

J. OWEN.
RAILWAY TRACK CONSTRUCTION.
APPLICATION FILED FEB. 27, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

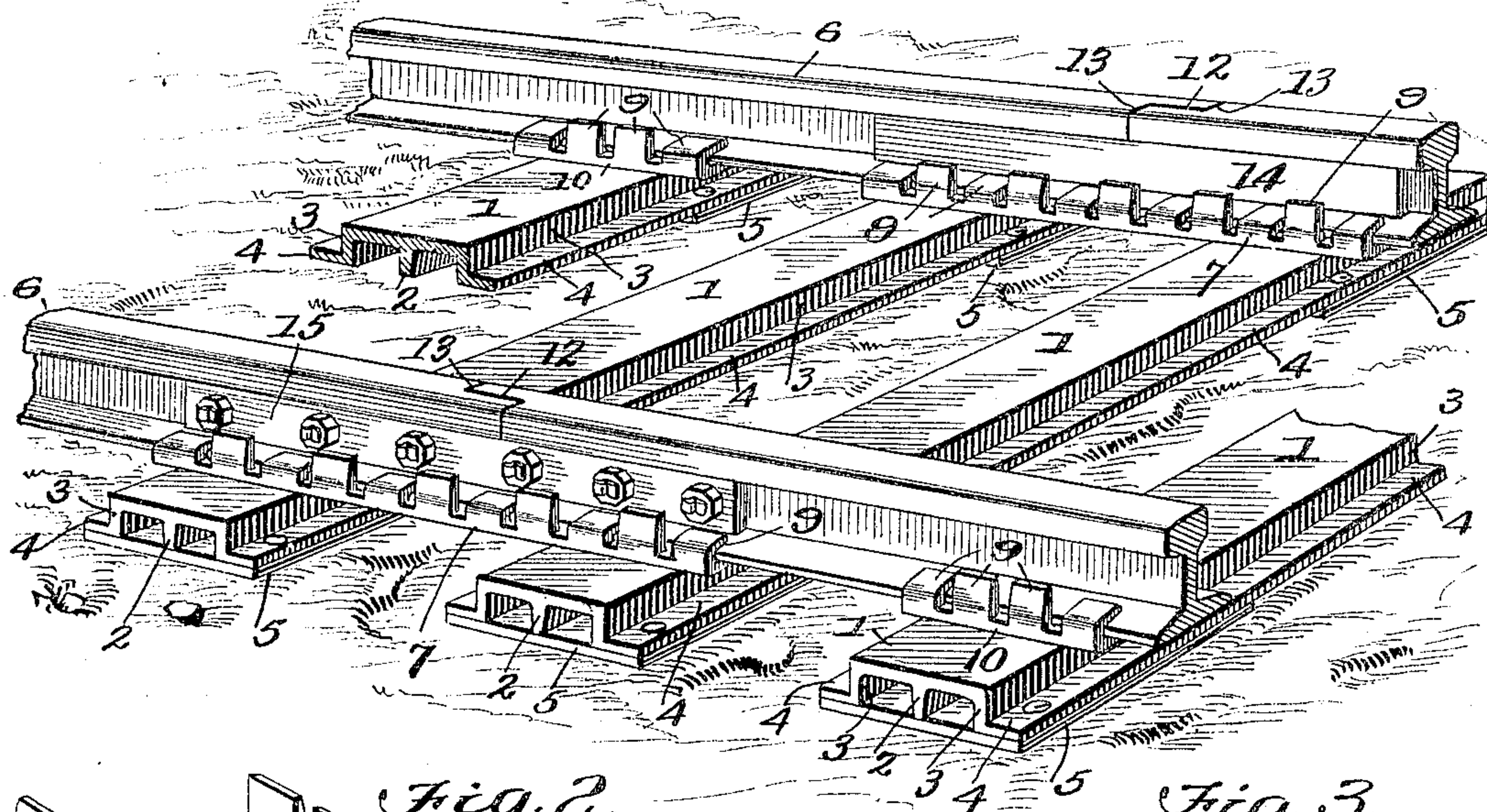


Fig. 2.

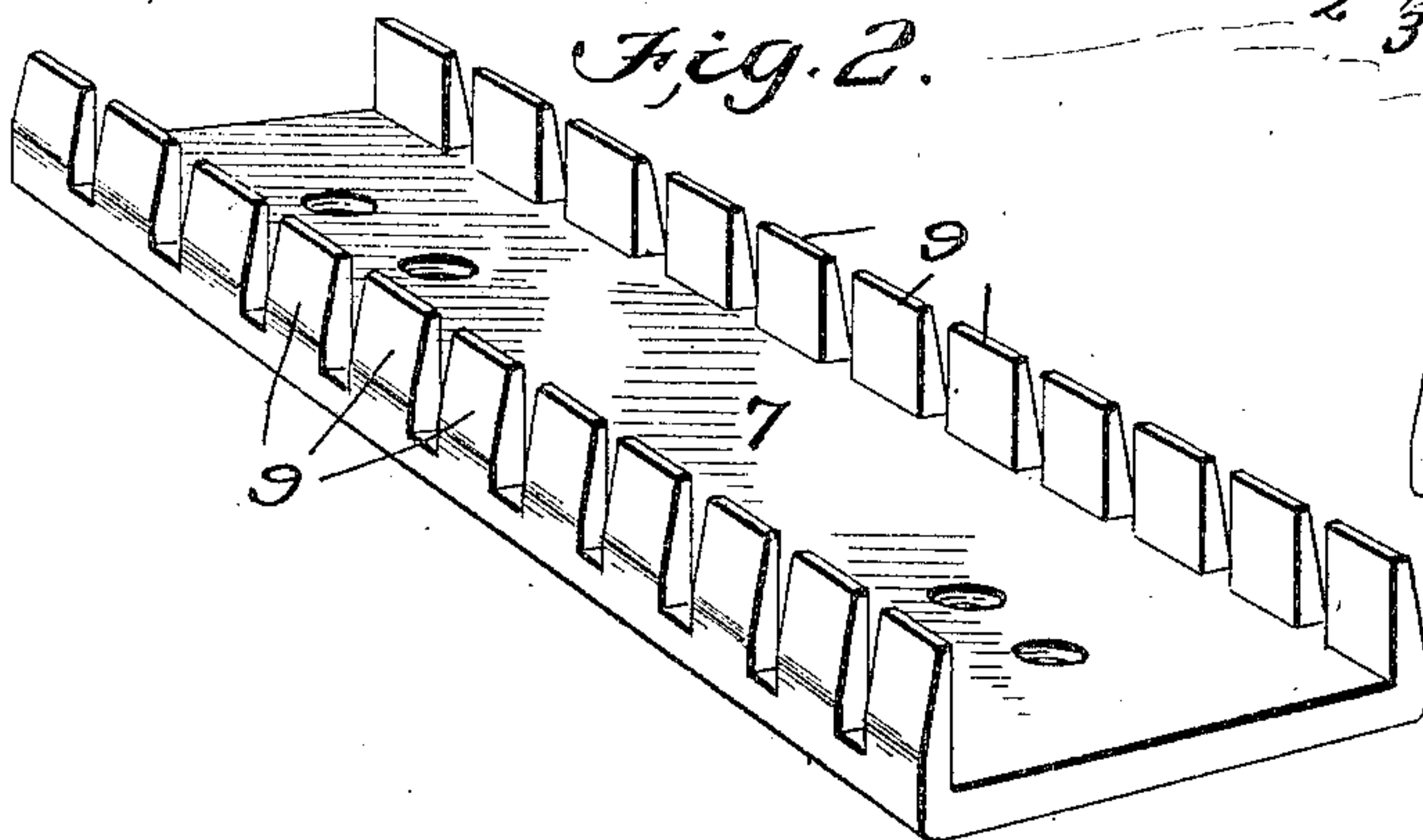


Fig. 3.

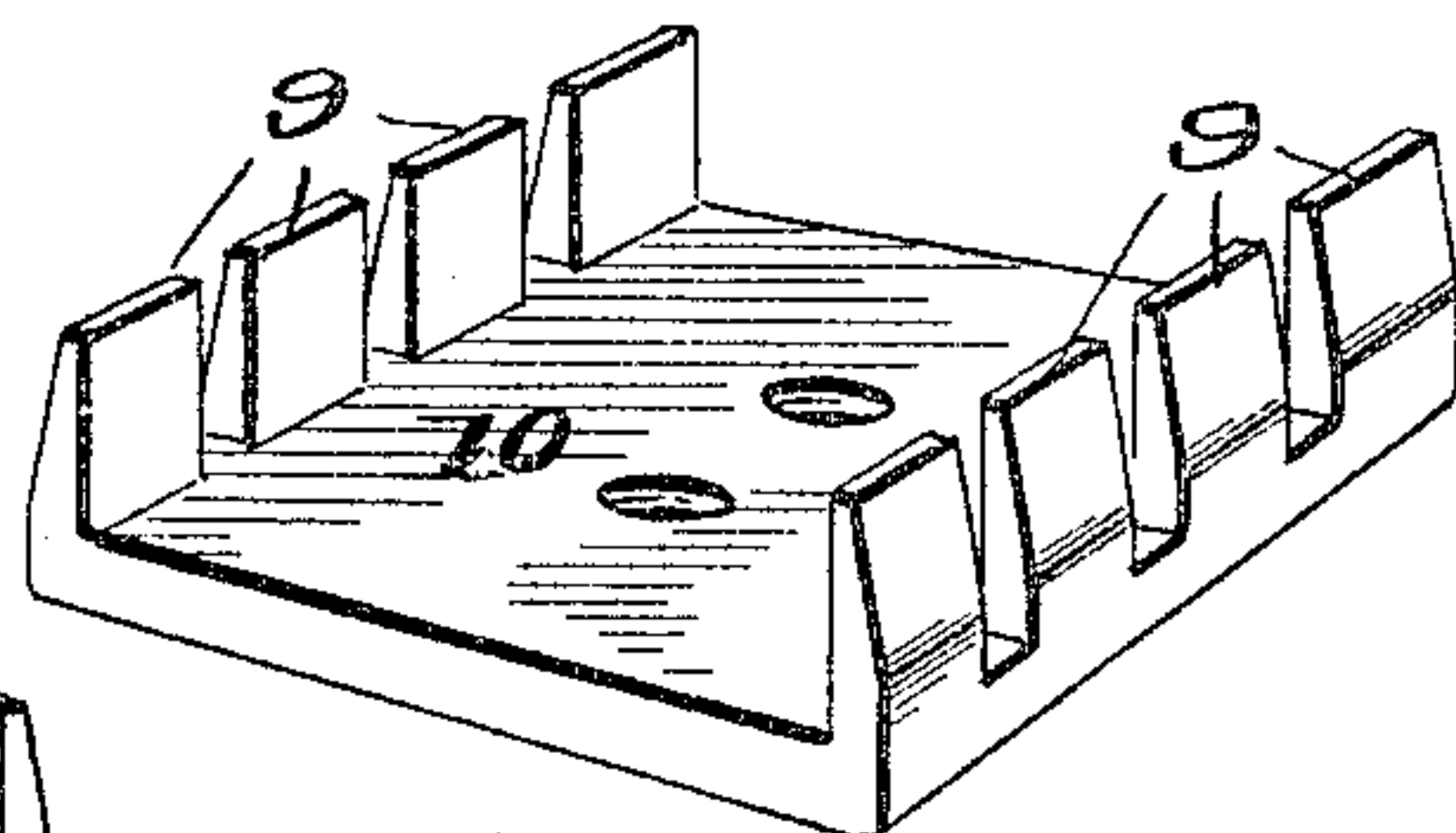


Fig. 3a.

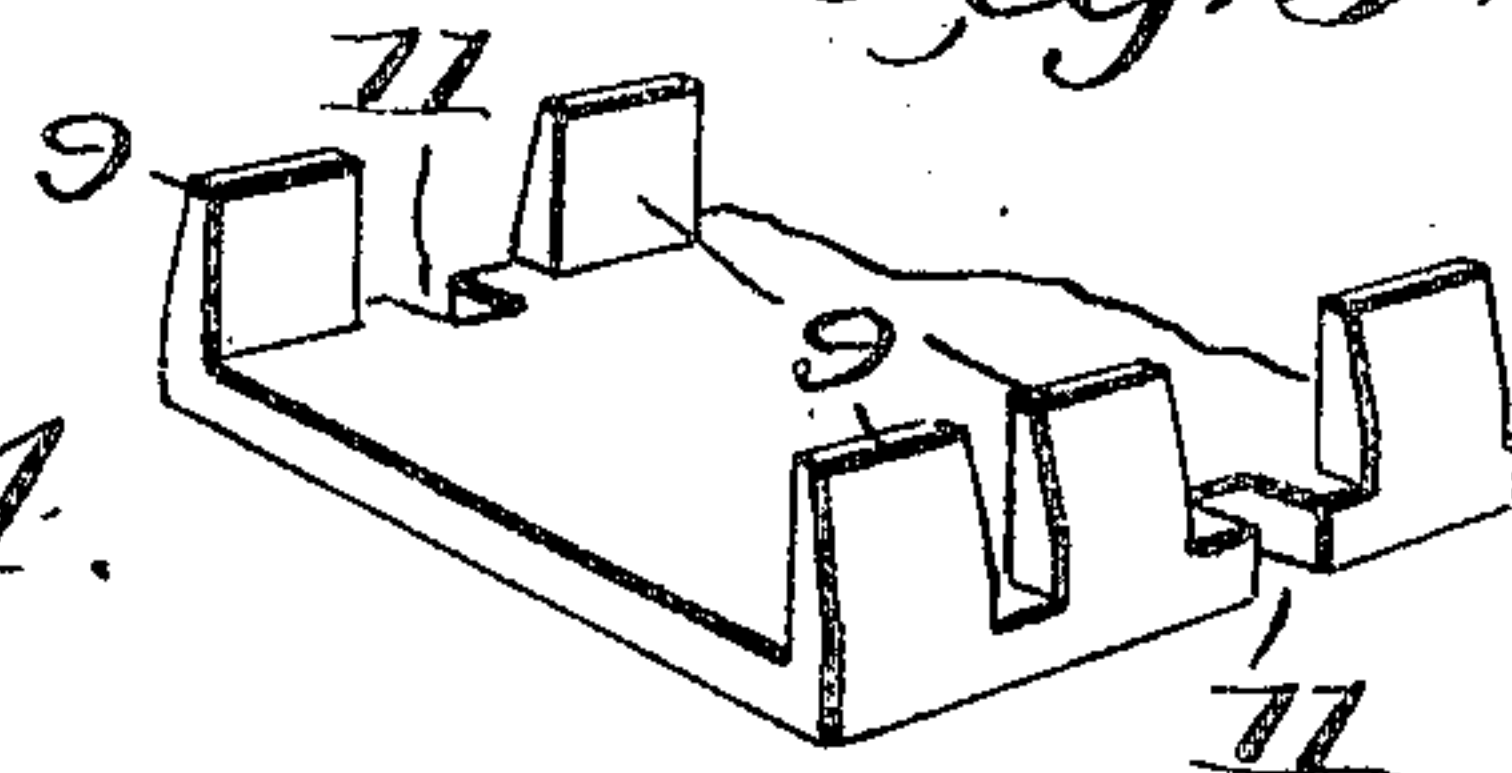


Fig. 4.

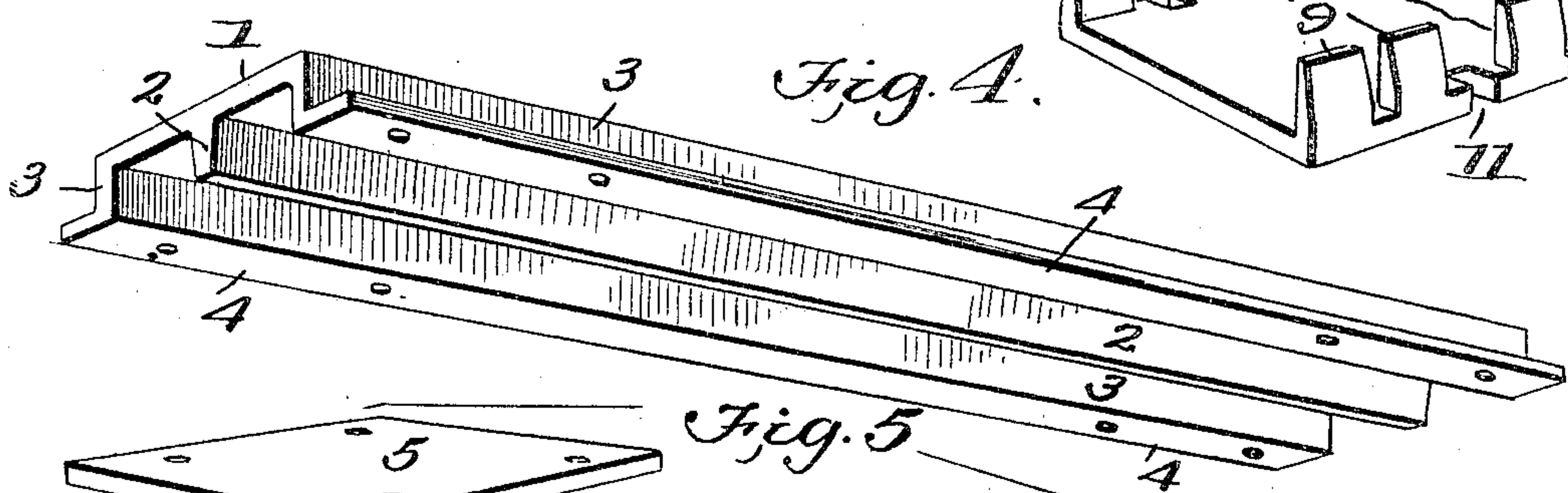


Fig. 5.



WITNESSES:

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Charles H. Miller

INVENTOR

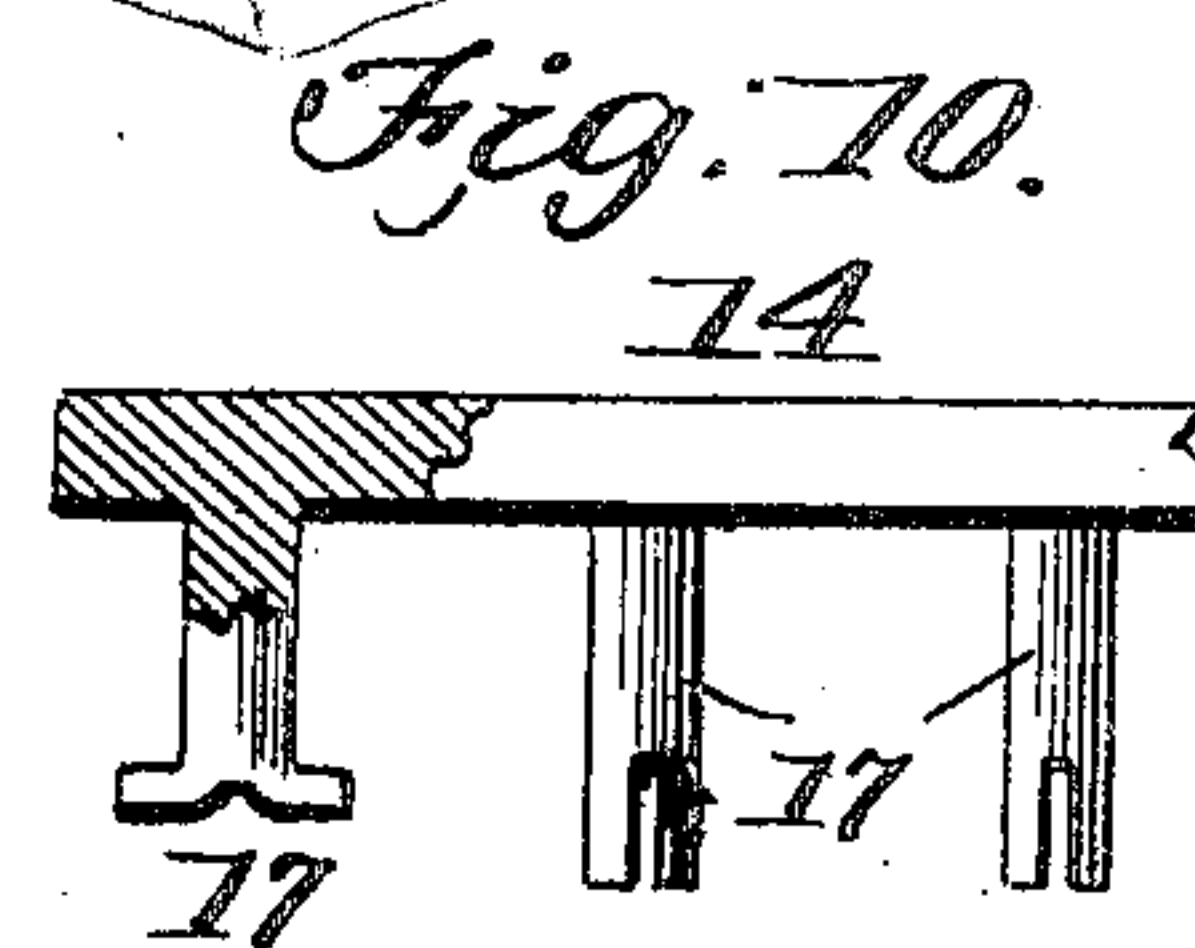
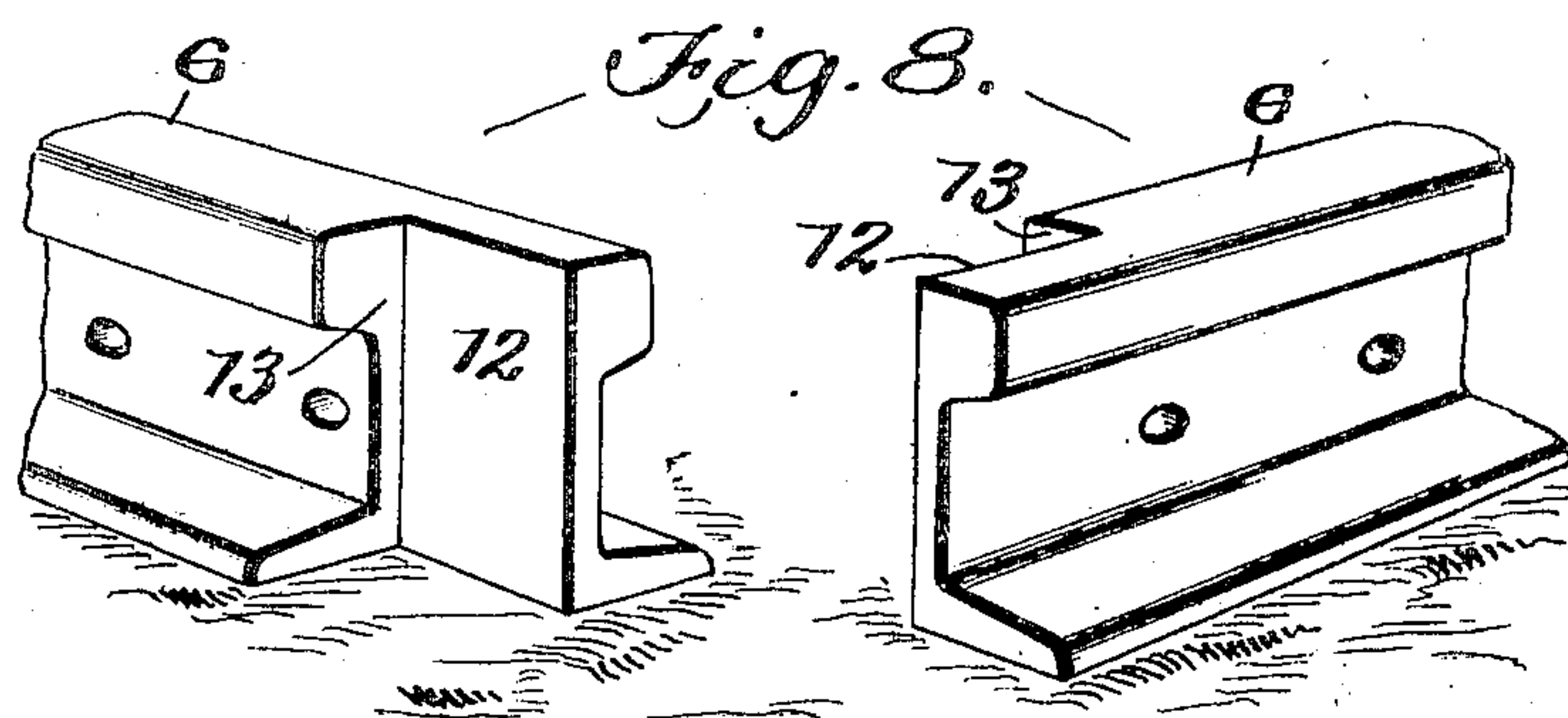
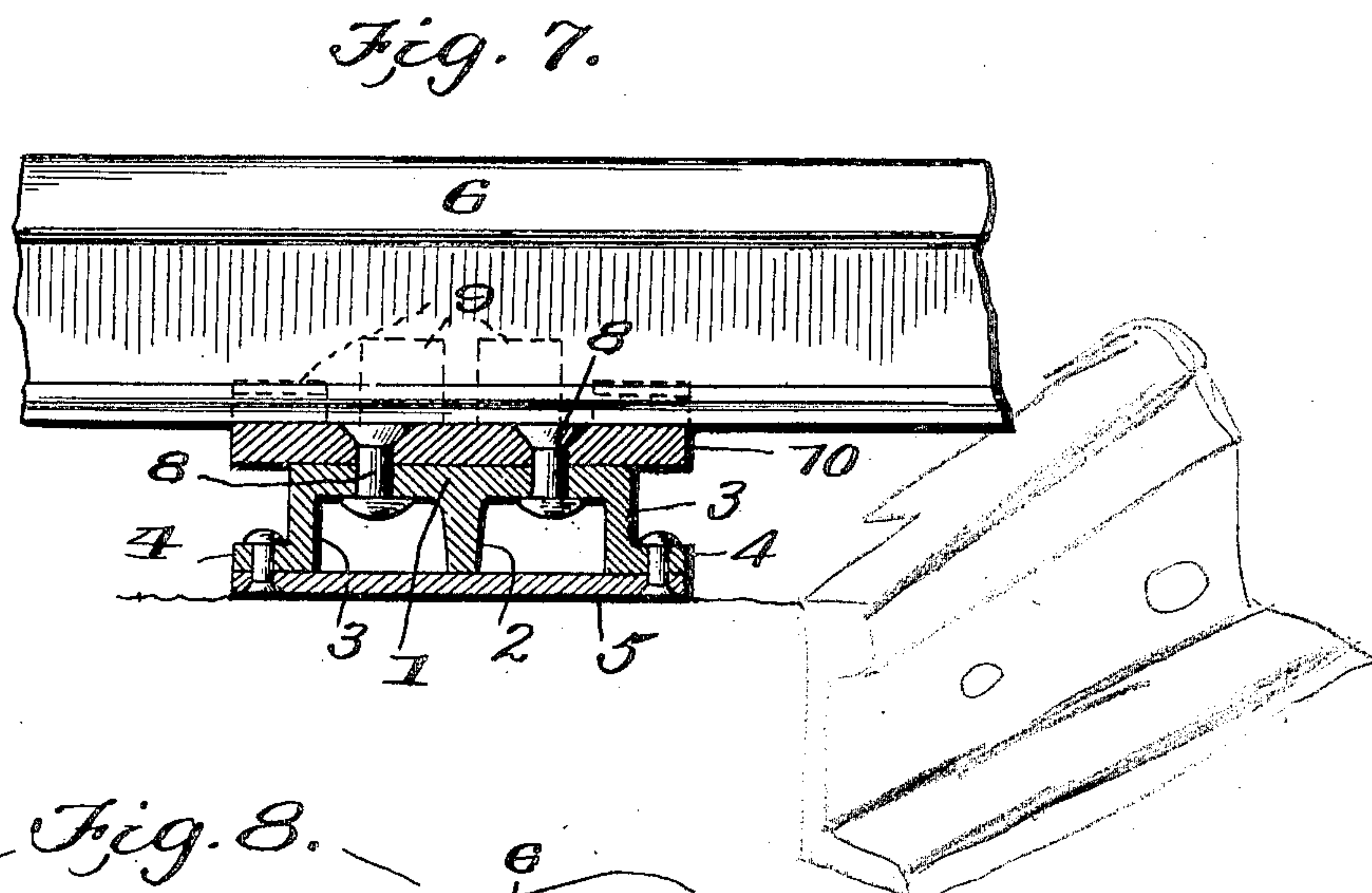
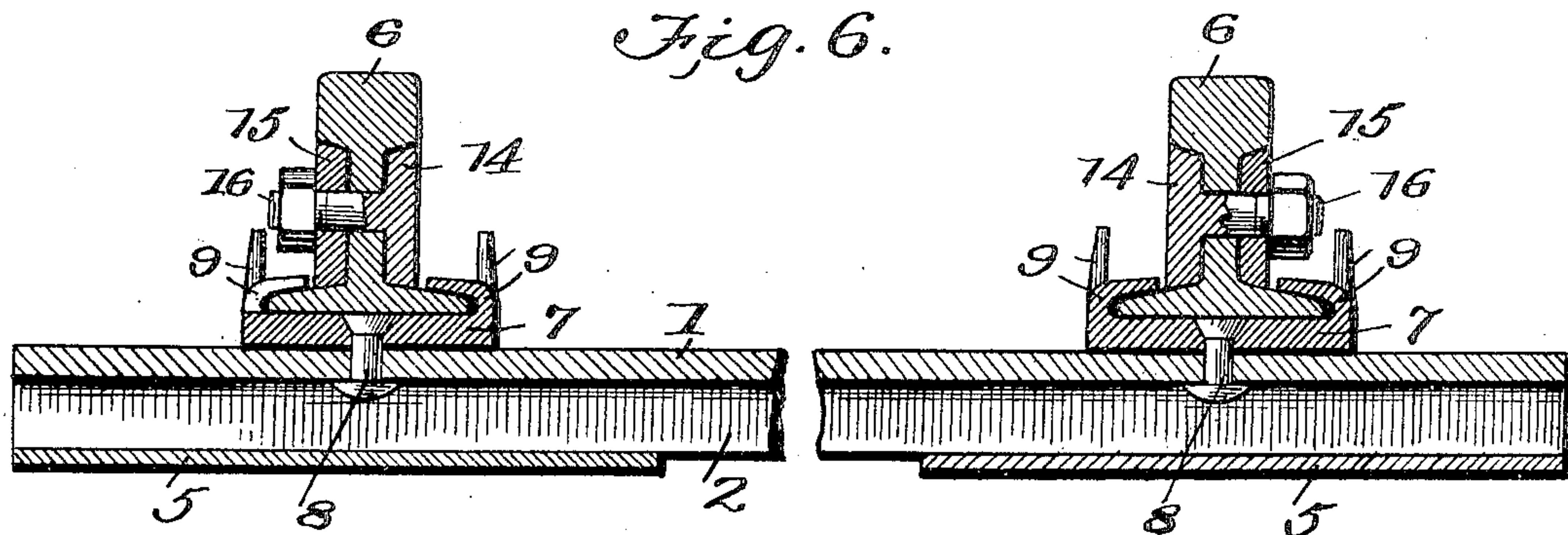
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PATENTED NOV. 14, 1905.

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2 SHEETS—SHEET 2.



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RAILWAY-TRACK CONSTRUCTION.

No. 804,336.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed February 27, 1905. Serial No. 247,531.

To all whom it may concern:

Be it known that I, JOHN OWEN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Track Construction; and I 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.

The object of my invention is to provide a railway-track construction embodying certain improvements in the stringers or ties, in the means for fastening the rails to the ties both at the joints and intermediate the joints, and in the rail-joints themselves which will result in the rails being supported and held perfectly rigid and secure from spreading and similar defects and which will enable the rails to be easily applied and removed without detracting from the features of stability and durability by which my improved track construction is characterized.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a railway-track embodying my invention. Fig. 2 is a perspective view of one form of rail-chair designed to constitute a base bridge-piece at the joints of the rails. Fig. 3 is a similar view of the same form of rail-chair designed for the support of the rails where the joints do not occur. Fig. 3^a is a similar view of a slightly-modified form of chair. Figs. 4 and 5 are perspective views illustrating in substantial juxtaposition the metallic stringer or tie and its base-plates. Fig. 6 is a transverse sectional view of the track construction, the section being taken through a tie. Fig. 7 illustrates a portion of a rail in side view and one of the ties in cross-section. Fig. 8 illustrates in perspective the scarf-joint of the rails. Figs. 9 and 10 are detail views of fish-plates employed in the rail-joint.

Referring to the drawings, the numeral 1 designates the metallic stringers or cross-ties, each of which is of inverted-trough shape, with a central longitudinal web 2 and with sides 3, which extend downwardly at right angles to the top and terminate in outwardly-extending flanges 4, disposed at right angles to the sides. Each tie is provided with flat base-plates 5, secured, preferably, by rivets to the flanges 4 and extending across the bottom of the tie in contact with the web 2, said base-

plates constituting bearing-surfaces sufficiently broad to render the road-bed stable as against depressions, while at the same time minimizing the amount of ballast necessary.

At the joints of the rails 6 are positioned chairs 7, which are securely fastened to the tops of the ties by rivets 8 passing therethrough and through the tie at opposite sides of the web 2, as shown best in Fig. 7, such chairs being of a length to extend from one tie to the next, so as to constitute base bridge-pieces for the rails, which rest on them, and being provided at each side edge with a series of upwardly-extending locking members in the form of ears 9, designed to be bent inwardly around the base-flanges of the rail to clench the same and bind the rail securely in its place on the chair. Preferably only sundry of the ears are so bent when the chair is first used, the remaining constituting extra ears for use if any of the others become broken off by repeated bending in the operation of removing and replacing the rails. At those ties where the joints of the rails do not occur I may use chairs 10, similar to the chairs 7, except that the former do not extend from one tie to the next, but are about the width of the tie. Fig. 3^a illustrates a chair of this character provided with recesses 11 to accommodate spikes, if it is desired to use this construction of chair on a wooden cross-tie.

As shown in Figs. 1 and 8, the joint of the rails is scarfed with right-angular walls 12 13, respectively, parallel and at right angles with the length of the rails, and the walls 12 are, moreover, directly on the median line of the rails. This formation tends to obviate any jar or oscillation of the cars when riding over the joints, and at the same time it does not weaken the rail at the joint as diagonal scarfing would.

The rails are secured together at the joints by pairs of fish-plates, of which one in each pair, designated 14, is provided with fastening-pins that are integral with it and that extend through the rail and opposite fish-plate 15. These pins may be of the form shown at 16 in Fig. 9, with threaded split ends designed to accommodate nuts to bind the two fish-plates securely against the joint, the split ends allowing either for expansion against the nut or for bending the ends back against the nut after the latter has been screwed tight, or the pins may be of the form shown

at 17, Fig. 10, without threads and designed to fasten the fish-plates by the split ends being bent outwardly, as indicated in said figure.

In assembling the construction the chairs 5 are first riveted to the ties, and the base-plates are then riveted to the ties, thereby insuring a perfectly-rigid structure.

It will be seen that I have provided an efficient railway-track construction character- 10 ized by lightness, durability, and means for securing the rails rigidly in place with permanency and yet in such a manner that they may be readily removed and replaced.

I claim as my invention—

15 1. A railway-track construction, comprising a rail, a metallic tie of inverted-trough shape provided with a central web and outwardly-extending flanges, a chair interposed between the rail and tie and provided with se- 20 curing means fastened on the under side of the tie, said chair being provided at its sides with upwardly-extending ears designed to be bent around and clench the base-flange of the rail, and base-plates fastened to said flanges 25 and extending across the bottom of the tie.

2. In a railway-track construction, a rail, and a chair for said rail provided along each side edge with a plurality of clamping-ears bent into engagement with the base-flange of 30 the rail and also with a plurality of ears extending upright and designed to be bent over the side flange in the event of the ears previously bent becoming destroyed.

3. A railway-track construction, compris- 35 ing a rail, a metallic tie provided with sides extending downwardly at right angles to the top and with flanges extending outwardly at right angles to the sides and also provided with a longitudinal web, a chair interposed 40 between the rail and tie and provided with clamping members engaging the rail, and with securing means fastened on the under side of

the tie, and base-plates fastened to said flanges and extending across the bottom of the tie, as and for the purpose set forth. 45

4. A railway-track construction, comprising rails, a metallic tie of inverted-trough shape, with a flat top, sides that extend downwardly at right angles to the top, and outwardly-extending flanges disposed at right an- 50 gles to the sides, said tie being also provided with a central longitudinal web, chairs interposed between the rails and the tie and being provided with rivets extending through the top of the latter on each side of said web and 55 fastened at the under side of the top of the tie, said chairs being also provided with upwardly-extending ears designed to be bent inwardly around the base-flange of the rail, and base-plates fastened to said flanges and ex- 60 tending across the tie in contact with said web and constituting a foundation for the tie and a protection for said rivets.

5. A railway-track construction, comprising rails, a metallic tie of inverted-trough 65 shape provided with a central longitudinal web, chairs interposed between the rails and tie and provided with locking members designed to secure the rail in place thereon, said chairs being also provided with means for fas- 70 tening them to the tie at points underneath or within the trough thereof, and base-plates secured to the tie and extending across the same and constituting a foundation for the tie and a protection for said chair-fastening 75 means.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN OWEN.

Witnesses:

RICHARD T. GRIFFITHS,
GEO. L. McCLEARY.