S. P. McGOUGH.

RAIL JOINT.

APPLICATION FILED JULY 26, 1907.

919,373. **Patented Apr. 27, 1909.**

Fig. 1.

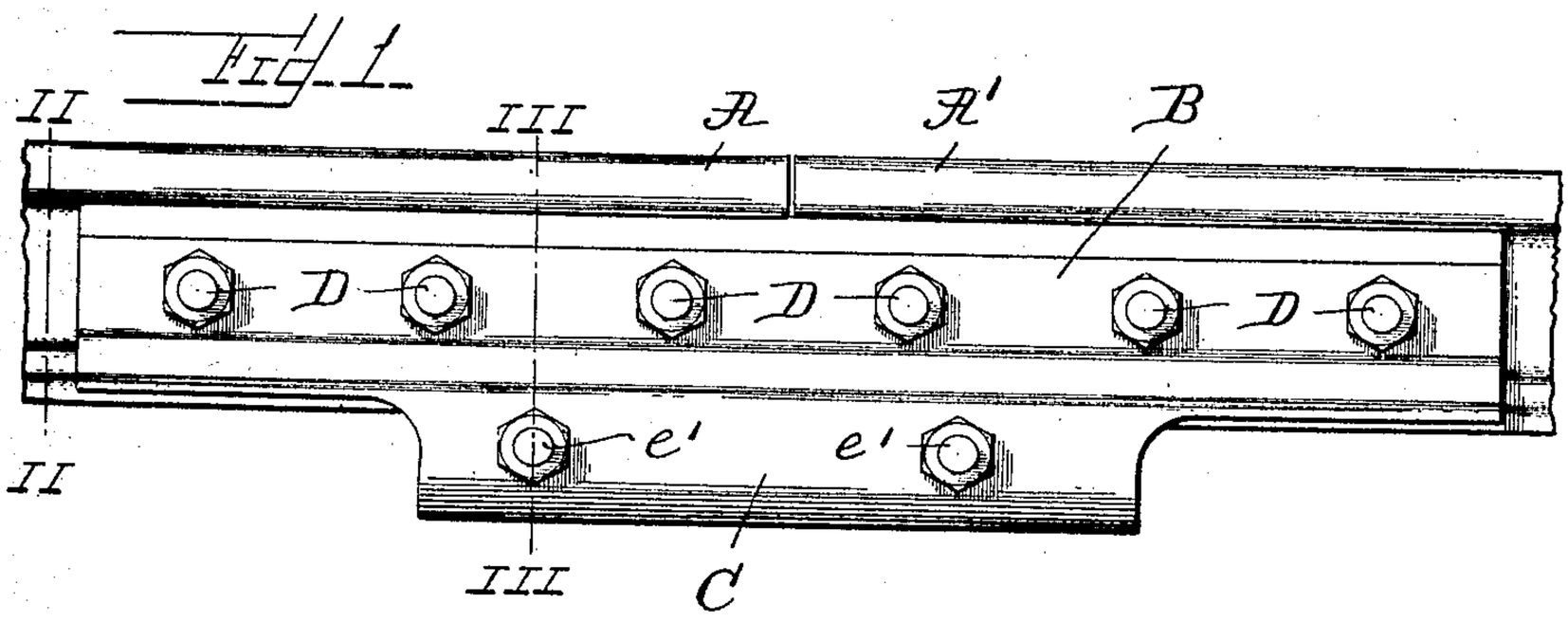


Fig. 2.

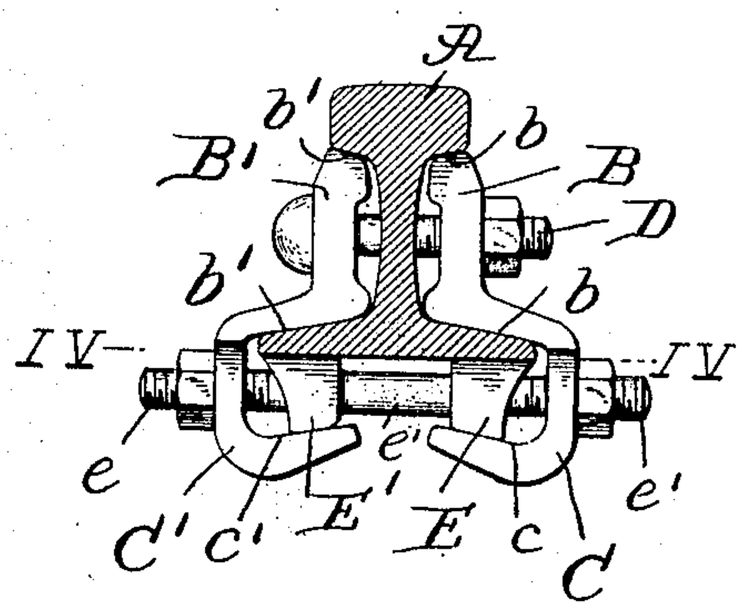


Fig. 3.

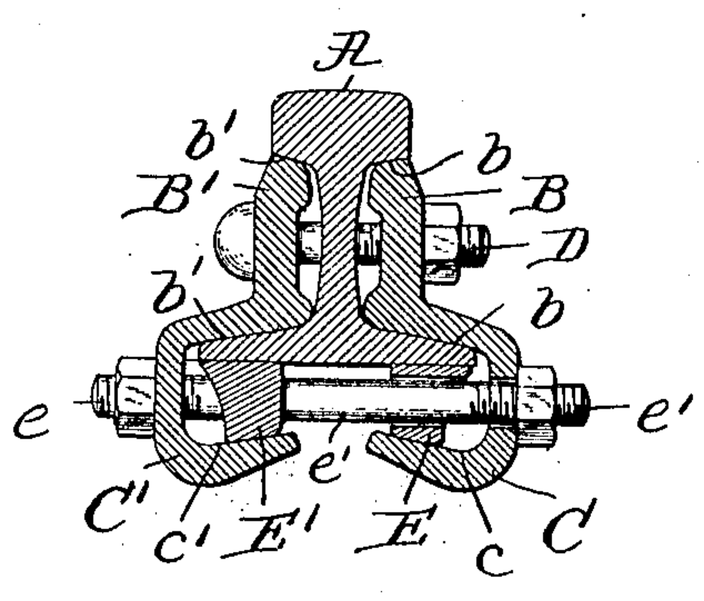
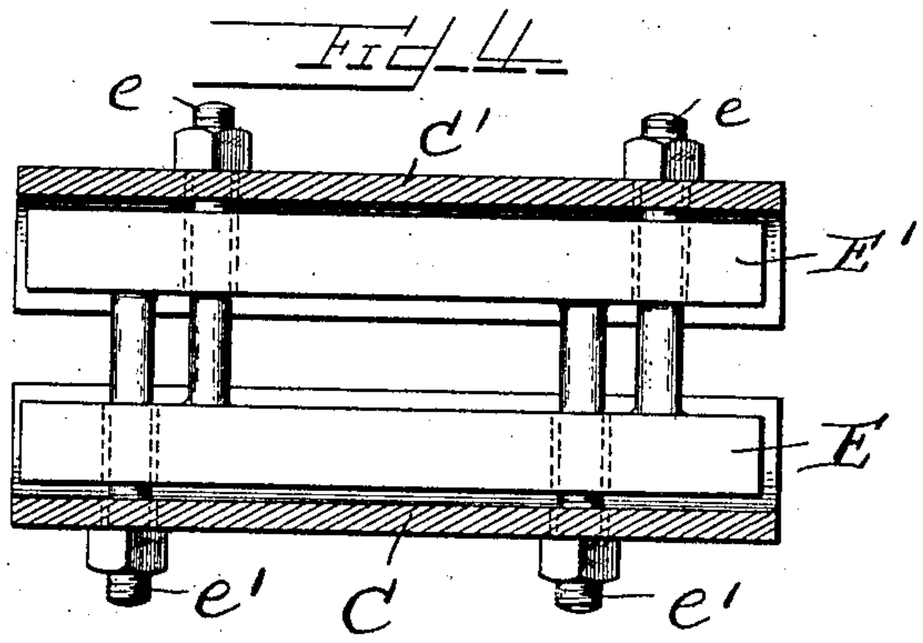


Fig. 4.



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RAIL-JOINT.

No. 919,373. Specification of Letters Patent. Patented April 27, 1909.

Application filed July 25, 1907. Serial No. 385,455.

To all whom it may concern:

Be it known that I, SAMUEL P. McGOUGH, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Rail-Joints, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in rail joints, and is designed to provide a simple and efficient means whereby the ends of the abutting rails are held in alinement with relation to each other. This object is accomplished by means of fish-plates, which clamp the rail ends at three different points. Two of the clamping points, the bottom of the head and the top of the foot, are old and well known to the art. The third point, the bottom of the foot of the rail ends is supported and clamped by a projection on each of the fish-plates, and a transversely adjustable wedge between the foot of the rail ends and the projection on the fish plates.

With these objects in view, my invention consists in the novel construction, arrangement, and combination of parts, as hereinafter described and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1, is a side elevation of my improved joint; Figs. 2 and 3 are sectional views on the lines II—II and III—III of Fig. 1, respectively. Fig. 4, is a sectional view on the line IV—IV of Fig. 2.

A and A′, are the rails.

B and B′ are the fishplates; one on each side of the rails A and A′, and projecting downwardly and inwardly from each of the respective fish plates B and B′, are the projections C and C′. The respective fish-plates B and B′, are provided with two inclined faces *b*, *b* and *b′*, *b′*, and the respective projections C and C′, are provided with the inclined face *c*, *c′*.

Interposed between the projection C, and the foot of the rail ends, is the wedge E; and interposed between the projection C′ and the rail ends, is the wedge E′. Projecting from the wedge E, and through orifices in the wedge E′, and the projection C′ are the bolts *e*, *e;* and projecting from the wedge E′, and through orifices in the wedge E, and the projection C, are the bolts *e′*, *e′*. I have shown these bolts integral with the wedges, but this is not essential, as they would perform the same function if they were provided with heads and passed through orifices in both wedges.

D, D, D, are bolts which pass through both of the fish-plates and the interposed rail ends.

My improved joint would be assembled in the following manner:—The fish-plates, with their respective wedges in position, are placed on each side of the abutting rails; the bolts D, D, D, are passed through the holes in the fish plates, and the rail, and the nuts are screwed onto the bolts and drawn home. This drawing home of the bolts D, D, D, will wedge the inclined faces *b*, *b*, and *b′*, *b′* of the fishplates between the head and foot of the rail. The foregoing described operation will give a perfect contact between the bottom of the head, the top of the foot of the rails, and the fish-plates. The nuts are screwed on each of the bolts *e*, *e*, and *e′*, *e′*, and are drawn up in succession. By "succession," I mean, that the first nut is drawn up until a resistance is felt, the second, third and so on. After all the nuts are placed, the first nut is drawn tighter, the second, third, and so on, are drawn tighter. This operation is repeated until all the nuts are drawn home.

As will readily be understood by reference to the drawings, the flange which projects from the fish-plates in combination with the wedges, forms an additional support for the rails, and the tension of the bolts *e*, *e*, and *e′*, *e′* draws the bottom of the fish-plates together, which strengthens the fish-plates by transferring some of the strain on the fish-plates to the rails.

It will be obvious that various changes can be made without departing from the spirit of my invention.

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

1. In a rail joint, the combination of the abutting rail ends and the fish-plates, projections on the fish-plates having inclined faces extending under the rails, a wedge interposed between and bearing against each of said faces and the bottom of the ends of said rails, a bolt projecting from each wedge through the projection on the opposite fish-plate.

2. In a rail joint, the combination of the abutting rail ends and the fish-plates, bolts

passing through the fish-plates and the rail ends, projections on the fish-plates having inclined faces extending under the rails, a wedge interposed between and bearing against each of said faces and the bottom of the ends of the rails, a bolt projecting from each wedge through the projection on the opposite fish-plate.

3. In a rail joint, the combination of the abutting rail ends and the fish-plates, bolts passing through the fish-plates and the rail ends, projections on the fish-plates having inclined faces extending under the rails, a wedge interposed between and bearing against each of said faces and the bottom of the ends of said rails, bolts projecting from each wedge through the wedge and projection from the fish-plate on the opposite side.

4. A rail joint comprising fish-plates and the interposed rail ends, projections on the fish-plates having inclined faces extending under the rails, a transverse wedge interposed between and bearing against each of said faces and the bottom of the ends of said rails, and means to draw the wedges toward each other for the purpose specified.

5. A rail joint comprising fish plates and interposed rail ends, bolts passing through the fish plates and the rail ends, projections on the fish plates having inwardly and upwardly inclined faces extending under the rails, wedges interposed between the inclined faces and bottom of the rails, and means to force the wedges toward each other, substantially as described.

6. A rail joint comprising fish plates and interposed rail ends, bolts passing through the fish plates and the interposed rail ends, projections on the fish plates having inwardly and upwardly inclined faces extending under the rails, wedges interposed between the rails and the projections on the fish plates, and means to draw said wedges toward each other, substantially as described.

7. A rail joint comprising fish plates and interposed rail ends, bolts passing through the fish plates and the interposed rail ends, projections on the fish plates having upwardly and inwardly inclined faces extending under the rails, wedges interposed between the bottoms of the rails and the projections on the fish plates, and bolts projecting from one wedge through the projections on the other fish plate, substantially as described.

In testimony whereof, I have affixed my signature in presence of two witnesses.

SAMUEL P. McGOUGH.

Witnesses:

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S. J. COISWORTH.