

No. 707,720.

Patented Aug. 26, 1902.

W. E. RANDLE.
RAIL JOINT.

(Application filed Apr. 10, 1902.)

(No Model.)

FIG. 1.

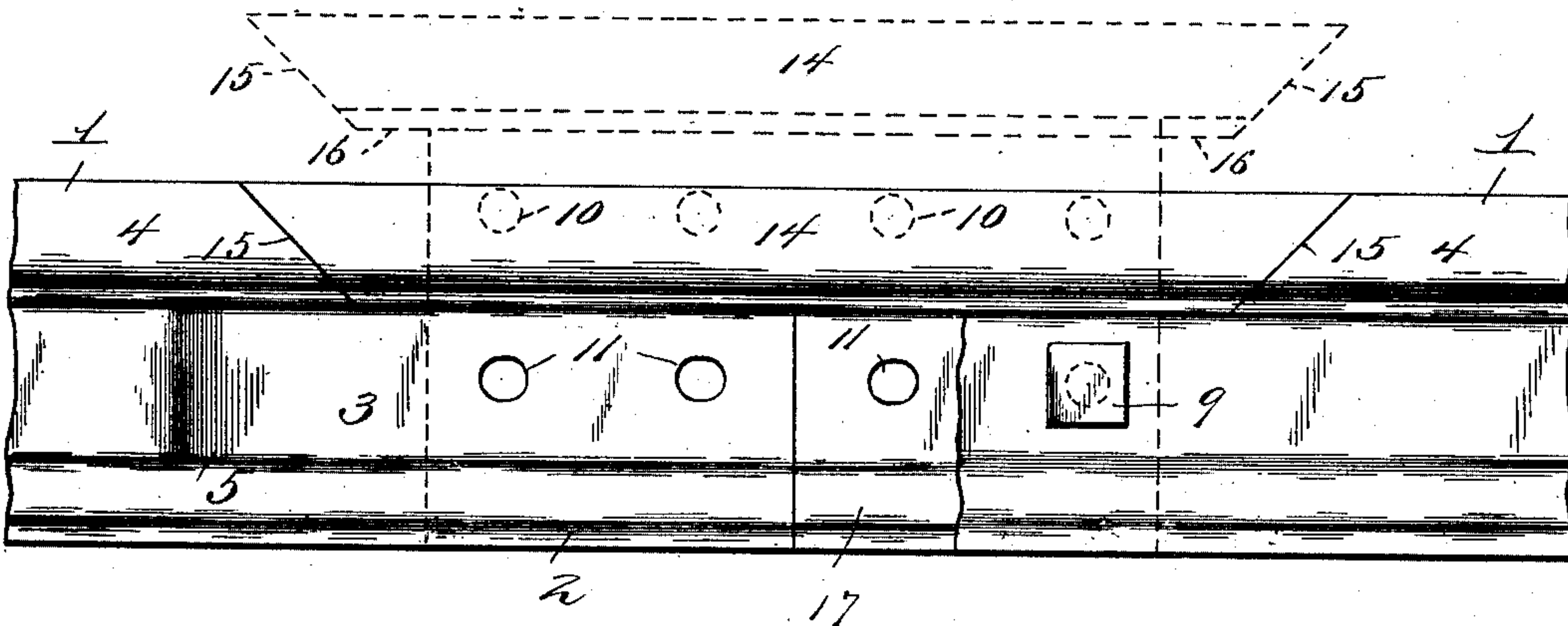


FIG. 2.

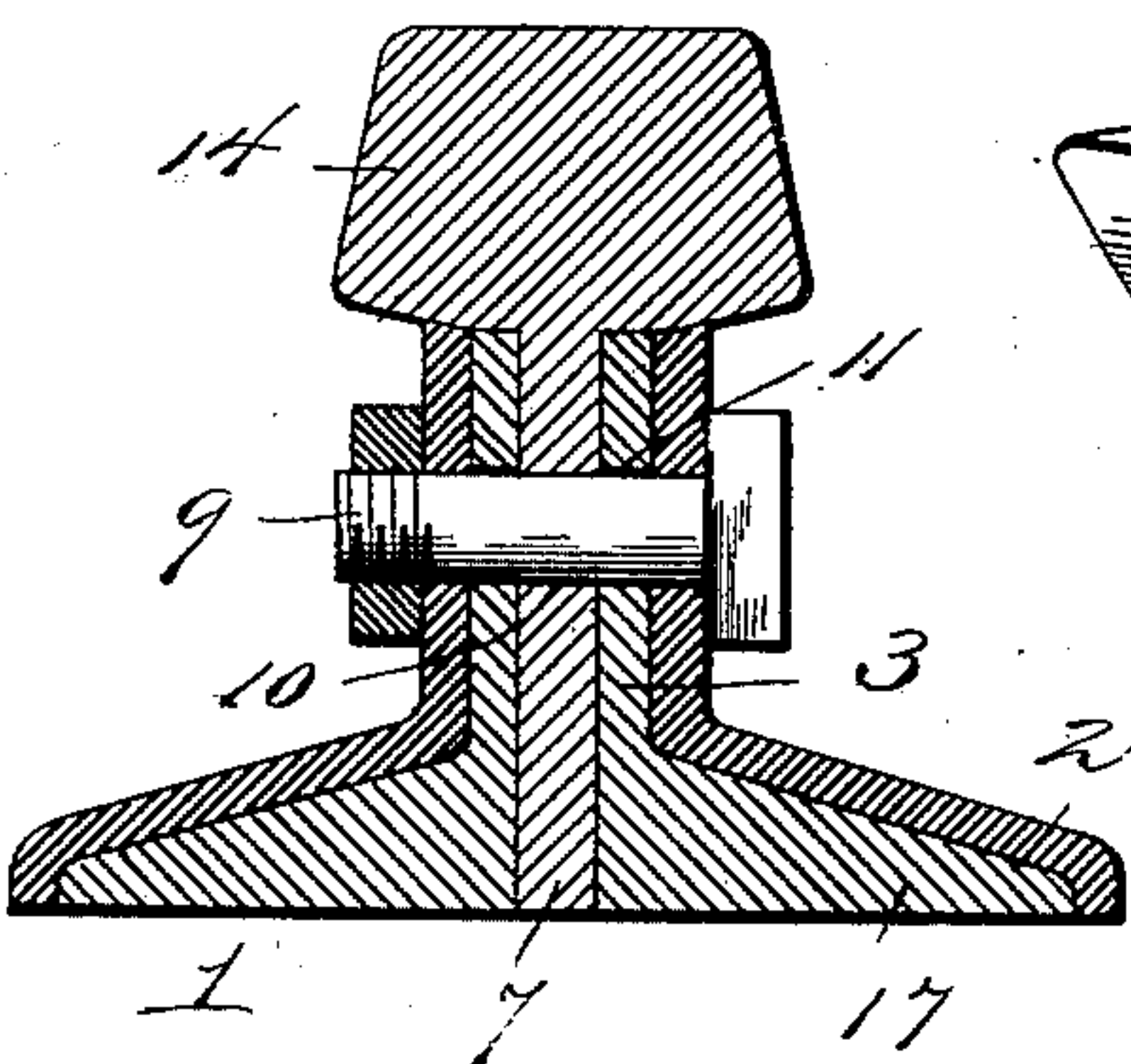


FIG. 3.

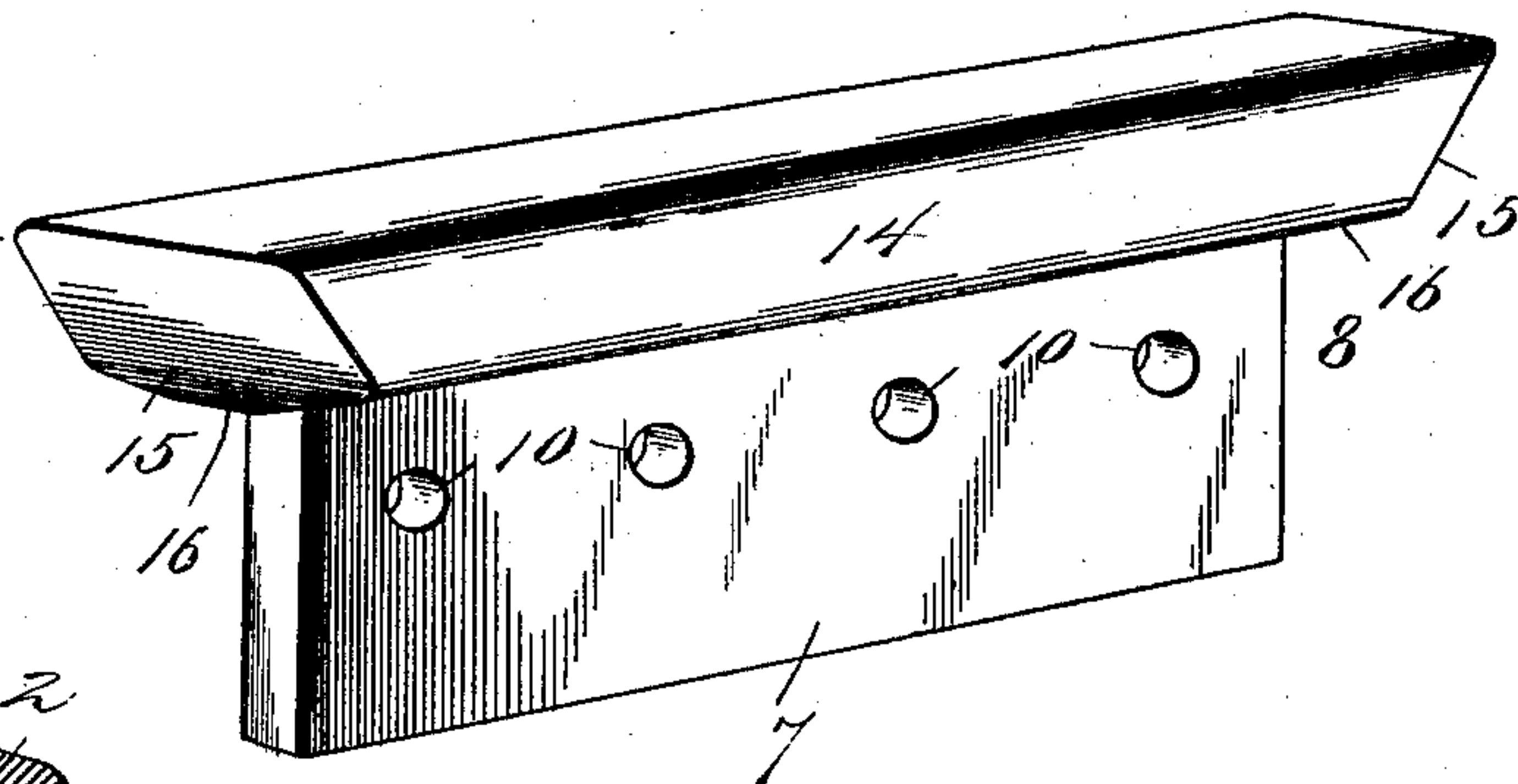
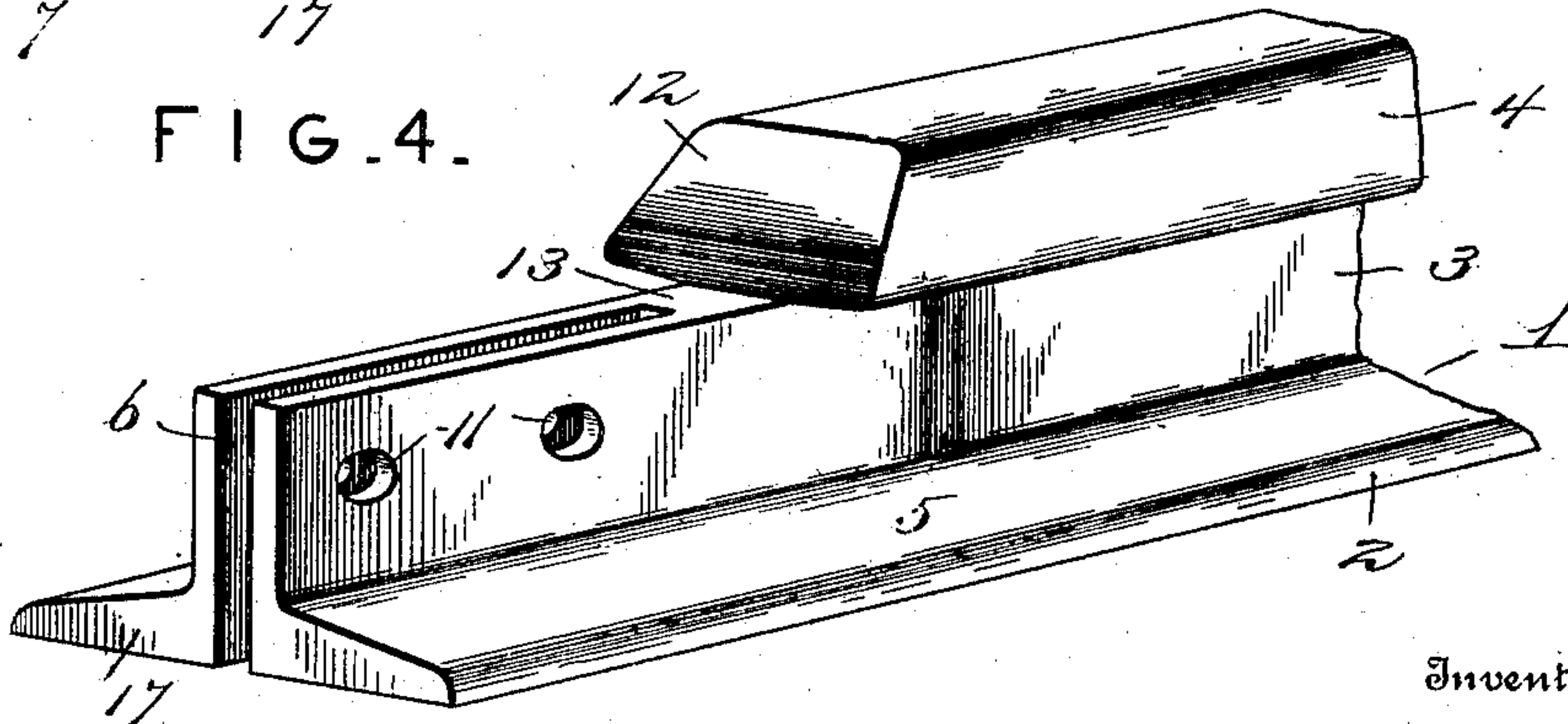


FIG. 4.



Witnesses

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 707,720, dated August 26, 1902.

Application filed April 10, 1902. Serial No. 102,283. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. RANDLE, a citizen of the United States, residing at Yorkana, in the county of York and State of Pennsylvania, have invented a certain new and useful Rail-Joint, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to railway rail-joints, the object in view being to provide a simple, cheap, and effective rail-joint by means of which the adjacent ends of rails may be coupled together in such a manner as to prevent all vertical or lateral twisting and displacement of the rail ends, the coupling forming part of the joint being in the nature of a bridge-piece which effectually braces the rail ends relatively to each other and prevents the sagging or bending down of the rail ends under the weight of a train passing thereover. The joint formed in accordance with this invention may occur either directly over a tie or between the ties, being equally effective under either arrangement. The construction of the joint also produces a smooth and practically unbroken surface at the top of the rail-head and admits of the necessary adjustment while building or repairing the railway.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a rail-joint constructed in accordance with the present invention, showing the coupling or bridge-piece partially elevated in dotted lines. Fig. 2 is a vertical cross-section through the same, taken in line with one of the bolts. Fig. 3 is a detail perspective view of the coupling or bridge-piece. Fig. 4 is a detail perspective view of the end of one of the rails.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, 1 designates the adjacent ends of a pair of rails of ordinary construction, each comprising a base 2, web 3, and head 4.

In carrying out the present invention the

end portion of each rail is thickened, as shown at 5, and provided with a longitudinal mortise 6, which extends vertically through the web and base, as clearly shown in Figs. 2 and 4, to receive a tongue 7 of the coupling or bridge-piece 8, the tongue 7 fitting into the mortise of both rails and being held by means of bolts 9, of the ordinary construction, which are inserted through openings 10 in the tongue 7 and through other openings 11 in the thickened and slotted web portion of the rail. The openings 11 may be horizontally elongated or made larger than the bolts 9 in order to provide for expansion and contraction in the ordinary way. The head of each rail is cut away on a bevel or incline, as shown at 12, to expose the top of the mortise 6, the head of the rail being cut away sufficiently far back from the end of the rail to leave a horizontal seat 13, forming the rest for a head or cap 14 of the coupling or bridge-piece. The head or cap 14 corresponds in cross-sectional shape with the heads of the rails and forms a continuation thereof when in place. The extremities of the head or cap 14 are cut on a bevel, as shown at 15, to correspond with the beveled ends 12 of the heads of the rails, thus forming when the parts are assembled miter-joints between the head or cap 14 and the heads of the rails, as clearly illustrated in Fig. 1. The cap or head 14 is extended at both ends beyond the tongue 7, so as to form shoulders 16, which rest firmly and squarely upon the horizontal seats 13, the head or cap 14 also having a firm seat upon the slotted end portions of the rails at each side of the tongue 7, as shown in Fig. 2. The rails 1 are provided with square-cut extremities 17, which meet or approach each other closely.

In view of the above description it will be seen that when the coupling or bridge-piece is in proper position and fastened by means of the bolts 9 the tongue 7 prevents any lateral bending of the rails adjacent to the joint, while the cap or head 14, which bears against the top of the web of each rail and also against the horizontal seats 13, taken in connection with the bolts 9, prevents any vertical movement or play between the rail ends. A vertically and laterally rigid joint is thus obtained, which may occur at any point in

the roadway, either directly over the ties or between the ties. The complete joint presents a smooth and practically continuous tread and avoids the danger of flattening the meeting ends of the rails under heavy traffic.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railway-rail joint, a pair of rails provided with longitudinal mortises in their abutting ends extending vertically through the web and base and having the heads cut away on a miter to expose the mortises and leave horizontal seats, in combination with a coupling or bridge-piece embodying a central tongue to fit the mortises in the rails, and a cap or head terminally mitered to fit the extremities of the rail-heads, said cap being extended beyond the tongue at both ends to form shoulders which rest on the horizontal

seats, and bolts passing through the tongue and rail ends, substantially as described.

2. In a railway-rail joint, a pair of rails provided with longitudinal mortises in their abutting ends extending vertically through the web and base and having the heads cut away on a miter to expose the mortises, in combination with a coupling or bridge-piece embodying a central tongue to fit the mortises in the rails, and a cap or head terminally mitered to fit the extremities of the rail-heads, and bolts passing through the tongue and rail ends, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. RANDLE.

Witnesses:

U. S. WALLICK,
A. E. WALLICK.