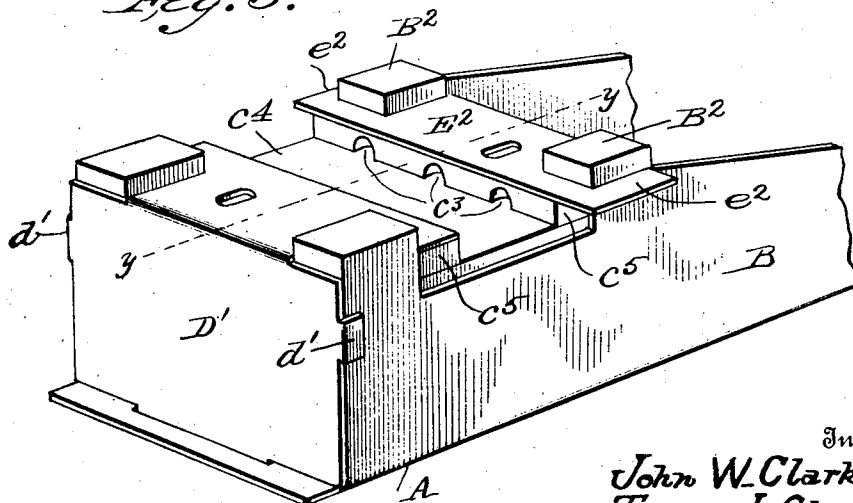


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2 SHEETS—SHEET 1.



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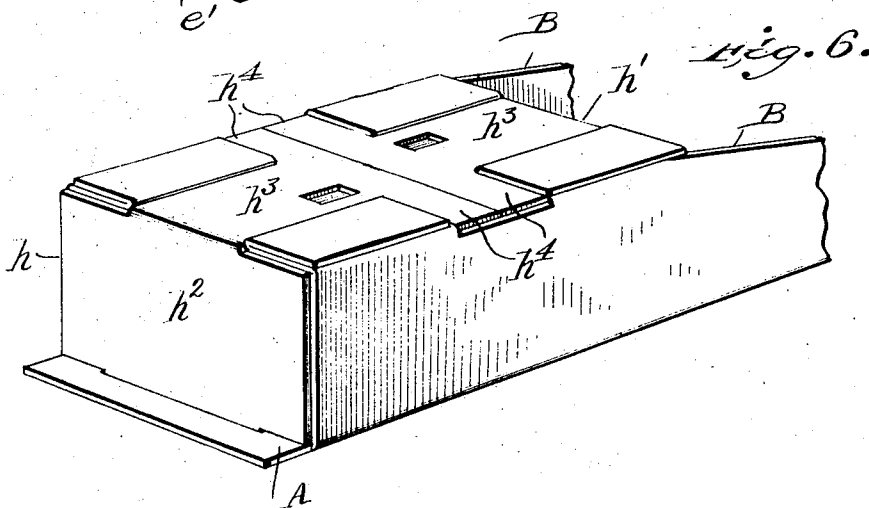
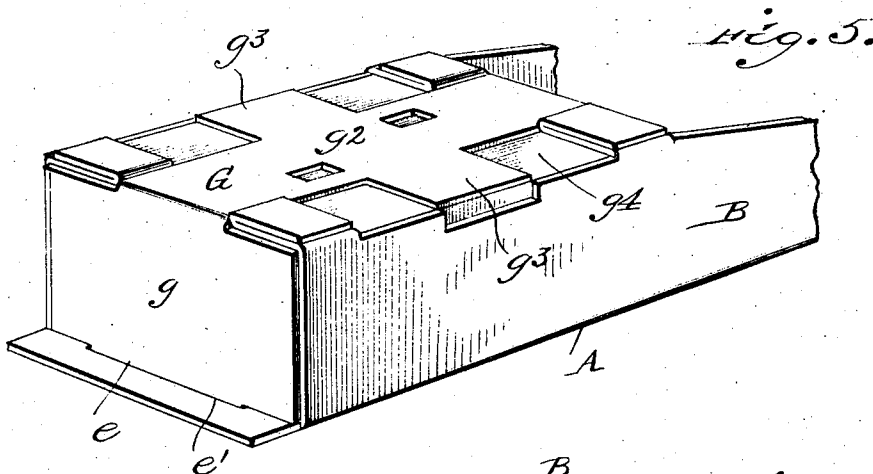
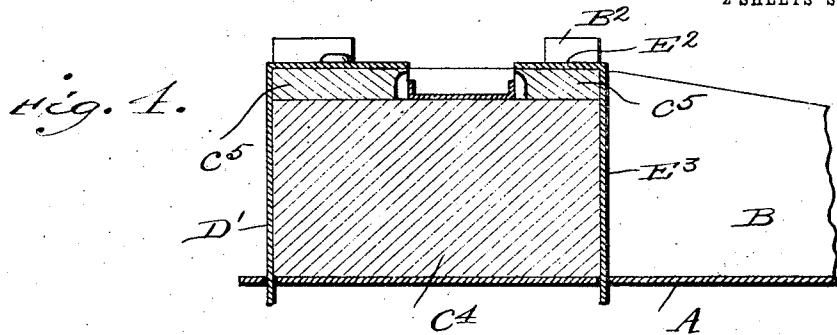
J. W. CLARK, JR., T. J. CLARK & J. S. WING.
RAILWAY TIE.

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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN W. CLARK, JR., OF SALT LAKE CITY, AND THOMAS J. CLARK AND JOSEPH S. WING, OF SPRINGVILLE, UTAH.

RAILWAY-TIE.

1,059,033.

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To all whom it may concern:

Be it known that we, JOHN W. CLARK, JR., a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, and THOMAS J. CLARK, a citizen of the United States, and JOSEPH S. WING, a citizen of Canada, residing at Springville, in the county and State of Utah, have invented certain new and useful Improvements in Railway-Ties; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to railway ties, and has for its object to provide a metal tie of that type wherein pockets or chambers are provided at the ends for the reception of blocks or sections of wood or equivalent material, and has for its object to provide such a tie wherein the rails will not come in direct contact with the blocks of wood or other material and the life of the blocks prolonged.

The invention further consists in certain novel details of construction and combinations and arrangements of parts, as will be now described and the particular features of novelty pointed out in the claims.

Referring to the accompanying drawings wherein is illustrated the preferred embodiment of the invention,—Figure 1 is a perspective view of a tie embodying the present improvements, one of the chamber closing end plates being removed; Fig. 2 is a section on line $x-x$, Fig. 1; Fig. 3 is a detail perspective view of one end of a tie showing a modified construction; Fig. 4 is a section on line $y-y$, Fig. 3; Figs. 5 and 6 are detail views of modified forms of chamber closing end plates.

Similar letters of reference in the several figures indicate the same parts.

The body of the tie embodying the present improvements is formed up of sheet or plate metal with a flat bottom portion A and sides B, forming a trough-like structure. At the ends, the trough-like structure is adapted to receive blocks of wood or fiber or equivalent material which fill the trough-like body of the tie. The upper edges of the sides of the trough-like body B are bent over the top of the blocks C, as at B', and at the in-

ner and outer ends of the blocks are angle iron cover plates D for completely inclosing the ends of the chambers and extending inwardly over the top thereof. These plates D are removable and are held in place by a tongue e , adapted to enter an opening or slot e' in the bottom of the tie, and a top E' adapted to overlie the block and have lateral extensions d' , which extend behind the portions B' of the sides of the tie and are secured to the block by a spike driven into the block through an opening e^2 . The tongue e' is made sufficiently long to provide a holding means for preventing the slipping of the tie.

The block C is preferably a solid block and is grooved or channeled transversely as shown at c , for the reception of the rail base, and in order to protect the block and prevent wear, a plate c' is fitted in said groove upon which the rail seats. This plate is substantially U-shaped in cross section, the lateral edges c^2 extending about half the height of the side walls of the channel C. In order to accommodate the head of the spike for holding the rail, countersinks c^3 are formed in the block, permitting the heads of the spikes to lie flush with the upper face of the block, and allowing the cover plates D to come well down on the block.

While ordinarily there would be no danger of the side walls of the tie spreading, still, to prevent this the construction illustrated in Figs. 3 and 4 has been devised. Referring particularly to these figures, the outer cover plates D' are provided with tongues d' , which are adapted to be bent around the sides of the tie, the tops E² of the inner plates E³ being formed with hooked extensions e^2 , which take over the bent over portions B² of the upper edges of the trough-like body of the tie. By such a construction it will be readily seen that any tendency of the walls of the tie to spread apart will be effectually resisted. It will be noted that in this form the channel or way for the rail base is not formed in the block c^4 , but side pieces or strips c^5 are employed, extending transversely of the block, and of such thickness to form a way for the rail base. These side pieces will be held in place by the top E² of the plate E³, which in turn is held to the block by spikes.

As shown in Figs. 5 and 6, instead of providing a separate wear plate for the rail

bases, the top of the cover plates is utilized for this purpose. In Fig. 5 this plate G is formed in one piece, having end portions g covering the ends of the block, and a top portion g^2 , extending over the top of the block. The top g^2 has centrally located side extensions g^3 , which fit within the cut-out portions g^2 of the body of the tie, forming the seat for the rail base. In Fig. 6, the cover plate is formed in two parts h, h' , each having end portions h^2, h^2 , and top portions h^3, h^3 , having side extensions h^4, h^4 , the inner edges of the top portions adapted to abut when the parts are in position and extensions h^4, h^4 , fitting within the cut-out portions of the side of the tie.

By forming the blocks with the channels for the rail bases the lateral movement of the rails will be prevented, and with the wear plate in said channels the life of the block is prolonged. Moreover, the rail is prevented from coming in contact with the end plates, or any part of the tie, the tie being then particularly well adapted on roads using electric signaling.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent of the United States, is:

1. A railway tie embodying a trough-like metal body, chambers at the ends of said trough-like structure formed by inturned flanges on the side walls separated from each other longitudinally of the rail, wooden blocks mounted in said chambers and each having a transverse groove therein, a metal plate located in said groove upon which the rail rests, and removable

plates for closing the ends and top of the chambers to form a protecting cover for the blocks.

2. A railway tie embodying a trough-like metal body, chambers at the ends of said trough-like structure formed by inturned flanges on the side walls separated from each other longitudinally of the rail, wooden blocks mounted in said chambers and each having a transverse groove, a U-shaped metal plate located in said groove upon which the rail rests, and removable plates for closing the ends and top of the chambers to form a protecting cover for the blocks, substantially as described.

3. A railway tie embodying a trough-like metal body, chambers at the ends of said trough-like structure formed by bending inwardly the end portions of the sides thereof, wooden blocks located in said chambers, cover plates for said blocks, one formed with tongues adapted to be bent around the sides of the tie and the other formed with hook-shaped extensions each taking one of the inturned side portions on opposite sides of the tie, whereby the tie will be prevented from spreading, substantially as described.

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JOSEPH S. WING.

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