W. E. CURTISS.
Railway-Tie.

No. 207,719. Patented Sept. 3, 1878.

Fig. 1.

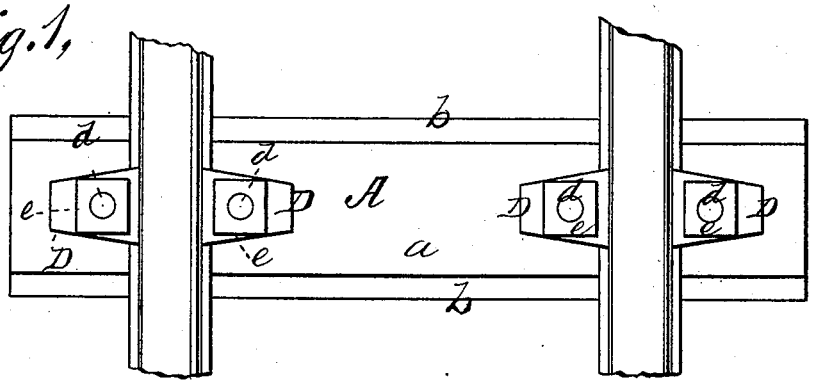


Fig. 2.

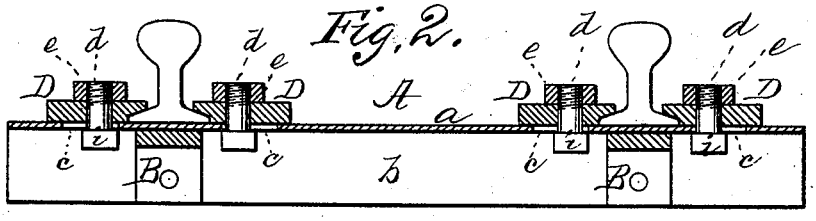


Fig. 3.

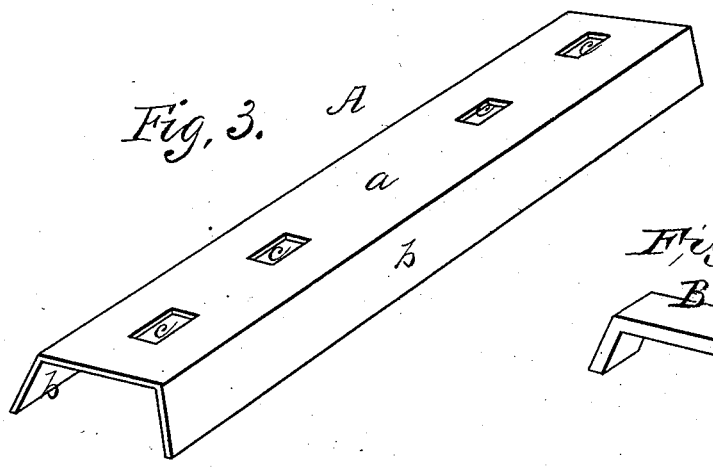
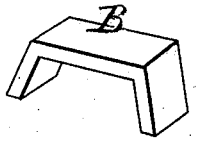


Fig. 4.



WITNESSES

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WINTHROP E. CURTISS, OF HOPPENVILLE, PENNSYLVANIA.

IMPROVEMENT IN RAILWAY-TIES.

Specification forming part of Letters Patent No. **207,719**, dated September 3, 1878; application filed May 18, 1878.

To all whom it may concern:

Be it known that I, WINTHROP E. CURTISS, of Hoppenville, in the county of Montgomery and State of Pennsylvania, have invented a new and valuable Improvement in Wrought-Iron Railroad-Sleepers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a top view of my improved railroad-tie. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a perspective view of the tie, and Fig. 4 is a perspective view of the brace.

This invention has for its object the improvement of metal ties or sleepers for railroad-rails.

The nature of the invention consists in a wrought-iron tie or sleeper having diverging sides, and braced against spreading when in use by a metal brace riveted or bolted to the under side of the tie, the contour of the said brace being the same as that of the sleeper, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates my improved sheet-metal tie, the same being of a length proportionate to the gage of the road, and of a thickness proportionate to the weight of the rolling-stock. This tie has a flat upper part, *a*, from which diverge two sides, *b*, and is formed out of sheet metal by rolling, forging, or otherwise. The sides *b* are braced to each other and to the top by means of the metallic braces B, which latter are of the same general shape as the tie, and are riveted to its sides and top directly under the rail-seat on said tie. The sides of the tie are thus prevented from spreading when under strain. At each side of the rail-seat on the tie is formed an oblong slot, *c*, up which extends from below a headed screw-threaded bolt, *d*. The projecting end of each of these bolts extends through a metallic clamp, D, the jaw of which is shaped to conform to the contour of the flange of the rail, and is provided with a nut, *e*, which, being set up forcibly, causes the said clamps to bind, when adjusted, upon the base-flange of the rail, and effectually secures it to the tie. Should one of these bolts, whose heads *i* are longer than they are wide, and of slightly less width than the slots *c*, be broken, it may be removed and replaced by turning the bolt until the length of the head is in the length of the said slot, and then pulling it up vertically, when its head will pass through the slot—this without disturbing the tie. By placing the new bolt with its head in the slot, then forcing it through the same and turning it at right angles to its former position, it is locked to the tie and cannot be withdrawn therefrom. The tie, when set in position, causes the earth to be wedged into the space between the diverging sides and to become very closely packed therein. It thus has a very firm foundation, and practically cannot sink beyond the position at which it is originally set.

I am aware that it is not new to make a hollow metallic sleeper with flaring sides and slotted bolt-holes to admit the bolt-clamps, which are adjustable by interchange of the clamps, having projections of different lengths made for that purpose, and therefore I do not claim such invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. The wrought-metal tie A, having the flaring sides *b* and a brace of the same contour as the tie, and riveted to its under side, under the seat of the rail on said tie, substantially as specified.

2. The angular metallic tie A, having the angular transverse re-enforce B below the rail-seat portion, and on each side of the same the oblong slots *c c* through the tie for the passage of the clamp-bolts, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WINTHROP EZRA CURTISS.

Witnesses:

AARON K. STAUFFER,

PETER MCCOLLUM.