

No. 725,613.

PATENTED APR. 14, 1903.

R. B. CHARLTON.
RAILWAY RAIL JOINT CONNECTING PLATE.

APPLICATION FILED JUNE 23, 1902.

NO MODEL.

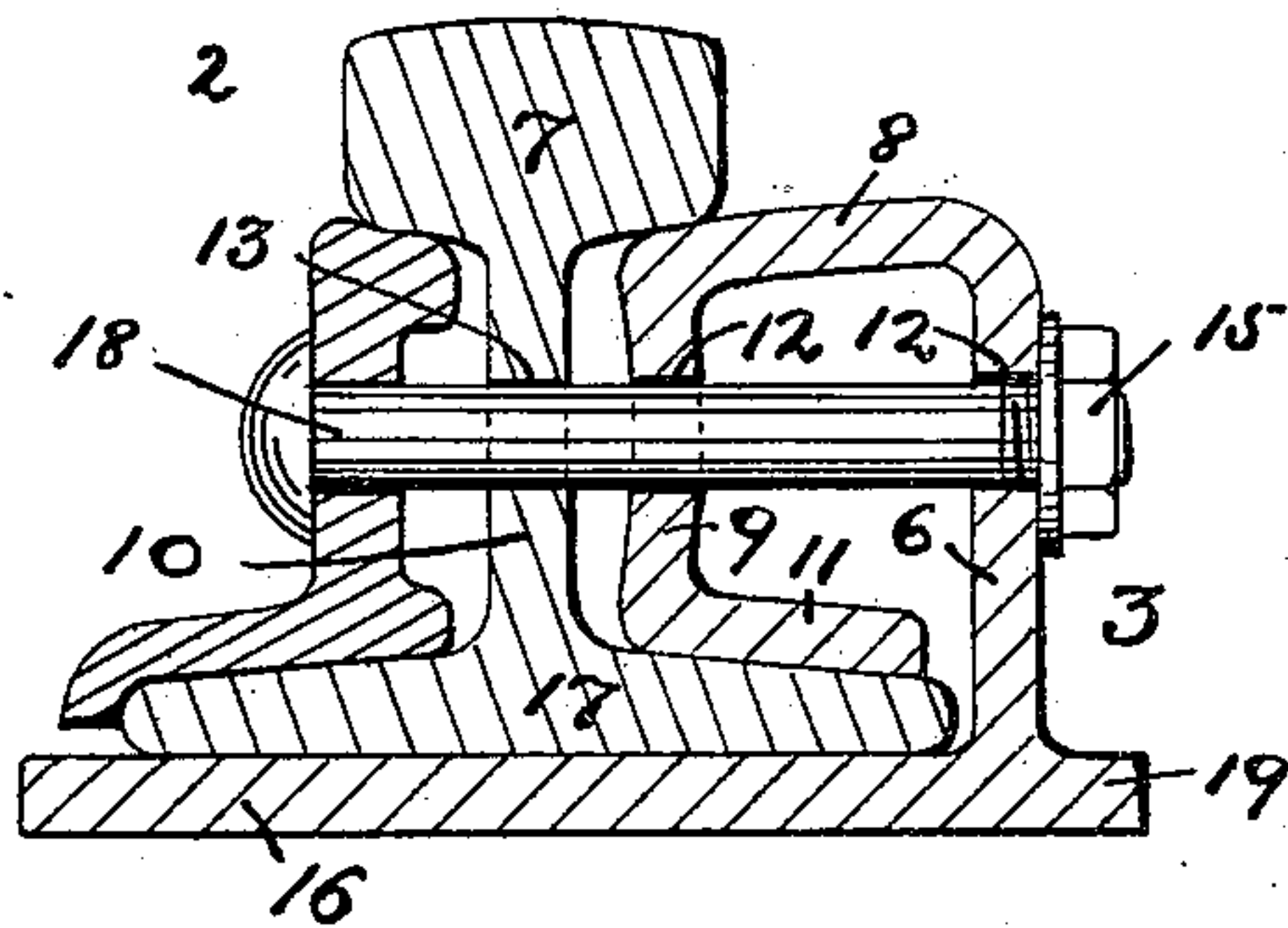


Fig. 2.

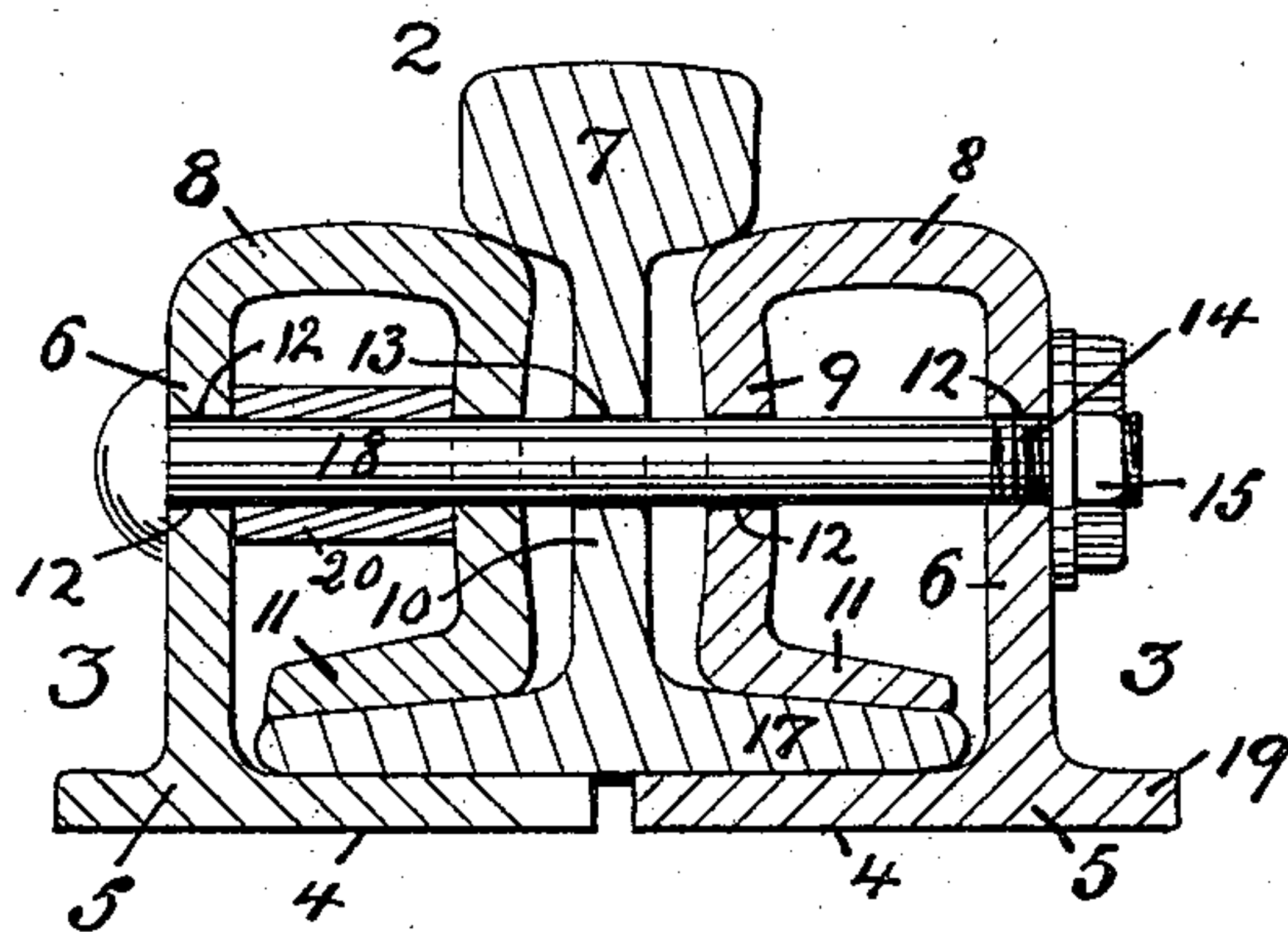


Fig. 1.

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RAILWAY-RAIL-JOINT-CONNECTING PLATE.

SPECIFICATION forming part of Letters Patent No. 725,613, dated April 14, 1903.

Original application filed January 27, 1902, Serial No. 91,308. Divided and this application filed June 23, 1902. Serial No. 112,731. (No model.)

To all whom it may concern:

Be it known that I, RICHARD B. CHARLTON, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Railway-Rail-Joint-Connecting Plates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

The objects of this invention are to provide a combined base-plate and fish-plate for rail-joints, to secure a construction in which a firm holding contact with both the base and the sides of the rail is obtained by a single series of transverse clamping-bolts, to obtain a simple joint which possesses all the advantages of a more complicated construction, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved railway-rail-joint-connecting plate and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in both figures, Figure 1 shows in section a joint of my improved construction, and Fig. 2 is a similar view illustrating the use of one of my improved plates with an old-style fish-plate on the opposite side of the rail.

In said drawings, 2 indicates one of two rail ends longitudinally abutting, as is common in railway constructions, and 3 3 indicate connecting-plates of my improved construction arranged at the opposite sides of said rail ends. Each of said connecting-plates 3 comprises a base portion 4, adapted to lie horizontally beneath the rail ends and form a rest or support for the same. At one longitudinal edge 5 said horizontal base portion of the connecting-plate projects from be-

neath the rails and is provided with an integral upright extension 6. This extension is preferably vertical or perpendicular to the base portion 4 and extends upward to a height approximately equal to that of the under side of rail-head 7. From the top of the upright extension 6 a bearing portion 8 is bent inward toward the rail and adapted to extend beneath the head thereof to engage the same, being preferably inclined so as to present a wedge-like bearing. From the inner edge of said portion 8 a vertical portion 9 extends downward substantially at right angles to the bearing portion or parallel to the main portion 6 of the upright extension, and therefore also parallel to the web 10 of the rail. A lower bearing portion 11 is turned outward from the bottom of said vertical portion 9 toward the upright extension 6 and is inclined somewhat downward to fit against the upper surface of the rail-base flange 17. The said upright extension 6 and vertical portion 9 of each connecting-plate are perforated with bolt-holes 12, in alinement with the usual bolt-holes 13 in the vertical web of the rails, and through all said bolt-holes extend clamping-bolts 18, headed at one end and provided at the other with threads 14 and nuts 15, screwing thereon. When, therefore, the connecting-plates have been applied to a joint, one on each side, the said transverse bolts are inserted and nuts 15 tightened up. This draws the connecting-plates toward the rails and forces the upper and lower bearing portions 8 and 11, respectively, tighter and tighter into the space between the head and base of the rails. Furthermore, as the lower bearing portion slides upon the top surface of the rail-base it forces the base portion 4 of the connecting-plate firmly and solidly upward against the under surface of the rail-base. This provides a seat for the rail ends, and the upright extension 6 and portion 11 serve as girders to give rigidity to the joint.

I thus provide a combined base-plate and fish-plate and one which can be clamped to the rails by a single row of transverse bolts, as now commonly used for ordinary fish-plates.

Preferably the base member of each plate terminates a little short of the median line

of the rail, so that they do not reach each other when tightened up, as shown in Fig. 1. Obviously, however, one of my improved connecting-plates may be employed at one side of a joint in connection with an ordinary fish-plate of any kind at the other, and in this case I prefer to extend the base portion of the connecting-plate clear under the rail ends, so that it projects at the opposite side from the upright extension, as shown at 16 in Fig. 2. A lip 19 preferably continues outward from the upright extension in the plane of the base member to receive the spikes for holding the rails to the ties.

Under some conditions washers or stay-sleeves 20 may be placed on the transverse bolts 18, between the vertical portions 6 9 of the connecting-plate, as shown in Fig. 1, to secure greater rigidity and firmness of the joint against lateral strain.

Having thus described the invention, what I claim as new is—

1. In a rail-joint, the combination with the meeting ends of two T-rails, of a combined base-plate and fish-plate arranged at one side of the rail ends and comprising a horizontal body portion having the rail-bases seated upon one marginal portion thereof, and a right-angular extension at the other or exposed margin of said body portion, said extension having its outer portion bent inwardly over the body portion and returned substantially parallel to the main portion of the extension at a distance therefrom, said returned portion having its extremity free and being at its upper and lower edges oppositely beveled outward toward the main portion of the extension.

2. In a rail-joint, the combination with the meeting ends of two T-rails, of a combined base-plate and fish-plate arranged at one side of the rail ends and comprising a horizontal body portion having the rail-bases seated upon one marginal portion thereof, a right-angular extension at the other or exposed margin of the said body portion, said extension having its outer portion bent inwardly over the body portion and returned substantially parallel to the main portion of the extension at a distance therefrom, and having its extremity turned or bent toward said main portion at an inclination to the body portion and terminating short of said main portion, whereby an inwardly-narrowing space with a resilient side wall is provided.

3. The herein-described base-plate and fish-plate combined consisting of a base portion 4, an integral upright extension 6, near one edge, an upper bearing portion 8, bent inward over the base portion from the top of the upright extension and being inclined with

respect to said base portion, a portion 9, extending from said bearing portion toward the base portion substantially parallel to the upright extension and forming between its end and said base portion an outwardly-flaring space, and a lip 19, at the opposite side of the upright extension 6, from the base portion and in the same plane therewith.

4. In a rail-joint, the combination with the meeting ends of two T-rails, of a combined base-plate and fish-plate arranged at one side of the rail ends and comprising a horizontal body portion having the rail-bases seated upon one marginal portion thereof, and having at the opposite or outer margin of said base portion an integral upright extension bent at an upper point toward the rail then downward substantially parallel to the web and then outward from the rail, terminating in a free extremity, and thus forming resilient upper and lower bearings 8, 11, respectively, to engage the rail, and clamping-bolts 18, passing through said upright extension, parallel portion and web of the rail.

5. In a rail-joint, the combination of two connecting-plates arranged at opposite sides of the rail ends, each comprising a horizontal base member adapted to support the rails and extending beneath the same a distance less than half the width of the rail, an upright portion integral with said base member and being bent inward toward the rail and returned downward and adapted to engage the under side of the head and the upper surface of the foot of the rail, and clamping-bolts passed transversely through the web of the rails, and the said upright and returned portions of the connecting-plates and adapted to bind said plates to the rails.

6. In a rail-joint, the combination with the meeting ends of two rails, of a connecting-plate comprising a horizontal base member and an integral upright extension having its upper portion bent inward toward the rails and then downward substantially parallel to the main portion, the said downwardly-bent portion being wedged between the heads and bases of the rails, transverse clamping-bolts passed through the rails, downwardly-bent portion and main portion of the upright extension, and washers or stay-sleeves upon said bolts between the said downwardly-bent portion and main portion of the upright extension.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of June, 1902.

RICHARD B. CHARLTON.

Witnesses:

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