No. 645,661. Patented Mar. 20, 1900.

C. R. BRENT.

RAIL JOINT.

(Application filed July 27, 1899.)

(No Model.)

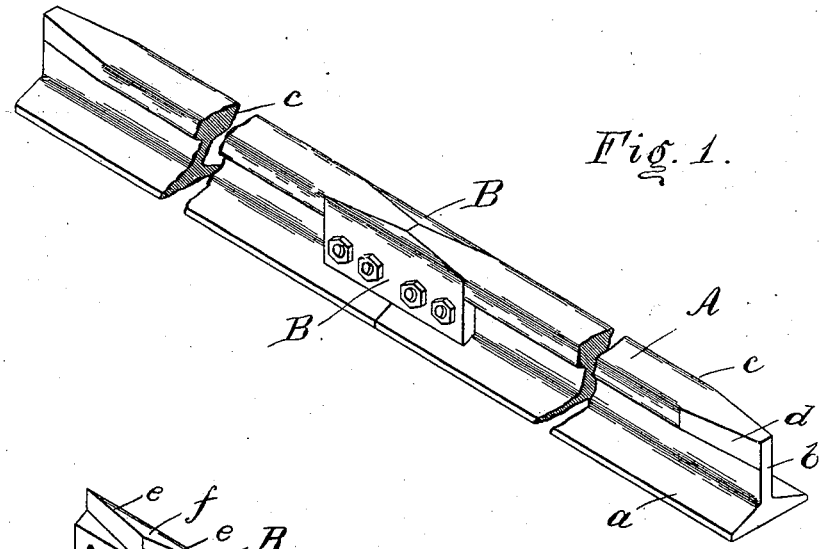


Fig. 1.

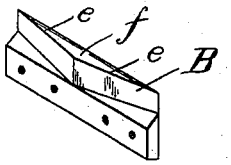
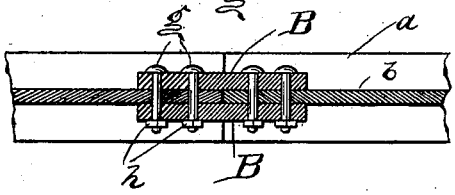


Fig. 3.

Fig. 2.



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CHARLES R. BRENT, OF LOUISVILLE, KENTUCKY.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 645,661, dated March 20, 1900.

Application filed July 27, 1899. Serial No. 725,310. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. BRENT, a citizen of the United States, and a resident of Louisville, county of Jefferson, State of Kentucky, have invented certain new and useful Improvements in Rail-Joints, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to devices for securing together the adjacent ends of railroad-rails, so as to prevent the vertical displacement of the rail at the end during the passage of the car-wheels and to form practically a continuous rail from end to end of the line. Under the ordinary construction the adjacent ends of the rails are secured together by fish-plates bolted to the two rails between the tread and base; but this does not prevent the looseness at the joint and the consequent jar and concussion to the rolling-stock during the passage of the cars. It has heretofore been sought to correct this defect by beveling off one or both sides of the adjoining rail ends and employing fish-plates with corresponding beveled enlargements to fit within the beveled recesses formed upon bringing the rails together; but in the constructions heretofore suggested it has been found that the passage of the cars soon wears away, and consequently loosens the parts at the joint. Besides, they have been difficult to construct.

The object of my invention is to provide a joint in which the parts may be easily and cheaply formed and at the same time be more durable and able to withstand the wear than prior devices of the kind.

In the drawings, Figure 1 is a perspective view of two rails with my rail-joint in place. Fig. 2 is a central horizontal section of the joint. Fig. 3 is a perspective of one of the fish-plates.

A is an ordinary railroad-rail with base *a*, vertical web *b*, and tread *c*. The tread of each rail on each side is cut off at the end on a bevel *d*, beginning at the extreme end of the rail and at a point coinciding with the outer planes of the web and running back in a straight line to the outside edge of the tread, so that when brought together a triangular-shaped recess is formed on each side of the joint.

B B are the fish-plates, cut away on each edge *e e*, so as to form triangular extensions *f f*, which will fit within the triangular recesses formed on bringing the rails together. The lower portions of the fish-plates are of the usual construction, provided with holes through which the rails and plates may be bolted together in the usual way by bolts and nuts *g h*.

My construction as above described differs from any arrangement heretofore suggested in that the tread alone is beveled off and that the cut begins at the extreme end of the rail with the thickness of the web and runs out in a straight line to the outside edge of the tread. Thus in forming my joint the rails do not have to be forged into the shape desired, but the tread alone is cut off in a straight line with a saw, and the cost of manufacture is very largely reduced.

As the weight of the cars is borne on the tread of the rail within lines passing vertically through the web, any extended narrowing of the tread within these lines or intersection of their horizontal area would render the edges of the joint liable to be more readily worn or damaged by the cars and consequent loosening of the fish-plates. It will readily be seen that in beginning the bevel at the extreme end of the rail and at a point coincident with the outer plane of the web, as shown, the liability of this happening is reduced to a minimum and there is less liability of the weight of the cars being thrown upon or borne by the fish-plates.

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

In a rail-joint, the combination of the rails having the tread on each side beginning at the extremities of their meeting ends cut diagonally from the thickness of the web to the outside edges of the tread and forming a triangular-shaped recess on each side at the rail-joint when the rails are brought together, and fish-plates having their upper portions beveled off vertically to form triangular extensions which fit within and fill out the recesses in the tread to form a continuous tread-surface at the rail-joint, substantially as shown and described.

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