

No. 775,386.

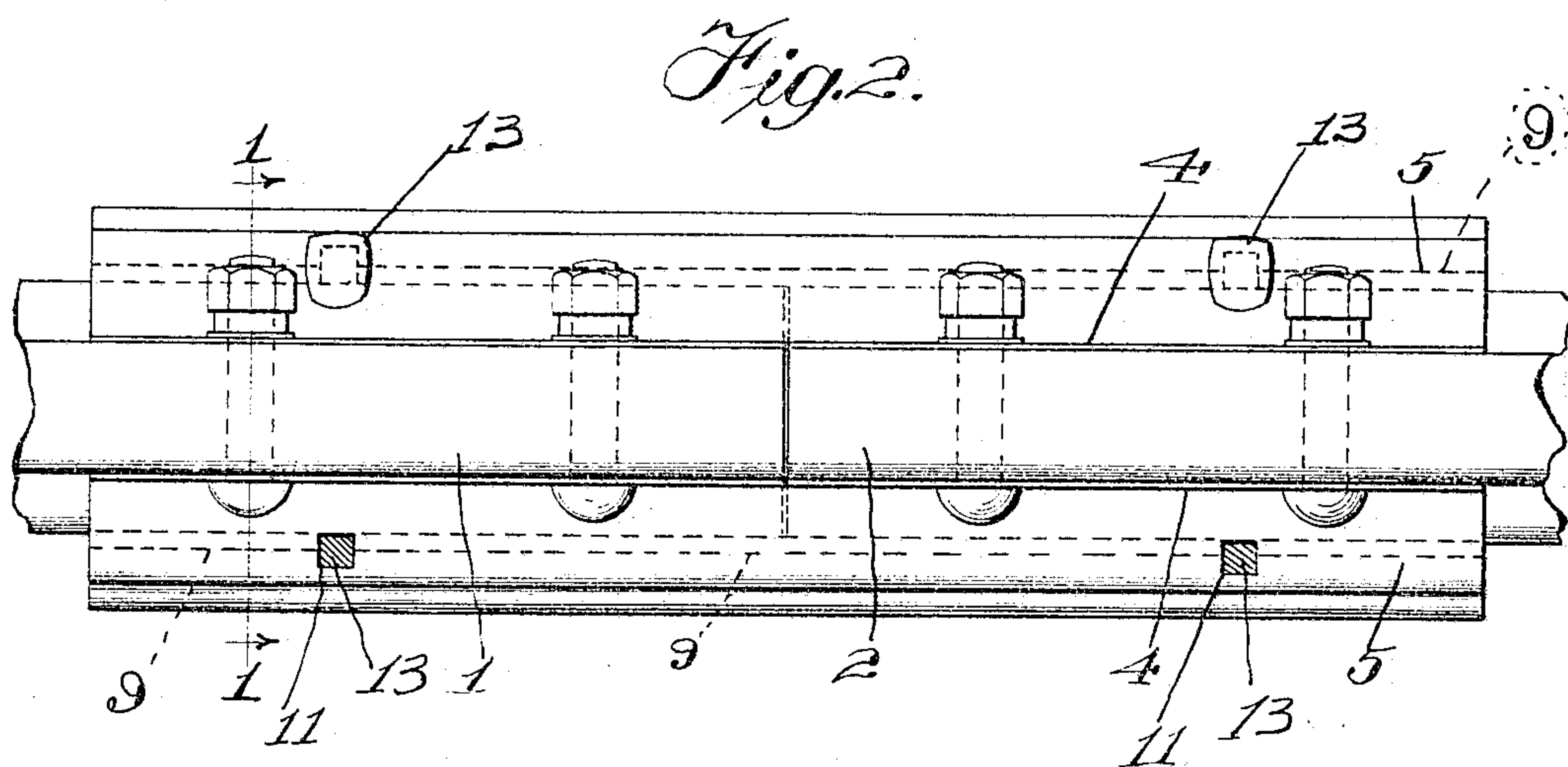
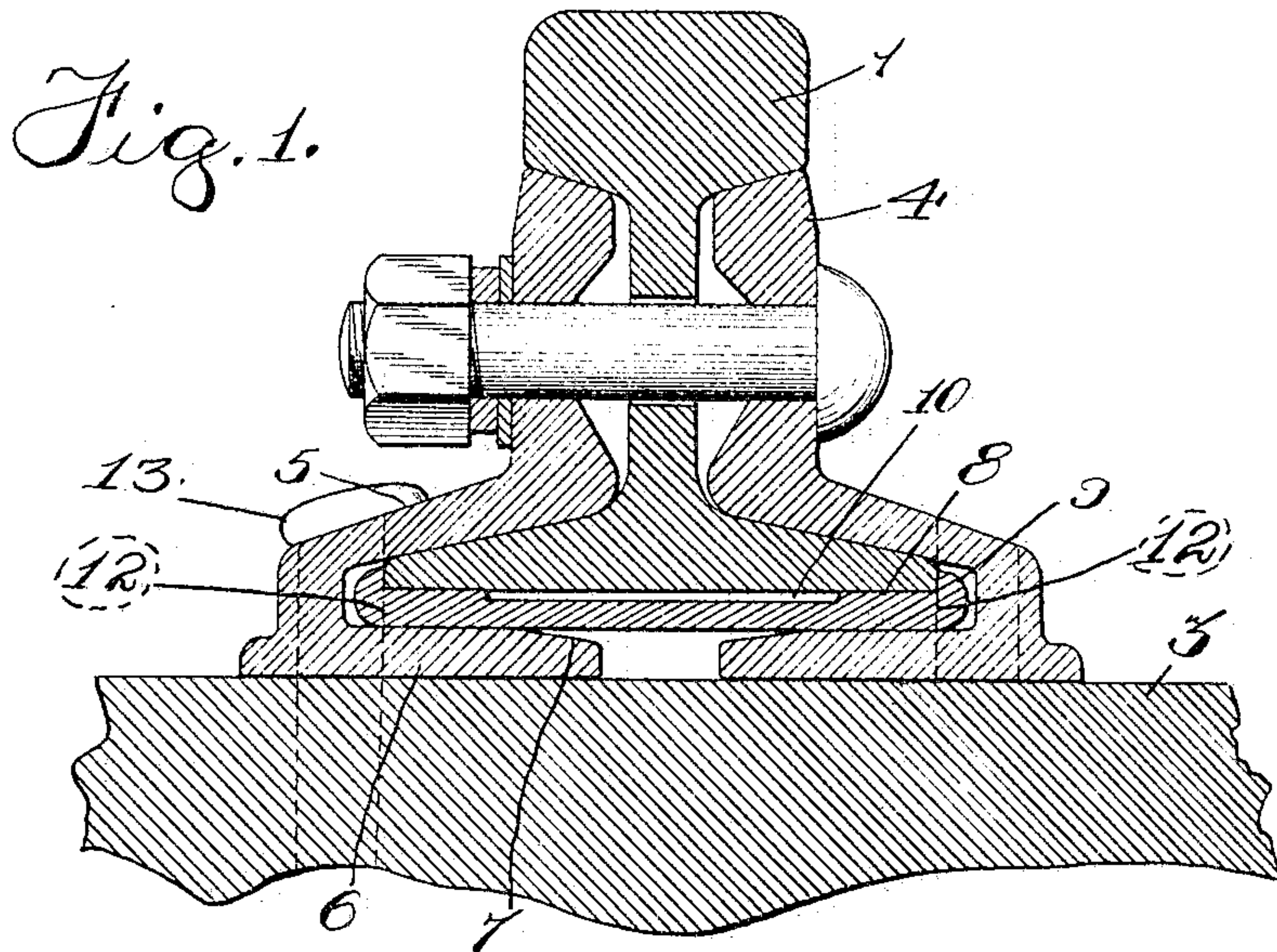
PATENTED NOV. 22, 1904.

A. L. STANFORD.

RAIL JOINT.

APPLICATION FILED AUG. 31, 1904.

NO MODEL.



Witnesses:
J. B. Weir
Emil E. Wettrmann

Inventor:
Arthur L. Stanford
by Elliott & Hopwood
attys

UNITED STATES PATENT OFFICE.

ARTHUR L. STANFORD, OF CHICAGO, ILLINOIS.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 775,386, dated November 22, 1904.

Application filed August 31, 1904. Serial No. 222,808. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR L. STANFORD, 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 Rail-Joints, of which the following is a full, clear, and exact specification.

My invention relates to rail-joints generally, but more particularly to that class in which are employed one or more splice-bars having top and bottom flanges embracing the edge of the rail-flange above and below.

One of the important objects of my invention is to so construct the splicer-bar that its said flanges will act to grip the rail-flanges with a force increasing directly as the weight on the rail, thereby constituting a friction-grip which not only holds the rail against lateral and vertical stress, but brings the rail and splice-bar into closer union, and therefore enhances its holding qualities.

Another object of the invention is to convert the flange of the rail into a transverse spring-arch, or, in other words, to leave it elastic along its center under its web, so as to relieve the battering or laminating tendency on the heads of the rails near the ends.

With these ends in view the invention consists in the features of novelty in the construction, combination, and arrangement of parts shown in the drawings and hereinafter more fully described with reference thereto, and particularly pointed out in the claim.

In the said drawings, Figure 1 is a transverse section of my improved rail-joint on the line 1 1, Fig. 2; and Fig. 2 is a plan view thereof on a smaller scale.

1 2 are the rails, of the usual or standard pattern, comprising a head, a web, and a base flange, and 3 is one of the cross-ties. The rails are supported on the cross-ties at the joint or contiguous ends by splice-bars comprising upright members 4, which are fitted at the sides of the rail-webs like the ordinary fish-plates, and top and bottom flanges 5 6, which embrace the flange of the rail above and below. These splice-bars are of a well-known form or construction, excepting that according to my invention the inner edge of

the flange 6 of each splice-bar throughout a portion of its transverse extent on its upper side is cut away, as shown at 7, so as to be out of contact with the bottom of the rail-flange or any member that might be interposed between the rail-flange and the flange 6, and consequently the flange 6, taking its support throughout its width upon the tie, will act as a lever or friction-grip and will grip the flange of the rail with a force directly proportional to the weight upon the rail, and thereby not only hold the rails against lateral and vertical stress with relation to each other, but will result in a closer union between the rails and splice-bars, and therefore increase their holding properties and maintain the rails in accurate alinement at the point of intersection. In connection with splice-bars of this improved construction, however, I prefer to employ a base-plate 8, which fits under the flanges of the rails and extends across their point of intersection. This base-plate 8 is preferably formed with side flanges 9, between which the flange of the rail is seated, and which rests upon the upper sides of the flanges 6 and is provided throughout its length with a channel 10, extending longitudinally of and directly under the web of the rail, whereby the rail will be converted into a spring-arch transversely, and consequently the battering or laminating tendency on the head of the rail will be prevented. This elasticity of the center of the rail-flange is considerably augmented by the beveled form of the inner edges of the flanges 6, which leave the base-plate 8 without support at its center.

With a rail-joint of this construction it will be seen that the rail is greatly strengthened at its weakest part—namely, along the edges of its flange—and this without adding to the rigidity of the stronger or central portion of the rail, but, on the contrary, affording a degree of flexibility to the central portion which avoids the objectionable battering of the head of the rail.

As shown in dotted lines in Fig. 1 and in full lines in Fig. 2, the splice-bars are provided with apertures 11 in their flanges 5 and the base-plate 8 with registering notches 12 in its edges for the passage of spikes 13, which

not only perform their usual office of holding the splice-bars against lateral and longitudinal movement, but of also holding the base-plate 8 against longitudinal movement, thus preventing it from creeping out of the rail-joint.

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

In a rail-joint the combination with the rails, of a splice-bar comprising top and bottom flanges encompassing the edge of the rail-

flange, said bottom flange supporting the weight of the rail and being free from contact along its inner edge on its upper side throughout a portion of its transverse extent, whereby such bottom flange will act as a lever for pinching the flange of the rail against said top flange of the splice-bar.

ARTHUR L. STANFORD.

Witnesses:

FRANCIS A. HOPKINS,
M. B. ALLSTADT.