

W. H. SHEAR.
METALLIC RAILWAY TIE.
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945,816.

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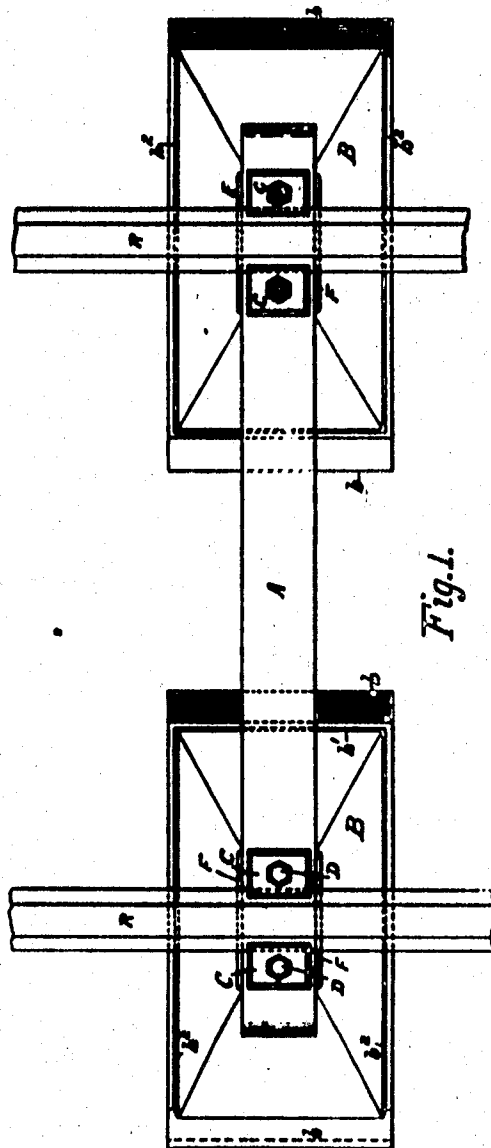


Fig. 1.



Fig. 2.

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METALLIC RAILWAY-TIE.

945,816.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. SHEAR, a citizen of the United States, residing in the town of Coeymans, in the county of Albany and State of New York, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a specification.

My invention relates to railway-ties and the objects of my invention are to produce a metallic railway-tie which will be economical in construction and practical in operation. I obtain these objects by means of a railway-tie constructed as shown in the accompanying drawings, in which—

Figure 1 is a plan view of my railway-tie in position, showing the bed-plate, clamps and rails. Fig. 2 is an elevation of my tie, showing the bed-plates, clamps and rails in section.

Similar letters refer to similar parts throughout the several views.

A represents the metallic railway-tie which may be constructed of steel or other suitable metal. Each end of the tie is folded under itself where the rail rests upon the tie, as shown in Fig. 2, leaving a vacant space between the folded end and the body of the tie under the portion upon which the rail rests. The end *a* of the tie is turned upward at an angle so that the end *a* rests against the under side of the tie. This form of construction gives a certain amount of elasticity to the tie when heavy trains are passing over the rails.

B B are bed-plates to support the ends of the tie under the rails. These bed-plates are made of suitable width and length to properly support the tie and the weight of the rails and cars upon the rail. They may be made thicker in the center where they sustain the greatest weight. The bed-plates B B have the ends *b b* extending downward into the ground at an obtuse angle, as shown in Fig. 2. These ends *b b* tend to prevent the bed-plate from sliding upon the ground and also being at an obtuse angle when the trains passing over them cause the bed-plates spring. The ends *b b* will gather dirt under the bed-plates and thus tend to tamp the railway-bed. I also construct flanges, *b' b'* on the upper surface of the inner ends of the bed-plates and flanges *b' b'* upon the upper surface of the sides, to collect any precipitation of moisture there

may be and cause it to be discharged at the other end on the outside of the track, so as to protect the road-bed as much as possible.

C C are clamping plates by which the rails R R are clamped upon the ties.

D D are bolts passing through the clamping plates C C and screwed into properly spaced screw-holes in the tie A. The bolts E E in like manner fasten the ends of the tie A upon the top of the bed-plates B B.

F F are lugs or flanges on the upper surface of the bed-plates B B at the sides of the tie A. These lugs may be cast on the bed-plates B B and are so spaced that the tie A will fit between them and they serve to materially strengthen the tie A and to sustain the side thrusts and strain upon the tie A, especially when heavy trains are running at rapid rates around curves.

The clamping plates C C are made of any suitable construction to properly hold the rails R R upon the tie.

Constructed in this way a metallic railway-tie will provide as much elasticity to the rail when heavy trains are going over it as is provided by the ordinary wooden tie. At the same time the rail will be held safely and securely in place without the possibility of spreading and the tie will last an indefinite length of time, thus making a metallic tie as thoroughly practical and cheaper and safer than the wooden tie.

What I claim as my invention and desire to secure by Letters Patent is,

1. A railway-tie consisting of a metallic bar having its ends bent under itself, leaving vacant spaces between the bent-under ends and the body of the tie on the surface of which the rail rests, in combination with metal bed-plates adapted to sustain the ends of the tie and means for fastening the rail to the upper surface of the metal tie and means for fastening the bent-under ends upon the upper surface of the bed-plates, substantially as described.

2. A railway-tie consisting of a metallic bar having its ends bent under itself, leaving vacant spaces between the bent-under ends and the body of the tie on the surface of which the rail rests, in combination with metallic bed-plates having their ends bent downward at an obtuse angle and having flanges upon the upper surface of the inner ends and the sides adapted to conduct moisture to the outer end of the bed-plates,

clamps adapted to hold the rails upon the upper surface of the said tie, means for clamping said rails upon the upper surface of said tie and means for securing the bent-under ends of said tie upon the upper surface of said metallic bed-plates, substantially as described for the purposes set forth.

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

WILLIAM H. SHEAR.

Witnesses:

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MARGUERITE VAN DER VOIGEN.