J. R. McGUIRE.

RAILROAD TIE.

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

952,342. Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.

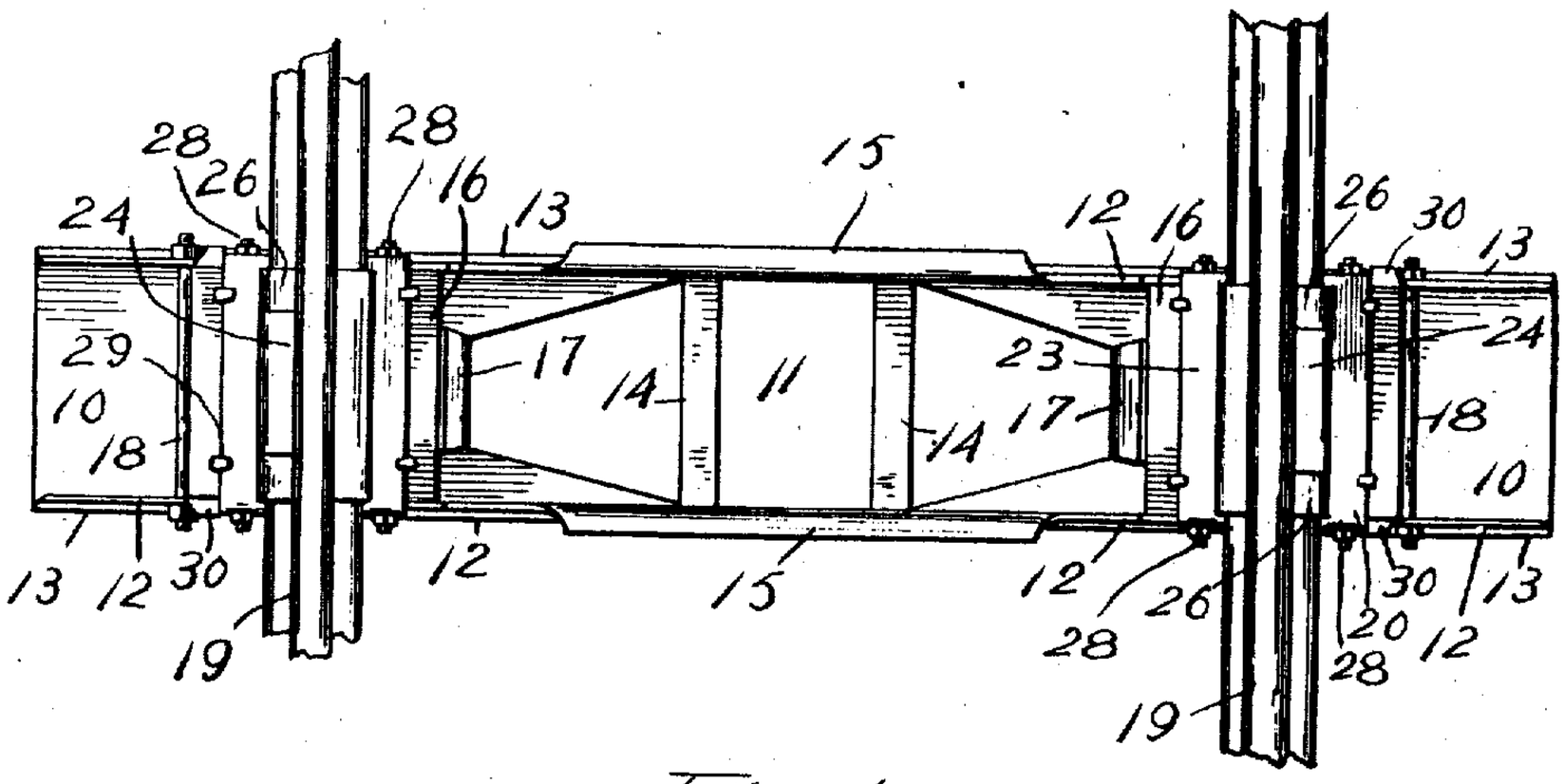

Fig. 1.

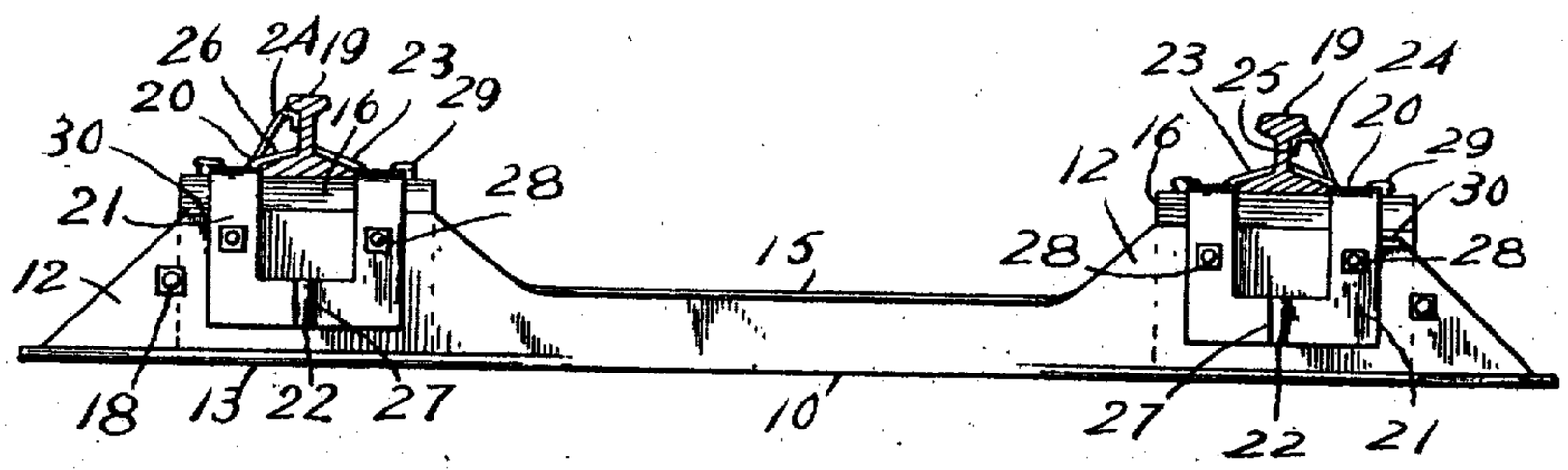

Fig 2

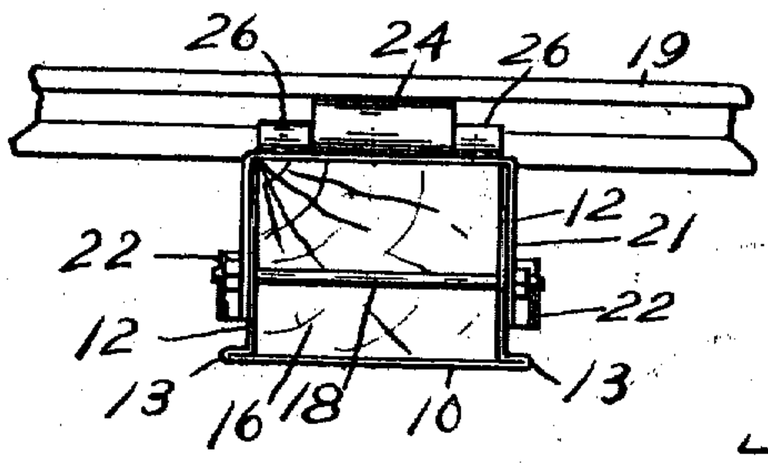

Fig. 3.

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Fig. 4

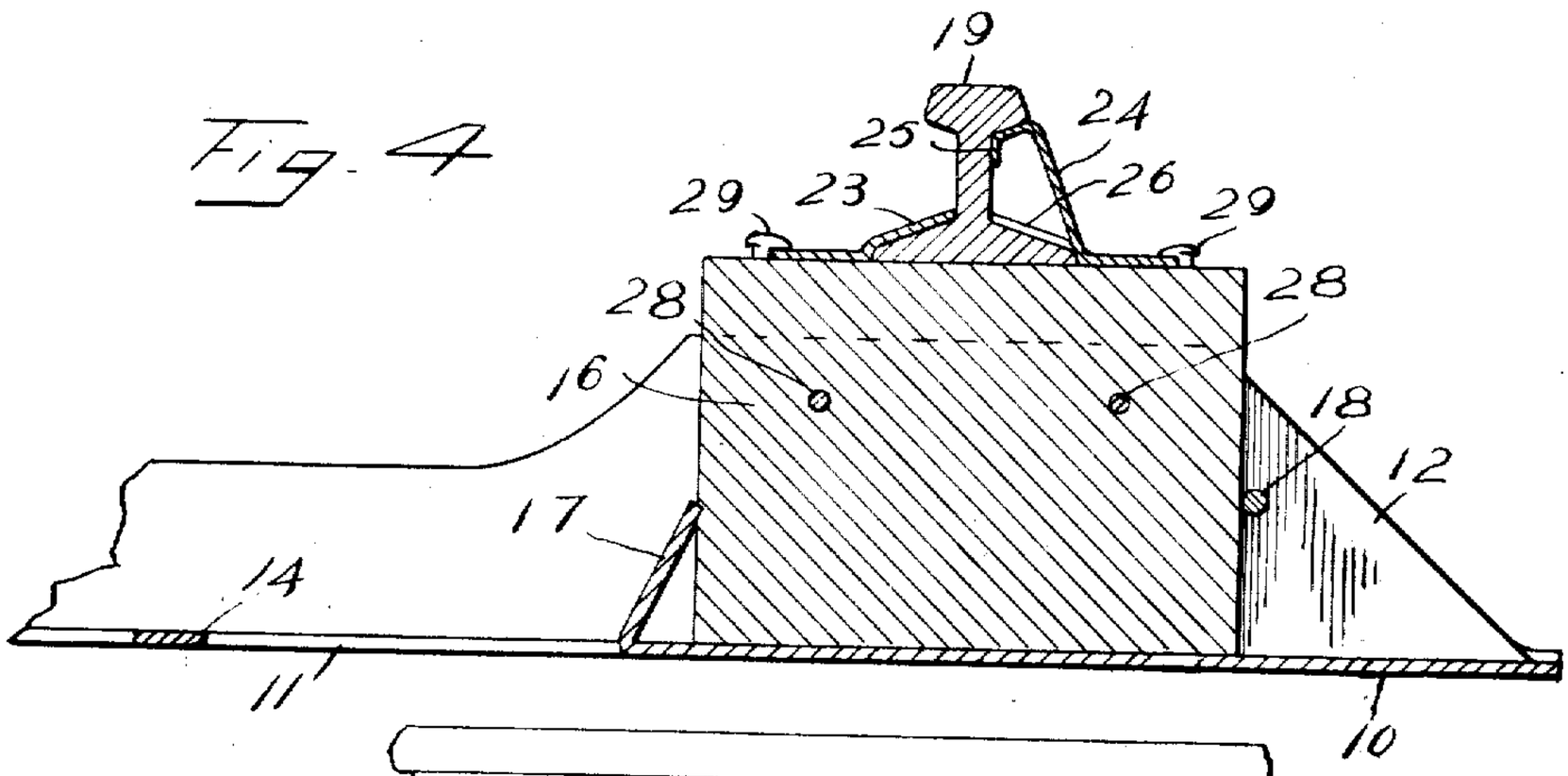


Fig. 5

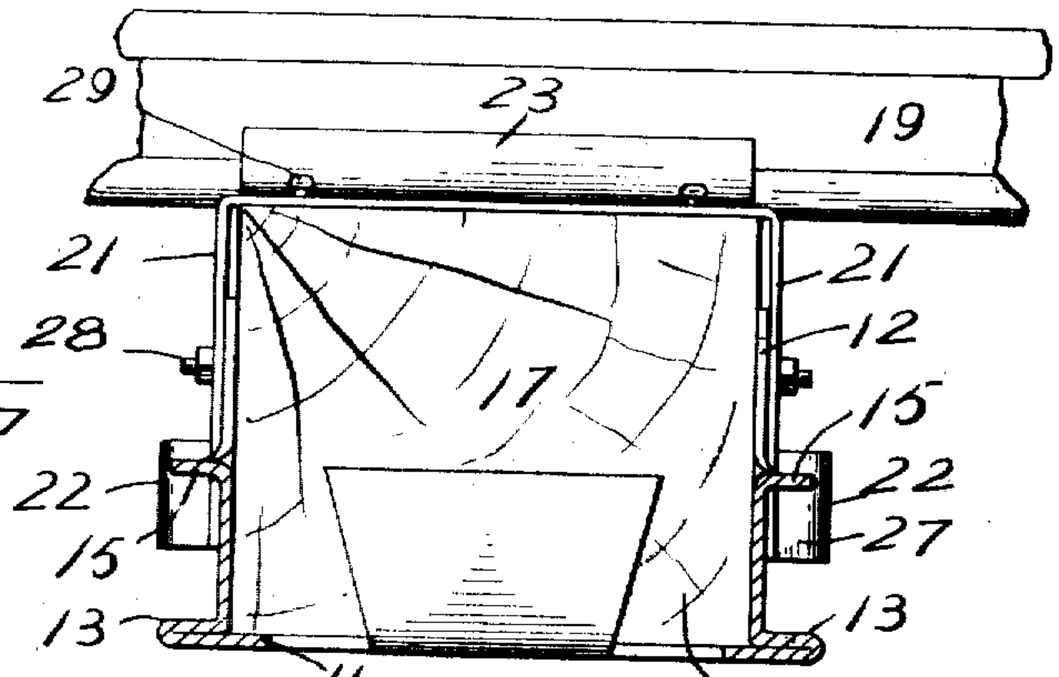
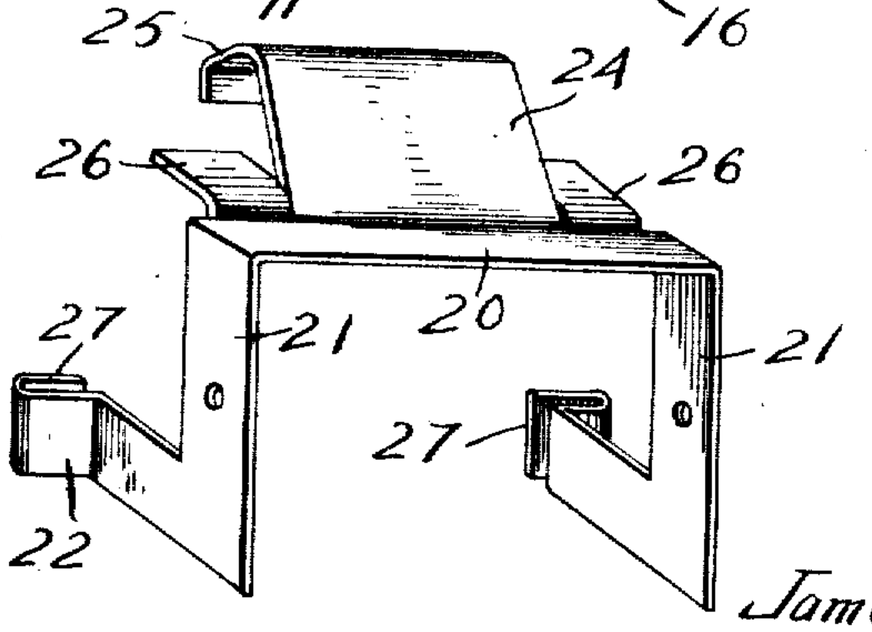


Fig. 6



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RAILROAD-TIE.

952,342. Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed January 16, 1908, Serial No. 411,112. Renewed August 13, 1909. Serial No. 512,752.

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 coöperating 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-

porting block associated therewith so that their intermediate portions rest upon the upper face of the corresponding rail-supporting block one at each side of the rail thereon and their depending portions resting 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 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. The outer one of each of the elements has the intermediate portion of its rail-engaging flange portion bent to extend upwardly and inwardly in the direction of the tread of the rail as indicated at 24 and then overturned as at 25 the bend formed by the overturning of this flange being disposed directly beneath the outer portion of the tread of the rail, the overturned or depending portion of the flange bearing against the 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-clamping elements is bent or formed, at each side of the above described portion of the flange, to engage or overli the outer base flange of the respective rail as is indicated by the numeral 26. The end portion of each 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 angles and are thence returned or bent back as at 27 the right angularly bent end portions 26 being engaged or received between the outwardly and right angularly bent portions and the returned portions of the tongues of the outer element. The two elements of the rail-clamping device are in this manner interlocked and they are held to the tie by means of bolts 28 which are engaged through the flanges 12 and through each of the depending portions 21 of each 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 invention it will be seen that I have provided a tie of such construction that when properly tamped into place in the road-bed, will not be liable to sidewise shifting. The rail-supporting blocks while firmly held in place 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 overturning of the rails is effectually prevented 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 displacement of the rail-clamping devices, the upper outer corners of the flanges 12 are formed each with an outwardly right angularly directed shoulder or lug 30 against which the adjacent portions of the edges of 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 an intermediate portion resting upon the upper face of the body and formed with a base flange-engaging portion and depending portions secured to the sides of the body, and a member comprising an intermediate portion 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 the body, the depending portions of the two elements being interlocked.

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

JAMES R. McGUIRE.

Witnesses:

M. L. Atkinson,

L. H. Adams.