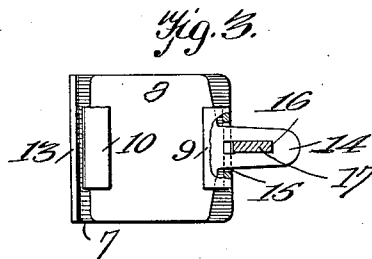
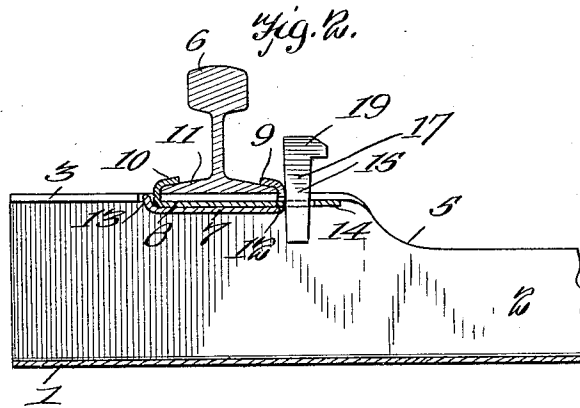
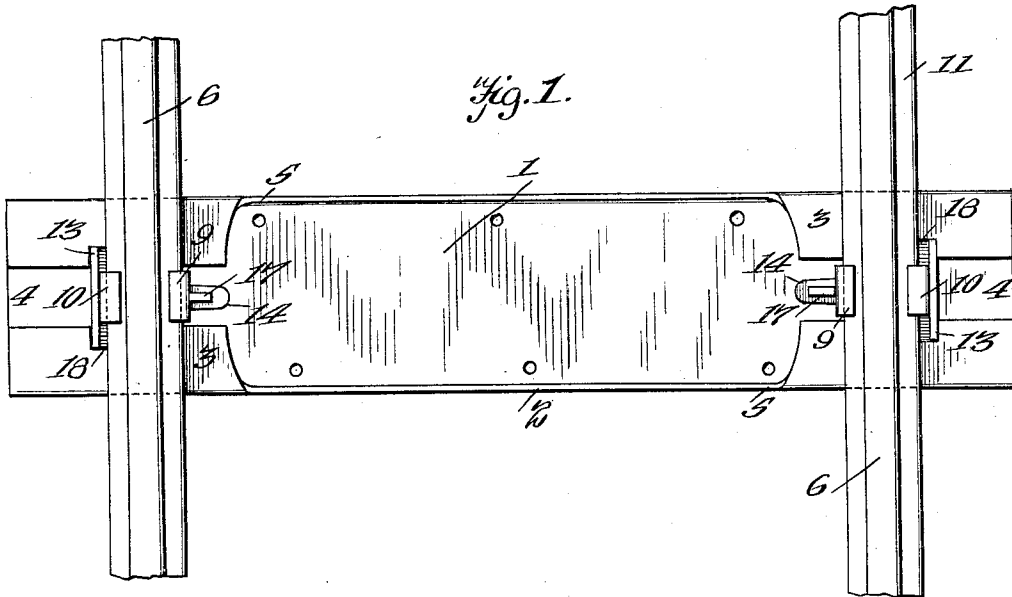


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METALLIC RAILROAD TIE.
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1,049,985.

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HORACE BOYD, OF HOKENDAUQUA, PENNSYLVANIA.

METALLIC RAILROAD-TIE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HORACE BOYD, a citizen of the United States, and a resident of Hokendauqua, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Railroad-Ties, of which the following is a specification.

My invention is an improvement in metallic railroad ties, and has for its object the provision of a simple economical tie of the character specified, having a maximum of strength for the material used, and of special strength at the seat of the rails, and wherein a simple quickly applied and released fastening device is provided for locking the rail to the tie.

In the drawings: Figure 1 is a plan view of a tie constructed in accordance with the invention; Fig. 2 is a partial longitudinal vertical section of the tie; and Fig. 3 is a plan view of one of the fasteners.

The present embodiment of the invention is composed of sheet metal bent to form a base 1, side walls 2, and overlying flanges 3, at the ends of the side walls, the flanges being in the same plane, and parallel with the base 1.

The flanges 3 do not extend entirely across the width of the tie, but are spaced apart at their free edges, as indicated at 4 in Fig. 1. The side walls 2 are cut away intermediate their ends, as indicated at 5, so that the flanges 3 extend only from the ends of the tie to a point slightly within the adjacent rail 6.

The cutaway portion of each side wall extends from near one rail to near the other, and the holding or fastening device for the rails is arranged in the space 4 between the flanges 3. Each of the said devices consists of a plurality of superposed plates 7 and 8, each plate having an overlying flange 9 and 10 respectively at one side edge.

The plate 7 is arranged beneath plate 8, and the flange 9 of plate 7 is at the opposite side edge from the flange 10 of plate 8. The said flanges thus engage opposite edges of the rail base 11. The plate 7 is of greater width than plate 8, and at the side adjacent to flange 10, the said plate 7 is provided with a lateral upwardly extending rib or flange 13. The plate 8 has a laterally extending tongue 14 at the side adjacent to flange 9, and the said flange 9

is slotted transversely, as shown at 15, to permit the passage of the tongue. The tongue 14 is longitudinally slotted, as shown at 16, to receive a wedge or key 17, for clamping the flanges 9 and 10 on the rail base.

The plates 7 and 8 are arranged below the flanges 3 and the overlying flanges 9 and 10 extend upwardly between the adjacent edges of the flanges to engage the rail base.

The flanges 3 are recessed or notched on their inner edges, at the outer side of each rail, as shown at 18, to permit the passage of the rib 13. In applying the fasteners, the plates 7 and 8 are arranged below the flanges 3, and the flanges 9 and 10 are passed upwardly through the space 4. The key 17 at this time is not in place, so that the plates 7 and 8 may be moved to separate flanges 9 and 10, and permit them to be engaged with the opposite edges of the rail base. After the flanges 9 and 10 are engaged with the rail base, the key 17 is passed through the slot 16, and is driven down. The key is tapering as shown, and bears at one side edge against flange 9 and at the other against the outer end of slot 16, thus pressing the flanges 9 and 10 toward each other, and clamping them on the rail base. The rail is now locked to the tie, since the plates 7 and 8 are below flanges 3 and the rail above. The rib 13 prevents lateral displacement of the plates 7 and 8, in either direction, and the fastener is locked both to the rail and to the tie. The key or wedge 17 is provided with a head 19, for limiting its downward movement, and for engagement by a tool to lift and loosen the key.

I claim:—

1. A metallic railroad tie comprising a sheet of metal bent to form a base, and side walls, each side wall having an inwardly extending flange at each end, the opposite flanges being spaced apart at their inner edges, and fastening devices for holding the rails to the tie, each of the said devices comprising a pair of superposed plates adapted to be arranged below the flanges, each plate having an overlying flange at one side edge extending between the flanges of the tie and engaging the adjacent edge of the rail base, the lowermost plate having a slot for receiving the flange of the other plate, the lowermost plate having an up-

wardly extending rib at the side remote from its overlying flange and the flanges of the tie being notched to permit the passage of the rib, the uppermost plate having a tongue at the edge remote from its flange, the flange of the lower plate having a slot to permit the passage of the tongue, said tongue being longitudinally slotted, and a wedge or key engaging the slot of the tongue to draw the flanges of the plates together.

2. A metallic railroad tie comprising a sheet of metal bent to form a base, and side walls, each side wall having an inwardly extending flange at each end, the opposite flanges being spaced apart at their inner edges, and fastening devices for holding the rails to the tie, each of the said devices comprising a pair of superposed plates adapted to be arranged below the flanges, each plate having an overlying flange at one side edge extending between the flanges of the tie and engaging the adjacent edge of the rail base, the lowermost plate having a slot for receiving the flange of the other plate, the lowermost plate having an upwardly extending rib at the side remote from its overlying flange and the flanges of the tie being notched to permit the passage of the rib, and means in connection with the plates for clamping the flanges on the rail base.

3. A metallic railroad tie comprising a sheet of metal bent to form a base, and side walls, each side wall having an inwardly extending flange at each end, the opposite flanges being spaced apart at their inner edges, and fastening devices for holding the rails to the tie, each of the said devices comprising a pair of superposed plates, each plate having an overlying flange for engaging the edge of a rail base, said flanges being oppositely arranged, means in connection with the plates for clamping the flanges on the rail base, and means on one of the plates for engaging the tie to prevent movement of the plates longitudinal to the tie.

4. In combination with a tie having a tubular portion at each end for receiving a rail and a longitudinal slot in the upper face of each tubular portion, of a fastening device for each rail, each of the said devices comprising a pair of superposed plates, each having an overlying flange at one side edge for engaging the rail base, said flanges being oppositely arranged, the upper plate having a tongue at the side remote from its flange and the lower plate having a slot in its flange for permitting the passage of the tongue, said tongue having a longitudinal slot, and a wedge or key engaging the slot and bearing at one side against the flange of the lower plate, the lower plate having an upwardly extending rib at the edge remote from the tongue, the tie having a transverse slot for receiving the rib, the upper plate

having a slot in its side edge engaged by the flange of the lower plate.

5. In combination with a tie having a tubular portion at each end for receiving a rail and a longitudinal slot in the upper face of each tubular portion, of a fastening device for each rail, each of the said devices comprising a pair of superposed plates, each having an overlying flange at one side edge for engaging the rail base, said flanges being oppositely arranged, the upper plate having a tongue at the side remote from its flange and the lower plate having a slot in its flange for permitting the passage of the tongue, said tongue having a longitudinal slot, and a wedge or key engaging the slot and bearing at one side against the flange of the lower plate, the lower plate having an upwardly extending rib at the edge remote from the tongue, the tie having a transverse slot for receiving the rib.

6. In combination with a tie having a tubular portion at each end for receiving a rail and a longitudinal slot in the upper face of each tubular portion, of a fastening device for each rail, each of the said devices comprising a pair of superposed plates, each having an overlying flange at one side edge for engaging the rail base, said flanges being oppositely arranged, the upper plate having a tongue at the side remote from its flange and the lower plate having a slot in its flange for permitting the passage of the tongue, said tongue having a longitudinal slot, and a wedge or key engaging the slot and bearing at one side against the flange of the lower plate.

7. In combination with a tie having a tubular portion at each end for receiving a rail and a longitudinal slot in the upper face of each tubular portion, of a fastening device for each rail, each of the said devices comprising a pair of superposed plates, each having an overlying flange at one side edge for engaging the rail base, said flanges being oppositely arranged, the upper plate having a tongue at the side remote from its flange and the lower plate having a slot in its flange for permitting the passage of the tongue, and means in connection with the tongue and the other plate for drawing the flanges together on the rail.

8. In combination with a tie having a tubular portion at each end for receiving a rail and a longitudinal slot in the upper face of each tubular portion, of a fastening device for each rail, each of the said devices comprising a pair of superposed plates, each having an overlying flange at one side edge for engaging the rail base, said flanges being oppositely arranged, and means in connection with the plates for drawing the flanges together on the rail.

9. In combination with a tie having a tubular portion at each end for receiving the

rail, and a longitudinal slot in each tubular portion, of a fastening device for each rail, each of the said devices consisting of a pair of superposed plates, each having an overlying flange at one side edge for engaging the rail base, said flanges being oppositely arranged, the said plates being adapted to engage beneath the flanges, and means for securing the plates together.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
