No. 755,151. PATENTED MAR. 22, 1904.

R. O. MILLARD & T. L. HENRY.

RAIL JOINT.

APPLICATION FILED JAN. 31, 1903.

NO MODEL.

Fig. 1.

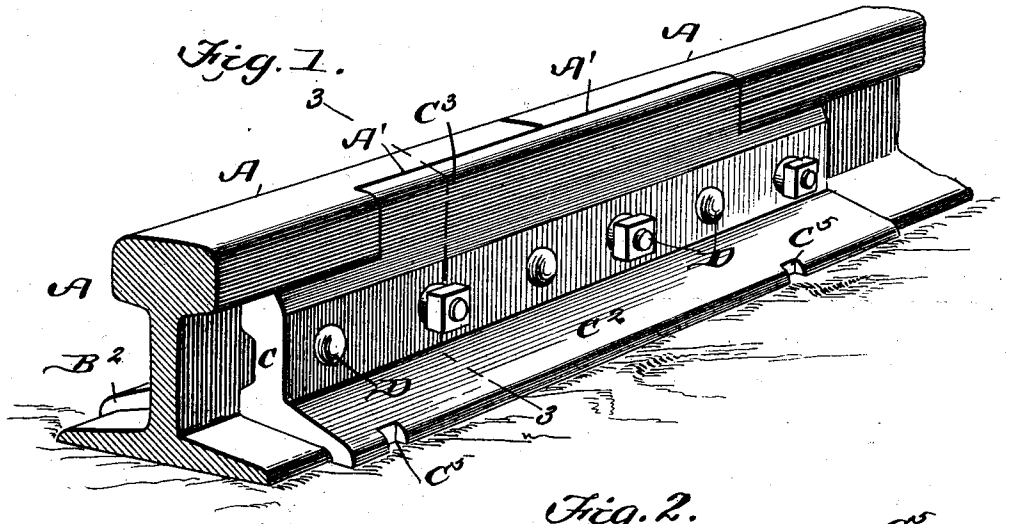


Fig. 2.

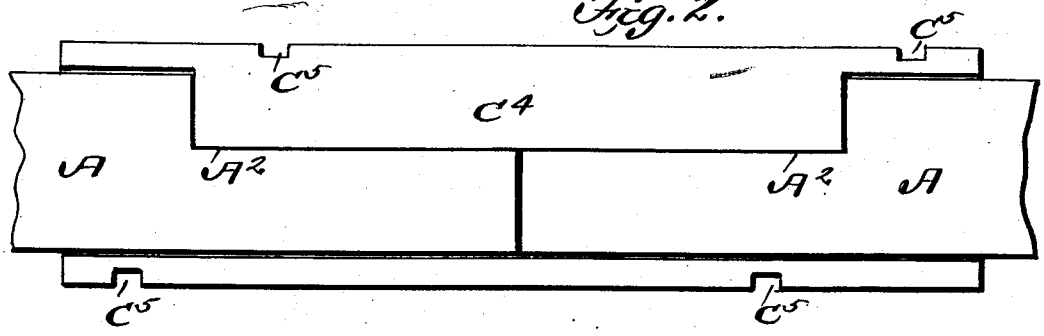


Fig. 6.

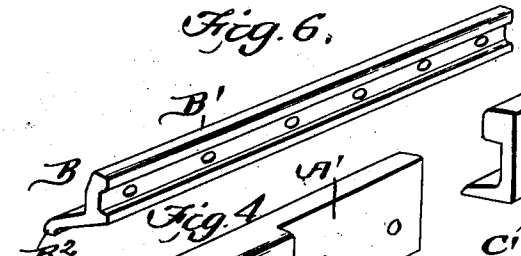


Fig. 5.

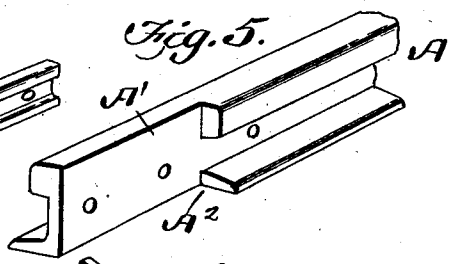


Fig. 4.

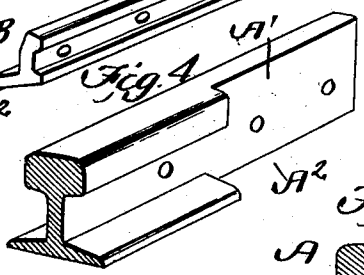


Fig. 7.

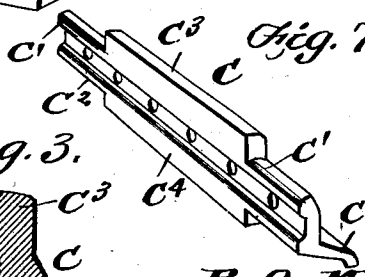
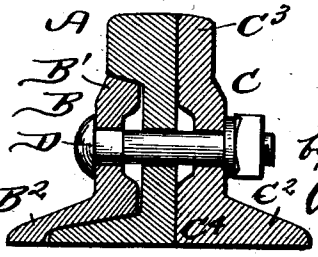


Fig. 3.



Witnesses
M. F. Blondel.
Clarence Shaw

Inventors
R. O. Millard,
T. L. Henry.
by Munn & Brock
Attorneys

No. 755,151. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

REUBEN O. MILLARD AND THOMAS L. HENRY, OF CATAWISSA, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 755,151, dated March 22, 1904.

Application filed January 31, 1903. Serial No. 141,349. (No model.)

To all whom it may concern:

Be it known that we, REUBEN O. MILLARD and THOMAS L. HENRY, citizens of the United States, residing at Catawissa, in the county of Columbia and State of Pennsylvania, have invented a new and useful Rail-Joint, of which the following is a specification.

Our invention is an improvement in rail-joints, and relates especially to that class of joints in which one of the fish-plates, preferably the inner one, forms a portion of the tread of the rail.

The object of our improvement is to construct a joint which will reduce to a minimum the noise and jar resulting from the passage of a wheel from one rail to another and also to prevent sagging of the ends of the rail, thereby avoiding the pounding caused by a wheel passing from a rail that has sagged and striking the undepressed end of the adjacent rail, a deflect extremely injurious to both track and wheel.

In the accompanying drawings, Figure 1 is a perspective view of our improved joint, all parts being assembled in position. Fig. 2 is an inverted plan view. Fig. 3 is a sectional view on about the line 3 3 of Fig. 1. Figs. 4 and 5 are detail perspective views of the meeting ends of two adjacent rails, respectively. Fig. 6 is a perspective view of the outer fish-plate, and Fig. 7 is a perspective view of the inner fish-plate.

In the above-described drawings, A represents the adjacent end portions of two rails of the usual construction. On its inner side the tread of the rail is cut out, as at A′. The base of the rail is also cut out on the inner side, as at A^2. The outer fish-plate B is of greater length than the combined length of the cut-out portions and is angled, having an upper flange B′ adapted to rest under the outer projecting flange of the tread of the rail and the angled portion which is adapted to bear on the base of the rail has a downwardly-extending flange B^2 adapted to bear on the cross-ties. The inner plate C is of similar length and has the flange portions C′ bearing against the under surface of the inner flange of the tread and the downwardly-extending flange C^2 bearing on the ties. Intermediate its ends, however, this flange has an integral upwardly-extending solid tread portion C^3 corresponding in length and size to the portion cut from the tread of the two adjacent rails. On its under surface immediately beneath the portion C^3 is an integral downwardly-extending portion C^4 similar in size and shape to the piece cut out of the base of the rail. The rails and fish-plates have the usual bolt-holes and are secured by bolts and nuts, as shown at D, and are also cut out, as at C^5, to receive the spikes.

When the rails have been placed in proper position with their ends contacting, allowing, of course, for expansion, as is customary, the outer plate is placed in position in the usual way. The plate C is then fitted into position, the tread-flange C^3 filling the cut-out portion A′ and overlapping the end portion of each rail, and the base portion C^4 also fills the cut-out portion A^2 and bears on the cross-ties. It is obvious from this construction that the tread is practically continuous and that while a portion of the wheel is passing over the space between the ends of the two rails the remainder of the wheel is resting on the solid tread-surface C^3. It is also obvious that this improved plate can be secured to any rail by simply cutting out the side of the tread and base to permit the portions C^3 C^4 to be seated in proper position. This construction of joint is durable, simple, and comparatively inexpensive.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination with a plurality of rails having their meeting end portions longitudinally cut away on one side, said cut-out portion presenting a perpendicular wall, of an elongated fish-plate having a tread portion adapted to aline with the tread of the rails and to extend from the inner end of the cut-out portion of one rail to the inner end of the corresponding portion of the meeting rail, the base portion of said fish-plate being of equal length as the tread portion and adapted to bear against the perpendicular walls of the

rails, said base portion having an outwardly-extending flange adapted to fit in the cut-out portion of the rail-flanges, central, integral end portions projecting from each end of the fish-plate and adapted to rest between the tread of the rails and the flange at the base, said end portions having flanges continuous with the flange of the base portion of the fish-plate and adapted to bear on the non-cut-out portions of the base-flanges of the rails, the said fish-plate being longitudinally slotted from the end of one of the projecting end portions to the end of the other projecting portion, and having perforations alining with said slot, and a coacting fish-plate adapted to be secured upon the opposite sides of the rails.

REUBEN O. MILLARD.
THOMAS L. HENRY.

Witnesses:
C. BARUDT,
WM. FENSTERMACHER.