

No. 706,788.

Patented Aug. 12, 1902.

J. F. WEISBROD.
METALLIC RAILWAY TIE.
(Application filed Feb. 11, 1902.)

(No Model.)

Fig. 1.

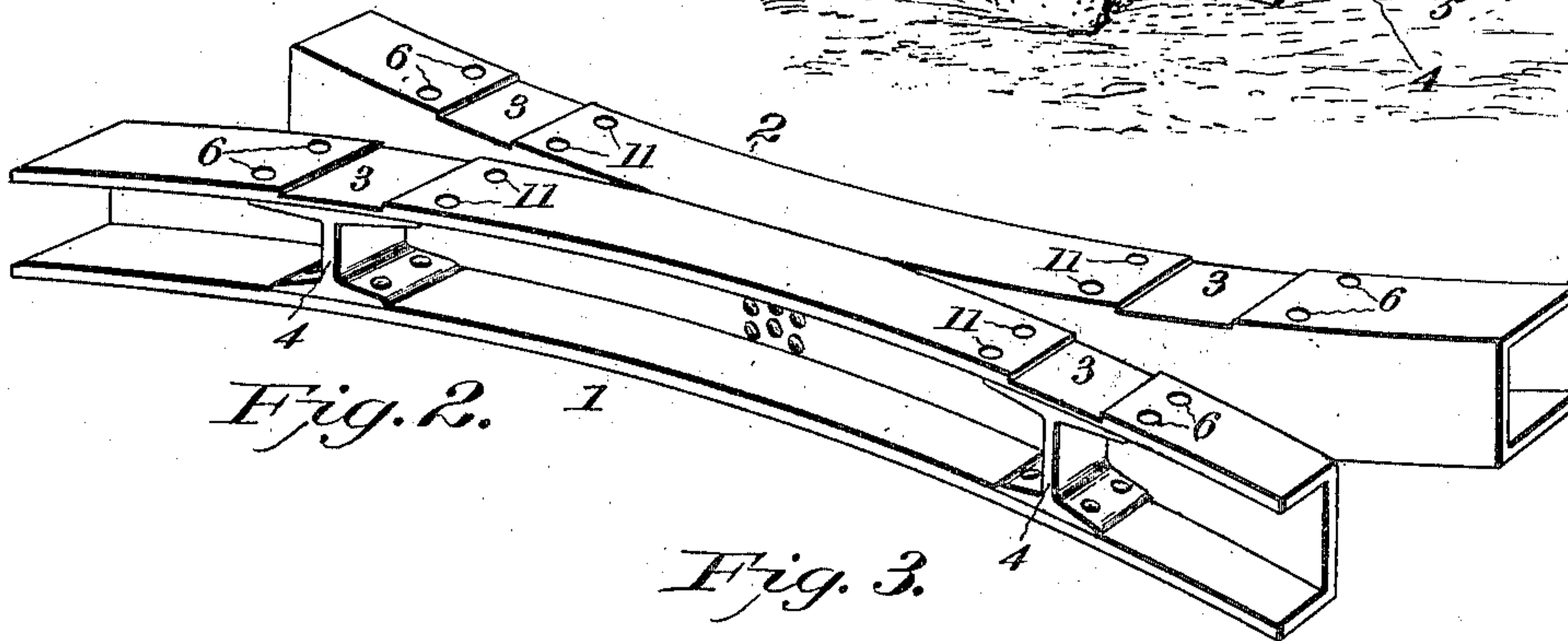
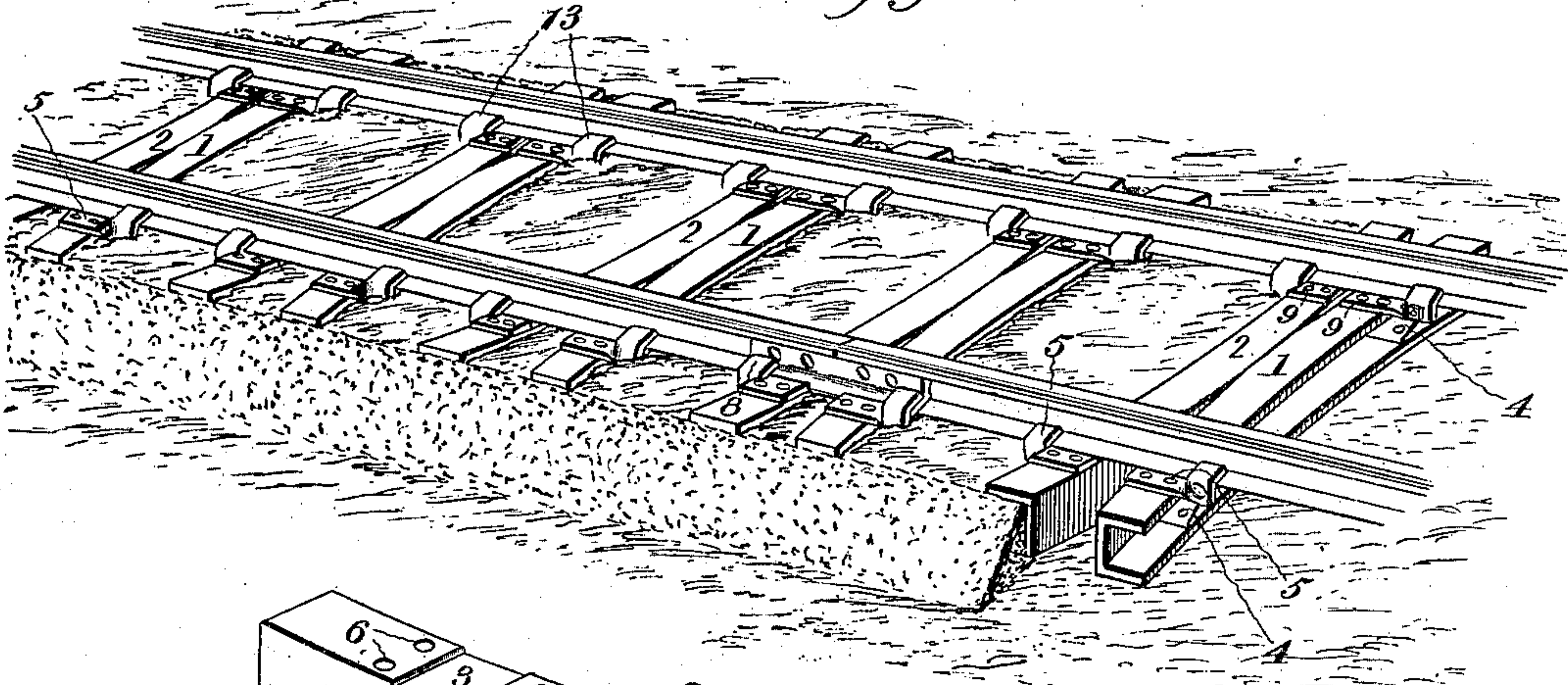


Fig. 2.

Fig. 3.

Fig. 4.

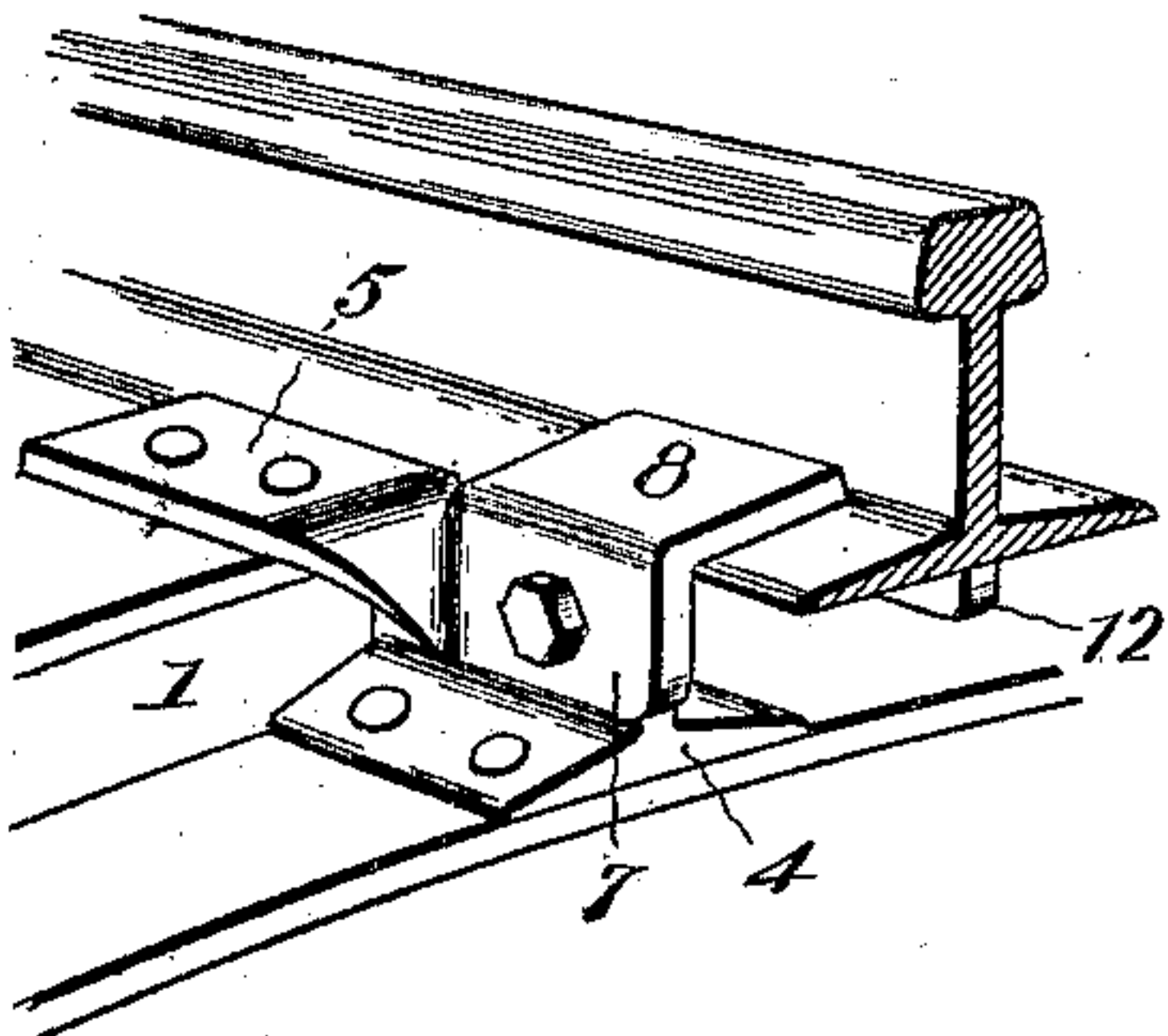


Fig. 5.

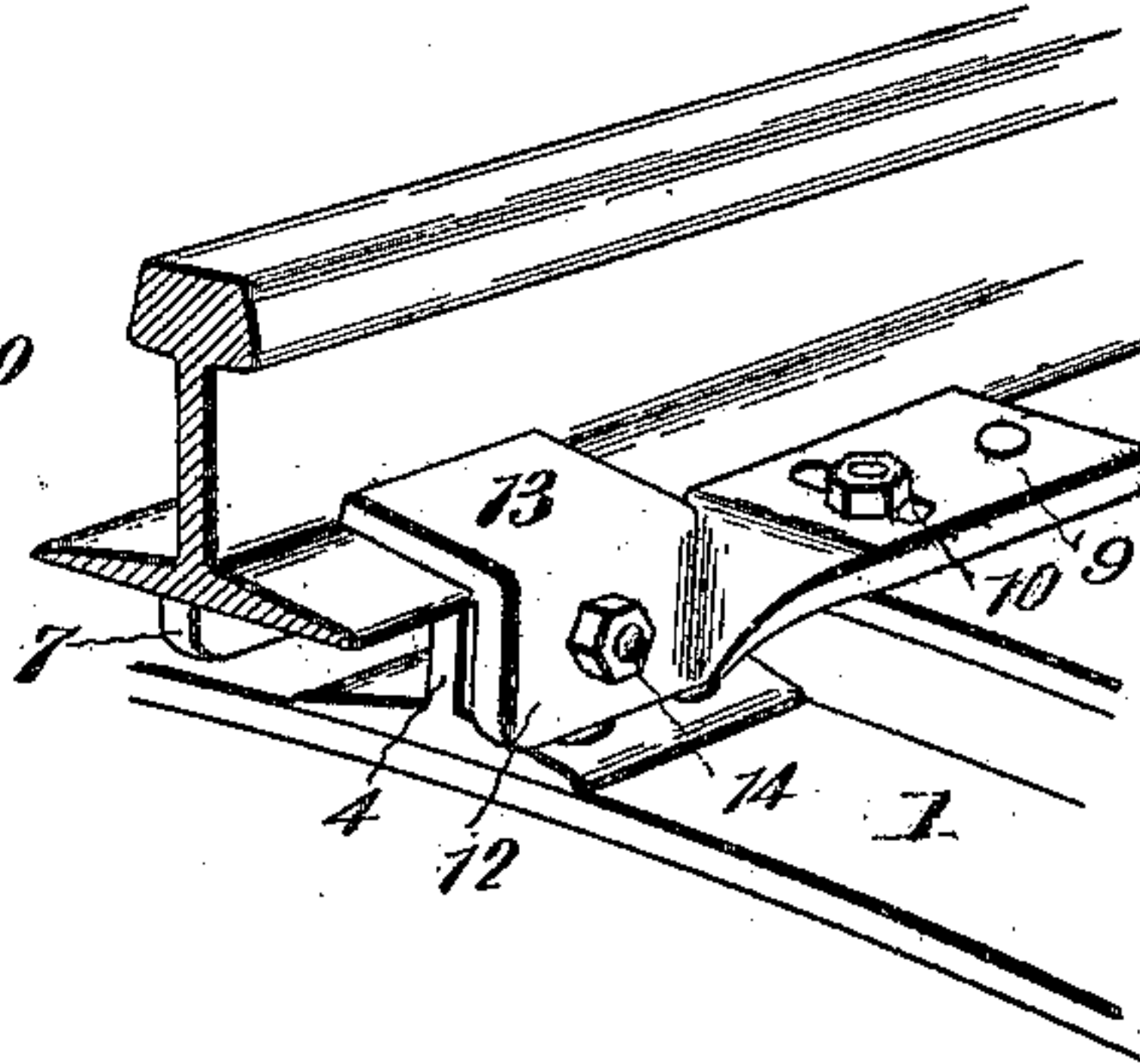
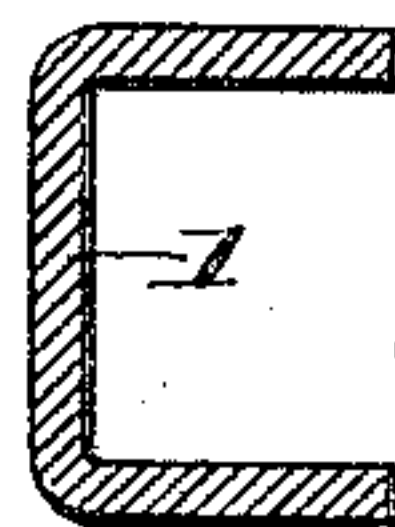
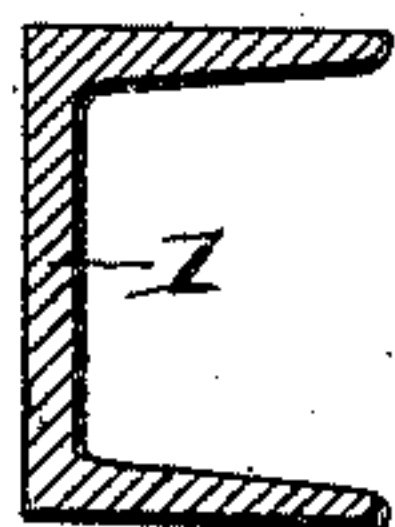


Fig. 6.

Fig. 7.



Witnesses

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JOHN FRANCIS WEISBROD, OF ALLEGHENY, PENNSYLVANIA.

METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 706,788, dated August 12, 1902.

Application filed February 11, 1902. Serial No. 93,578. (No model.)

To all whom it may concern:

Be it known that I, JOHN FRANCIS WEISBROD, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Metallic Railway-Ties, of which the following is a full, clear, and exact description.

This invention relates to metallic ties for use in the construction of railways.

In carrying out the invention I use metal, rolled, pressed, or otherwise produced, of channel shape bowed longitudinally, a pair of such bowed channels being united back to back and having stay-pieces interposed between their flanges at the points where the rails are to be laid. Combined with such a tie are rail-clamps of peculiar construction. The channels are set edgewise in use and so as to permit the entrance of the ballast between the flanges, thereby the more securely to embed the tie and likewise support it.

Having thus stated the principle of my invention, I will proceed now to set forth the best mode in which I have contemplated applying that principle and then will particularly point out and distinctly claim the part, improvement, or combination which I claim as my invention.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of a portion of a railroad-track containing the features of my invention. Fig. 2 is a perspective view of one of the duplex ties detached. Fig. 3 is a perspective view showing the means for fastening the rail to the tie. Fig. 4 is a perspective view showing the left-hand fastening-clamp. Fig. 5 is a perspective view showing the right-hand fastening-clamp. Fig. 6 is a cross-section of a rolled channel. Fig. 7 is a cross-section of a pressed-steel channel.

Referring to Fig. 2 especially, 1 and 2 are appropriate lengths of channeled metal, rolled, pressed, or otherwise produced and bowed longitudinally and united back to back by rivets or otherwise, so that their outer ends flare away from one another, and so that their upper flanges form bearing-surfaces to receive the rails, and their lower flanges form bearing-surfaces to come into contact with

the road-bed. If desired, the upper flanges may be provided with recesses 3 at opposite ends, spaced apart in accordance with the track-gage to receive the bases of the rails, and in line with the rail-receiving surfaces and between the flanges I interpose stays 4, which may be sections of I-beam or T-beam riveted to the lower flanges or to both flanges, if desired, to afford a rigidity and stiffness equal to a solid tie at the points of greatest pressure. When such ties are laid, the spaces between their flanges are filled with the ballast or road-bed material, as indicated in Fig. 1, and thus the ties are anchored in the road-bed securely and immovably in any direction, the backs of the channels abutting against the material of the road-bed, preventing movement in the direction of the length of the road, and the stays 4 resisting movement in the direction of the length of the ties. The spread between the ends of the channels may be of any desired extent, and preferably is such as to permit of the use of one of these double or duplex ties for three of the ordinary straight ties.

In order to provide for fastening the rails to the ties, I use a pair of clamps, one of which, 5, preferably the outer, is composed of a flat plate of metal adapted to be bolted through holes 6 to the tie and having a vertical portion 7 projecting beyond the tie and which abuts against the edge of the base of the rail, and a substantially horizontal portion 8 at the top of said vertical portion which overlaps the base of the rail on one side, while the other clamp 9, which by preference is arranged on the inside of the track, has a transverse slot 10, so as to be capable of adjustment toward and from the rail by means of its bolts, which engage holes 11 in the tie. This inner fastening member 9 has also a vertical portion 12, abutting against the edge of the base of the rail, and a substantially horizontal portion 13, which overlaps upon the top of the base of the rail, and the two vertical portions 7 and 12 are preferably connected by a bolt 14 near their outer ends. These fastening devices will be of such character as not to interfere with the fish-plates or rail-joints, and they afford a ready means for securing the rails to the ties and may be as readily displaced for purposes of repair. The provision

of the slot 10 in one or both of the clamps and at one or both of the bolt-holes admits of the adjustment of the clamps to the rails and the fish-plates.

5 What I claim is—

1. A rail-tie, composed of similar metallic channels, bowed longitudinally, set on edge, and united back to back.

10 2. A rail-tie, composed of two pressed-steel channels, bowed longitudinally, arranged on edge, and united back to back.

3. A rail-tie, composed of similar channels, bowed longitudinally, set on edge, united back to back, and having their outer ends flaring, 15 and stays interposed between the flanges at the points of support of the rails.

4. A rail-tie, composed of longitudinally-bowed channels united back to back, and provided with rail-seats in their upper flanges, 20 and stays interposed between the flanges beneath the rail-seats.

5. A metallic rail-tie, combined with rail-fastenings, each of which has a flat portion

adapted to be bolted to the tie, a vertical portion projecting beyond the tie to abut against 25 the base of the rail, and a substantially horizontal portion on said vertical portion to overlap the base of the rail, one of which fastenings is adjustable.

6. A metallic rail-tie, combined with rail- 30 fastenings, each of which has a flat portion adapted to be bolted to the tie, a vertical portion projecting beyond the tie to abut against the base of the rail, and a substantially horizontal portion on said vertical portion to over- 35 lap the base of the rail, means to adjust the fastenings, and a cross-bolt engaging the vertical portions of the fastenings beneath the rail-base.

In testimony whereof I have hereunto set 40 my hand this 10th day of February, A. D. 1902.

JOHN FRANCIS WEISBROD.

Witnesses:

HENRY W. ARMSTRONG,
JENNIE MILLAR.