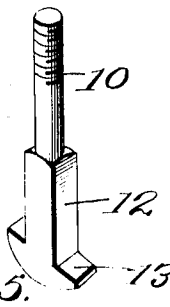
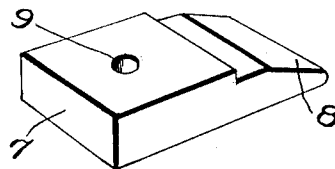
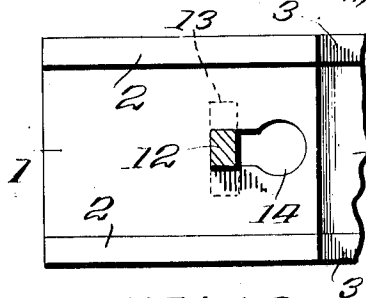
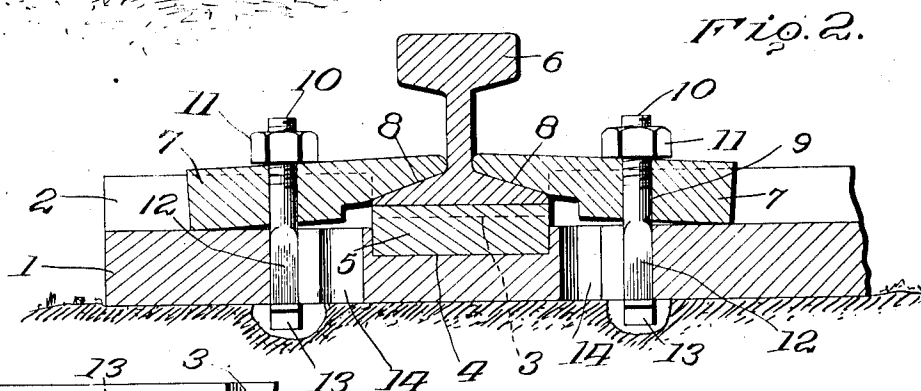
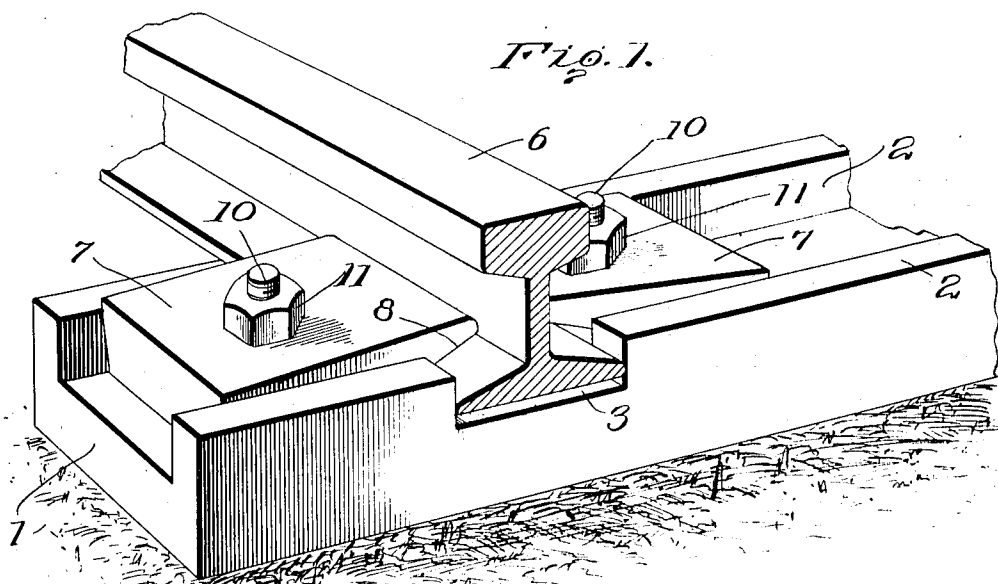


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RAILWAY TIE AND FASTENER.  
APPLICATION FILED JULY 25, 1911.

1,041,133.

Patented Oct. 15, 1912.



Witnesses  
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# UNITED STATES PATENT OFFICE.

SAMUEL W. McCONNELL, OF TIPPECANOE, OHIO.

RAILWAY-TIE AND FASTENER.

1,041,133.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed July 25, 1911. Serial No. 640,527.

*To all whom it may concern:*

Be it known that I, SAMUEL W. McCONNELL, a citizen of the United States, residing at Tippecanoe, in the county of Harrison and State of Ohio, have invented certain new and useful Improvements in Railway-Ties and Fasteners, of which the following is a specification.

The present invention comprehends certain new and useful improvements in railway ties and fasteners, and the primary object of the invention is to provide an improved metallic tie having upstanding side flanges that are correspondingly recessed in their upper edges to form alining seats within which the rail is confined against lateral displacement, there being a depression in the upper face of the tie between the seats for the reception of a cushion block or shim that yieldably supports the rail from the tie.

Another object of the invention is the provision of a pair of co-acting clamping members which fit snugly between the side flanges of the tie on opposite sides of the rail and which bear upon the adjacent base flanges of the rail to hold the rail down upon the cushion block and to retain the cushion block in the depression.

A still further object of the invention is to secure the screw-clamping members to the tie through the medium of nuts and bolts, the bolts being mounted in keyhole-shape slots in the tie in order to be susceptible of being readily withdrawn from the tie when occasion requires.

With these and other objects in view, as will more fully appear as the description proceeds, the invention consists of certain novel constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a perspective view of one end portion of my improved railway tie, showing a rail applied thereto; Fig. 2 is a longitudinal section thereof; Fig. 3 is a fragmentary top plan view of the tie with the bolt shown in section in the contracted portion of the keyhole-shape slot; Fig. 4 is a detail perspective view of a clamping jaw detached; and, Fig. 5 is a similar view of a clamping bolt.

Corresponding and like parts are referred

to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

My improved metallic tie consists of an elongated body portion 1 that is formed along its longitudinal edges with integral side flanges 2 which upstand substantially perpendicularly from the upper face of the tie and add materially to the strength of the structure. The tie is designed to extend transversely of a track, in the usual manner, and to have a rail secured to each end portion thereof. However, as the end portions of the tie are substantial duplicates, only one of the same is hereinafter specifically described and illustrated in the accompanying drawing.

The side flanges 2 are correspondingly recessed in their upper edges in proximity to the end of the tie to provide similar transversely alining seats 3 for the reception of the base of a rail 6 of conventional form. The bottom walls of the seats are preferably disposed slightly above the plane of the upper face of the tie and are substantially parallel thereto, while the end walls of the seats are substantially perpendicular to the bottom walls and are spaced apart a distance approximately equal to the width of the base of the rail. A depression or socket 4 is formed in the upper face of the tie between the seats 3 and in transverse alinement therewith, the depression being substantially rectangular in plan view and extending entirely across the upper face of the tie between the side flanges 2 and being of the same width as the seats 3. The side walls of the depression are perpendicular to both the upper face of the tie and the bottom wall of the depression, so that the depression is of substantially uniform size throughout its depth. Fitted within the depression and corresponding in size and shape thereto, is a cushion block or shim 5 that upstands from the upper face of the tie to support the rail 6 between the seats 3, the cushion block being formed of wood or any other suitable yielding material. It is to be noted that the cushion block supports the base of the rail in slightly spaced relation to the bottom walls of the seats in order to relieve the side flanges 2 of excessive strain and to afford clearance for the rail when the block yields under vertical pressure. The rail is guided in its vertical movement by the end walls of the seats which bear at all times against op-

posite sides of the base of the rail and serve to confine the rail securely against lateral displacement, that is, against displacement in the length of the tie.

5 A pair of co-acting clamping members or jaws 7 are mounted upon the upper face of the tie on opposite sides of the rail and are beveled on their lower faces at their adjacent ends, as indicated at 8, to fit over the  
10 base flanges of the rail and abut against the web thereof. In this position the lower faces of the jaws are inclined with respect to the tie and bear upon the upper face of the tie only at the ends of the jaws which  
15 are remote from the rail. Each jaw is formed with a substantially vertical central opening 9 by means of which it is slipped on the upstanding threaded end portion of a clamping bolt 10. Nuts 11 work on the  
20 extremities of the clamping bolt and are adapted to be tightened against the upper faces of the jaws to rock the jaws vertically about the ends thereof that bear upon the tie and thus force the beveled ends 8 down-  
25 wardly against the base flanges of the rail to both hold the rail down upon the cushion block and to retain the cushion block securely in position in the depression 4. On account of the inclined disposition of the  
30 lower faces of the jaws, the jaws may be adjusted from time to time to take up wear. Attention is here directed to the fact that the jaws are of sufficient width to fit snugly between the side flanges 2, this being quite  
35 important since the jaws are held against turning movement on the bolts and are braced against strain in the direction of the length of the rail. It will therefore be apparent that the jaws are positively retained  
40 in engagement with the rail against accidental displacement.

Each clamping bolt 10 has a T-head 13 and is formed between the head and its threaded end portion with a shank 12 which  
45 is angular in cross section and passes through a keyhole-shaped slot 14. Each slot extends substantially vertically entirely through the body portion of the tie on one side of the depression 4 and is elongated in  
50 the direction of the length of the tie with its enlarged or rounded end adjacent to the depression 4. The other or contracted end of the slot normally receives the shank 12 of the bolt and has substantially parallel  
55 side walls which fit snugly against opposite sides of the shank to hold the shank against turning movement in the slot and to maintain the former securely in position in the latter with the T-head 13 extending at right

angles to the length of the slot and bearing 60 against the lower face of the tie to prevent the bolt from being withdrawn from the tie. The jaw which is mounted on the upper end of the bolt, holds the bolt at a predetermined distance from the rail to retain the shank 65 in the contracted portion of the slot. However, by removing the nut and jaw, the bolt may be readily moved toward the rail and into the enlarged end of the slot, in which position it may be turned approximately 70 through ninety degrees to bring the T-head 13 in alinement with the slot and thus enable the bolt to be withdrawn vertically from the slot when occasion requires, without disturbing the tie in the road bed. The 75 bolt is, of course, returned to position by reversing the foregoing operation.

What I claim is:

A railway tie having transversely spaced longitudinal flanges upstanding from its 80 upper face, the flanges being recessed to provide alining seats, the tie being formed in its upper face between the seats with a depression, a cushion block fitted in the depression and supporting the rail, oppositely 85 disposed elongated clamping blocks mounted upon the tie between the longitudinal flanges thereof and engaging over the base of the rail at opposite sides of the web thereof, the tie being formed on one side 90 of the rail with a keyhole shaped slot extending entirely therethrough and elongated in the direction of the tie with its larger end adjacent to the rail, a bolt having a T-head adapted to be inserted through the 95 slot, the shank of the bolt being angular in cross section and being free to turn in the larger end of the slot and being held against turning movement when fitted in the contracted end of the slot, said bolt detachably 100 connecting each clamping block to the tie, each of said clamping blocks having a flat lower face bearing against the upper face of the tie, a beveled rail-engaging end adapted to engage over the base of the rail, and a 105 shoulder defining the flat lower face and the inner end of the beveled face, the clamping blocks being of a width to fit snugly between the flanges whereby to prevent and to be braced against strain in the length of 110 the rail.

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

SAMUEL W. McCONNELL. [L. s.]

Witnesses:

JAMES H. SEPTER,  
MERT NORRIS.