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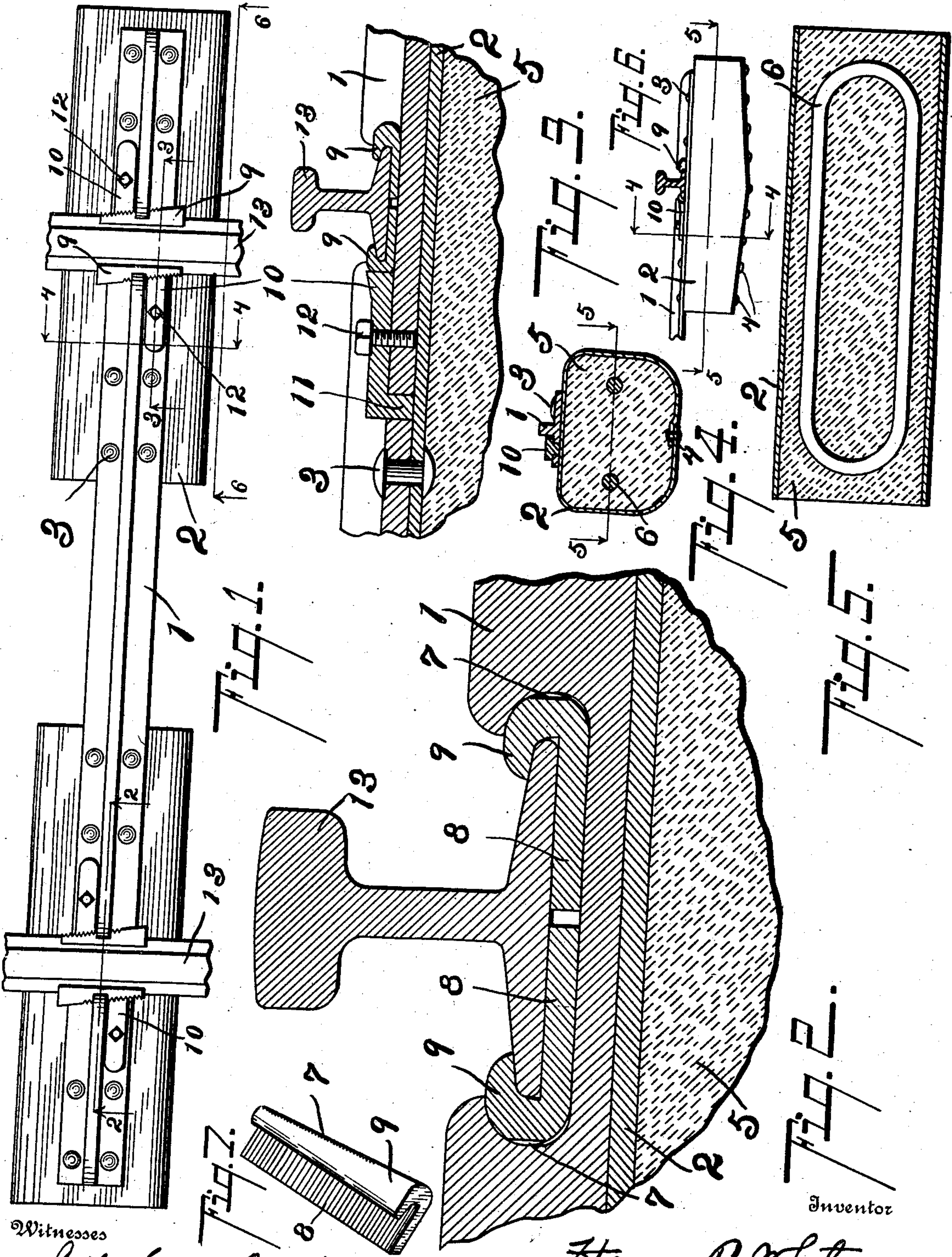
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PATENTED JUNE 23, 1908.

H. P. WHITE.

RAILWAY TIE.

APPLICATION FILED AUG. 12, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY P. WHITE, OF KALAMAZOO, MICHIGAN.

RAILWAY-TIE.

No. 891,311.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed August 12, 1907. Serial No. 388,161.

To all whom it may concern:

Be it known that I, HENRY P. WHITE, a citizen of the United States, residing at Kalamazoo, Kalamazoo county, Michigan, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification.

This invention relates to improvements in railway cross-ties and means for securing the rails thereto.

The objects of this invention are: first: to provide an improved combination metal and cement railway-tie which may be quickly and conveniently placed in the road-bed and the rails secured thereto; second: to provide an improved railroad-tie and means for securing the rails thereto, by which the spreading or tipping of the rails is effectively prevented; third: to provide an improved railway-tie which serves to reduce the noise of passing trains; fourth: to provide an improved railway-tie and means for securing the rails thereto, in which the rails may be easily adjusted and secured in placing the same; and fifth: to provide an improved railway-tie which is economical to produce and durable in use, and one which is not likely to get out of repair in use.

Further objects, and objects relating to details of construction, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing forming a part of this specification, in which:

Figure 1 is a plan view of a structure embodying the features of my invention, parts of the rails being shown in position thereon to show the relation of the parts in use; Fig. 2 is an enlarged detail longitudinal section, taken on a line corresponding to line 2—2 of Fig. 1; Fig. 3 is an enlarged detail longitudinal section, taken on a line corresponding to line 3—3 of Fig. 1, showing further details of the rail-securing means; Fig. 4 is a cross-section taken on a line corresponding to line 4—4 of Fig. 1; Fig. 5 is a horizontal section taken on a line corresponding to line 5—5 of Fig. 4, the binding-core being shown in full lines; Fig. 6 is a detail side elevation of one end of the tie; and Fig. 7 is a per-

spective view of one of the rail-clamping plates.

In the drawing, the sectional views are taken looking in the direction of the little arrows at the ends of the section lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the drawing: I provide a pair of supporting-blocks for the bar 1, preferably consisting of metal shells 2 to which the bar 1 is secured by means of suitable rivets, as 3. The bar 1 is a T-bar and is arranged in an inverted position, the rivets being passed through the horizontal flanges or arms thereof. The block-shells 2 are preferably formed of sheet metal, the edges being brought together on the underside and secured by rivets 4.

By forming the shell of sheet metal I can conveniently secure the taper which I find desirable, the shells being preferably tapered at each end, as clearly appears in Fig. 6. The shells are provided with a suitable filling, as 5, preferably of concrete or other suitable material, which may be placed therein in a plastic condition. I am aware, however, that there are a great variety of materials which might be used for this purpose.

I preferably embed the binding-cores 6 in the filling 5, the cores preferably being in the form of links, as clearly appears in Fig. 5. These binding-cores and the taper of the shells serve to retain the filling should it become fractured.

The vertical flange or arm of the T-bar 1 is provided with rail-openings 7 located centrally above the supporting-blocks 5, as clearly appears from the drawing. The ends of these openings are preferably curved, as clearly appears in Fig. 2, the object being to secure a more perfect wedging and clamping action of the rail-plates 8 upon the rails. These rail-plates 8 are arranged in oppositely-disposed pairs, and are provided with upwardly and inwardly projecting flanges at their outer edges, the flanges being adapted to embrace the edges of the base of the rail 13, as clearly appears in the drawing. These flanges are wedge-shaped so that by driving the same up they are wedged and clamped upon the rail. The edges of the plates 8 are preferably serrated, so that they securely engage the bar flange, thus securing them in place. To further add to the security of these plates, I preferably provide locking-plates 10. These locking-plates are pro-

vided with serrations at their inner ends, adapted to engage the serrations of the rail-plates. The plates 10 are preferably provided with downwardly projecting dowels 11 at their outer ends, adapted to be inserted in suitable holes provided therefor in the horizontal arms of the T-bar. The locking-plates are further secured by means of the screws 12.

10 In securing the rail to the tie, the rails are properly centered and gaged by the manipulation of these plates. By wedging the plates up securely, the rail may be clamped to the tie, so that there is no opportunity for
15 vibration between the rail and the tie, thereby greatly lessening the noise. The parts are so arranged that they are not likely to become loosened from wear. However, should they become loosened, they may be
20 readily tightened by driving up the securing-plates.

The base of the rail is securely clamped so that it is impossible for the rails to spread, as is likely to occur when bolts or spikes are
25 used, or for the same to tip under heavy strain. I preferably use the locking-plates as an additional precaution for securing the rail-plates, but do not regard these as essentials, particularly where the edges of the rail-
30 plates are serrated as illustrated. Should the rails become worn, they may be adjusted to compensate for the wear by loosening up the clamping-plates and re-adjusting the
35 same, which, it is obvious, may be done as many times as required without seriously affecting the security thereof.

My improved tie is very strong and durable, and may be formed of concrete and metal, as described, and at the same time is
40 economical in manufacture and does not contain any useless weight,—which is the serious objection to concrete or artificial stone ties.

I have not, in the accompanying drawing, attempted to show a structure of exact proportion, the structure shown being illustrative only. I have illustrated and described my improved tie in detail and in the form preferred by me on account of the structural simplicity and economy and its convenience
50 in use. I am, however, aware that it is capable of considerable structural variation without departing from my invention, and I desire to be understood as claiming the same specifically as well as broadly.

55 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a structure of the class described, the combination with a pair of blocks comprising metal shells tapered toward each
60 end; a filling for said shells; a T-bar arranged with its vertical flange projecting upward secured to said blocks by riveting to the shells thereof, the vertical flanges of said bar
65 having recesses therein to receive the rails

located centrally above said blocks, and rail clamping plates adapted to be wedged into said recesses in said bar for securing the rails thereto.

2. In a structure of the class described, the combination with a pair of blocks comprising
70 metal shells; a filling for said shells; a T-bar arranged with its vertical flange projecting upward secured to said blocks by riveting to the shells thereof, the vertical flanges of said
75 bar having recesses therein to receive the rails located centrally above the said blocks, and rail clamping plates adapted to be wedged into said recesses in said bar for securing the rails thereto.

3. In a structure of the class described, the combination with an inverted T-bar, the vertical flange of said bar having a recess therein to receive the base of a rail, the ends of said
80 recess being curved; a pair of oppositely-arranged rail plates provided with upwardly and inwardly projecting wedge-shaped serrated flanges at their outer edges; locking plates serrated at their inner ends to engage
85 said rail plates and having bar-engaging lugs at their outer ends; and securing screws for said locking plates.

4. In a structure of the class described, the combination with an inverted T-bar, the vertical flange of said bar having a recess therein
90 to receive the base of a rail; a pair of oppositely-arranged rail plates provided with upwardly and inwardly-projecting wedge-shaped serrated flanges at their outer edges; locking plates serrated at their inner ends to
95 engage said rail plates and having bar-engaging lugs at their outer ends; and securing screws for said locking plates.

5. In a structure of the class described, the combination with a T-bar arranged with its
100 vertical flange upwardly, the vertical flange of said bar having a recess therein to receive the base of a rail; a pair of oppositely-arranged rail plates on which said rail rests, provided with upwardly and inwardly-pro-
105 jecting wedge-shaped serrated flanges at their outer edges adapted to engage the base of the rail; locking plates serrated at their inner ends to engage said rail plates and having bar-engaging lugs at their outer ends, and
110 securing screws for said locking plates.

6. In a structure of the class described; the combination with a T-bar arranged with its vertical flange upwardly, the vertical flange
115 of said bar having a recess therein to receive the base of a rail; and a pair of oppositely-arranged rail plates on which said rail rests, provided with upwardly and inwardly-projecting wedge-shaped flanges at their outer
120 edges adapted to engage the base of the rail.

7. In a structure of the class described, the combination with a T-bar arranged with its vertical flange projecting upwardly, the vertical flange of said bar having a recess therein
125 to receive the base of a rail, the ends of said

recess being curved; and a pair of oppositely-arranged rail plates on which said rail rests, provided with upwardly and inwardly projecting wedge-shaped flanges at their outer edges adapted to engage the base of the rail.

8. In a structure of the class described, the combination with a T-bar arranged with one of its flanges projecting upwardly, the said upwardly-projecting flange having a recess therein to receive the base of a rail; and a pair of oppositely arranged rail plates on which said rail rests provided with wedge-shaped flanges at their outer edges adapted to engage the base of the rail wedged into said recess in the flange of said T-bar, whereby said rail is secured thereto.

9. In a structure of the class described, the combination with a T-bar arranged with one of its flanges projecting upwardly, the said upwardly-projecting flange having a recess therein to receive the base of the rail, the ends

of said recess being curved; and a pair of oppositely-arranged rail plates on which said rail rests provided with wedge-shaped flanges at their outer edges adapted to engage the base of the rail wedged into said recess in the flange of said T-bar, whereby said rail is secured thereto.

10. In a structure of the class described, the combination with a T-bar arranged with one of its flanges projecting upwardly, the upwardly-projecting flange having a recess therein to receive the base of a rail; and a pair of rail engaging plates wedged into said recess in said T-bar to clamp the said rail thereto.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

HENRY P. WHITE. [L. S.]

Witnesses:

CHARLES A. MERRELL,
LULU GREENFIELD.