J. F. BOOTH.

METALLIC RAILWAY TIE.

APPLICATION FILED NOV. 29, 1911.

1,035,412.

Patented Aug. 13, 1912.

2 SHEETS—SHEET 1.

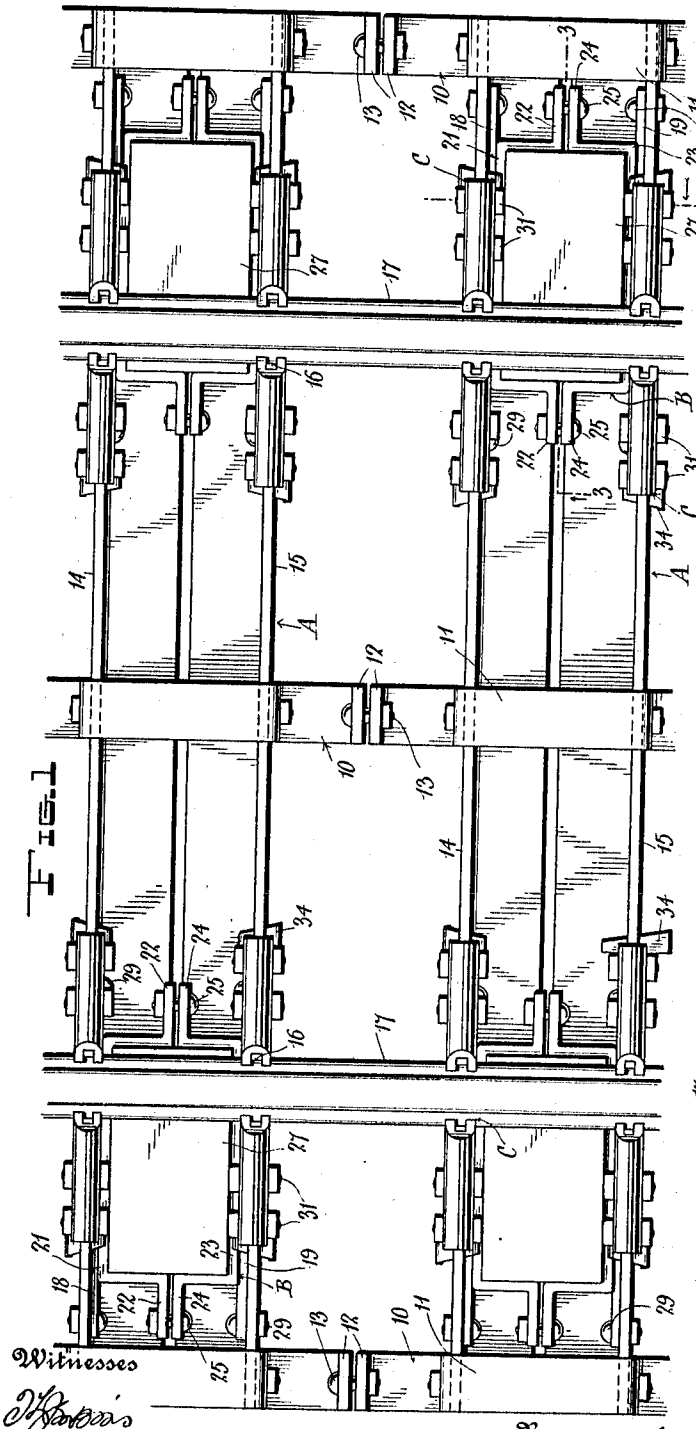

Fig. 1

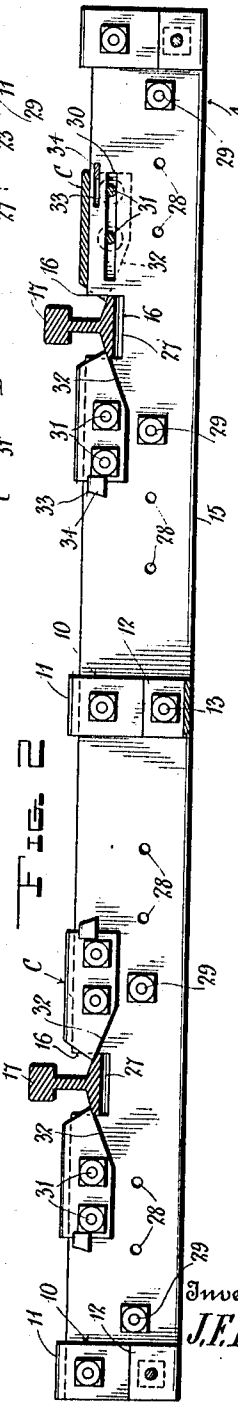

Fig. 2

Witnesses

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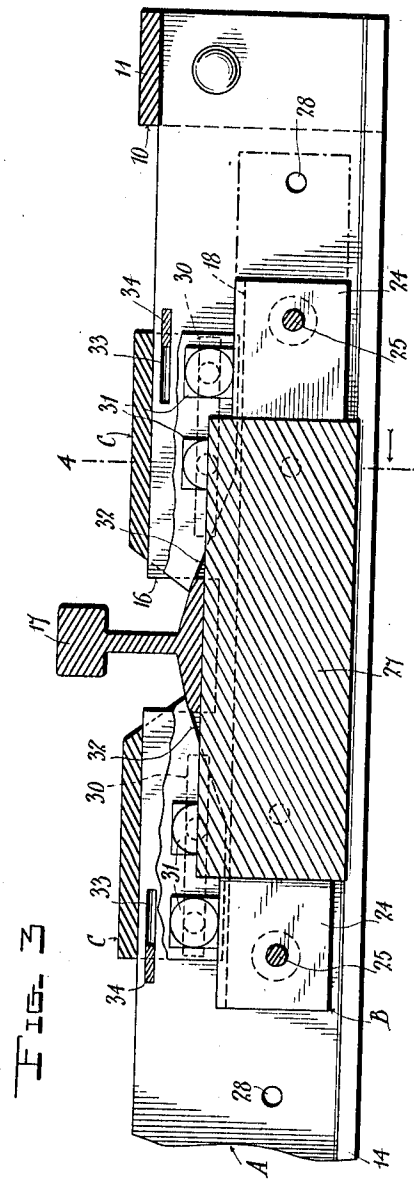

FIG. 3

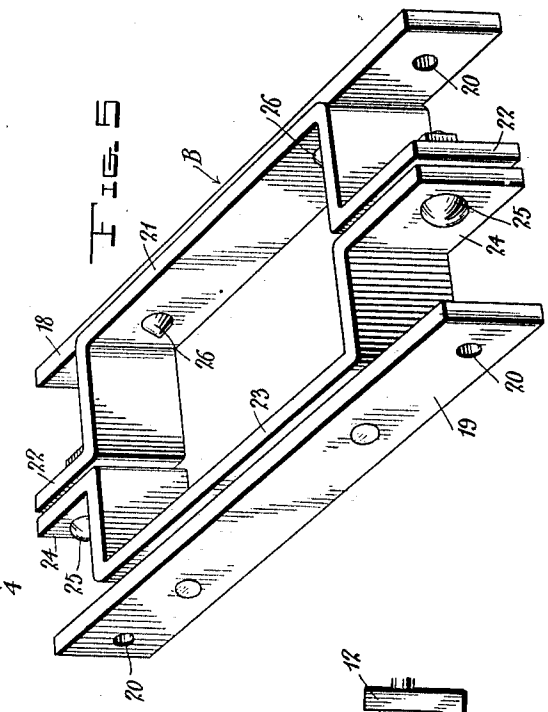

FIG. 5

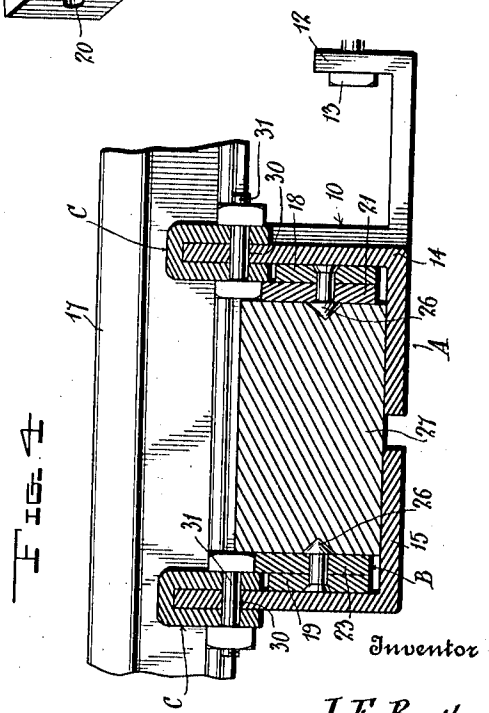

FIG. 4

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UNITED STATES PATENT OFFICE.

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METALLIC RAILWAY-TIE.

1,035,412. Specification of Letters Patent. Patented Aug. 13, 1912.

Application filed November 29, 1911. Serial No. 663,117.

To all whom it may concern:

Be it known that I, JAMES F. BOOTH, a citizen of the United States, residing at Rushland, in the county of Bucks, State of Pennsylvania, have invented certain new and useful Improvements in Metallic Railway-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 metallic railway ties.

The object of the invention resides in the provision of a metallic railway tie which will cushion the shock and vibration incident to travel over the rails supported thereon with an efficiency equal to the cushioning qualities of a wooden tie and which at the same time will possess lasting qualities greatly in excess of a wooden tie.

A further object of the invention resides in the provision of a metallic railway tie which includes a pair of wooden blocks constituting seats for respective rails to effect the proper cushioning of the latter, said blocks being adjustably supported by the tie so that they may be moved relatively to respective rails to cause the latter to seat on different portions of the exposed faces thereof.

A still further object of the invention resides in the provision of a metallic railway tie which includes an improved construction of fastening means for quickly and efficiently securing the rails to the tie.

With the above and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully described and particularly pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters of reference denote corresponding parts in the several views, and in which—

Figure 1 is a plan view showing a pair of connected railway ties constructed in accordance with the invention and with the rail sections mounted thereon, Fig. 2, a side view of what is shown in Fig. 1 partly in section, Fig. 3, an enlarged section on the line 3—3 of Fig. 1, Fig. 4, a section on the line 4—4 of Fig. 3, and Fig. 5, a detail perspective view of one of the adjustable cushion block carriers of the tie.

Referring to the drawings, A indicates generally a tie constructed in accordance with the invention and these ties when operatively disposed upon the road bed are connected together by members 10 disposed at respective ends and centrally of the ties. These members 10 each include a central arched portion 11 embracing a given tie and having its ends directed laterally and then upwardly to form ears 12. The adjacent ends of the connecting members 10 are then secured together by bolts 13 passed through the ears 12.

Each tie A is shown as comprising a pair of opposed angle plates 14 and 15 of L-shaped cross section. The vertical arms of said angle plates are suitably secured to respective vertical arms of the embracing arched portions 11 of the connecting members 10, while the outer ends of the horizontal arms of the angle plates 14 and 15 are disposed in parallel spaced relation to each other to produce the requisite drain opening for the tie. The upper edges of the vertical arms of the angle plates 14 and 15 are provided at corresponding points adjacent each end with recesses 16 which are adapted to receive respectively the bases of the rails 17. Disposed between the vertical arms of the angle plates 14 and 15 at each end of the latter is a cushion block carrier B. Each of these carriers B is shown as comprising a pair of plates 18 and 19 provided respectively with bolt openings 20 correspondingly disposed adjacent each end thereof. Secured to the plate 18 is a U-shaped member 21 having the free ends of its arms bent laterally to form ears 22. Likewise there is secured to the plate 19 a U-shaped member 23 having the free ends of its arms bent laterally to form ears 24. These U-shaped members 21 and 23 are connected together by means of bolts 25 passing through adjacent ears 22 and 24 and permitting said ears to be adjusted toward and away from each other.

It will be noted that the connections be-

tween the U-shaped members 21 and 23 and respective plates 18 and 19 are extended inwardly of the bight portions of said members in the form of points or prongs 26. Confined between the U-shaped members 21 and 23 is a cushion block 27 constructed preferably of wood. This block is applied in position between the U-shaped members 21 and 23 by releasing the bolts 25 and then embracing the block from opposite sides with said U-shaped members. The bolts 25 are then reapplied so as to draw the U-shaped members toward each other which will result in the prongs 26 being embedded in the block 27 and securely holding the latter against displacement from the carrier B. The bottom of the block 27 rests upon the horizontal arms of the angle plates 14 and 15 while the top thereof is disposed above the inner wall of the recesses 16 adjacent thereto so that said top face of the block forms the seat for the base of the rail 17 and affords the necessary cushion for absorbing vibration incident to traveling over the rail. The plate 18 bears against the inner face of the vertical arm of the angle plate 15, while the plate 19 bears against the inner face of the vertical arm of the plate 14 and these vertical arms of the plates 14 and 15 are each provided with a plurality of longitudinally alined bolt openings 28 with certain pairs of which the openings 20 in the plates 18 and 19 are adapted to successively register as the cushion block carrier B is adjusted longitudinally of the tie. When a desired adjustment of the cushion block carrier is had the same is maintained by the insertion of bolts 29 through registering openings 20 and 28. By reason of this adjustable nature of the cushion block the base of the rail 17 may be brought to bear upon different portions of the upper face of said block, so that as the latter becomes worn by engagement with the base of the rail it may be adjusted so as to bring an unworn portion of the upper face beneath said rail.

The rails 17 are held seated upon respective blocks 27 and against movement out of the recesses 16 by means of clamping members C. Each of these clamping members is formed U-shape and embraces the respective vertical arm of the angle plates 14 and 15. The clamping members C are arranged in pairs on the upper edge of the vertical arms of the angle plates and the members of each pair are disposed on opposite sides respectively of respective rails 17. The vertical arms of the angle plates 14 and 15 are provided with longitudinal slots 30 disposed respectively adjacent to and on opposite sides of respective recesses 16. These slots 30 are embraced by respective clamping members C and bolts 31 pass through the arms of each clamping member and the embraced slot 30. By this construction it will be apparent that the clamping members may be adjusted toward and away from an adjacent rail 17. The clamping members C of each pair are provided with opposed beveled faces 32 which are adapted to engage the upper face of the base of a respective rail 17 when said members are moved toward said rail and wedge the rail firmly to its seat upon the block 17. In order to force the clamping members 30 toward the rail 17 the vertical arms of the angle plates 14 and 15 are provided with longitudinal slots 33 disposed above the slots 30, said slots 33 lying partly between the arms of respective clamping members C and partly beyond the outer end of the clamping members respectively. Inserted in these slots 33 are wedging members 34 which when driven inwardly of the tie engage the outer end of respective clamping members and force the latter toward the adjacent rail into clamping relation with said rail. After the clamping members are positioned in proper relation to respective rails 17 the bolts 31 are tightened to force the arms of the clamping members against the vertical arms of the angle plates 14 and 15.

It will be noted that when one face of a cushioning block 27 has been entirely worn, said block can be reversed so as to present the opposite face as a seat for the rail. As a result of this reversible nature of the block 27 it will be apparent that the length of service to which the block may be subjected is greatly enhanced.

What is claimed is:

1. A metallic tie including parallel side members and a bottom, a cushion block carried by the body at each end and upon which the rails respectively seat, and means for adjusting said cushioning blocks longitudinally of the tie body whereby the rails may be seated on different portions of the supporting face of said blocks.

2. A metallic tie comprising a body including spaced side members and a bottom, a frame mounted in the body at each end thereof, cushion blocks carried by said frames respectively and upon which the rails respectively seat, and means for adjusting said frame longitudinally of the tie body whereby the cushioning blocks may be moved so as to seat respective rails on different portions of the supporting faces of said block.

3. In a railway track structure the combination of a plurality of spaced ties, connecting members between said ties at spaced points in the latter, each of said connecting members including an arch portion embrac-

ing a respective tie and means positively securing the arms of the arched portion to the embraced tie, lateral extensions on the lower ends of the arms of the arch portion, and means detachably connecting the lateral extensions of adjacent connecting members together.

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

JAMES F. BOOTH.

Witnesses:
HIRAM H. KELLER,
HENRY A. JAMES.