

No. 689,151.

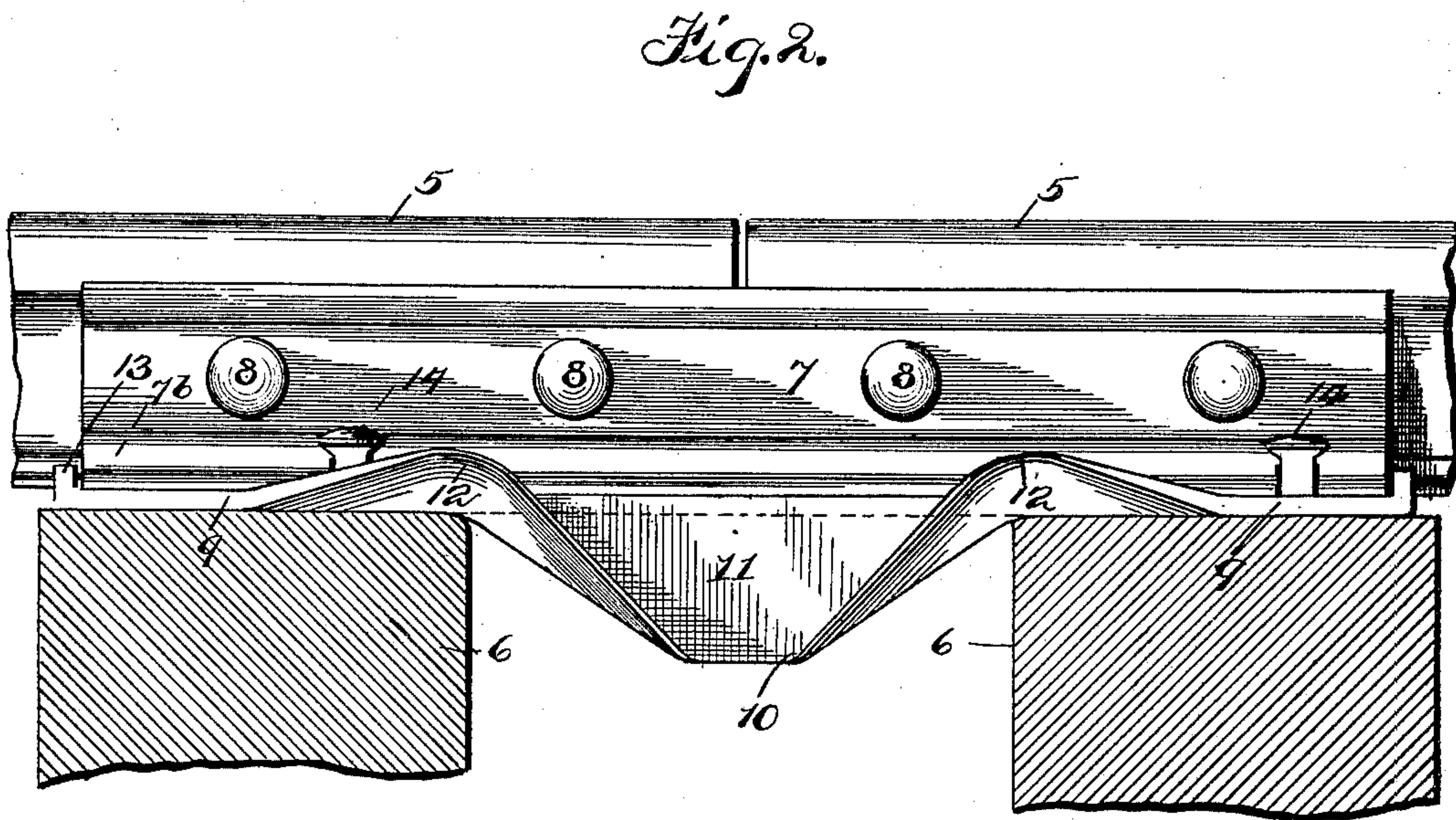
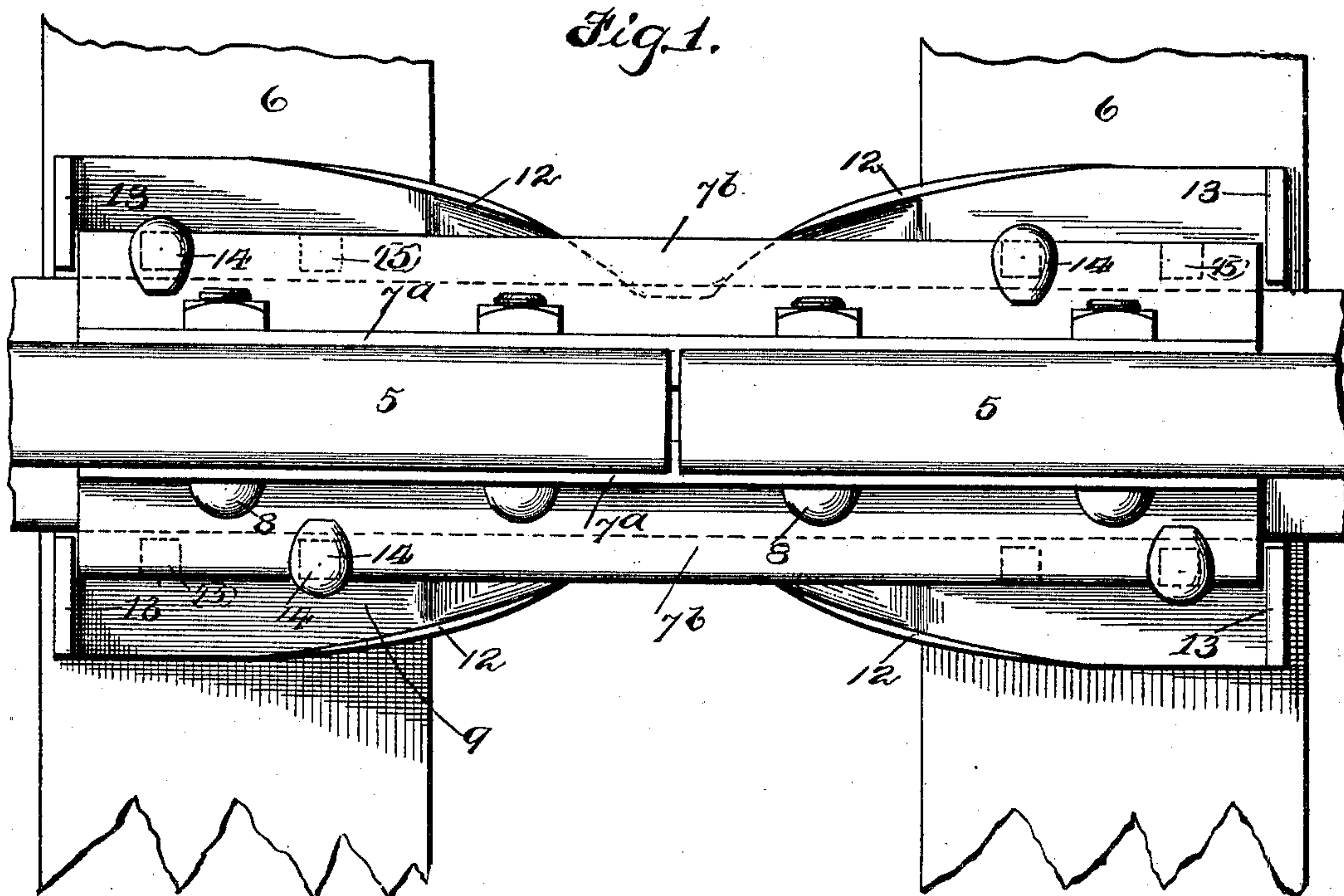
Patented Dec. 17, 1901.

F. E. ABBOTT.
BRIDGE PLATE FOR RAIL JOINTS.

(Application filed June 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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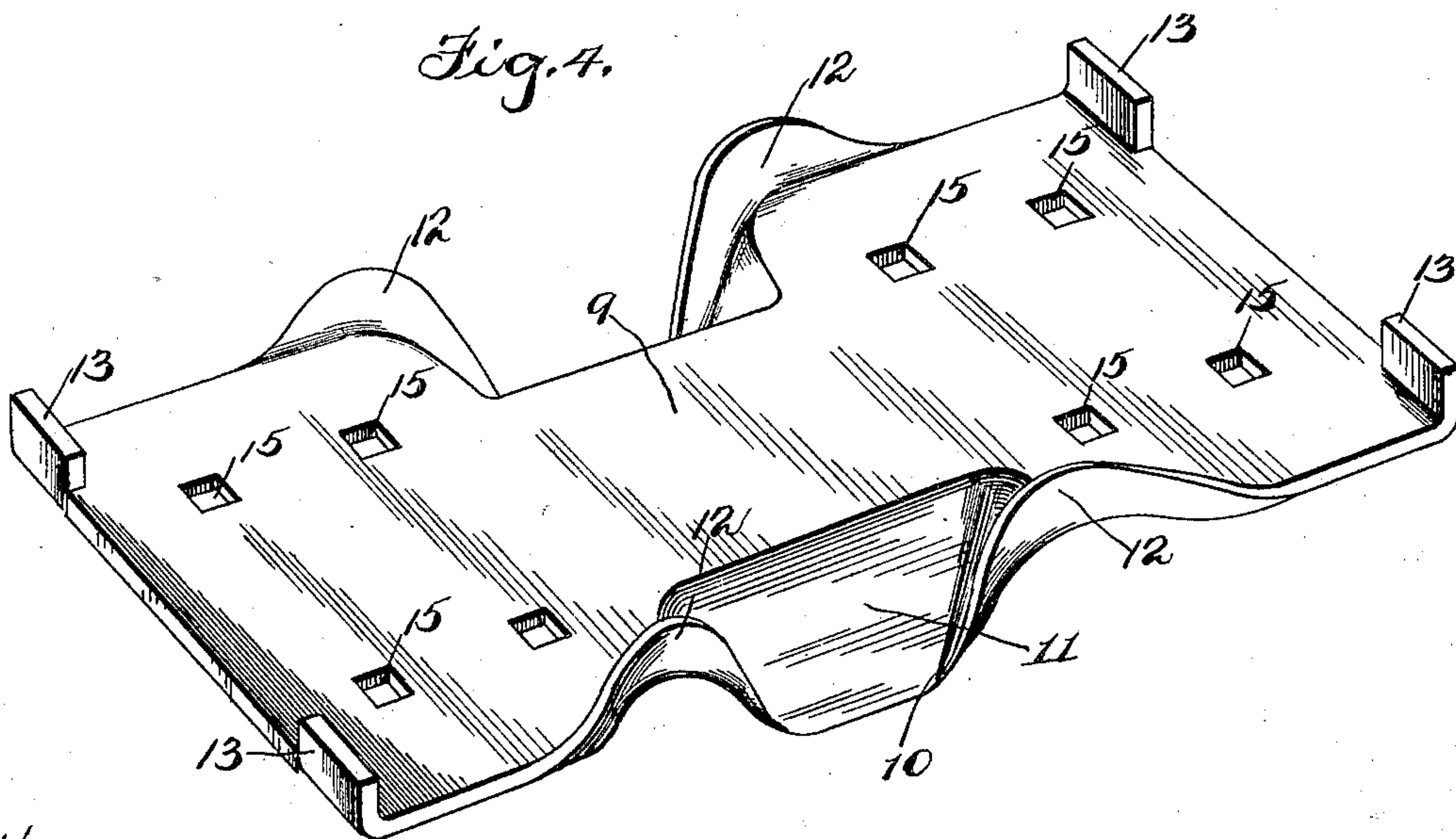
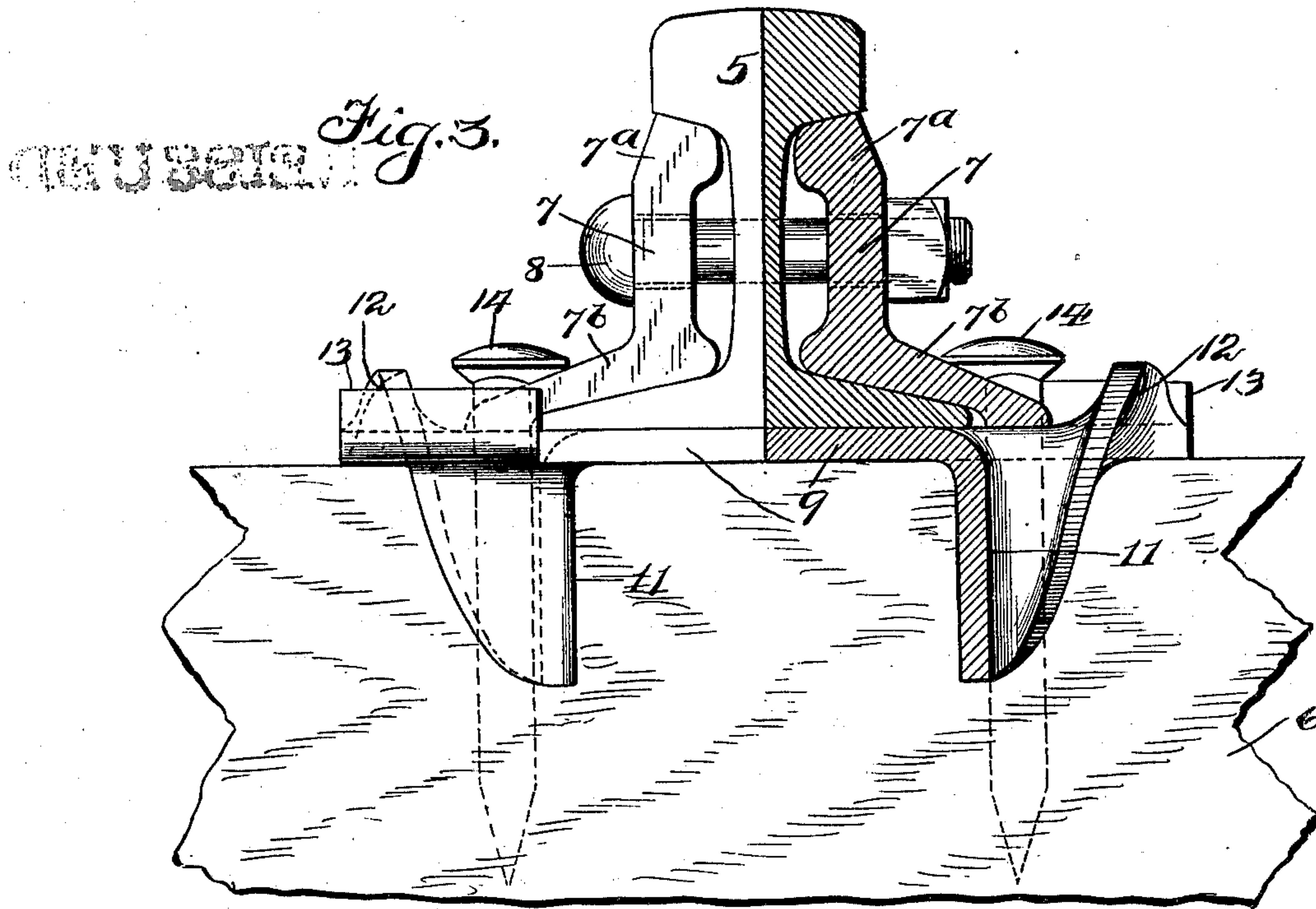
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UNITED STATES PATENT OFFICE.

FRANKLIN E. ABBOTT, OF CHICAGO, ILLINOIS.

BRIDGE-PLATE FOR RAIL-JOINTS.

SPECIFICATION forming part of Letters Patent No. 689,151, dated December 17, 1901.

Application filed June 27, 1901. Serial No. 66,213. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN E. ABBOTT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bridge-Plates for Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to bridge-plates for rail-joints, and particularly to that class of bridge-plates where the joint between the rails comes between the ties; and its object is to provide a bridge-plate which shall afford a firm truss-like support for the joint and which shall prevent the rails from creeping.

To that end my invention in its essence consists of a bridge-plate having a reverse flange upon each side of a downward-projecting portion and two upward-projecting portions at each side of the downward-projecting portion extending above the surface of the flange. The downward-projecting portion of the flange comes between the ties when the joint and bridge-plate are in position, and the upward-projecting portions when the joint and bridge-plate are in position lie with their deepest portion over the inner edges of the ties—that is, over the edges of the two ties upon which the joint is supported which face each other. The plate is also provided at each end with upward-projecting lugs, between which the rail rests and which are adapted to abut upon each end of the angle-irons, which secure the rails together at the joint, so as to prevent longitudinal creeping of the rails. In bridge-plates of this character which have heretofore been constructed downward-projecting lugs of various forms have been constructed designed to give a truss-like support to the rail-joint between the ties; but with this form of bridge-plate an objectionable feature arose from the fact that by the pressure upon the joint from the passing trains the plate was apt to be bent at the inner edges of the ties—that is, at the edges of the two joint-supporting ties which faced each other—and the joint thus injured or destroyed.

Referring to the drawings, Figure 1 is a top or plan view. Fig. 2 is a side elevation. Fig. 3 is an end elevation, partly in section;

and Fig. 4 is an isometric view of the bridge-plate.

In the accompanying drawings, 5 indicates the rails coming together at a point between the ties 6 6.

7 indicates angle-bars, of the usual well-known description, which form a fish-plate at the joint of the rails and consist of a web 7^a and base 7^b. The angle-bars 7 are secured to the rail by the bolts 8 in the usual well-known manner.

9 indicates the bridge-plate, which rests at each end upon and is supported by the ties 6 6 below the rail.

The bridge-plate 9 is preferably constructed of steel plate and is molded upon or rolled or otherwise formed with a flange 10 upon each side midway between the ends of the plate. The flange 10 consists of a downward-projecting portion 11 and two upward-projecting portions 12 upon each side thereof. When the bridge-plate is in position upon the ties, the upward-projecting portions 12, as is best shown in Figs. 2 and 4, begin to curve upward at a point near the ends of the bridge-plate and then curve downward, meeting the downwardly-bent portion 11. When the bridge-plate is in position, the downward-projecting portion of the flange 10 rests midway between the ties and affords a truss-like support to the rail-joint against downward pressure between the ties, the upward-projecting portions 12 resting with their deepest portion over or close to the inner faces of the ties 6, thus affording a truss-like resistance against any downward pressure which would tend to bend the bridge-plate over the edges of the ties.

The bridge-plate 9 is also provided at each end with upward-projecting lugs 13, which are spaced a distance apart about equal to the foot of the rail 5, so that the rails may rest between them, and the bridge-plate 9 is of such length that the lugs 13 will abut upon the ends of the base 7^b of the angle-bars 7. As the angle-bars 7 are in the usual manner secured to the rails by the bolts 8, it is obvious that the abutting of the angle-bars 7 against the lugs 13 will prevent longitudinal creeping of the rails.

The joint and bridge-rail are fastened to the rails by spikes 14 in the usual manner,

which pass through suitable notches in the edge of the base 7^b of the angle-bars 7 and through suitable openings 15 in the bridge-plate 9.

5 That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A bridge-plate, provided with a downward-projecting flange, and a reverse upward-projecting flange upon each side of said downward-projecting flange, substantially as described.

2. A bridge-plate, provided with reverse flanges, consisting of a downward-projecting portion, and an upward-projecting portion on each side thereof, substantially as described.

3. A bridge-plate, provided upon each side with a downward-projecting flange 11, and reverse upward-projecting flanges 12 upon each side thereof, substantially as described.

20 4. A bridge-plate, provided with downward-

projecting flanges, reverse upward-projecting flanges upon each side of said downward-projecting flanges, and upward-projecting lugs adapted to abut upon each end of the angle-bars of a rail-joint, substantially as described.

5. A rail-joint, consisting of the combination of angle-bars having a web and base, and a bridge-plate, adapted to be placed below and support a rail, having upon each side flanges consisting of a downward-projecting portion and an upward-projecting portion at each side thereof, and having upturned lugs at each end of said bridge-plate adapted to abut upon the ends of the base of said angle-bars, substantially as described.

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