

J. R. McGUIRE.

RAILROAD TIE.

APPLICATION FILED JAN. 16, 1908. RENEWED AUG. 13, 1909.

952,342.

Patented Mar. 15, 1910.

1 SHEETS—SHEET 1.

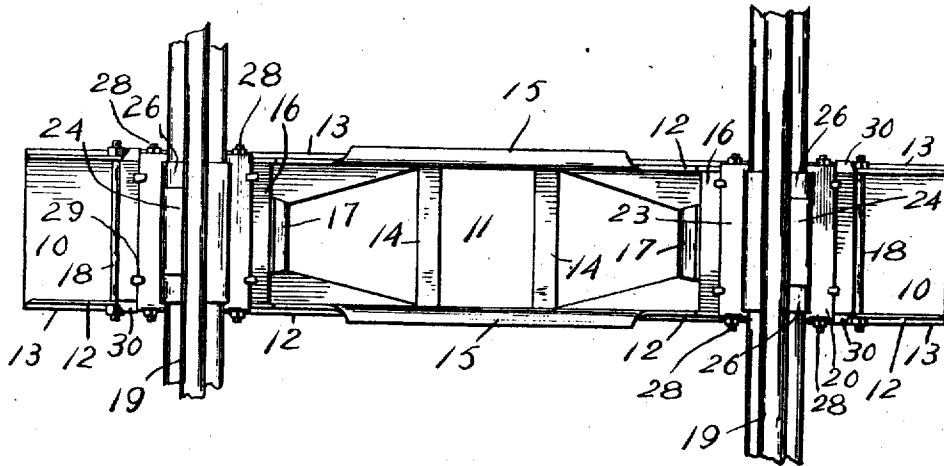


Fig. 1.

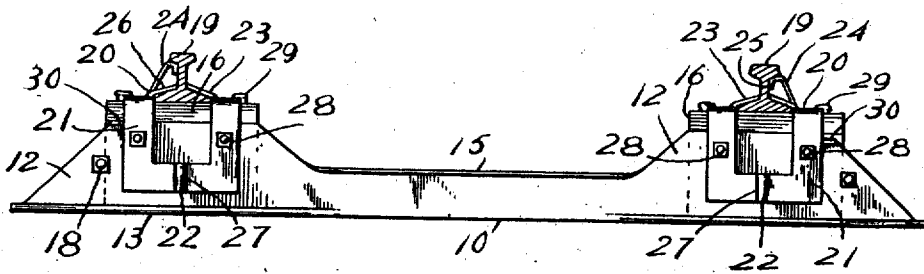


Fig. 2.

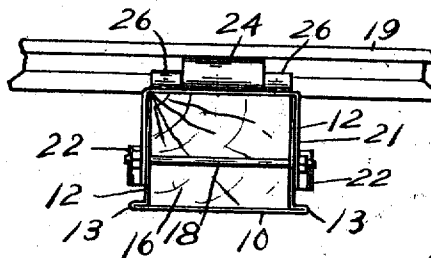


Fig. 3.

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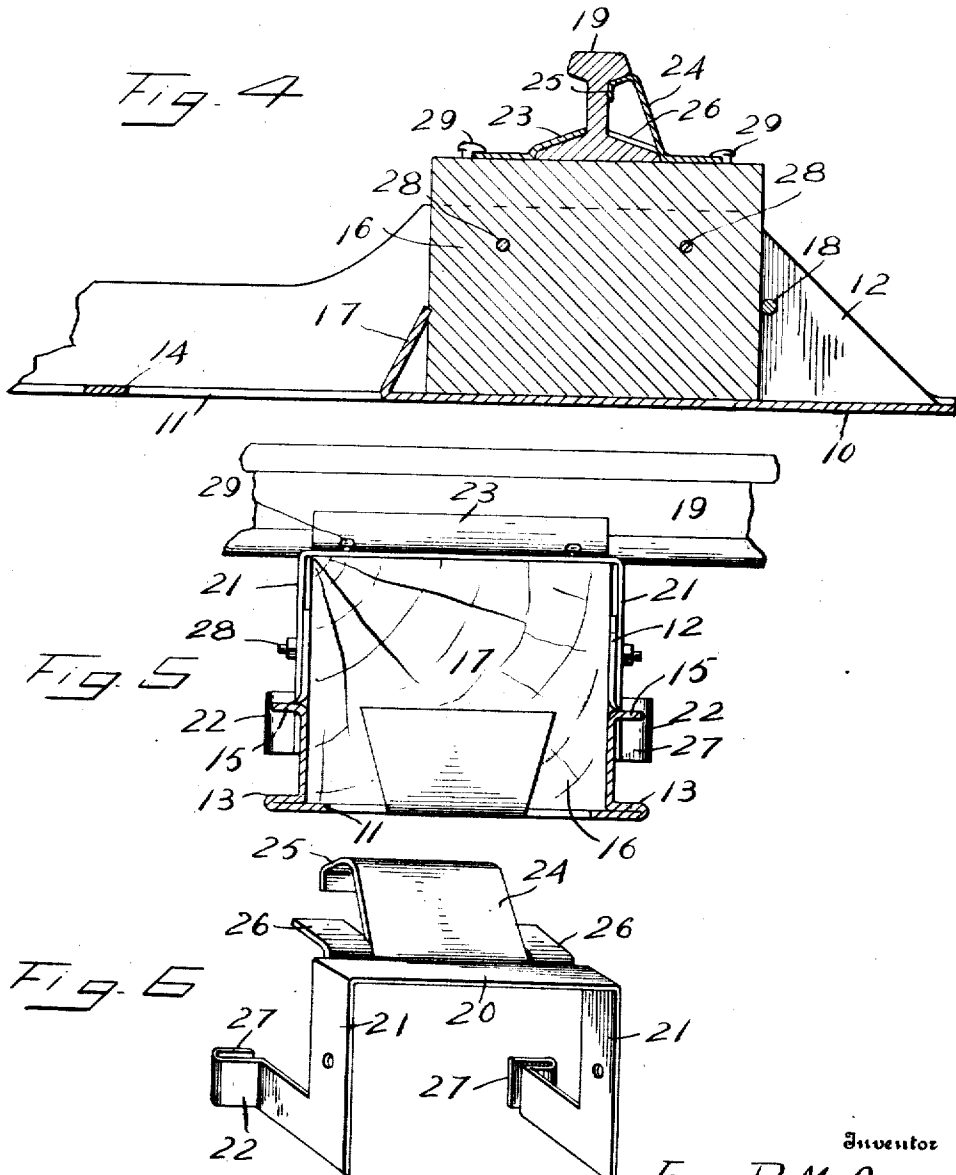
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RAILROAD-TIE.

952,342.

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To all whom it may concern:

Be it known that I, JAMES R. MCGUIRE, a citizen of the United States, residing at Chadwick, in the county of Christian, State of Missouri, have invented certain new and useful Improvements in Railroad-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.

This invention relates to railroad ties and more particularly to that class which are composite in structure, the tie being made up of a skeleton frame or body, rail-supporting blocks of wood or other material which are locked in the frame, and rail-clamping devices which are associated with the said frame and blocks.

In carrying out my invention I so construct the skeleton frame of the tie that lateral shifting of the tie will positively be prevented and its side walls braced both by the means for preventing shifting and by means of flanges formed at their upper edges.

A further feature of the invention resides in the novel construction of the rail-clamping devices the primary feature of which lies in the provision of means for preventing overturning of the rail.

In the accompanying drawings, Figure 1 is a top plan view of the tie showing rails supported thereon, Fig. 2 is a side elevation thereof, Fig. 3 is an end view, Fig. 4 is a vertical longitudinal sectional view through substantially one-half of the tie. Fig. 5 is a vertical transverse sectional view, and, Fig. 6 is a detail perspective view of one element of one of the rail-clamping devices.

As shown in the drawings, the skeleton frame comprises a base 10 which is integral at each end but is open at its middle as indicated at 11. At each side, or rather along each longitudinal edge, the base 10 is formed with an integral upstanding flange 12 these flanges being formed by crimping the metal blank in a lengthwise direction as at 13 it being understood that this crimping of the blank forms substantially a two-ply flange which not only strengthens the flanges 12 with respect to the base but forms also an anchoring means for the tie inasmuch as the road-bed material is tamped or packed over the said flanges. In order to prevent lateral spreading of the tie after having been

properly embedded in the road-bed, connecting portions 14 are formed integral with the blank and extend from the lower edge of one flange 12 to the corresponding edge of the other flange 12, traversing of course the open portion 11 of the base 10, it being understood that the material in the road-bed is tamped over these connecting portions 14. It will also be understood that the said portions brace the flanges 12 and prevent not only their spreading, but also their collapse they being aided in the performance of this function by the formation, at the upper edge of the middle portion of each flange 12, of a right angularly and outwardly directed flange 15.

The rail-supporting blocks embodied in the invention are preferably formed of wood and are indicated by the numeral 16 and these blocks are disposed one upon each of the integral end portions of the tie and between the end portions of the flanges 12 and these blocks are held firmly in place by means of elements which will now be specifically described. One of these elements is in the nature of a tongue 17 which is stamped up at each end of the open portion 11 of the base of the tie and is directed upwardly and in an outward direction and bears against the inner face of the corresponding block. This element serves to prevent inward movement of the block. The other element for holding the blocks to their seats is in the form of a bolt rod 18 which is engaged through the flanges 12 at their outer ends and directly outwardly of the respective rail-supporting blocks 16, it being understood that the blocks are confined each between their respective bolt rod 18 and tongue 17.

In order to firmly clamp the rails, which are indicated by the numeral 19, to the tie, or more specifically upon their respective rail-supporting blocks, I provide means embodied in two cooperating elements. Each of these elements is formed from a sheet metal blank comprising an intermediate portion 20, side portions 21 which depend at right angles from the intermediate portion and which are formed at their lower ends with right angularly extended tongues 22 the intermediate portions of the elements being of greater width than the depending side portions thereof so as to afford rail-engaging flange portions. These elements are disposed upon the tie and the rail-sup-

5 porting block associated therewith so that
 their intermediate portions rest upon the
 upper face of the corresponding rail-sup-
 10 porting block one at each side of the rail
 thereon and their depending portions rest-
 ing against the side faces of the tie body
 or in other words against the outer faces
 of the flanges 12. The inner one of the two
 elements above briefly described has the
 15 flange portion 23 of its intermediate portion
 bent or formed to overlie the inner base
 flange of the respective rail or in other
 words to confine this flange between it and
 the upper face of the rail-supporting block.
 20 The outer one of each of the elements has
 the intermediate portion of its rail-engag-
 ing flange portion bent to extend upwardly
 and inwardly in the direction of the tread
 of the rail as indicated at 24 and then over-
 25 turned as at 25 the bend formed by the over-
 turning of this flange being disposed di-
 rectly beneath the outer portion of the tread
 of the rail, the overturned or depending
 portion of the flange bearing against the
 30 outer face of the rail web. This disposition
 of the rail-clamping element of the tie is
 clearly shown in the vertical longitudinal
 sectional view of the drawings. The rail-
 engaging flange of the outer one of the rail-
 35 clamping elements is bent or formed, at each
 side of the above described portion of the
 flange, to engage or overlie the outer base
 flange of the respective rail as is indicated
 by the numeral 26. The end portion of each
 40 tongue 22 of the inner element is bent to
 extend outwardly at right angles or in other
 words at right angles from the tie and the
 corresponding ends of the tongues of the
 outer elements are bent outwardly at right
 45 angles and are thence returned or bent back
 as at 27 the right angularly bent end por-
 tions 26 being engaged or received between
 the outwardly and right angularly bent por-
 tions and the returned portions of the
 50 tongues of the outer element. The two ele-
 ments of the rail-clamping device are in
 this manner interlocked and they are held to
 the tie by means of bolts 28 which are en-
 gaged through the flanges 12 and through

each of the depending portions 21 of each 50
 element, spikes 29 being driven into the
 rail-supporting blocks at the edges of the
 said elements to aid in holding them in
 place.

From the foregoing description of my in- 55
 vention it will be seen that I have provided
 a tie of such construction that when prop-
 erly tamped into place in the road-bed, will
 not be liable to sidewise shifting. The rail-
 supporting blocks while firmly held in place 60
 normally, can easily and quickly be removed
 and new blocks inserted in their stead and
 the under sides of the blocks are protected
 from exposure to moisture accumulating in
 the road-bed. It will further be seen that 65
 overturning of the rails is effectually pre-
 vented by the engagement of the portion 24
 of the outer rail-clamping element beneath
 the tread of the rail.

As a means for preventing outward dis- 70
 placement of the rail-clamping devices, the
 upper outer corners of the flanges 12 are
 formed each with an outwardly right angu-
 larly directed shoulder or lug 30 against
 which the adjacent portions of the edges of 75
 the depending portions of the corresponding
 outer rail-engaging element rest.

What is claimed, is:—

The combination with a tie body and a
 rail supported thereon, of a member having 80
 an intermediate portion resting upon the up-
 per face of the body and formed with a base
 flange-engaging portion and depending por-
 tions secured to the sides of the body, and a
 member comprising an intermediate portion 85
 disposed upon the upper face of the body
 outwardly of the rail and formed with a
 rail-engaging portion which bears beneath
 the tread of the rail and with depending
 portions which are secured to the sides of 90
 the body, the depending portions of the two
 elements being interlocked.

In testimony whereof, I affix my signa-
 ture, in presence of two witnesses.

JAMES R. McGUIRE.

Witnesses:

M. L. ATKINSON,
 L. H. ADAMS.