

No. 656,810.

Patented Aug. 28, 1900.

H. A. CHRISTY.
RAILWAY RAIL JOINT.

(Application filed July 3, 1899.)

(No Model.)

Fig. 1.

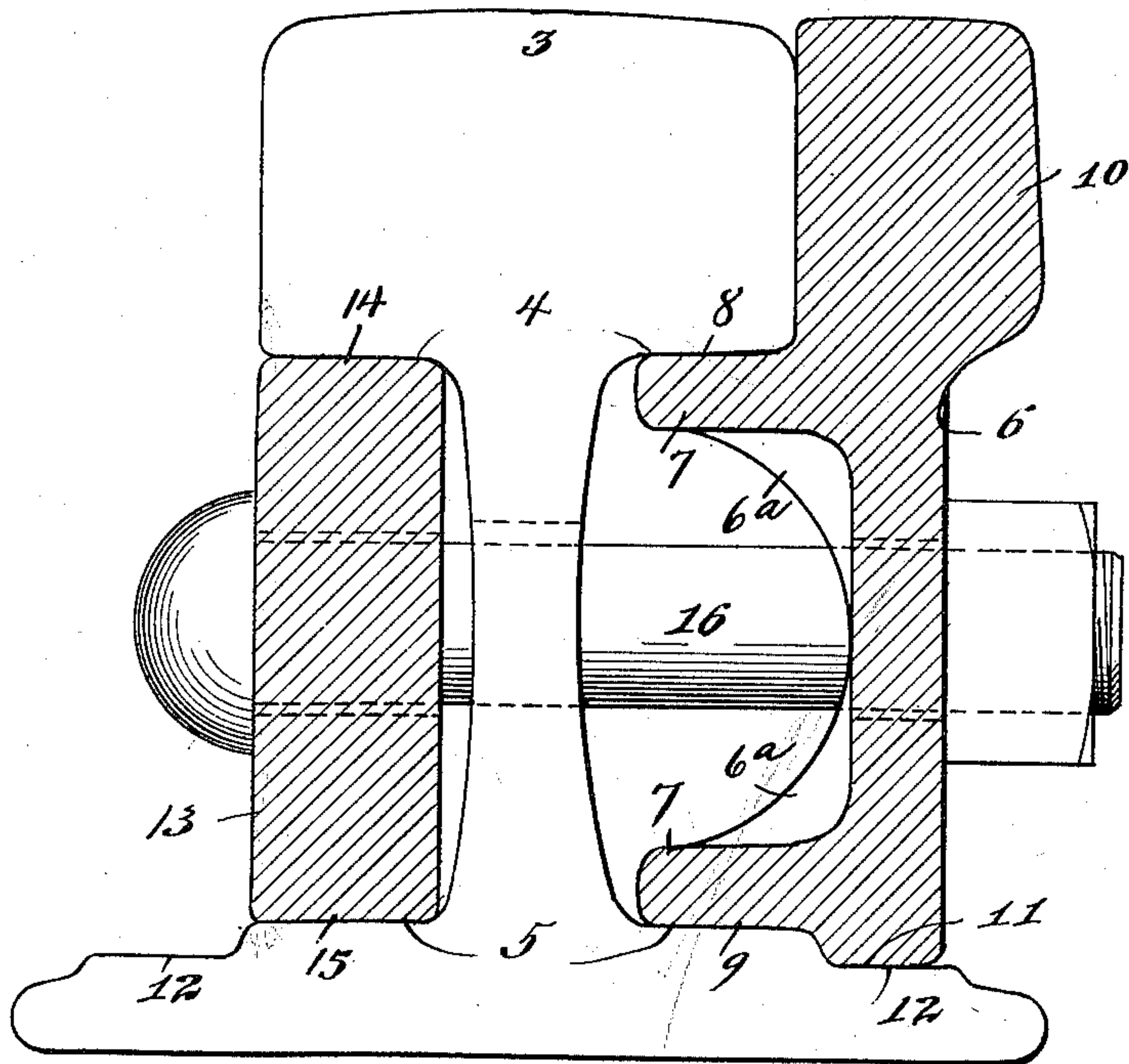
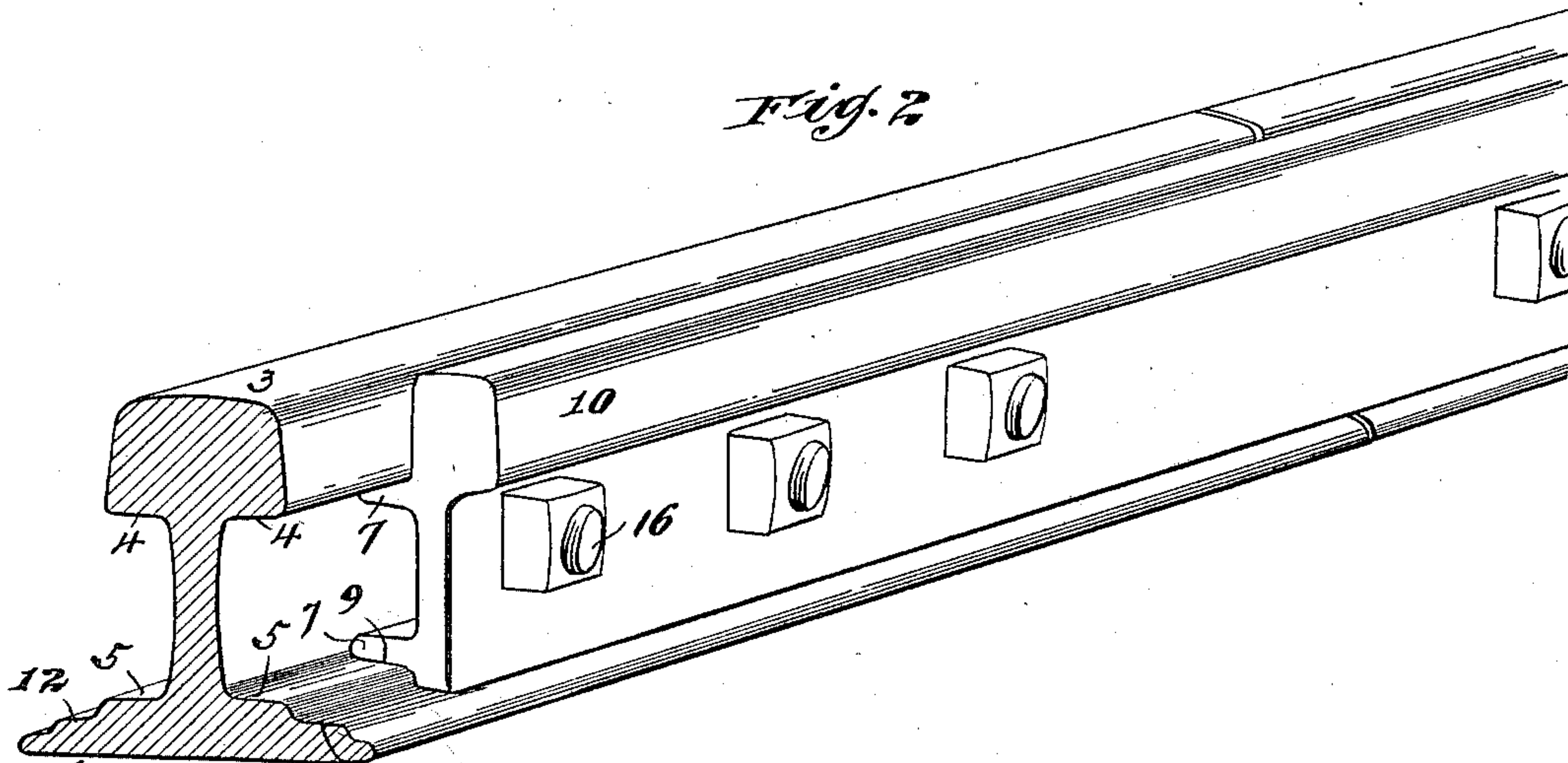


Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY A. CHRISTY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
SANGER BROWN, OF SAME PLACE.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 656,810, dated August 28, 1900.

Application filed July 3, 1899. Serial No. 722,635. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. CHRISTY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Rail Joints, of which the following is a specification.

This invention relates to that type of railway-rail joints wherein provision is made for affording a continuous bearing-surface for the wheel at the joint; and the invention consists in the provision of an improved form of construction having this general object and also embodying certain features whereby a more secure joint is provided, preventing the rails from vertical and lateral movement and the consequent battering of their ends.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a transverse vertical section, and Fig. 2 is a perspective view.

In carrying out my invention I preferably make the rail 3 of special construction by providing upon the under side of its head and the upper side of its base horizontal contact surfaces or shoulders 4 5, respectively, such shoulders being parallel to the tread and bearing surface of the base of the rail and at right angles to its vertical axis. In conjunction with a rail of this form I employ a combined fish-plate and joint-rail consisting of the body portion 6, having lateral inwardly-projecting flanges 7, with horizontal contacting surfaces 8 9, adapted to bear, respectively, upon the straight shoulders 4 5 and the upwardly-extending head 10, resting against the outer side of the head of the rail 3 and having a tread-surface in the plane of the tread of such rail. If preferred, the foot of the body 6 may have an outer horizontal bearing-shoulder 11, adapted to a similar bearing 12 on the base of the rail. It will be observed that the contacting surfaces between the flanges 7 and the rail 3 are disposed in parallel planes and also in planes parallel to the load-line, so that the weight of the trains and the vibration imparted to the rails are transmitted in lines at right angles to such contacting surfaces instead of lines tangentially thereto, the result being that there is no tendency in a joint of this kind to force the fish-plate or splice-bar out laterally,

and thereby bring undue strain upon the securing-bolts or permit of loose joints, which result in the battering of the ends of the rails.

I have shown in connection with the parts already described a fish-plate 13 for the inner side of the rail, which has also straight contacting shoulders 14 15, adapted to the shoulders 4 5 of the rail. A securing-bolt 16 connects the parts in the usual manner. I have shown the inner side of the body 6 hollowed out and provided with fillets 6^a. The hollowing out is for the purpose of reducing the weight, while the fillets 6^a afford the necessary bracing strength against vertical strains. This form of construction may be varied considerably as to its details without departing from the scope of my invention.

Considering now the effect of this construction in relation to the exigencies of service, it will be seen that there is no tendency for the fish-plates to wedge out. This will, therefore, maintain a uniform or unvarying joint. It will also be observed that the combination of the joint-rail 10, extending into the plane of the tread of the rails and receiving a part of the load, with a fish-plate having straight contacting bearing-surfaces upon the rail affords a joint of very great strength, as the rails are thereby braced laterally as well as vertically. I also prefer a plurality of shoulders, because when the parts are tightly drawn by means of the bolts the bearings being divided produce an increased bracing effect in the joint.

It will be understood, of course, that the specific form of the body of the fish-plate may be varied and that the inner fish-plate may be of different construction while still preserving the essential characteristics of this invention. The novel features of my invention may likewise be embodied in a railway-rail chair and adapted to railway-rails of various cross-sectional form.

I claim—

1. A railway-rail joint comprising in combination a main rail having horizontal bearing-shoulders on the under side of its head and the upper side of its base parallel to its tread-surface, a combined fish-plate and joint-rail having a vertical web with lateral flanges provided with horizontal shoulders, respec-

tively adapted to the upper and lower shoulders of the main rail, and a head contacting with the side of the head of the main rail and projecting into the plane of the tread thereof,
5 substantially as described.

2. A railway-rail joint, comprising, in combination, a main rail having horizontal shoulders on the under side of its head, a plurality of parallel horizontal shoulders on the upper
10 side of its base, and the combined fish-plate

and joint-rail having a vertical web, lateral flanges provided with shoulders adapted to those of the main rail, and a head projecting into the plane of the tread-surface thereof, substantially as described.

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