

No. 859,394.

PATENTED JULY 9, 1907.

H. A. LOMAX.
METALLIC RAILWAY TIE.
APPLICATION FILED NOV. 17, 1906.

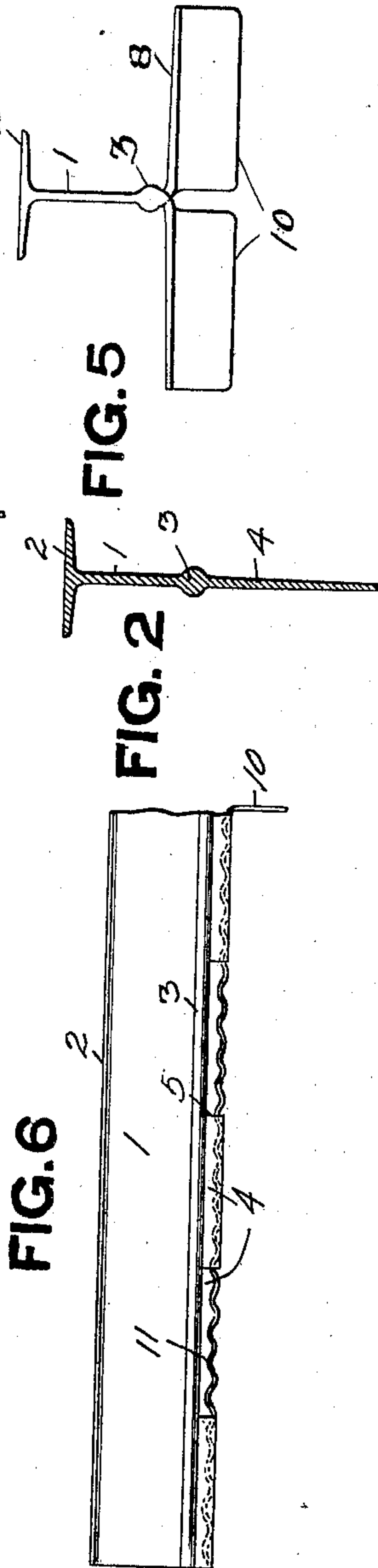
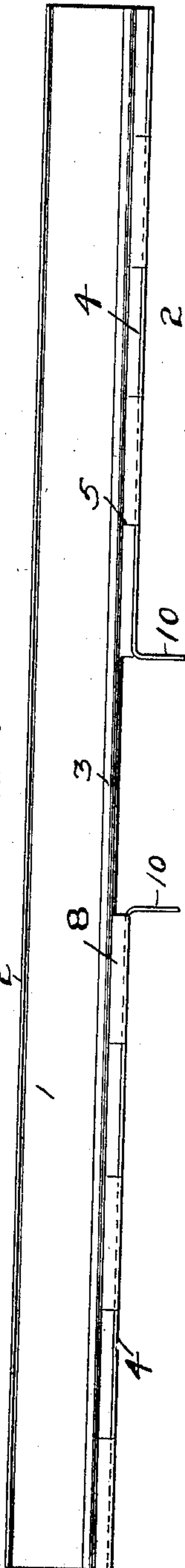
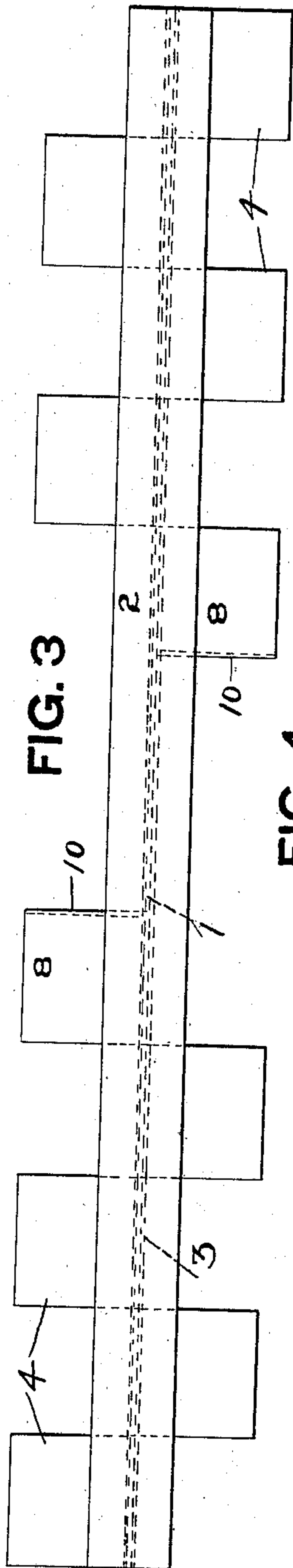
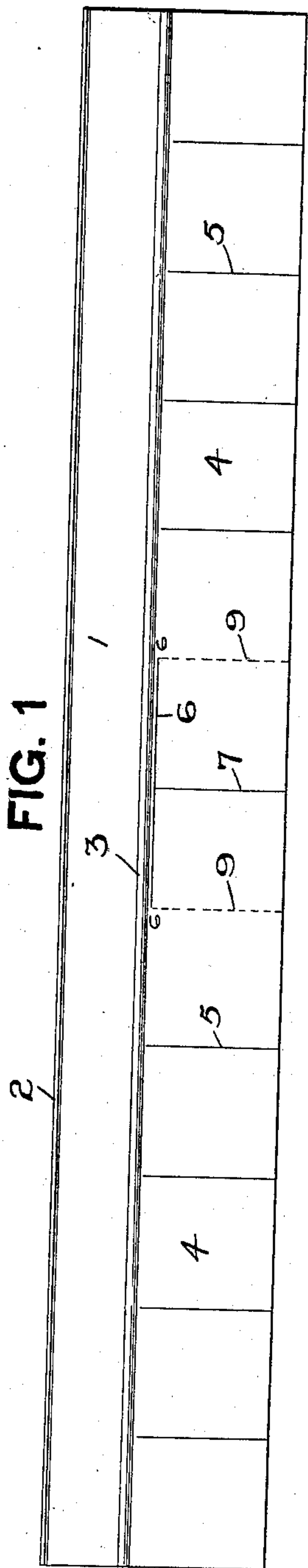


FIG. 5

FIG. 2

FIG. 6

WITNESSES.

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HAROLD A. LOMAX, OF PITTSBURG, PENNSYLVANIA.

METALLIC RAILWAY-TIE.

No. 859,394.

Specification of Letters Patent.

Patented July 9, 1907.

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To all whom it may concern:

Be it known that I, HAROLD A. LOMAX, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Metallic Railway-Ties; and I do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to metallic railway ties and its object is to provide a tie of economical and strong section and which can be readily and inexpensively manufactured by ordinary rolling, punching and bending processes.

The invention comprises a tie having the characteristics hereinafter described and claimed.

In the accompanying drawing, Figure 1 is a side view of the blank after slitting; Fig. 2 is a cross section of the same; Fig. 3 is a plan view of the tie; Fig. 4 is a side view of the same; Fig. 5 is an end view of the same; Fig. 6 is a side view of a portion of a tie showing a modification.

In the manufacture of my tie I produce by ordinary rolling operations a section such as shown in Fig. 2, this having the web portion 1 which in the tie is arranged vertically and having at one edge oppositely projecting flanges 2 forming the head of the tie and upon which the rails are seated and to which they are secured. At the lower edge of the web I form a thickened or bulb portion 3 and beyond the same is the base flange forming portion 4 in the form of a continuous, and preferably tapering, web as shown in Fig. 2. This section is cut in lengths suitable for the tie and the base flange forming portion 4 is then slit at 5 at intervals from its lower edge up to the thickened portion 3 and the several sections of said portion formed by these slits are then bent at right angles to their original positions and alternately in opposite directions to form the base flange members, or feet, 8 of the tie. At some place along the tie, preferably at its center, the base forming web portion 4 is also slit horizontally on line 6—6, Fig. 1 to sever the same from the thickened portion 3. A vertical slit 7 is also formed at the center of the tie and the portions formed by said horizontal and vertical slits are bent downwardly on the lines 9, thus forming in effect down-turned flanges 10 on the adjacent base members 8, said flanges lying transversely of the axis of the tie and serving to prevent movement of the tie laterally in the road bed. By this means the tie is also made of less depth at the center and this prevents center bending.

The completed tie may be said to be of modified I shape in cross section having a vertical web 1 and a head formed by the flanges 2, while the base is formed

by the thickened portion 3 and alternately arranged out-turned feet or members 8. The thickened member 3 not only forms a tension chord for the girder but also a strengthening portion to prevent the slits 5 cut in the part 4 from producing fractures extending up into the web of the girder. The base members 8 can, of course, be made any desired width so as to get a very large bearing on the ballast. It is obvious that in rolling the section shown in Fig. 2, the portion 4 can be rolled of indefinite width if desired so as to give a very wide base to the rail; whereas, it would practically be impossible to roll an I beam having such wide flanges in one head. As a consequence, the tie has a firm seat on the ballast while the transverse portions 10 prevent all lateral movement. The base portions may be very thin if desired, for purposes of lightness, in which event they may be corrugated to stiffen the same as shown at 11, Fig. 6. The corrugating may be done in rolling the blank, or after the base flanges are bent to shape.

The tie is easy to manufacture as the section shown in Fig. 2 can be rolled without difficulty and the further operations are nothing more than slitting and bending steps. By having in-turned base flanges, that is the laterally projecting base portions or feet 8, another advantage is obtained as the ballast can be tamped not only at the side edges of these portions but also in between these projecting portions.

I have shown no means for securing the rail to the tie since these can be varied within wide limits, either by means of bolts passing through the flanges 2 or by suitable clips secured thereto.

What I claim is:

1. A metallic railway tie comprising a beam having a vertical web and flanges at the upper edge and having at its lower edge flange portions projecting in opposite directions and arranged alternately.

2. A metallic railway tie comprising a rolled beam having a vertical web and flanges at the upper edge, and having its lower edge slit vertically and the portions formed by the slits bent alternately in opposite directions.

3. A metallic railway tie comprising a beam having a vertical web with flanges at the upper edge and at the lower edge having flange portions projecting in opposite directions and arranged alternately, and having a reinforced portion at the point where the flanges join the web.

4. A metallic railway tie comprising a rolled beam having a vertical web with flanges at the top and being thickened at its bottom and having below the thickened portion flange portions arranged alternately and projecting in opposite directions.

5. A metallic railway tie comprising a beam having a vertical web and flanges at the upper edge, and having at the lower edge flange portions projecting in opposite directions, and a downwardly projecting portion connected with said flanges and extending transversely of the tie.

6. A metallic railway tie comprising a beam having a vertical web with flanges at the upper edge and having at its base a series of flange portions arranged alternately and projecting in opposite directions, one or more of said
5 flange portions having a downwardly projecting edge extending transversely of the axis of the tie.

7. A metallic railway tie comprising a rolled beam having a web with flanges at its top and having at its bottom a thickened portion, and below the same flange portions

projecting in opposite directions, one or more of said base 10
flange portions having a down-turned edge portion extending transversely of the axis of the tie.

In testimony whereof, I the said HAROLD A. LOMAX have hereunto set my hand.

HAROLD A. LOMAX.

Witnesses:

F. W. WINTER,

ROBERT C. TOTTEN.