

(No Model.)

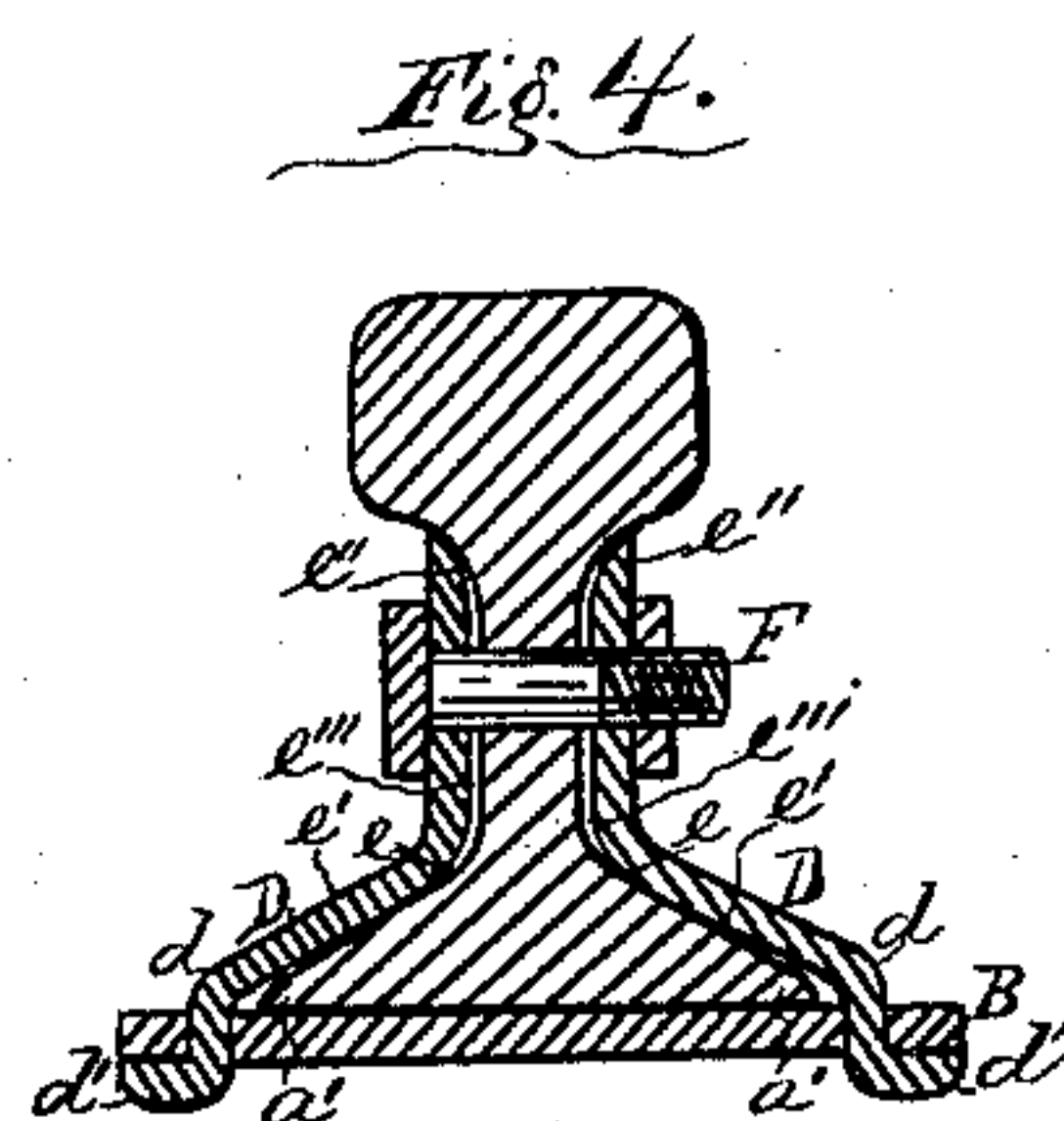
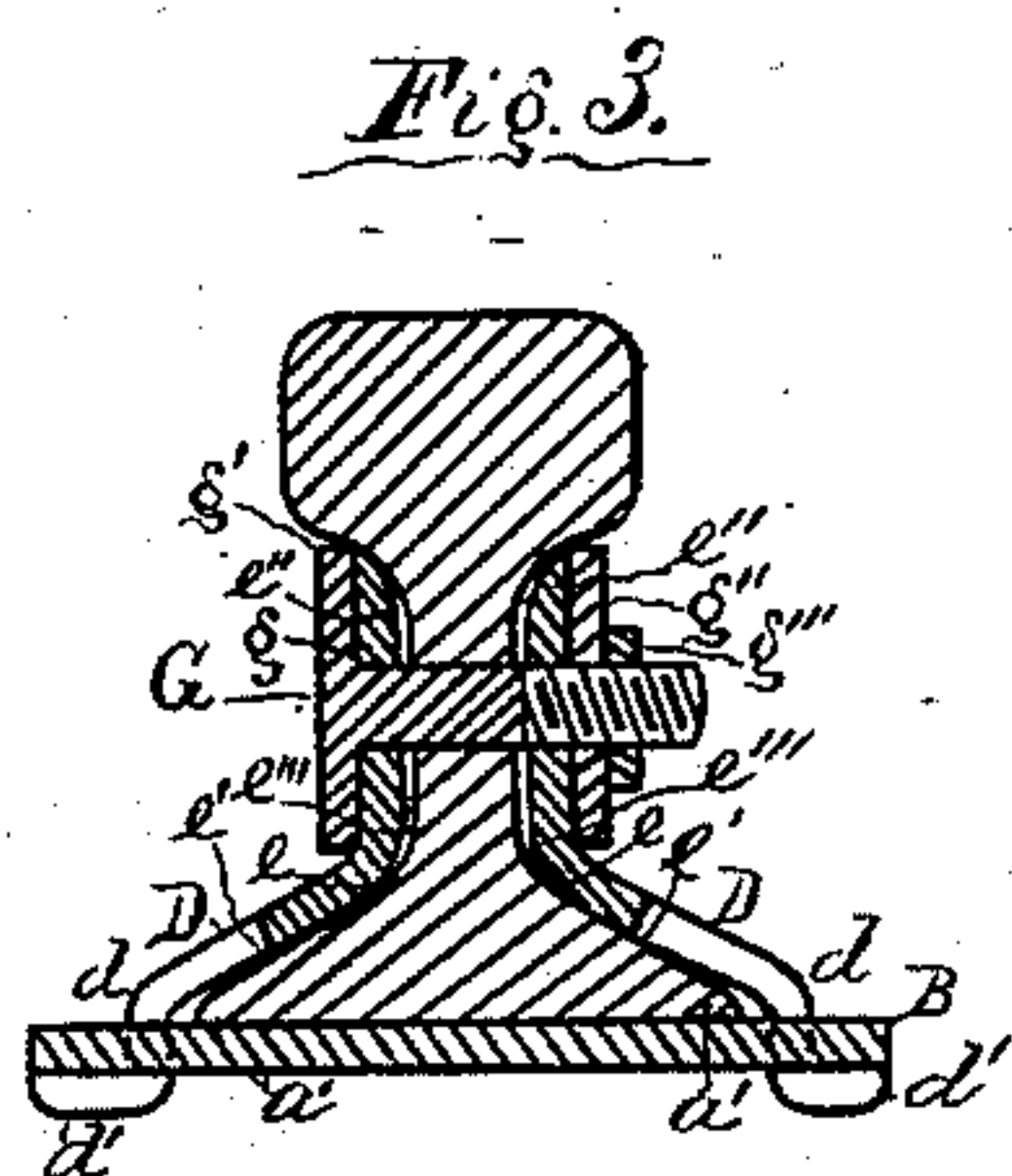
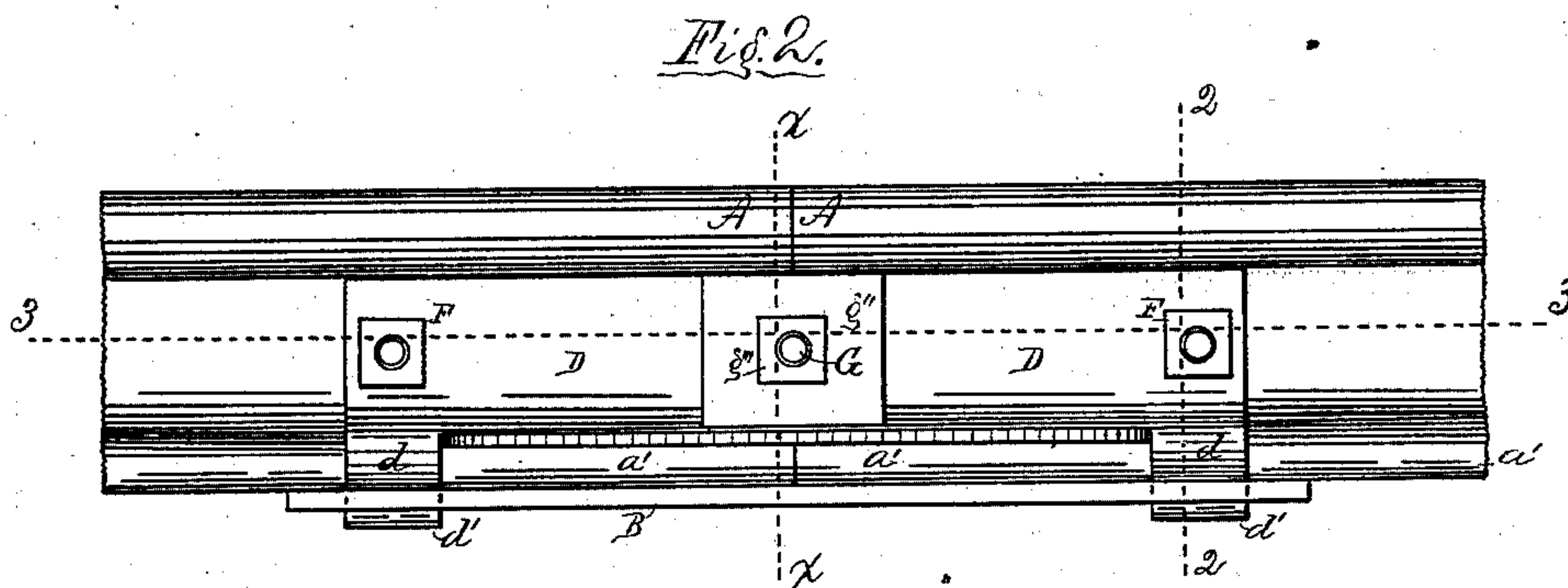
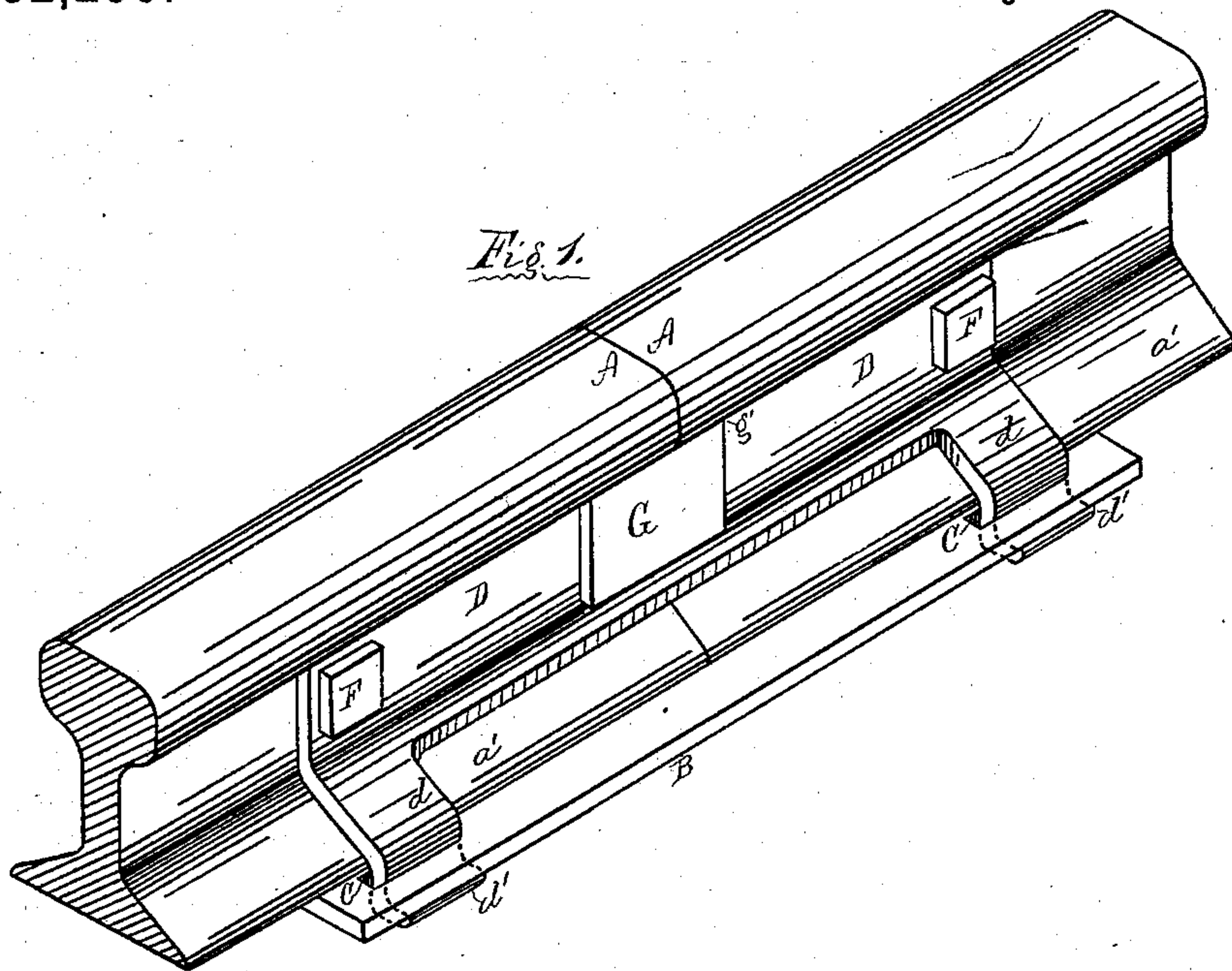
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J. H. BLOOMFIELD & M. W. BOONE.

RAILWAY RAIL JOINT.

No. 282,259.

Patented July 31, 1883.



Witnesses:
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John H. Chapin.

Inventors:
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2 Sheets—Sheet 2.

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Fig. 5.

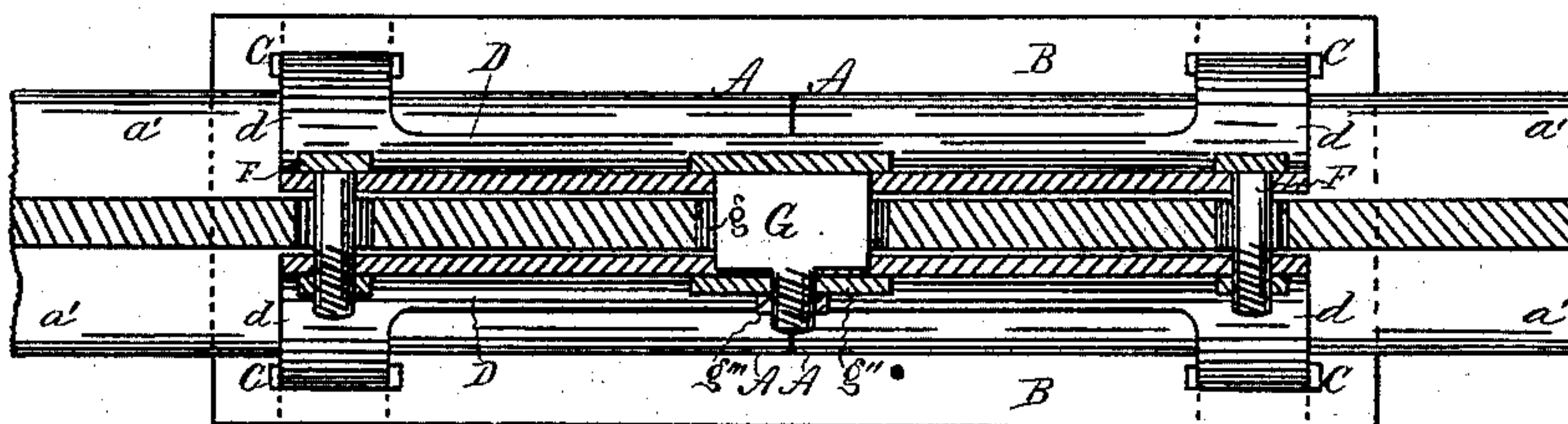
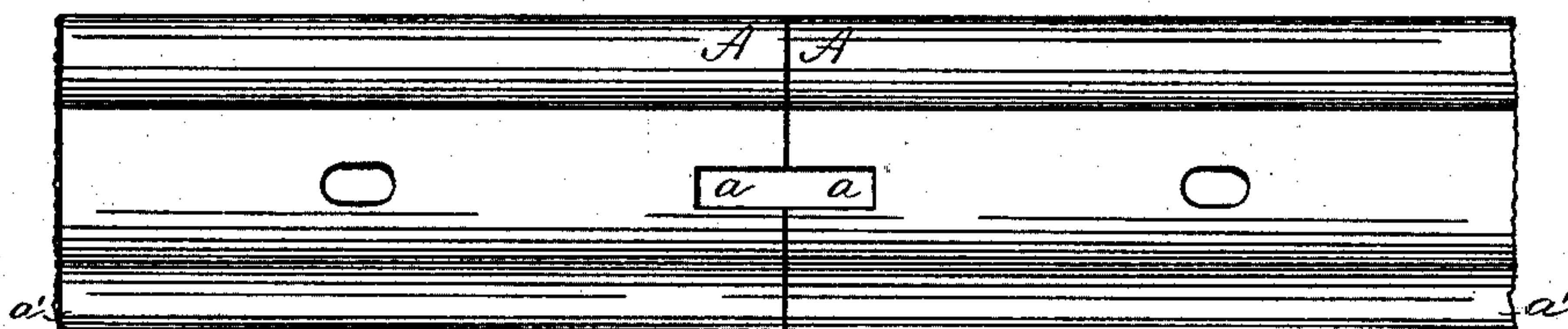


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH H. BLOOMFIELD, OF RIO, AND MARTIN W. BOONE, OF GALESBURG, ILLINOIS; SAID BOONE ASSIGNOR TO SAID BLOOMFIELD.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 282,259, dated July 31, 1883.

Application filed January 12, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH H. BLOOMFIELD and MARTIN W. BOONE, citizens of the United States, residing, BLOOMFIELD at Rio, and BOONE at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Railway-Rail Joints; and we do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to railway-rail joints; and it consists in constructions and combinations hereinafter described.

In the accompanying drawings, which illustrate what we consider the preferable method of applying our invention in joining the abutting ends of railway-rails, Figure 1 is a perspective. Fig. 2 is a side elevation; Fig. 3, a sectional elevation on the line $x x$ in Fig. 2; Fig. 4, a sectional elevation on line 2 2, Fig. 2; Fig. 5, a sectional plan in line 3 3 in Fig. 2. Fig. 6 is a side elevation of the rails alone.

Referring to the drawings by letters, the same letter indicating the same part in the different figures, letters A A represent the abutting ends of two railway-rails, each with a recess, a , in the end of its web portion, which recesses coincide in vertical positions when the ends of the rails are brought together.

B is a base-plate, somewhat broader than the base of the rails. We prefer simply a flat plate, B, as shown; but it may be of any desired form.

C are slots in the base-plate B, in positions exterior but close to the lower flanges of the rails.

D D are fish-plates having lugs d , with hooked ends d' . The lugs d pass down through the slots C. The fish-plates and their lugs d are formed in cross-section, as shown at Fig. 3, so that when applied to the rails the hooked ends d' of the lugs engage the bottom side of the base-plate B and the upper portions of the lugs from a point, e , or thereabout, to a point, e' , or thereabout, come in contact with the lower flange, a' , of the rail, and act as fulcrums

for the fish-plate, so that forcing its upper portion toward the web of the rail will cause the hooks d' to draw the base-plate B firmly to the bottom of the rail. When the fish-plate is in position as shown at same figure, there are spaces between it and the web of the rail from point e'' to e''' , and also between the lugs d and the base of the rail from points e' downward, while it touches the rail, as hereinbefore described, and also touches it at the upper edge of the fish-plate, which rests against the under side of the head of the rail. The fish-plate is held to the rail by bolts F, which pass through holes in the fish-plates and slots in the rails in the ordinary manner, and by a bolt, G, which is elongated in its cross-section lengthwise to the rails, and passes through slots g in the fish-plates and through the recesses a in the rails. The bolt G is intended more especially as a support for the rails against vertical deflection, resting, as it does, in the recesses a in their ends, and to increase its efficiency for that purpose the upper side of its head g' is made to fit against the projecting head of the rail, and its lower side to fit against the turned-out edge of the fish-plate on one side of the rail, while a washer, g'' , fits similarly to the other side of the rail. The end of the bolt G, as shown, is rounded and threaded for a nut, g''' , which holds it in place. It may be held by a key, and not be rounded, but left flat to receive it. The lower edge of the fish-plates may be cut away, if preferred, so that the lower sides of the bolt-heads g' and the washers g'' will rest on the base of the rails. The bolt G and rails with recesses a may be used with an ordinary fish-plate joint.

The device hereinbefore described constitutes a rail-joint, it is believed, of superior qualities, which permits freely of expansion and contraction of the rails and holds them securely from deflection in any direction by the forces to which they are subjected in ordinary use, and which may be tightened up by the bolts to compensate for the wear between the contact-surfaces of the fish-plates and the upper and lower flanges of the rails.

We are aware that a base-plate having an extension bent up to form one side of the joint and a slot on the opposite side for the lip of a removable plate, which is clamped with the

bent part to the rail by means of bolts, is old, and to that we make no claim; but

What we claim as new is—

1. In combination with the rails A A and
5 base-plate B, having slots C on each side of the rails, the fish-plates D, having hook-lugs which pass through said slots C and engage the base-plate, and having upper portions adapted to be drawn toward the web of the rail to draw
10 the base-plate to the base of the rail, substantially as and for the purpose specified.

2. The base-plate B, having slots C on each side, and fish-plates D, having hook-lugs, substantially as described, in combination with
15 rails A, substantially as and for the purpose specified.

3. In combination with the rails A, having recesses *a* in their ends, the base-plate B, the fish-plates having hooks adapted to engage
20 said base-plate, and the bolt G, seated in slots

in the fish-plates and in the recesses *a* in the rails, substantially as and for the purpose specified.

4. In combination with rails A, having recesses *a* in their ends, and with fish-plates hav- 25 ing slots in line with said recesses, bolts G, with heads on one end and washers on their other end, which heads and washers fit snugly at their upper sides against the head of the rail, and at their lower sides against the base 30 of the rail, substantially as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH H. BLOOMFIELD.
MARTIN W. BOONE.

Witnesses:

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H. M. RICHARDS.