

No. 894,573.

PATENTED JULY 28, 1908.

J. U. BEATTY.
RAILWAY TIE AND RAIL FASTENING.

APPLICATION FILED MAY 23, 1907.

Fig. 1.

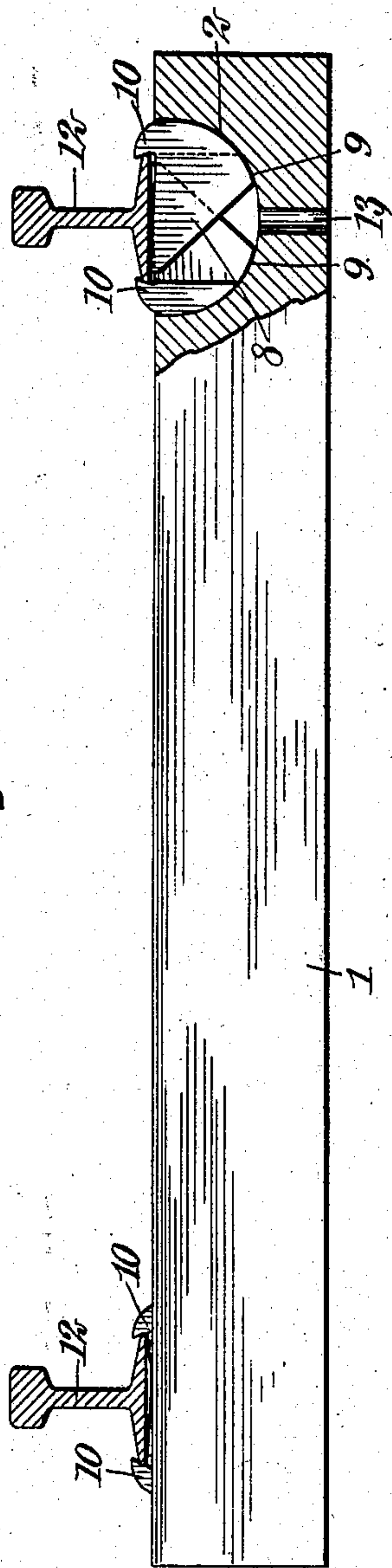


Fig. 4.

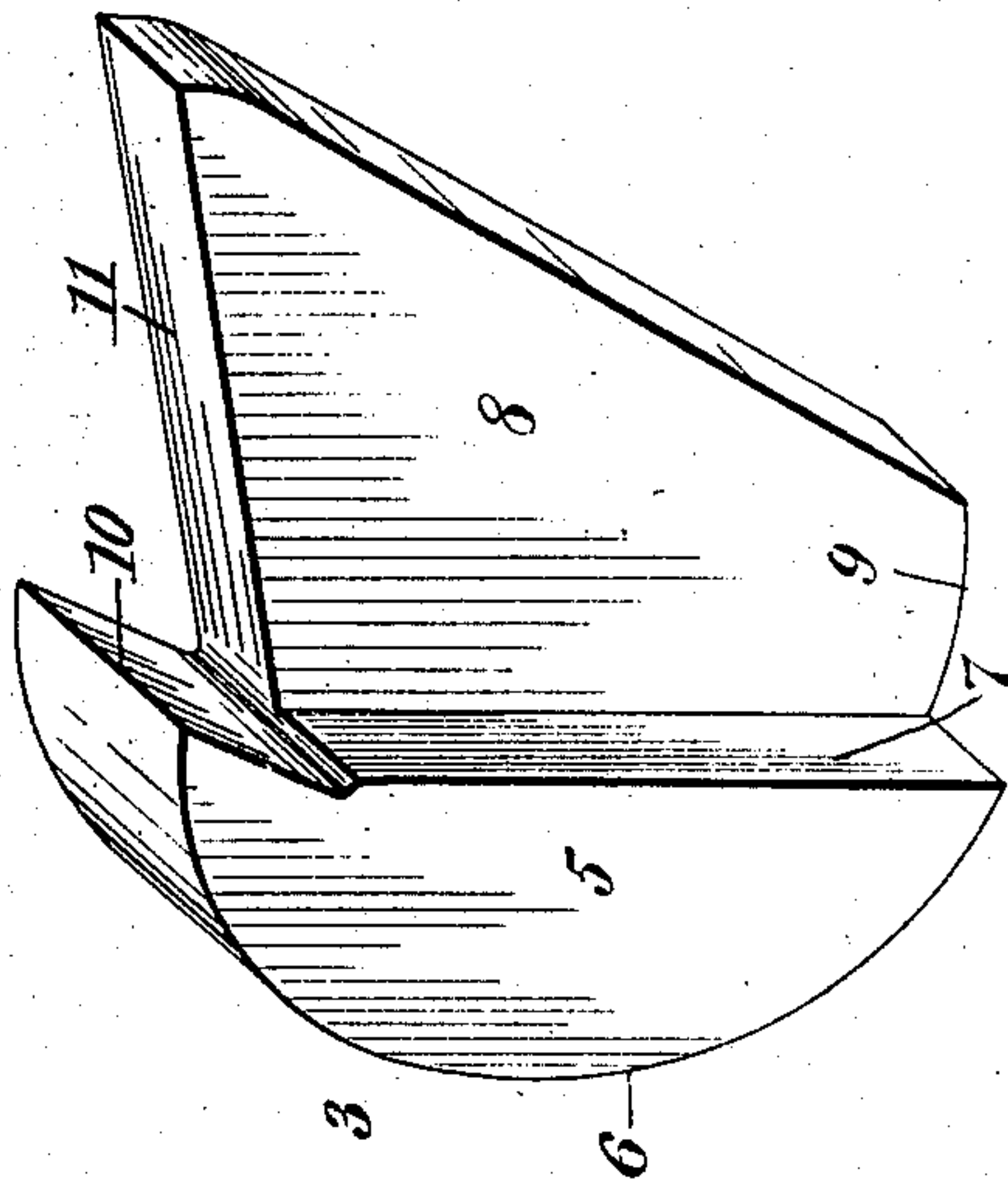


Fig. 2.

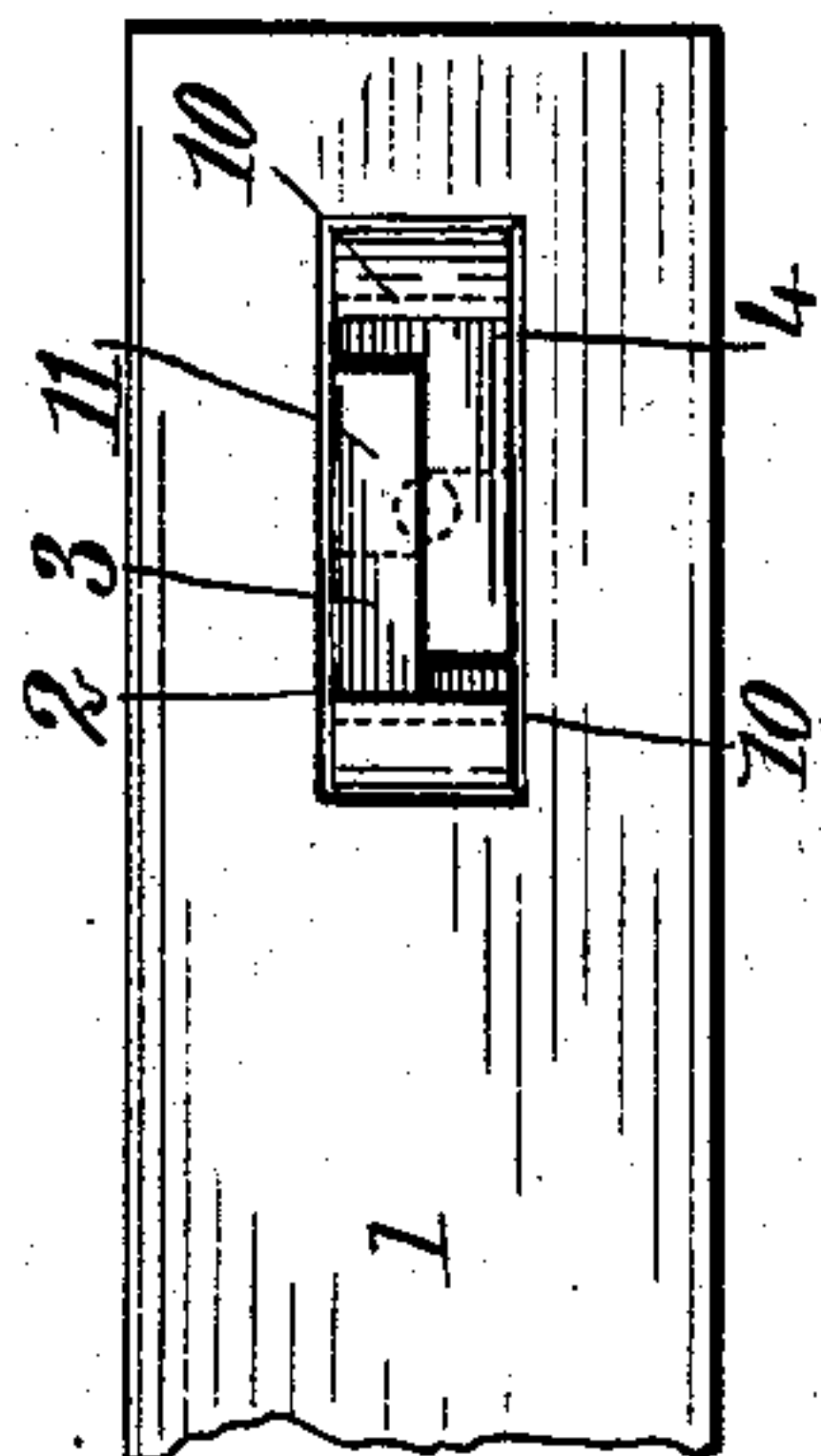
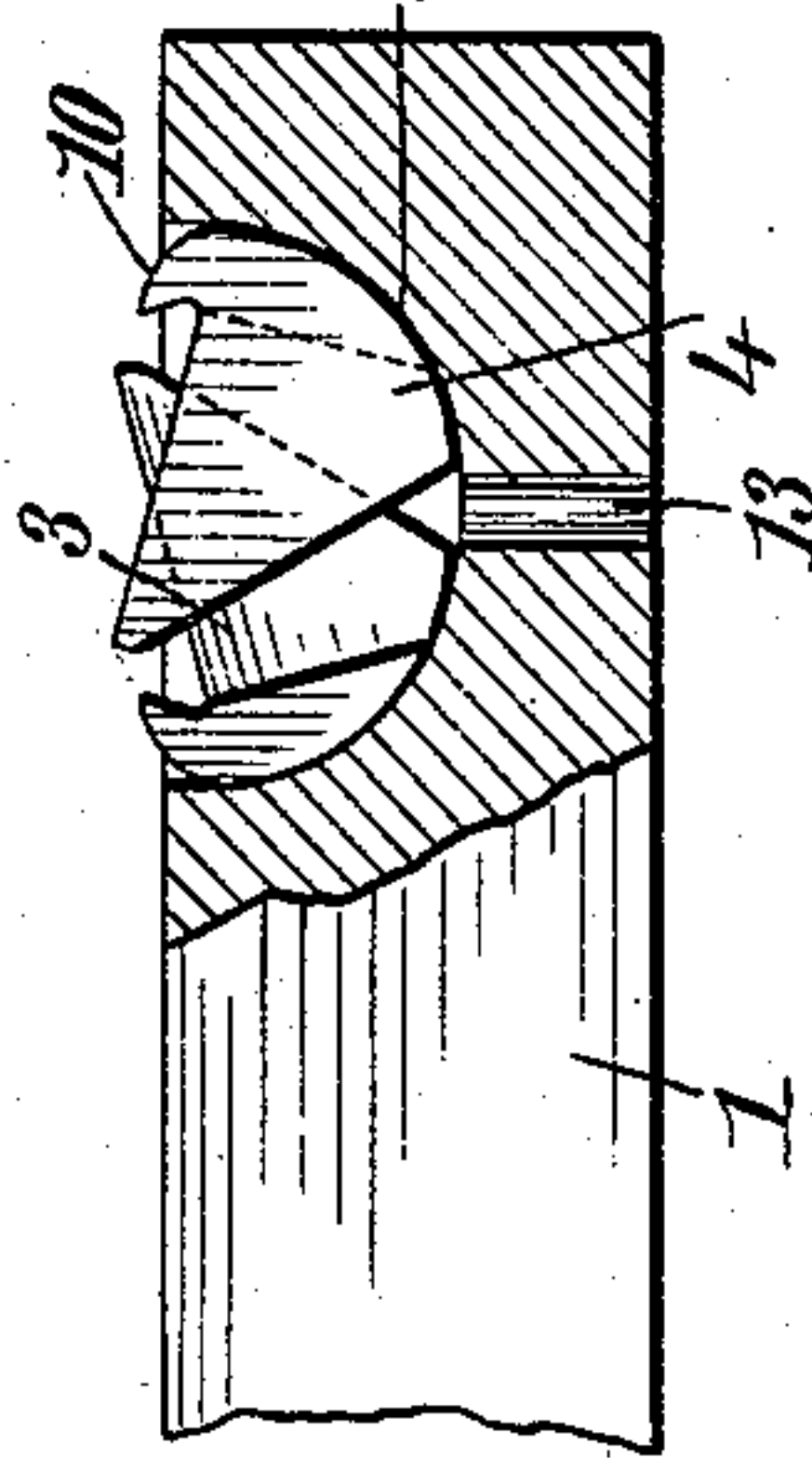


Fig. 3.



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RAILWAY TIE AND RAIL FASTENING.

No. 894,573.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed May 23, 1907. Serial No. 375,237.

To all whom it may concern:

Be it known that I, JAMES U. BEATTY, a citizen of the United States, and a resident of Arrow, in the county of Somerset and State of Pennsylvania, have invented a new and Improved Railway Tie and Rail Fastening, of which the following is a full, clear, and exact description.

This invention relates to railway ties and rail fastenings, and the object of the invention is to produce a railway tie having simple means for fastening the rails thereto, which will operate to hold the rails securely without the use of spikes or the ordinary fastening devices.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal elevation of a railway tie constructed according to my invention, one end of the same being shown in cross section, and illustrating the manner in which the rails are held in position; Fig. 2 is a plan of one end of the tie, the rail being removed; Fig. 3 is an elevation of the end of the tie shown in Fig. 2, a portion thereof being shown in cross section; this view represents the parts in the position which they occupy when the rail is about to be fastened to the tie; and Fig. 4 is a perspective view of one of the clamping devices which operate to hold the rail to the tie.

Referring more particularly to the parts, 1 represents the body of the tie, which may be of metal or wood as desired. When the tie is made of metal, I provide near the ends thereof on the upper side, deep recesses 2, which are of curved form as indicated; the arrangement being such that the bottom of the recess merges gradually into the sides thereof, presenting a smooth or fair curve. These recesses, in plan, are rectangular as shown in Fig. 2. The distance between the recesses corresponds with the gage of the roadway. In each of these recesses I provide a pair of clamps 3 and 4. The clamp 3 is very clearly shown in Fig. 4; it presents a body 5 having a curved outer face 6, the curvature of which corresponds to that of the side wall of the recess 2. This body 5

presents a vertical face or shoulder 7 from which there projects inwardly a substantially triangular wing or fin 8; and the lower edge 9 of this fin constitutes a continuation of the curved surface 6 of the body of the clamp; the curvature at this point conforms to the curvature of the bottom of the recess 2. The thickness of the wing or fin 8 is substantially half that of the body.

The upper extremity of the body 5 is formed with an inclined jaw 10, and this jaw forms an angle with the upper edge 11 of the wing 8.

The clamp 4 is similar to the clamp 3 which has just been described, except that it is opposite in character when the clamps are set opposite to each other, as shown in Fig. 2. From this arrangement, the two clamps may be set in the recesses with the wings 8 superposed upon each other in a vertical plane. Before the rail 12 is set in position the clamps are set in the recesses in the position indicated in Fig. 3; that is, with the outer parts depressed. The rail 12 is then laid upon the tie just over the recesses 2 and is pressed downwardly. In this way it depresses the wings 8 which project upwardly, and as they become depressed, the jaws 10 move upwardly and inwardly so as to clamp the edges of the rail flange in the manner indicated in Fig. 1.

It should be understood, of course, that as the wings are depressed by the rail, the clamps rotate so that their outer curved faces slide along on the curved side walls of the recesses. The arrangement of the wings is such that when the clamps are holding the rail, as indicated at the right in Fig. 1, the wings project slightly above the upper face of the tie. This arrangement insures that the weight of the rail will always come upon the clamps. Evidently, as the weight upon the rail increases, the force with which the jaws grasp the edges of the flange, will become increased. In this way the clamps operate effectively to hold the rails securely at all times, and especially when a train is passing.

Special attention is called to the fact that the invention obviates the employment of the ordinary spikes or fastening devices used in practice, with their attendant disadvantages.

If it is not desired to construct the entire body of the tie of metal, the recesses may be formed simply in blocks which are set in the

wooden body of the tie, as will be readily understood.

In order to prevent water from collecting in the recesses, the bottoms thereof are provided with drain openings 13 respectively, as shown.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

10 1. A railway tie having recesses in the upper side thereof, and clamps mounted in said recesses having jaws at their outer sides adapted to clamp the flange of the rail, said clamps having wings projecting under the
15 rail, the bottom and side walls of said recesses being curved, and the edges of said clamps being correspondingly curved, whereby the

depression of said wings rotates said clamps and advances said jaws.

2. A railway tie having recesses in the upper side thereof, with curved bottom and side walls, and clamps in said recesses, having jaws at their outer sides and having wings superposed upon each other and supporting the rail between said clamps, said wings when depressed, affording means for
25 advancing said jaws to clamp the rail flange.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES U. BEATTY.

Witnesses:

ANDREW ZENIANY,
GEORGE J. HUDAKY.