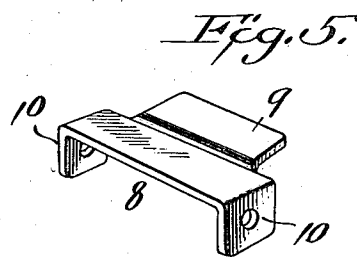
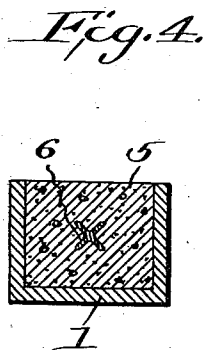
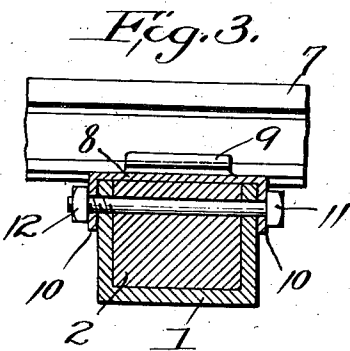
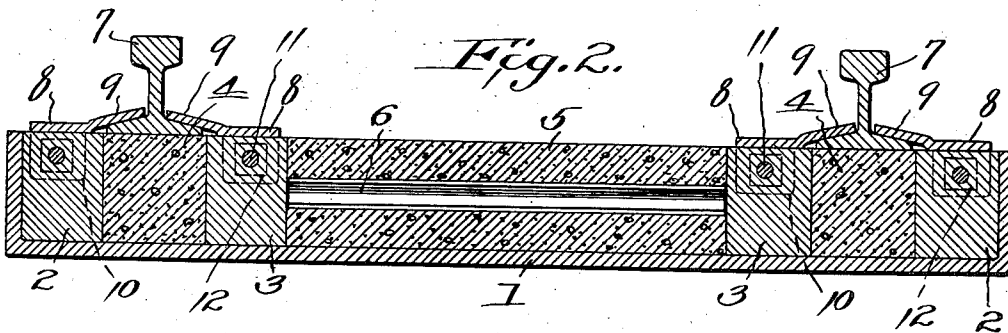
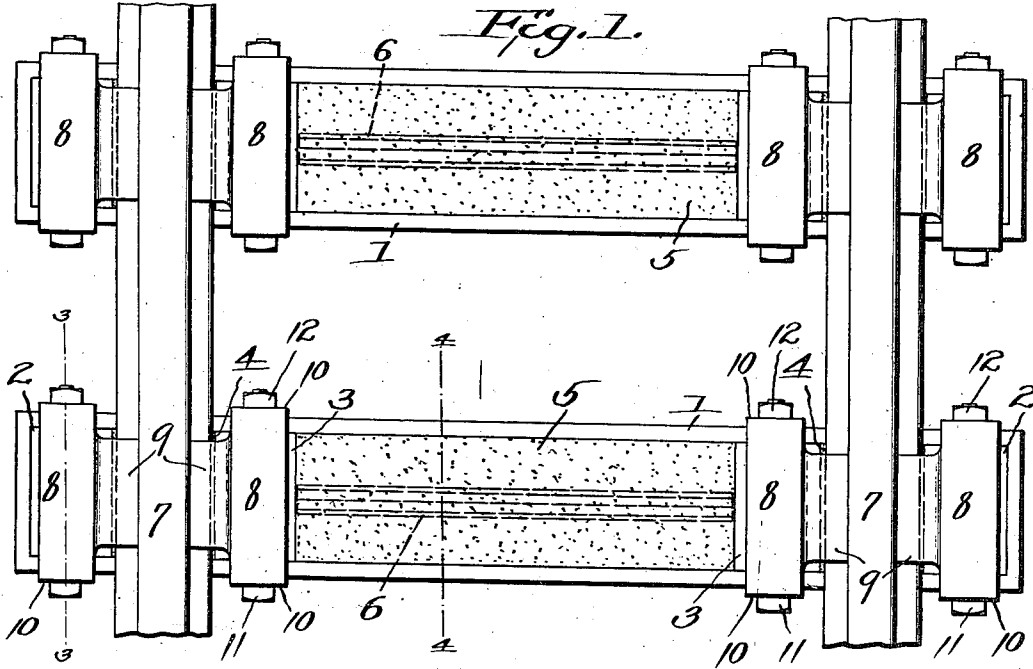


C. H. WEST.
RAILROAD TIE AND PLATE.
APPLICATION FILED NOV. 8, 1912.

1,059,582.

Patented Apr. 22, 1913.



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RAILROAD-TIE AND PLATE.

1,059,582.

Specification of Letters Patent.

Patented Apr. 22, 1913.

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To all whom it may concern:

Be it known that I, CHARLES H. WEST, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Railroad-Ties and Plates, of which the following is a specification.

This invention relates to a combined railway tie and clamping plate.

The object of the invention is to hold securely the rails and also to prevent sagging of the rails due to the rotting of the wooden ties. At the same time it is found desirable to employ a certain amount of wood in connection with a railway tie, as this material possesses certain properties not found in ties constructed entirely of concrete, or of metal. A solid concrete tie does not possess the elasticity requisite in a perfect tie and under heavy pounding is liable to split. A solid metal tie is subject to a considerable amount of contraction and expansion between periods of extreme cold and hot weather, and this is believed in some cases to have been sufficient to loosen the rails, and one wreck has been ascribed to contraction of a metal tie at night. I have therefore endeavored to provide a tie which will possess all of the advantages found in a wooden, the concrete and the metal ties and at the same time have endeavored to avoid the disadvantages connected with the use of either of these materials alone.

In the accompanying drawings, Figure 1 is a plan view of a portion of a track with my improved ties and clamps in use. Fig. 2 is a longitudinal section through one of said ties, the rails being shown in transverse section. Fig. 3 is a section on the line 3-3 of Fig. 1. Fig. 4 is a section on the line 4-4 of Fig. 1. Fig. 5 is a detail perspective view of one of the clamping plates.

In constructing my device, I employ a metallic trough or pan 1, said pan having a length, width, and depth substantially those of the ordinary wooden tie. Within and at each end of said trough is arranged a wooden block 2, and similar blocks 3 are arranged transversely within the trough and at a distance from the blocks 2 equal to the width of a rail base. The distance between the blocks 2 and 3 should not be less than that mentioned and is preferably slightly greater, so that the base of the rail does not overlap the said blocks. The space

between said blocks is filled in with concrete as indicated at 4. The longitudinal central portion of the tie, that is between the blocks 3, is also filled in with concrete as shown at 5, the said concrete having embedded therein a cross shaped metallic reinforcing bar 6, the ends of which bear upon the adjacent faces of the blocks 3. The rails 7 rest upon the concrete blocks 4 formed between the blocks 2 and 3. In order to clamp the rails in position I employ plates 8, which upon one side carry a laterally and upwardly extending flange 9 adapted to fit over the rail base. The ends of the plate 8 are bent downwardly forming perforated ears 10. These plates fit upon the wooden blocks 2 and 3 and the ears 10 extend down over the outer faces of the trough 1. Both the blocks and the sides of the trough are suitably perforated, the perforations of the ears 10 registering with those of the trough and blocks. The plates 8 are locked in position by means of bolts 11 which pass through the ears, the sides of the trough and the wooden blocks, suitable nuts 12 working upon the threaded ends of the bolts. These bolts prevent any movement of the plates in a direction at right angles to the rail, and the ears prevent any longitudinal movement of the plates. As these plates rest upon wooden blocks the bolts and nuts are not subject to the jars and vibrations to which they would be subjected if there was a continuous metallic surface between the said bolts and nuts and the top rails. Furthermore, by employing wooden blocks as shown, I provide a tie which is especially adapted for use where electric wires are run alongside the track for the purpose of operating switches and signals. Where metallic ties have been tested it has been found that there is more or less danger of a short circuit being formed through the tie itself. The wooden blocks therefore form suitable insulating surfaces to which the electric conductors may be safely secured.

What I claim is:

1. A device of the kind described, comprising a metallic trough, wooden blocks arranged in each end of the trough spaced apart, concrete blocks spacing said wooden blocks apart, and clamping plates provided with ears adapted to lap over the sides of the trough, each plate carrying a flange adapted to engage the base of a rail.

2. A device of the kind described comprising a metal trough, wooden blocks arranged therein, concrete blocks molded in said trough, and spacing the wooden blocks
5 apart, said trough and the wooden blocks having alining perforations, and rail clamping plates provided with depending perforated ears, the perforations of the ears being adapted to register with those of the
10 trough and wooden blocks, bolts adapted to pass through said perforations, and suitable nuts working upon said bolts.

3. A device of the kind described comprising a metallic trough, a wooden block arranged at each end of the trough, a second
15 set of wooden blocks arranged in the trough and spaced from the end blocks, a distance equal to the width of a rail base, concrete

blocks arranged between the wooden blocks at each end of the trough, respectively, a
20 concrete block arranged in the trough and extending from one of the second mentioned blocks to the other, a metallic reinforcement in the last mentioned concrete block, said
25 reinforcement bearing at its ends upon adjacent faces of the second mentioned wooden blocks, rail clamping plates having depending ears extending downwardly over the sides of the trough, and suitable bolts for
30 securing said ears to said trough, said bolts passing through said wooden blocks.

CHARLES H. WEST.

Witnesses:

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