

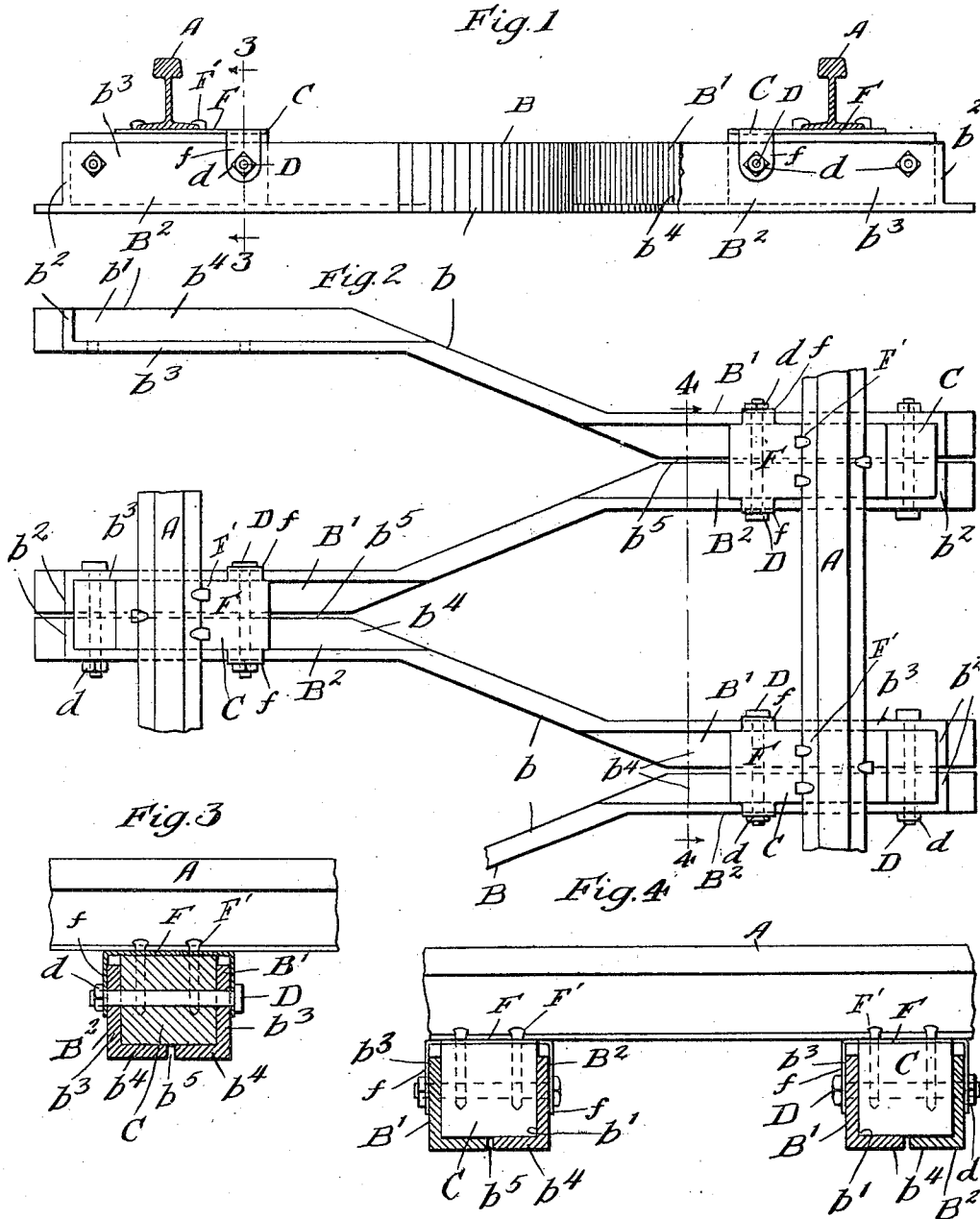
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J. F. O'CONNOR.

COMPOSITE METAL AND WOOD TIE FOR RAILWAY TRACKS.

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COMPOSITE METAL-AND-WOOD TIE FOR RAILWAY-TRACKS.

No. 838,573.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN F. O'CONNOR, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Composite Metal-and-Wood Ties for Railway-Tracks, of which the following is a specification.

My invention relates to improvements in ties for railway-tracks.

The object of my invention is to provide a composite wood-and-metal tie for railway-tracks of a simple, strong, efficient, and durable construction, capable of being cheaply manufactured, uniting in itself the cushioning advantages of the ordinary wood tie and the strength and durability of a metal tie, in which all the ties of the track will be rigidly and firmly connected together independent of the rails laid thereon, so that contiguous or adjacent ties will mutually support and strengthen each other and aid in holding or maintaining each other in position, in which adequate provision is made for shrinkage of the wood members, and by means of which a railway-track may be rapidly, conveniently, and economically laid, repaired, and replaced with little labor and expense and whereby also the rails may be secured in place by means of the ordinary spikes customarily employed with wood ties and wherein also the spikes will properly cooperate to hold the rails in place notwithstanding the short length of the wood blocks or members into which the spikes are driven.

My invention consists in the means I employ to practically accomplish this object or result—that is to say, it consists, in connection with the track-rails, of a series of composite wood and metal ties comprising a plurality of diagonally-extending metal tie members having right and left or oppositely-turned bases furnished with semisockets to receive wood blocks and short wood blocks fitting in the semisockets of two adjacent and opposing metal tie members and clamped between the same and to which wood blocks the rails are secured by spikes driven into the wood blocks in the ordinary manner.

My invention also consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a composite wood-and-metal railway-track tie embodying my invention, the rails being shown in cross-section. Fig. 2 is a plan view. Fig. 3 is a vertical section on line 3 3 of Fig. 1, and Fig. 4 is a vertical section on line 4 4 of Fig. 2.

In the drawings, A represents the rails of the railway-track.

B B are diagonally-extending metal tie members, each furnished at the ends thereof with right and left or oppositely-faced bases B' B², which are preferably arranged parallel to each other and at an angle to the diagonal portion *b* of the metal tie member. Each of the right and left or oppositely-faced bases B' B² of each metal tie member B has a semisocket or recess *b'*, formed by the transverse flange or shoulder *b*² and the longitudinal flange *b*³ to receive a wood block C, which is clamped between the opposing bases B' B² of adjacent diagonal tie members B B by means of clamping devices D, preferably bolts furnished with threaded ends and nuts *d*. The bolts D preferably extend through suitable holes in the short wood blocks C, and the wood blocks C are made thicker than the combined width of the bottom webs or flanges *b*⁴ of the bases B' B², so that the opposing or oppositely-faced bases B' B² of two adjacent diagonal tie members B B may clamp the wood block firmly between them without abutting directly together. The open space *b*⁵ between the two opposing bases B' B² of adjacent tie members B B is sufficient to allow for all shrinkage of the wood blocks C.

F' F' are the spikes, which are driven into the short wood blocks C as into an ordinary tie and by which the rails A are secured to the ties. As the wood blocks are snugly clamped between the right and left or oppositely-faced bases B' B² of adjacent metal tie members B B, the metal tie members cause the wood blocks to properly hold the spikes, notwithstanding the short length of the blocks, and effectually prevent any tendency of the blocks to split as the spikes are driven in. As the diagonal metal tie members B B are all connected together, each being bolted at one end to the adjacent tie member on one side thereof and at the other end to the adjacent tie member on the other side

thereof, all the diagonal tie members through the connecting wood blocks and bolts serve to strengthen each other and aid in maintaining each other in position independent of the connection between the ties afforded by the rails, and the railway-track as a whole is thus made extremely strong, safe, and reliable.

Railseat-plates F may preferably be placed on top of the wood blocks C beneath the rail, the same having openings therein through which the spikes are driven. These railseat-plates F may preferably be provided with ears or flanges f, through which the bolts D extend, thus affording additional means for anchoring the rails to the ties.

I claim—

1. In a railway-track, the combination with the rails, of a plurality of diagonal metal tie members each furnished at the ends thereof with right and left or oppositely-faced bases having semisockets to secure wood blocks, short wood blocks fitting in and clamped between the oppositely-faced bases of adjacent metal tie members, upon which wood blocks said rails rest and to which said rails are spiked, substantially as specified.

2. In a railway-track, a plurality of diagonal metal tie members having each at the ends thereof oppositely-faced bases, and wood blocks clamped between the oppositely-faced bases of adjacent metal tie members, substantially as specified.

3. In a railway-track, the combination with the rails, of a plurality of diagonal metal tie members each furnished at the ends thereof with right and left or oppositely-faced bases having semisockets to secure wood blocks, short wood blocks fitting in and clamped between the oppositely-faced bases of adjacent metal tie members, upon which wood blocks said rails rest and to which said rails are spiked, the oppositely-faced bases of each metal tie member being parallel to each other, substantially as specified.

4. In a railway-track, a plurality of diagonal metal tie members having each at the

ends thereof oppositely-faced bases, and wood blocks clamped between the oppositely-faced bases of adjacent metal tie members, the oppositely-faced bases of each metal tie member being parallel to each other, substantially as specified.

5. A metal tie member having two parallel base portions and an intermediate portion extending at an angle to the parallel base portions, said parallel base portions having oppositely-faced sockets or recesses to receive a railway-supporting block, said sockets having transverse flanges or shoulders at their ends, substantially as specified.

6. In a railway-track, the combination with the rails, of a plurality of diagonal metal tie members each furnished at the ends thereof with right and left or oppositely-faced bases having semisockets to secure wood blocks, short wood blocks fitting in and clamped between the oppositely-faced bases of adjacent metal tie members upon which wood blocks said rails rest and to which said rails are spiked, and rail seat-plates interposed between the rails and the wood blocks, substantially as specified.

7. In a railway-track, the combination with the rails, of a plurality of diagonal metal tie members each furnished at the ends thereof with right and left or oppositely-faced bases having semisockets to secure wood blocks, short wood blocks fitting in and clamped between the oppositely-faced bases of adjacent metal tie members upon which wood blocks said rails rest and to which said rails are spiked, and rail seat-plates interposed between the rails and the wood blocks, provided with depending ears and bolts extending through said ears, the wood blocks and the metal tie members, substantially as specified.

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Witnesses:

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