

(No Model.)

P. NOONAN.
RAILROAD TIE.

No. 554,372.

Patented Feb. 11, 1896.

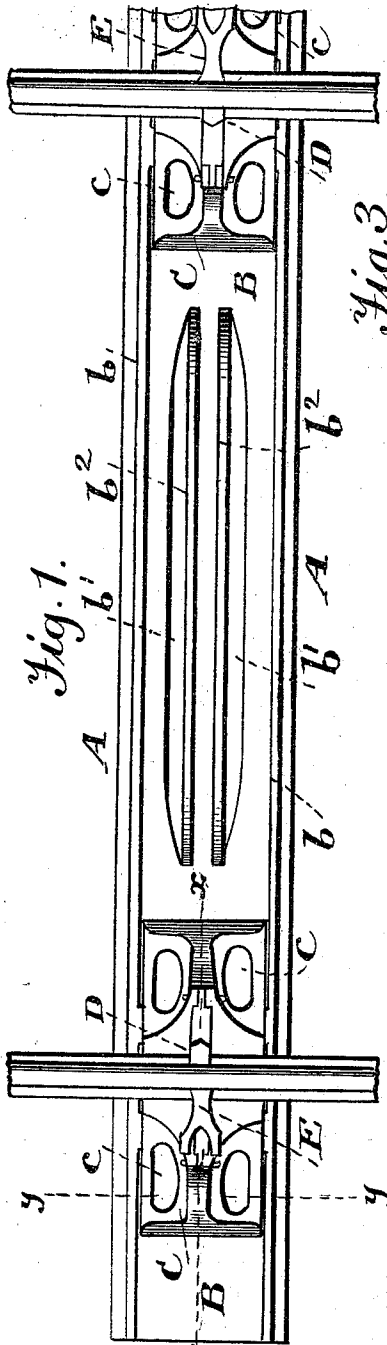


Fig. 1.

Fig. 3.

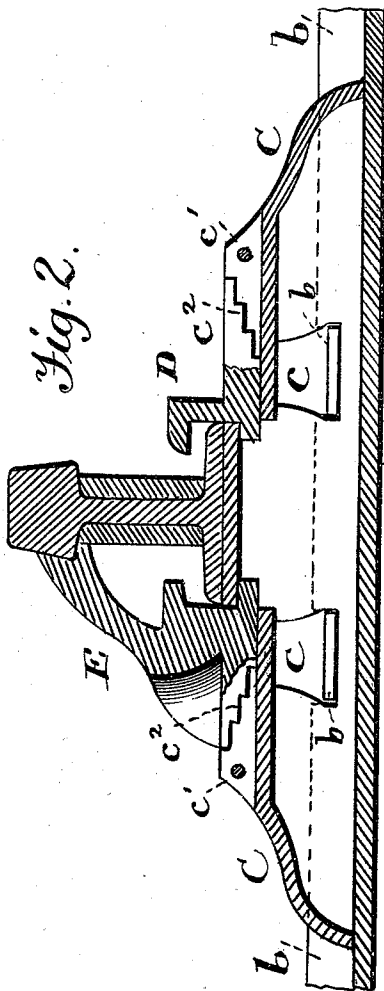
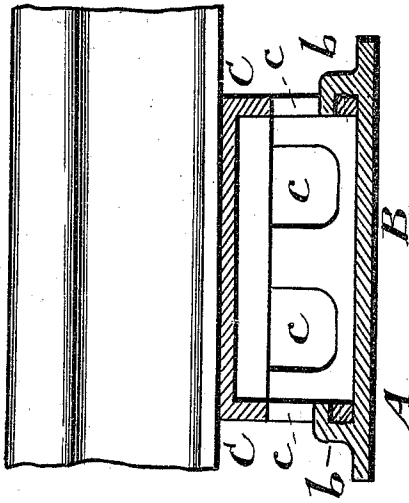


Fig. 2.

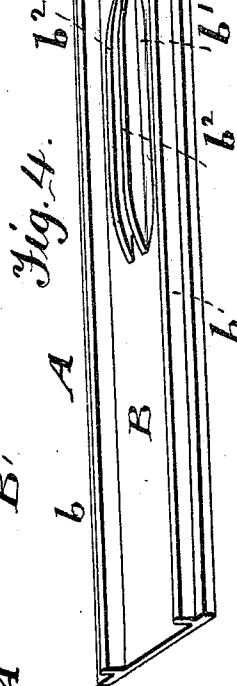


Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

PHILIP NOONAN, OF OVERTON, TEXAS.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 554,372, dated February 11, 1896.

Application filed May 21, 1895. Serial No. 550,042. (No model.)

To all whom it may concern:

Be it known that I, PHILIP NOONAN, a citizen of the United States, residing at Overton, in the county of Smith and State of Texas, have
5 invented certain new and useful Improvements in Railroad-Ties; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to
10 make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The special object of the invention is to
15 make a railroad cross-tie of metal, built up firmly and secured to the rails without screws, bolts, rivets, cushions or other appurtenances.

Figure 1 of the drawings is a plan view showing my invention applied; Fig. 2, a longitudinal
20 section of one of the rail-supports on dotted line 4 4, and Fig. 3 a cross-section of Fig. 2 on dotted line *yy* of Fig. 1. Fig. 4 is a perspective view of the cross-tie.

In the drawings, A represents the railroad
25 cross-tie as a whole. B is the bottom thereof, preferably made of rolled steel having a thickness of about one-half an inch and provided with two stiffening-ribs *b b* projecting upwardly about one and three-quarter inches.
30 In the middle of the tie I make the two longitudinal bottom openings *b' b'*, from which the metal is bent to form the upright flanges *b² b²*. This construction increases the rigidity and diminishes the ground bearing near the
35 middle, so as to prevent the tie from becoming "center-bound" after being in use under the railroad-track.

C C represent the two track-supports of the tie, they being arranged at the proper distance apart between the ribs or flanges *b b* and being shells of pressed steel or malleable iron about half an inch thick, open at the bottom and provided with the openings or holes *c*.

The rail-supports C are held down to the

bottom plate B by bending or crimping the 45 upper parts of the ribs or flanges *b b* inwardly, so as to enter the four side openings, as shown in Fig. 3 of the drawings.

D represents the clips and E the braces which secure the rails to the supports C, each 50 of the latter permitting the use either of a clip or brace on that part of the tie which is outside of the rails. I preferably make the clip and brace of pressed steel, each in a single piece and both so constructed as to allow for a free 55 half-inch vertical play of the rail. They are also made so that in case of a violent shock they will break off flush with the tie without injury thereto, and are pivoted near the outer end in a groove *c'*, but are stepped at *c²* 60 to engage corresponding steps in the support C. This takes the strain off the pivot while it effectually prevents the track from spreading or getting out of alignment.

Having thus described all that is necessary 65 to a full understanding of my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. An upwardly-ribbed cross-tie A, the track-supports C between said ribs, and the 70 clips or braces D and E secured to and in said supports, all combined and arranged as shown and described.

2. A railroad-tie having the rail-supports provided with side openings and a bottom with 75 the ribs *b b* to enter said openings as and for the purpose set forth.

3. In railroad-ties where the rail is not supported directly on the tie, a clip or brace pivoted in a groove *c'* of the support and stepped 80 at *c²* to engage corresponding steps of the support as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP NOONAN.

Witnesses:

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J. E. McDAVID.