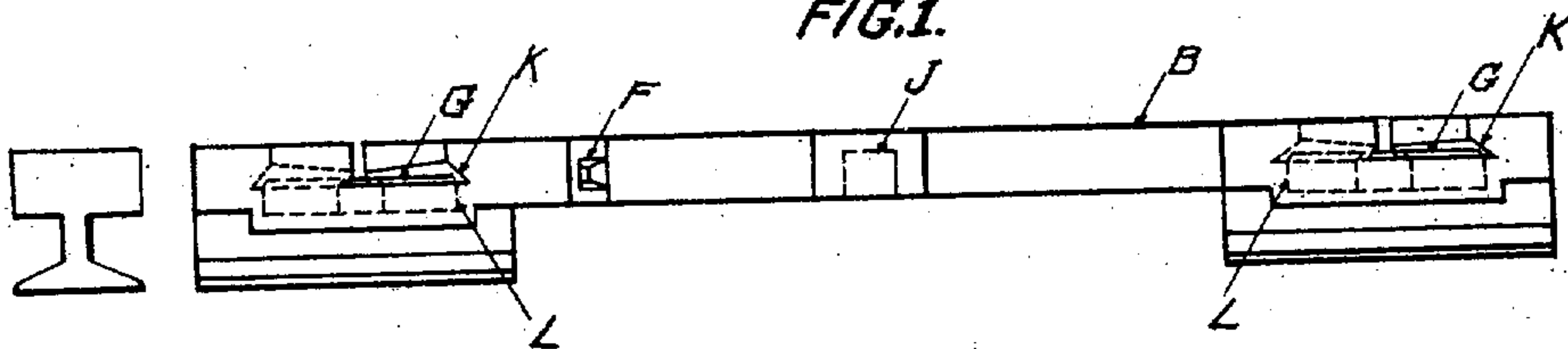


FIG. 2.

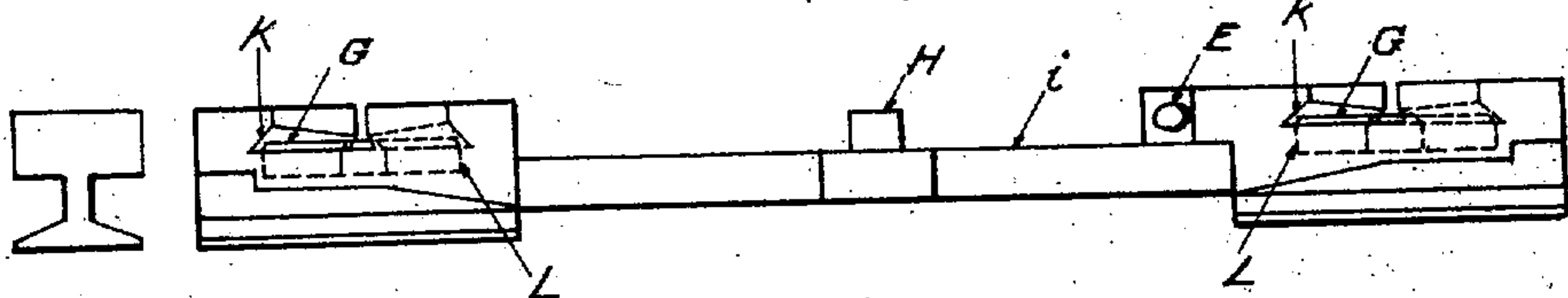


FIG. 3.

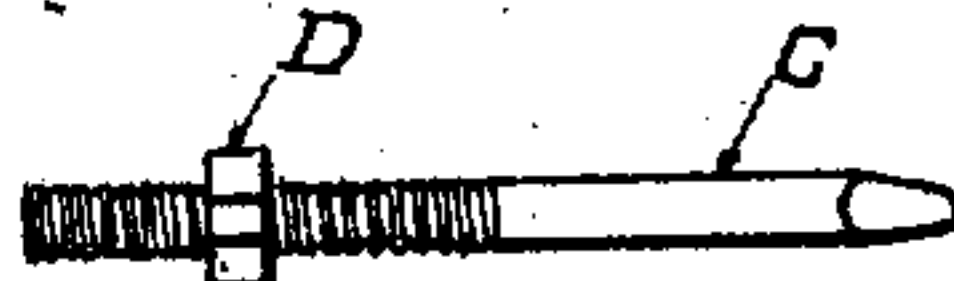


FIG. 4.

WITNESSES.

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RAILROAD CROSS-TIE.

979,268.

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To all whom it may concern:

Be it known that I, WILLIAM H. J. DOWNEY, a citizen of the United States, residing at Wilmington, in the county of New-castle and State of Delaware, have invented certain new and useful Improvements in Railroad Cross-Ties; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to rail fastening devices and comprises essentially a means consisting of cross ties adapted to receive and clamp rails and hold the same without the use of the usual spikes.

The invention consists further in the provision of a rail clamping device having intersecting ties with cushioning boxes upon which the flanges of the rails rest, allowing for expansion and contraction of the metal and saving wear upon the rolling stock and affording means whereby a train may run smoothly over a track equipped with my apparatus, the invention forming a means for deadening noise incident to the rolling stock passing over the rails.

My invention comprises other details of construction and combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a top plan view showing the application of my invention. Fig. 2 is a side elevation of the upper of one of the intersecting ties. Fig. 3 is a similar view of the lower tie, and Fig. 4 is a detail view of the locking pin.

Reference now being had to the details of the drawings by letter, A, A designate the ordinary rails of a railway and B and *i* designate respectively two ties adapted to intersect each other at their central longitudinal portions, as shown in Fig. 1 of the drawings. Each of said ties has enlarged portions adjacent to its ends which are provided with flanges and each is recessed, the opposite walls of the recess being undercut as at K and inclined longitudinally, as

shown in solid lines in Fig. 1 of the drawings. Each of said recesses has formed beneath it a pocket L which is countersunk to receive a buffer G of any resilient composition, such as rubber, and upon which the flange of the ordinary railway rail is adapted to rest. At the point of intersection of said ties, the tie *i* is provided with a boss or pintle H while the under surface of the superimposed tie is recessed as at J to receive said pin. Said tie *i* is provided with a hole E adapted to receive the threaded end of the screw C, the other end of the screw being beveled and engaging a hole F formed in the adjacent edge of the tie B. A nut D is mounted upon the threaded portion of said screw and adapted to bear against a shoulder formed upon the adjacent edge of the tie *i*.

In adjusting the parts for use, the two ties are pivoted together, and inserted underneath the railway rails, the latter being adjusted at their proper gage the flanges of the rails are made to engage the recesses in the ties after which the latter are tilted slightly, in order that the overhanging portions of the recesses, may engage over the flanges of the rails, and when thus adjusted, the pivotal pin connecting the ties is fastened to hold the ties in their adjusted positions, this being done material may be tamped under the ties to hold the same securely in place. As the rails rest upon the buffers, means is afforded for cushioning the rails and allowing for expansion and contraction of the metal and absorbing vibration.

By the provision of rail fastening means as shown and described, it will be noted that ordinary use of spikes commonly employed will be entirely dispensed with.

What I claim to be new is:—

1. A device for fastening railway rails comprising ties intersecting each other and pivoted together, said ties being recessed to receive the flanges of railway rails, and means for holding the marginal edges of the recesses of the ties frictionally against the flanges of the rails.

2. A device for fastening railway rails comprising ties intersecting each other and pivoted together, said ties being recessed to receive the flanges of railway rails, cushions mounted in boxes formed in the bottoms of said recesses upon which the rails are adapted

ed to rest, and means for holding the marginal edges of the recesses frictionally against the flanges of the rail.

3. A device for fastening railway rails
5 comprising ties intersecting each other and pivoted together, said ties being recessed to receive the flanges of railway rails, cushions mounted in boxes formed in the bottoms of
10 said recesses upon which the rails are adapted to rest, a screw engaging indentures in the adjacent edges of corresponding ends of the ties, and a nut fitted upon the threaded portion of the screw and adapted to bear
15 against one of said ties to hold the opposite walls of the recesses frictionally against the edges of the flanges of the rails.

4. A device for fastening railway rails comprising ties intersecting each other and recessed upon their upper edges, a pintle
20 projecting from one of the ties and adapted to engage a hole in the other, forming a pivot, said recesses adapted to receive the flanges of the railway rails, a cushion in the bottom of each recess, and means for spread-

ing the ties to cause the walls of the recesses to frictionally engage the edges of the flange of the rails. 25

5. A device for fastening railway rails comprising ties intersecting each other and pivoted together at their point of intersection, the upper surface of each tie being
30 diagonally recessed, the opposite walls of the recesses being undercut, a cushion in the bottom of each recess, a screw engaging indentures in the adjacent edges of corresponding ends of the ties, a nut upon the
35 threaded portion of the screw bearing against one of the ties and adapted to spread the ties to cause the undercut edges of the recesses to frictionally engage the opposite
40 edges of the flange of the rail.

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

WILLIAM H. J. DOWNEY.

Witnesses:

S. D. TOWNSEND, Jr.,

M. M. TONER.