(No Model.)

C. W. LEWIS.

RAIL JOINT.

No. 441,878. Patented Dec. 2, 1890.

Fig. 1.

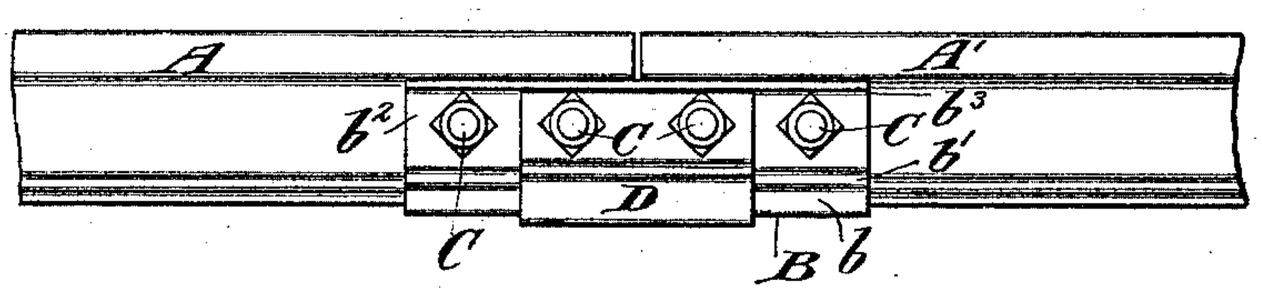


Fig. 2.

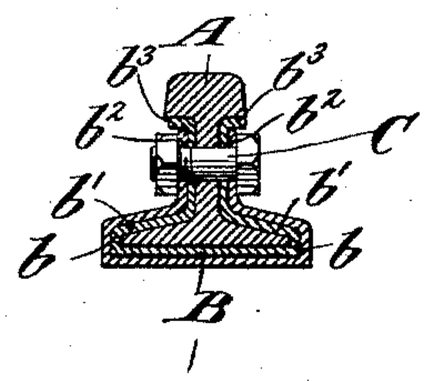
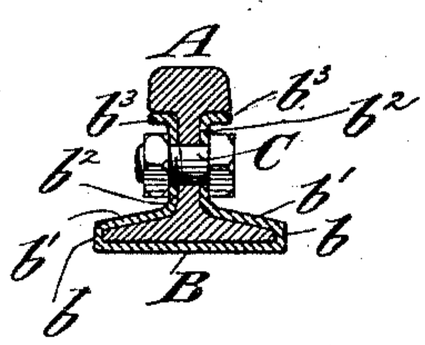


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES W. LEWIS, OF NEW YORK, N. Y.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 441,878, dated December 2, 1890.

Application filed August 13, 1890. Serial No. 361,865. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. LEWIS, of New York, in the county and State of New York, have invented a new and useful Improvement in Rail-Joints, of which the following is a specification.

My invention relates to an improvement in rail-joints in which the fish-plate for uniting the adjacent ends of two consecutive rails is formed in a single piece, the object being to so dispose the metal that it will exert its maximum strength in a direction to prevent the rails from changing their relative directions at their meeting ends either in a vertical or horizontal plane.

A further object is to provide a re-enforcing clip or plate at the point opposite the meeting ends of the rails.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents the meeting ends of two rails in side elevation, showing the fish-plate with its re-enforcing clip in position as in use. Fig. 2 is a transverse section through the same. Fig. 3 is a view in side elevation, showing the fish-plate in position for use without the re enforcing clip, and Fig. 4 is a transverse section through the rail and the fish-plate.

A A′ represent the meeting ends of two rails. The fish-plate, which unites the meeting ends, is formed in a single piece, and consists of a base B of the proper width and shape to conform to the bottom of the rail. At the opposite edges of the base the fish-plate extends upwardly over the edges of the base of the rail, as shown at b. From the opposite edges of the base the said plate extends along in proximity to the upper portion of the base to the web, as shown at b', thence upwardly along the opposite sides of the web, as shown at b^2, and thence outwardly in proximity to the under face of the head of the rail, as shown at b^3, terminating at or near the opposite edges of the rail. The fish-plate as thus constructed may be slipped onto the end of one of the rails, the meeting ends of the rails then placed in alignment, and the said plate slipped along, so as to rest the one half in engagement with one rail and the other half in engagement with the adjacent rail. It may then be secured in its position by means of bolts C, extending transversely through the opposite sides of the plate and through the web of the rail, as shown. When held in its adjusted position, the said fish-plate forms a support for the head of the rail on opposite sides of the web, any strain exerted thereupon being transmitted through the upright portions b^2 of the fish-plate to the base of the rail, and because of the base of the plate being integral with its opposite sides there is no opportunity for the lateral slipping of the portions b' of the plate upon the base, and hence the rail is very materially strengthened against displacement in a vertical plane. On the other hand, the opposite sides of the fish-plate being firmly united at the base and portions b' of the plate which connects the upright portions b^2 with the edges b being disposed in a plane quite near the horizontal, the effect is to prevent in a very marked degree any tendency of the ends of the rails to be thrown out of alignment in a lateral or horizontal direction. The plate as thus constructed may be readily formed, and may be furnished at a low cost.

In order to further provide against any liability of displacement at the meeting ends of the rails under an unusual strain, I find it advisable to re-enforce the fish-plate by an auxiliary plate or clip D, of the same conformation in cross section as the main fish-plate hereinbefore described, save only that the upper edges of these upright portions terminate beneath the outwardly-turned flanges b^3 of the main plate. The plate D is of such size that it may be slipped over and closely embrace the bottom and opposite sides of the main fish-plate, and it may be held in position by means of the two bolts C nearest the meeting ends of the two rails, as clearly shown in Fig. 1.

What I claim as my invention is—

The combination, with the meeting ends of two rails and a fish-plate embracing the opposite sides of the meeting ends of the rails, of a re-enforcing clip or plate having its op-

posite sides formed integral with a base portion extending underneath the main plate, the opposite sides of the clip or plate being made to conform to the exterior of the main plate, the upper edges of the clip terminating in proximity to the under faces of the upper flanges of the fish-plate, and means for securing the two plates to the rails, substantially as set forth.

CHARLES W. LEWIS.

Witnesses;
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