

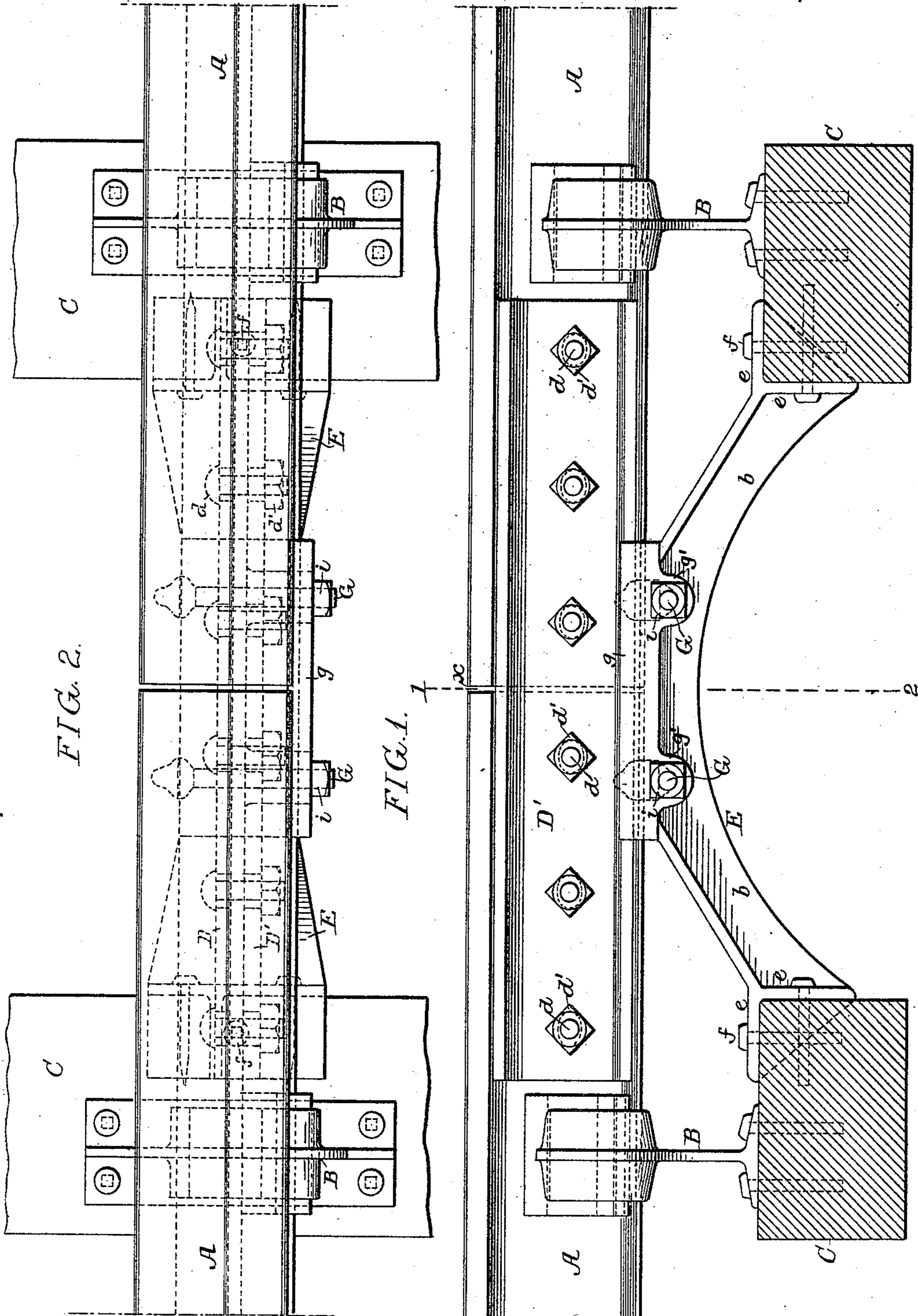
(No Model.)

2 Sheets—Sheet 1.

E. SAMUEL.  
RAIL JOINT.

No. 464,793.

Patented Dec. 8, 1891.



Witnesses:  
Alex. Barkoff  
A. V. Groupe.

Inventor:  
Edward Samuel  
by his Attorneys  
Howson & Howson

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FIG. 4

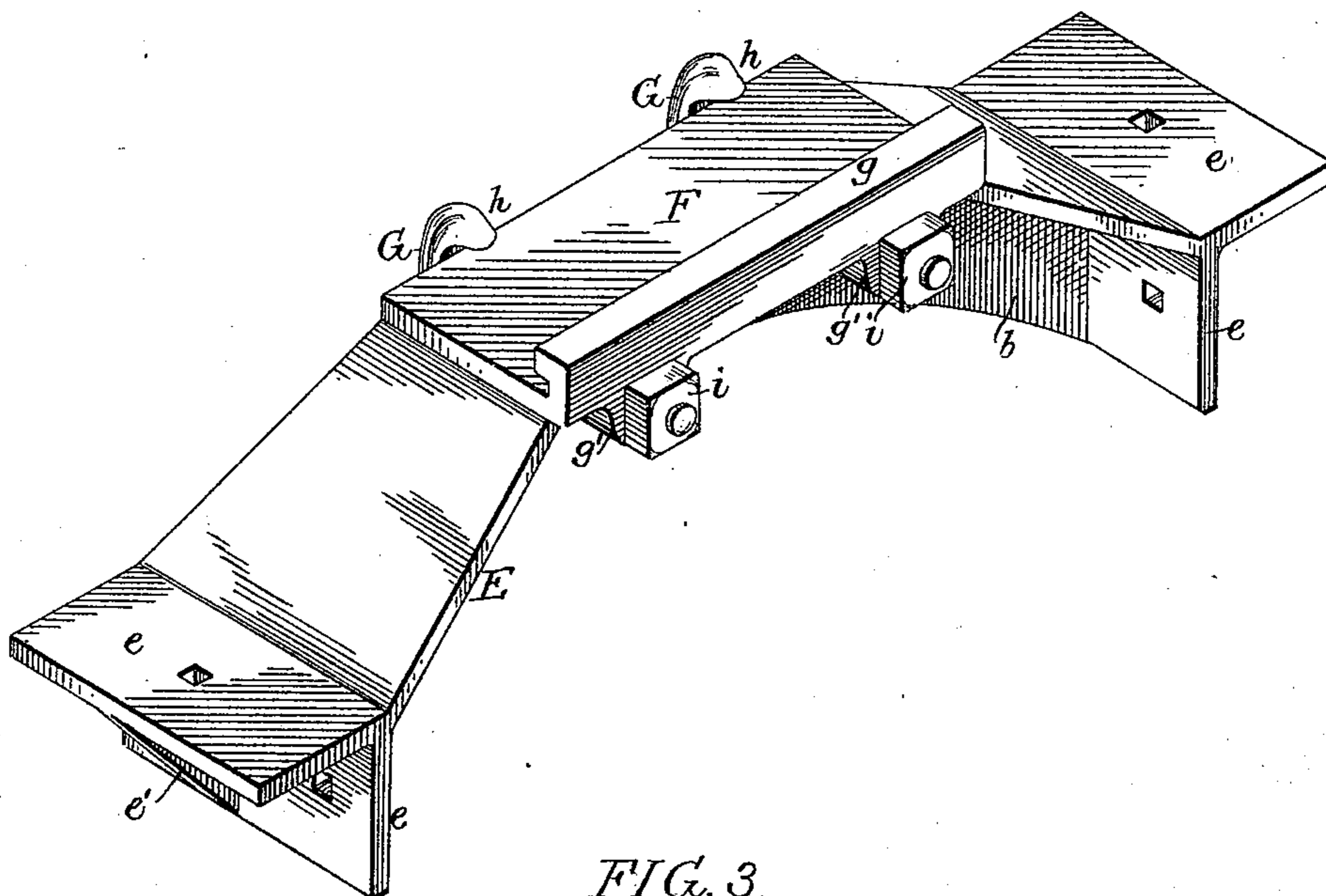
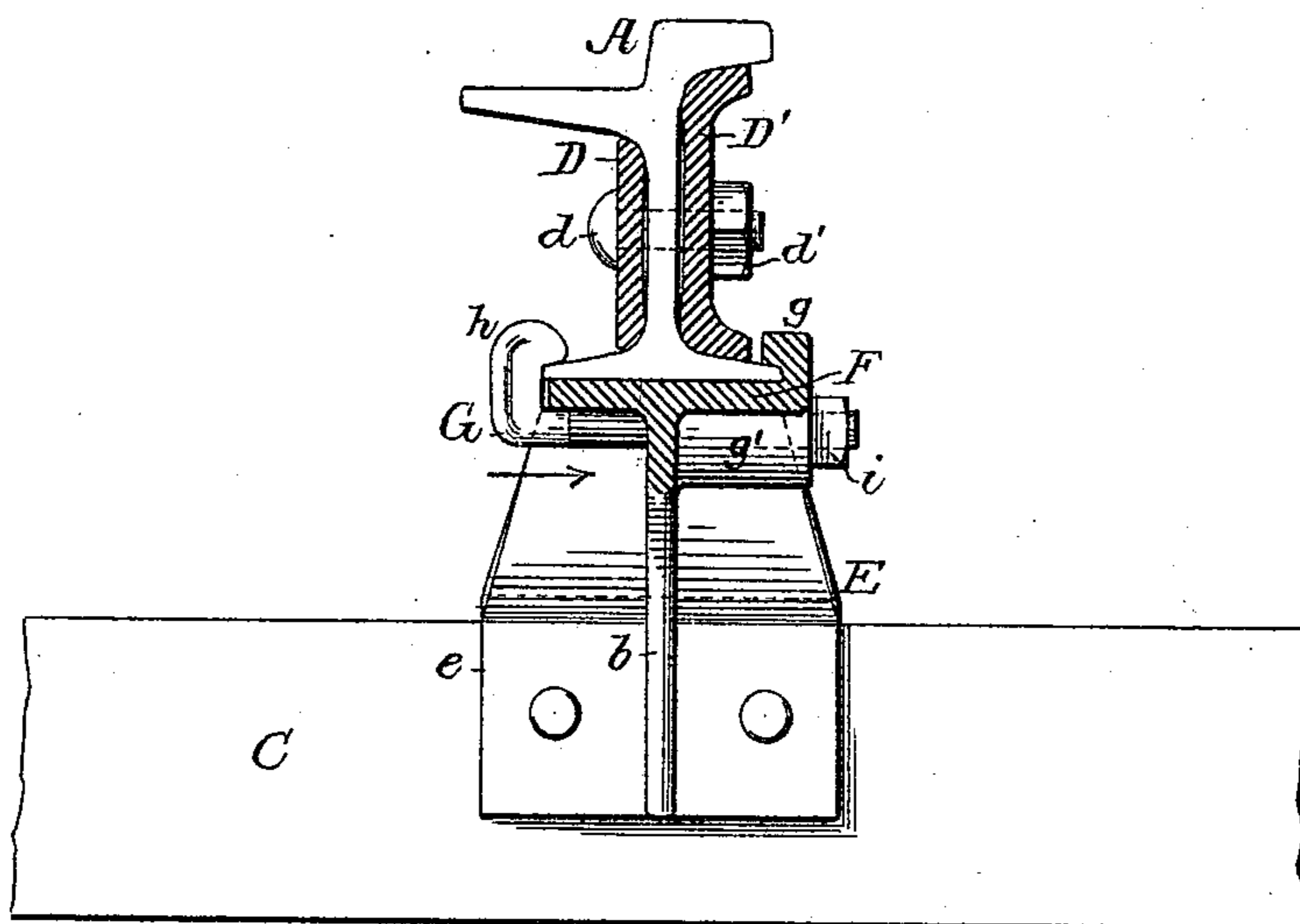


FIG. 3.



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# UNITED STATES PATENT OFFICE.

EDWARD SAMUEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE WILLIAM WHARTON, JR., AND COMPANY, INCORPORATED, OF SAME PLACE.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 464,793, dated December 8, 1891.

Application filed July 24, 1891. Serial No. 400,559. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD SAMUEL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Rail-Joints, of which the following is a specification.

The object of my invention is to so construct a support for railway-rails at their joints that said support can be mounted and secured to the rails after the rails are in place and secured together, will not interfere with the ordinary fish-plates, and will resist either a rolling, tipping, or spreading tendency on the part of the rails. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a side view showing my improved rail-joint support in position under the rails. Fig. 2 is a plan view of the same. Fig. 3 is a transverse section on the line 1 2, Fig. 1; and Fig. 4 is a perspective view of the support.

A A are the adjoining rails, which are in the present instance of a form known as "flanged girder-rails;" but it will be understood that any rail having base-flanges may be used.

B B are the chairs supporting the rails, these chairs being secured to the ties C, and the joint  $\alpha$  of the rail is in the present instance midway between the two chairs, as shown in Fig. 1, fish-plates D D' securing the rails together at the joint, and these fish-plates being fastened to the rails by bolts  $d$ , having nuts  $d'$ .

E is the support or bridge-piece spanning the space between the ties C C' and having feet  $e$ , which rest upon the ties and are secured to said ties by spikes  $f$  or any other suitable means. As shown in Fig. 4, this support or bridge-piece E has a flat portion F, upon which rest the base-flanges of the rails, as shown in Fig. 3, and on one side of this flat portion F is a lipped projection  $g$ , which extends over one edge of the flange of each rail.

Passing through orifices in lugs  $g'$ , on the under side of the flat portion F of the support, are bolts G, having lipped heads  $h$  and nuts  $i$ , the lips of the heads  $h$  passing over the edge of the flange of each rail A on the side opposite the lips  $g$ , so that when the nuts

are screwed up on the bolts G they will draw the bolts in the direction of the arrow shown in Fig 3, and thus clamp the base-flange of each rail tightly against and under the lipped flange  $g$ , at the same time pressing each rail tightly down upon the flat portion F of the support or bridge-plate. One bolt G acts upon one rail A and the other bolt acts upon the other rail, so that each rail is independently confined to the bridge-piece. A web  $b$  on the under side of the bridge-plate adds strength to the same, and I also preferably form a web  $e'$  between the feet  $e e$  on each end of the bridge-piece, these webs  $e'$  serving to remove lateral strain from the spikes and to aid in preventing the rolling, tipping, or spreading of the rails. I am thus enabled to make a support for the rails at the joints between the ties which will effectually withstand the strain to which it is subjected, will not interfere with the adjustment or removal of the fish-plates, and will securely hold the rails. By making the flange  $g$  only on one side the support can be slipped into place from that side after the rails have been laid and aligned by the application of the fish-plates, and if at any time it is desired to remove the rails they can be removed without the necessity of taking out the support or bridge-plate.

I claim as my invention—

1. The combination, in a rail-support, of the arched bridge-piece extending from one tie to another under the joint of the rails and supported by said ties, said bridge-piece having a lip on one side engaging one edge of the base-flanges of the rails, and transverse bolts engaging the opposite edge of said base-flanges and confining the rails to the support, substantially as set forth.

2. The combination of the rails, fish-plates securing the same together, a support spanning the space under the joint of the rails and resting on the cross-ties, a lip on one side of the support engaging the base-flanges of the rails on one side, transverse bolts passing through the support and having lipped heads engaging with the base-flanges of the rails on the opposite side, and nuts for tightening the bolts and clamping the rails to the support, substantially as set forth.

3. A supporting chair or seat upon which the adjoining rails bear, said chair being supported vertically by faces resting on two ties and having flanges which are bolted or spiked to the supporting-ties, thus preventing either rolling, tipping, or spreading, substantially as specified.
- 5 4. A supporting chair or seat upon which the adjoining rails bear, said chair being supported vertically by faces resting on two ties and having flanges bolted or spiked to said ties, and ribs connecting said flanges, substantially as specified.
- In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.
- EDWARD SAMUEL.
- Witnesses:  
LOUIS KOPPENHOEFER,  
HARRY SMITH.
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