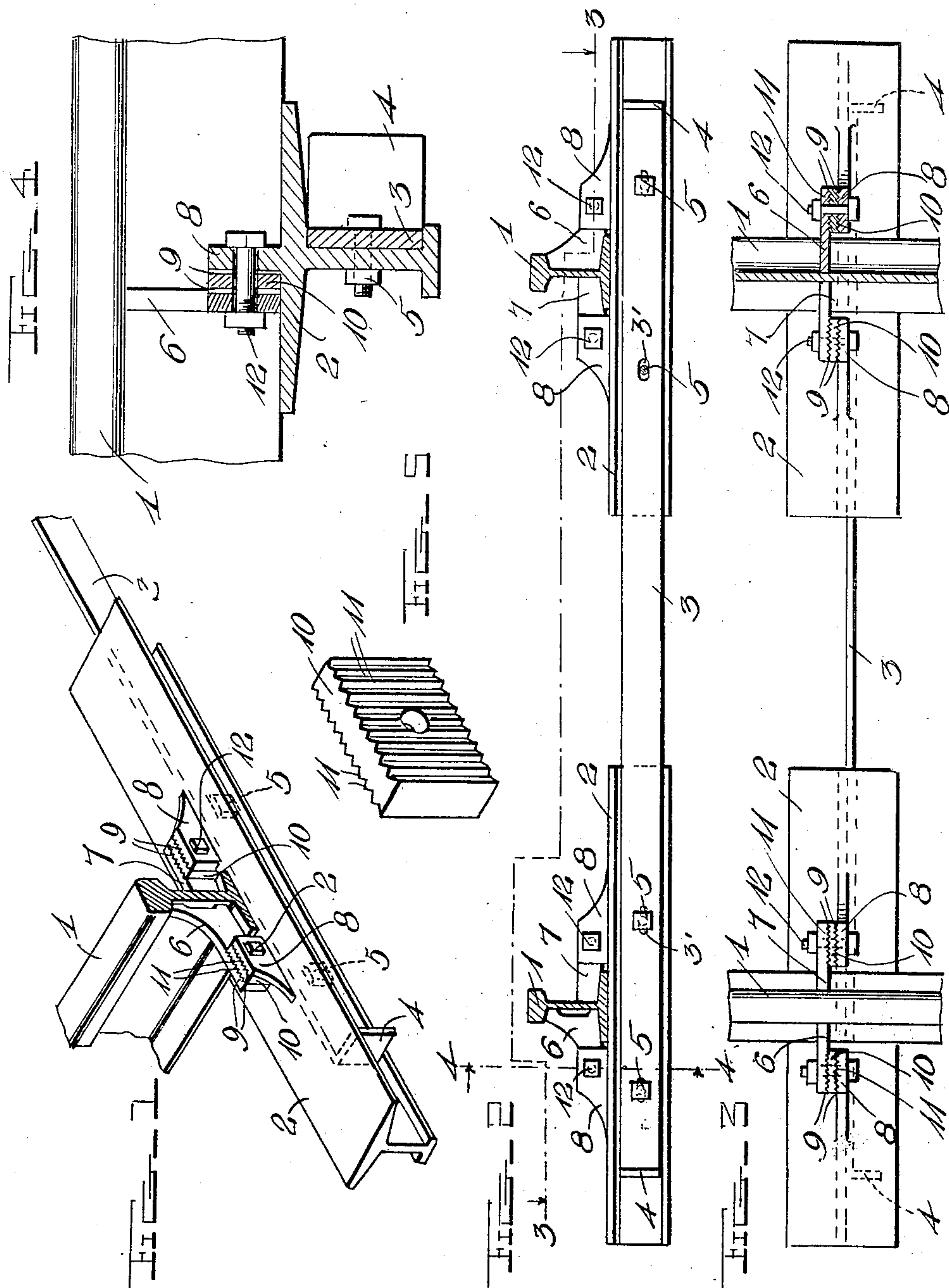


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METAL RAILROAD TIE.  
APPLICATION FILED JULY 27, 1908.

912,151.

Patented Feb. 9, 1909.



Witnesses  
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# UNITED STATES PATENT OFFICE.

SAMUEL McELFATRICK, OF PRINCETON, KENTUCKY.

## METAL RAILROAD-TIE.

No. 912,151.

Specification of Letters Patent.

Patented Feb. 9, 1909.

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*To all whom it may concern:*

Be it known that I, SAMUEL McELFATRICK, a citizen of the United States, residing at Princeton, in the county of Caldwell and State of Kentucky, have invented certain new and useful Improvements in Metal Railroad-Ties; and I do 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.

My invention relates to improvements particularly in metal railroad ties.

It has for its object to provide for connecting the rails in such a manner as to prevent the swaying of the track rails and to secure said rails in effective position; also to provide for the reversing of the rails at curvatures in the track and for the accommodation of said rails to said curvatures; and to carry out the aforesaid objects in a simple, inexpensive and effective manner.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings illustrating the preferred embodiment of the invention, Figure 1 is a sectional perspective view thereof; Fig. 2 is a side view of the same; Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2; Fig. 4 is a vertical section taken on the line 4—4 of Fig. 3; and Fig. 5 is a detached perspective view of the double serrated plate or washer.

In carrying out my invention, I provide suitable track-rails 1 supported upon separate opposed short tie-pieces 2, suitably embedded in the road bed. Said tie-pieces 2 are preferably of T-shape in cross section, with the stems presented downwardly and provided with laterally extending flanges on opposite sides of its lower edge, and are connected together by tie-bars 3, having their terminals bent or extended at right-angles, as at 4, a short distance, said right-angled portions resting at their lower edges upon one of the base flanges of the members 2, and having their upper edges abutting the under sides of the heads of said members 2. Said tie-bars 3 are suitably bolted to the stem of the T-shaped tie-pieces or members 2, as at 5, at points upon opposite sides of the track-rails in order to more effectively reinforce

the rails at that point, while the right-angled terminals 4 of said tie-bars provide against the swinging or lateral motion of the tie-pieces with the rails, especially as would otherwise be the case, where the middle of the road-bed should be more firmly packed than that portion of said bed under the rails. The bolt holes 3' in the bars 3 are made oblong and extend longitudinally of the bars to provide for variation in the gage of the rails.

Arranged upon the outer sides of the track-rails above their bases are edgewise disposed plates 6 abutting at their inner edges against the webs of said rails. Arranged edgewise to, and so as to abut against the opposite sides of the webs of said rails are additional edgewise disposed plates 6 and 7, said bars or plates 6 and 7 being recessed on their lower edges at their front ends to fit over the base flanges of the rail and the remainder of their edges resting upon the top surface of the T-shaped tie-pieces 2. Additional upright plates or members 8 are also disposed upon said tie-pieces, two being preferably made integral therewith. The adjacent faces of said plates 6, 7 and 8 are provided with serrations or toothed surfaces 9, and intermediate of the plates or braces 6, 7 and 8, upon opposite sides of the track-rails, are interposed other plates or members 10, both sides of each of said plates 10 being also provided with serrations or ratchet teeth 11, which intermesh with the corresponding surfaces of the members 6, 7 and 8 for the effective retention of said parts against edgewise movement, said parts being firmly held together by bolts 12 passed therethrough and through the plates 6 and 7.

It is noted that each bolt 12 penetrates the elevation or apex of a serration on one side of said plate 10 and through a groove or notch between two teeth upon the opposite side of said member 10, to provide for the reversal of the plates when it is desired to vary the gage of the track, especially at curves in the railroad track and whereby the rails may be reversed at those points and thus provide for the prolonged use of the rails.

It will be also noted, as previously indicated, that by means of the above arrangement of parts, a simple, effective, and economical fastening is provided for the securing of railway rails in effective position and which is exceedingly simple, inexpensive and readily applied.

From the foregoing description, taken in



connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

5 Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended  
10 claims.

Having thus described and ascertained the nature of my invention, what I claim as new and desire to secure by Letters-Patent, is:—

1. A device of the class described comprising tie pieces having base flanges, means  
15 for securing rails upon said tie pieces and a tie bar connecting said tie pieces and having right-angle terminals extending in the same direction and filling the space between the  
20 under surfaces of the upper portions and the base flanges of said tie pieces.

2. A device of the character described embracing spaced tie-pieces supporting railway rails and having laterally extending flanges  
25 on opposite sides at its upper and lower edges and connecting bars connected to each of said tie-pieces at points on opposite sides of each rail, said connecting bars having right-angled terminals extending in the same  
30 direction with their bottom and top edges in contact with the top and bottom flanges of said tie-pieces.

3. A device of the character described comprising tie-pieces T-shaped in cross section having laterally extending flanges at  
35 their lower edges and adapted to support railway rails, connecting bars having right-angled terminals extending in the same direction with their upper and lower edges in

contact with the flanges of said tie-pieces, 40 said connecting bars having oblong openings therein extending longitudinally thereof at points upon opposite sides of each of said rails, and fastening bolts passing through said openings and through the tie pieces. 45

4. A device of the character described comprising tie-pieces, removable braces arranged upon said tie-pieces and adapted to engage the web portions of rails, fixed brace  
50 members also arranged upon said tie-pieces and washer members or plates interposed between said removable and fixed braces and having serrated or toothed surfaces upon  
55 opposite sides, said fixed and removable braces having serrated inner faces for engagement with said washers, and means for fastening said braces and washers in place.

5. A device of the character described comprising tie-pieces, movable rail bracing  
60 members, rigid rail bracing members, members having serrated faces interposed between said fixed and movable brace members and engaging corresponding surfaces thereof, and bolts passing through said members,  
65 each bolt being adapted to intersect the apex of a tooth of the serrated surfaces upon one side of said interposed member, and a notch or depression intermediate of the apices of the teeth of the serrations upon the opposite side of said interposed member.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SAMUEL McELFATRICK.

Witnesses:

R. M. POOL,  
L. G. COX.