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PATENTED JULY 9, 1907.

S. F. DOUGLASS.

RAIL JOINT AND REINFORCED SUPPORT THEREFOR.

APPLICATION FILED AUG. 9, 1906.

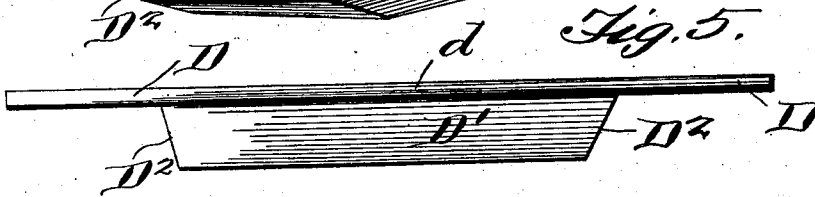
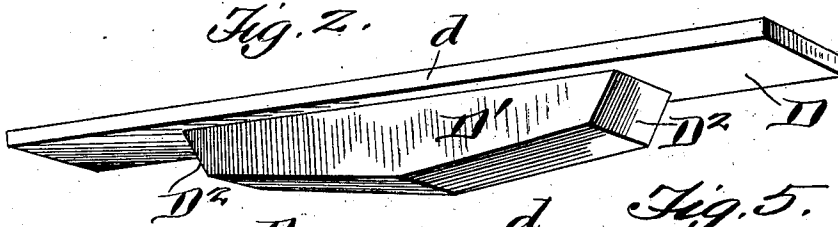
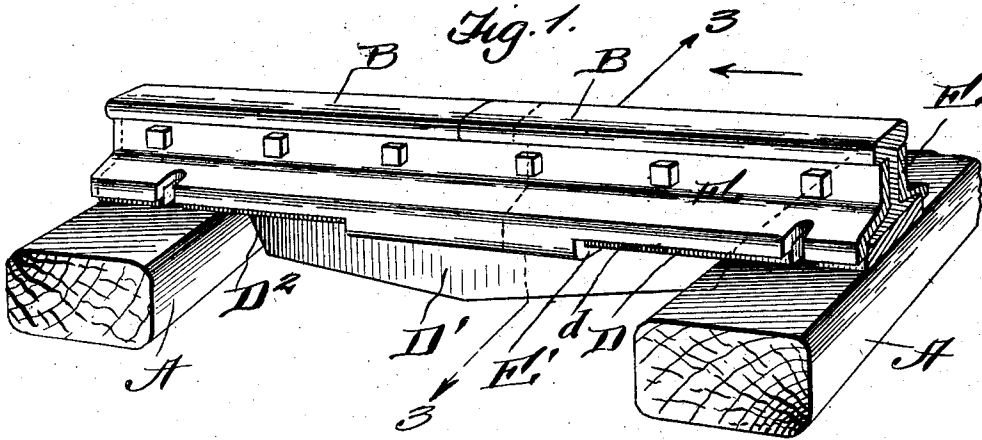


Fig. 4.

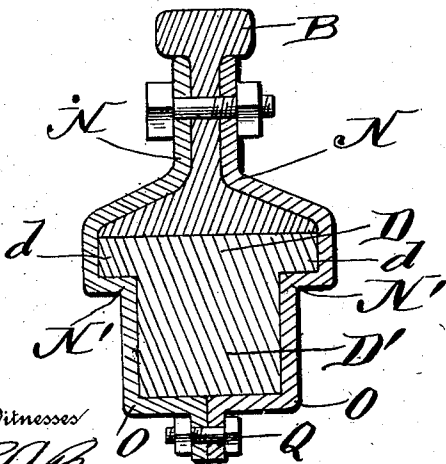
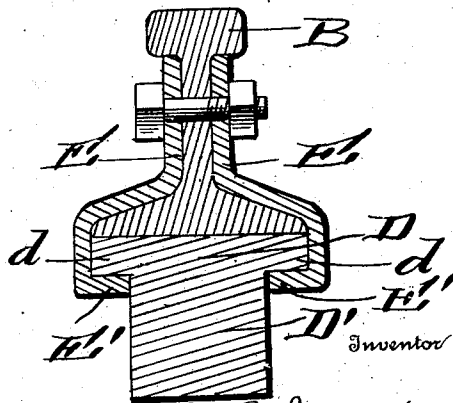


Fig. 3.



Witnesses
R. B. Brown
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UNITED STATES PATENT OFFICE.

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RAIL-JOINT AND REINFORCED SUPPORT THEREFOR.

No. 859,805.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed August 9, 1906. Serial No. 329,915.

To all whom it may concern:

Be it known that I, SAMUEL F. DOUGLASS, a citizen of the United States, residing at Bloomfield, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Rail-Joints and Reinforced Supports Therefor; and I do 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 letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in reinforcing mechanism for rail joints and apparatus for spacing the ties and comprises essentially a bridge plate of metal, having a solid depending portion adapted to be positioned intermediate the ties and form a gage whereby the same may be spaced apart at equal distances and in the provision of fish-plates which have hook-shaped flanges upon the portions of the marginal edges thereof and adapted to engage the flanges along the opposite longitudinal edges of the bridge plate, thereby securely holding the various parts forming the joints securely to the rails.

My invention comprises various other details of construction and combinations and arrangements of parts which will be hereinafter described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:

Figure 1 is a perspective view showing the parts of my invention assembled. Fig. 2 is an enlarged perspective view of one of the reinforcing bridge plates. Fig. 3 is a cross section on line 3—3 of Fig. 1 and Fig. 4 is a sectional view showing a slight modification of my invention, and Fig. 5 is a side elevation of a modification.

Reference now being had to the details of the drawings by letter, A—A designate the ties of a railway and B—B the ends of two rails which are to be connected together and reinforced by my apparatus.

D designates a plate made of metal having a solid depending portion D' and flanges *d* projecting from the opposite sides of said depending portion. The ends of the portion D' are preferably inclined as at D² and are adapted to contact with the adjacent sides of two ties, whereby the same may be spaced apart at uniform distances. The meeting ends of two rails are adapted to be positioned over the thickest portion of

the part D', as shown clearly in Fig. 1 of the drawings, and where the greatest strain will come upon the plate.

E designates fish-plates which are bolted to the ends of the rails in the usual manner and a portion of each fish-plate has a hook-shaped flange E', shown clearly in Figs. 1 and 3 of the drawings, adapted to engage over the flanges of the two rails adjacent to their ends, thereby securely locking the ends of the rails to the plate D over the thickest part of the depending portion D'. It will be noted, by reference to Fig. 1 of the drawings, that the portions of said fish-plates intermediate the hook part E' and their ends are turned over the edges of the flanges of the rail and also extend partially down over the flange *d* of the plate D, thereby further serving to securely hold the parts from lateral movement.

In Fig. 4 of the drawings, I have shown a slight modification of my invention in which the fish-plates N are extended, being bent to form right angles at N' and O, while the lower ends of the fish-plates are turned underneath the depending portion D' and are held together by means of bolts Q, thereby affording a secure means for holding the fish-plates and the reinforcing bridge plate D.

From the foregoing, it will be noted that by the provision of the apparatus shown and described a simple and efficient means is afforded, whereby the meeting ends of rails may be reinforced by the heavy, solid portion of the plate D, while the ties may be spaced apart and held at uniform distances, the inclined ends of the depending portion D' of the plate being adapted to butt against the adjacent faces of the tie, while the hook-shaped flange upon the fish-plates serve to lock the rails from lateral movement.

What I claim is:

A device for reinforcing rail joints comprising, in combination with the meeting ends of rails, a bridge plate having a depending portion adapted to space the ties, fish-plates secured to the rails and having portions of their length turned into hook-shaped flanges adapted to engage flanges upon the opposite edge of said bridge plate, portions of the edges of the fish-plates beyond said hook-shaped flange adapted to extend over the edges of the flange of the rail and said bridge plate, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

SAMUEL F. DOUGLASS.

Witnesses:

ARTHUR RUSSELL,
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