No. 820,368. PATENTED MAY 8, 1906.

L. C. SHARP.

METALLIC RAILWAY TIE.

APPLICATION FILED DEC. 16, 1904

Fig. 1.

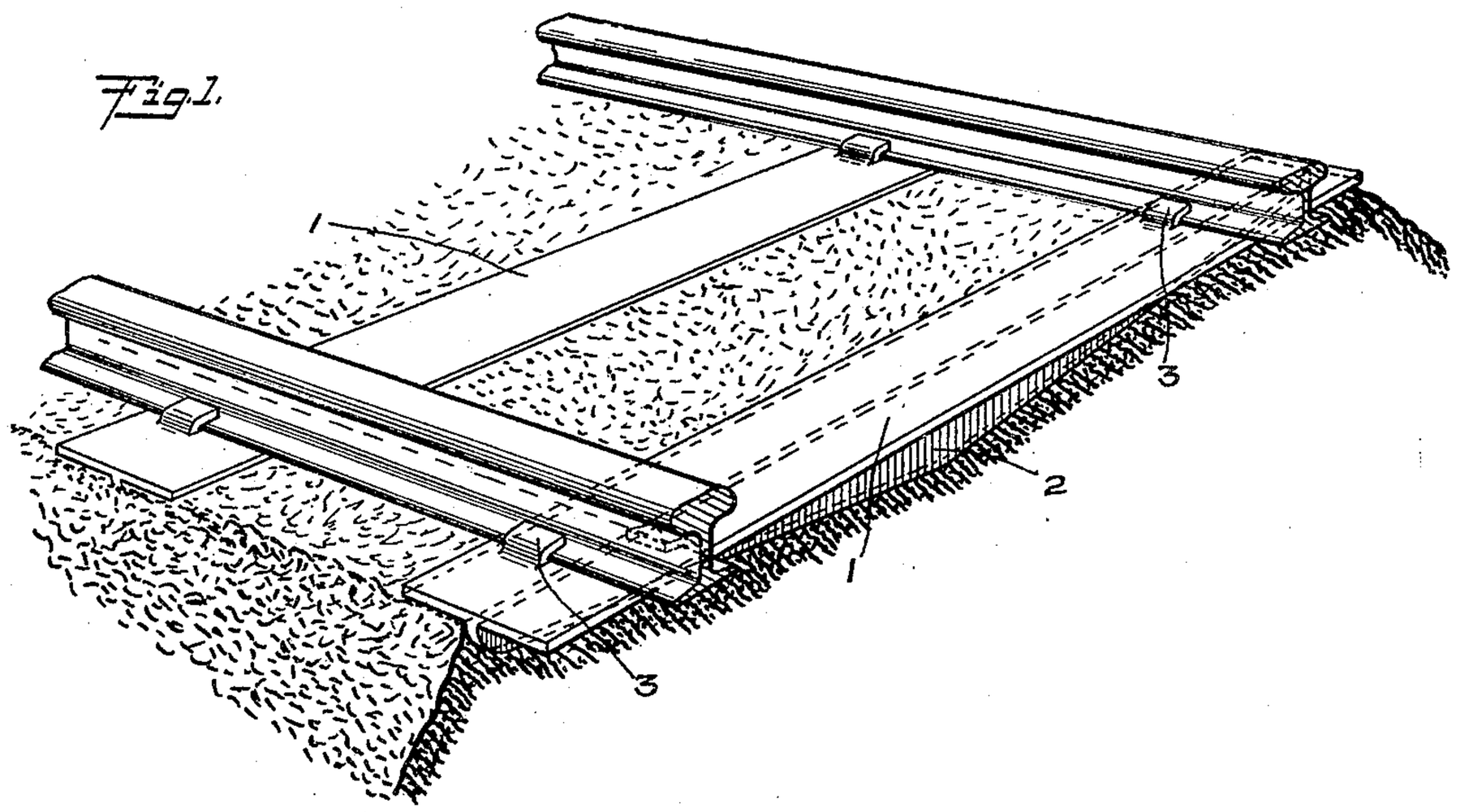
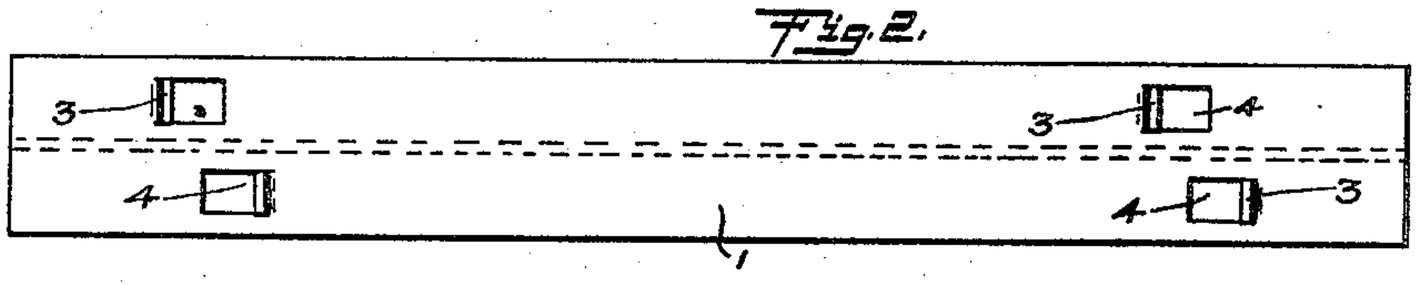


Fig. 2.



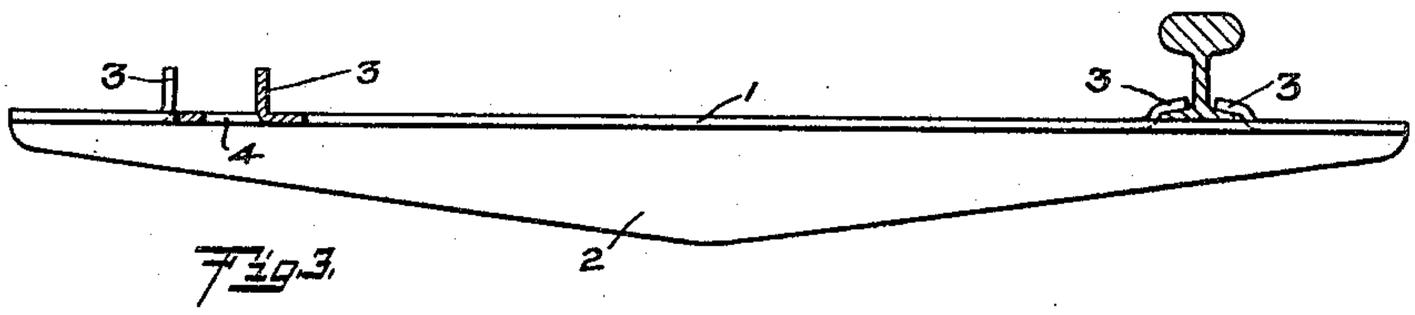


Fig. 3.

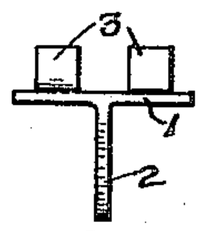


Fig. 4.

Witnesses

D. P. Barnell.

J. L. Armstrong.

Lee C. Sharp Inventor

UNITED STATES PATENT OFFICE.

LEE C. SHARP, OF OMAHA, NEBRASKA.

METALLIC RAILWAY-TIE.

No. 820,368. Specification of Letters Patent. Patented May 8, 1906.

Application filed December 16, 1904. Serial No. 237,162.

To all whom it may concern:

Be it known that I, LEE C. SHARP, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to make and use the same.

My invention relates to railway construction, and more particularly to metallic ties therefor.

It is the object thereof to provide a metallic tie for railway construction which shall furnish the requisite strength with the use of a small amount of material, which shall provide adequate bearing-surface for the rail-flanges, insure contact between the rail and tie over the entire bearing-surface, provide a surface equal to that of wooden ties for bearing upon the road-bed or ballast, and to provide means integral with the tie for attaching the rails thereto. I attain these objects by the construction shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of railway-track having my metallic ties used therein. Fig. 2 is a plan view of one of the ties. Fig. 3 is an elevation showing at one side a rail secured to the tie by the attaching means thereon and at the other side the position of said attaching means before receiving the rail, and Fig. 4 is an end elevation of the same.

The tie as shown is an integral metallic body comprising the flat plate 1, having the longitudinally-extending rib 2 on the under side of the same. The depth of the rib 2 is preferably made greater at the middle of the tie than at the ends, as shown, this form bringing the greatest resisting moment of the section at the point receiving the greatest bending stress when the tie is in use.

Adjacent to the ends of the tie at each side of the portions of the plate 1 forming the rail-bearing surfaces are the upwardly-extending tongues 3, the said tongues being adapted to be bent inwardly over the flanges of the rails, as represented in Figs. 1 and 3. The tongues are preferably formed from the plate 1 by displacement of portions thereof, as by punching, the displaced portions remaining attached to the plate at one side and extending upwardly therefrom. When the tongues are formed in this manner, the same are preferably placed on opposite sides of the rib 2, as shown, so that the openings 4, from which the material is displaced to form the tongues, may not interlap.

It is preferred to make the ties from standard rolled-steel T shapes by suitable cutting and punching operations; but the same may be made of malleable iron, cast-steel, or other material having suitable malleable properties. Should the ties be cast in malleable iron or steel, the tongues may of course be cast in the upturned position, in which event the forming of the openings 4 is unnecessary.

It will be noted that by the construction shown the rails have a flat bearing-surface across the entire width of the plate 1, or the flange portion of the tie-body if the same be regarded as a T-section, and that by means of the tongues the rails are securely held in engagement with said bearing-surface. It will also be observed that the area of the plate 1 may be sufficient to provide ample ground bearing-surface, while the rib 2 or stem of the T-section in addition to strengthening the section serves as an anchor to prevent lateral displacement of the tie.

Now, having described my invention, what I claim, and desire to secure by Letters Patent, is—

A metallic railway-tie comprising a body having a longitudinal rib upon one face, the opposite side of the body forming a rail-bearing surface, and a pair of tongues struck up from said body at each end thereof and intermediate its edges, the tongues of each pair being arranged out of alinement one with the other for engagement with the base-flange of the corresponding rail upon opposite sides of the aforesaid rib, the corresponding rail being disposed over the openings formed by striking up of the metal to form said tongues.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

LEE C. SHARP.

Witnesses:
N. S. REEVES,
P. M. CONKLIN.