

G. W. SUTHERLAND.  
RAIL CHAIR.

APPLICATION FILED APR. 10, 1908.

899,354.

Patented Sept. 22, 1908.

Fig. 1.

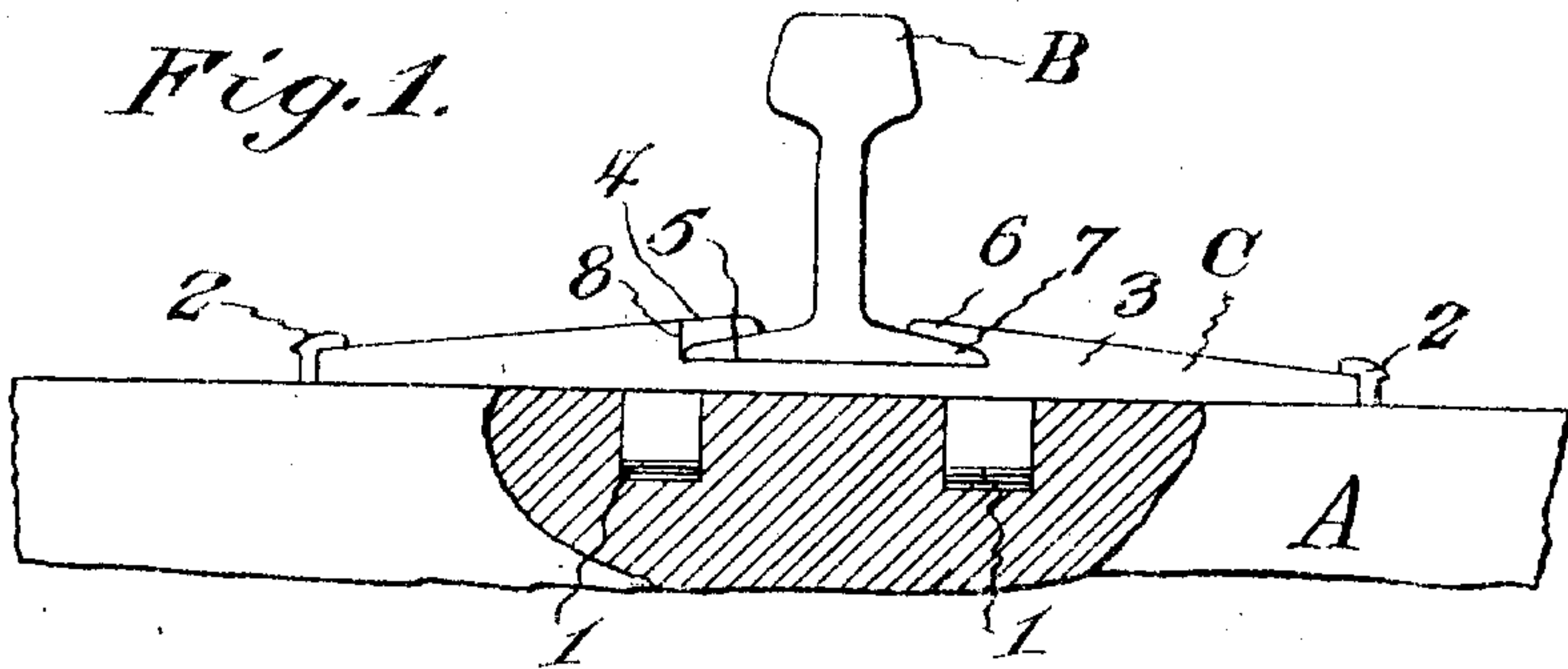


Fig. 2.

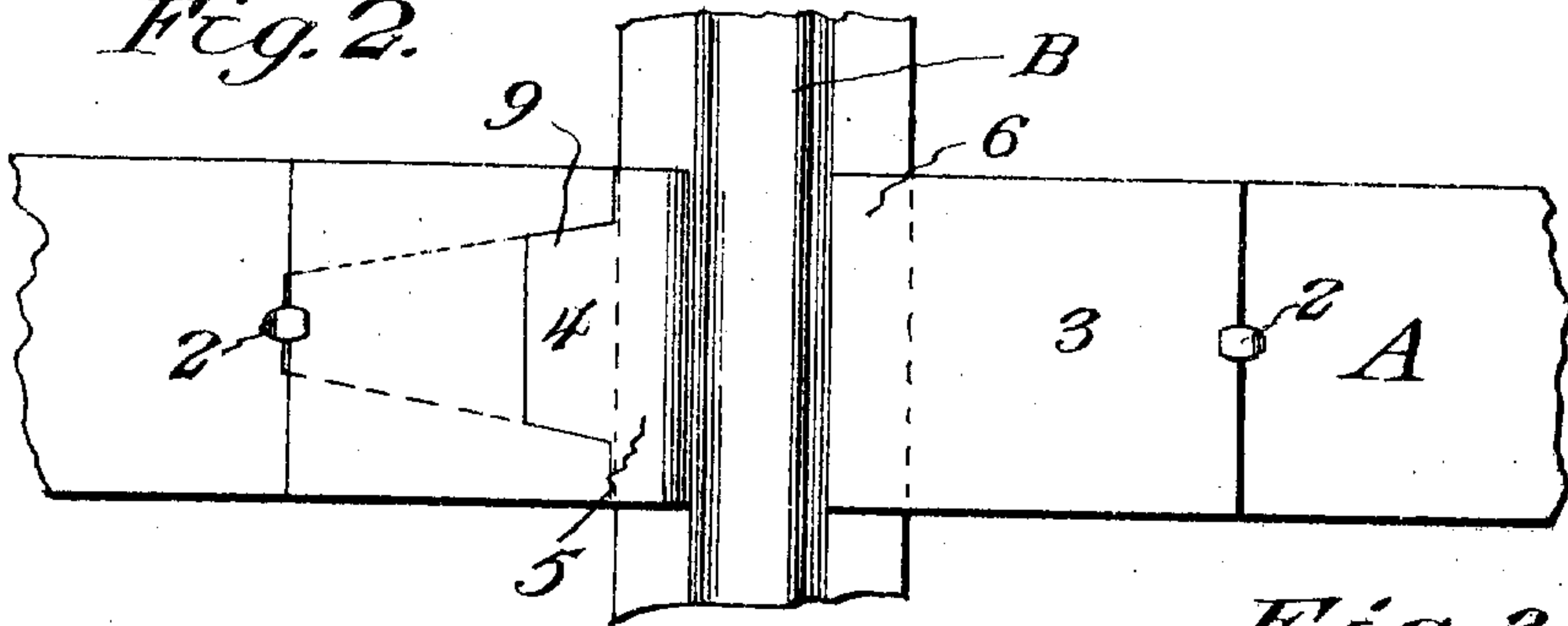


Fig. 3.

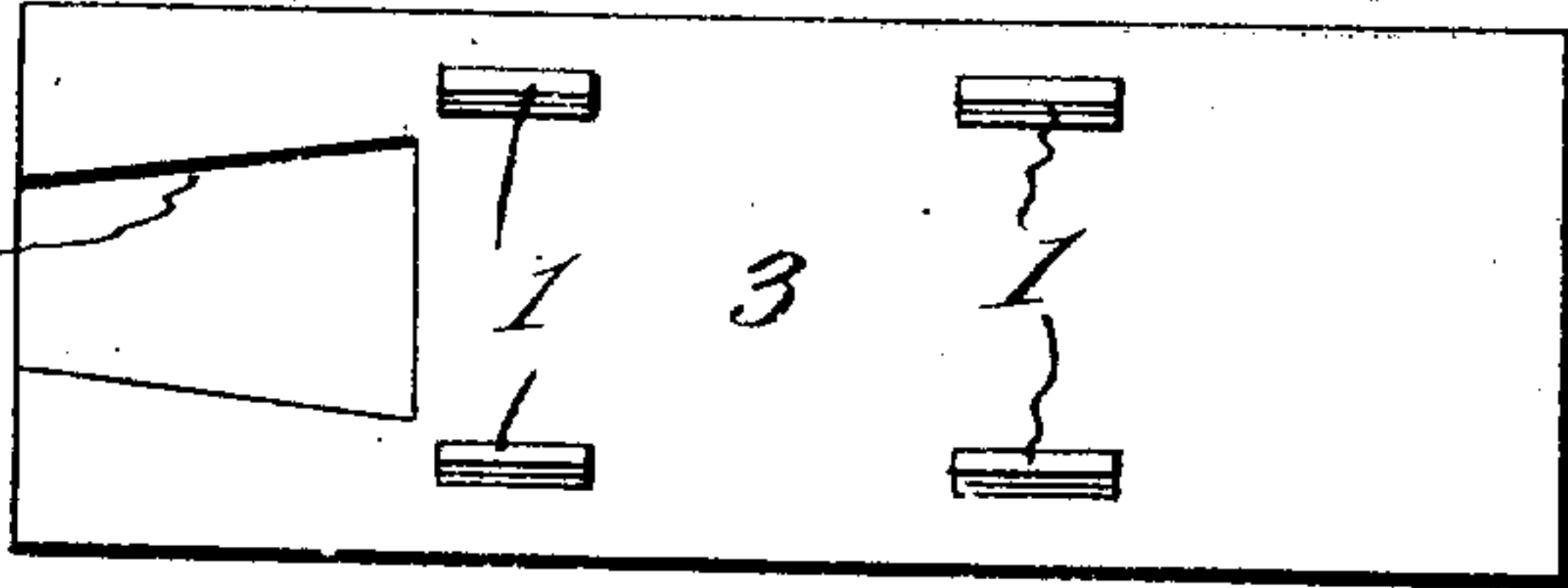


Fig. 5.

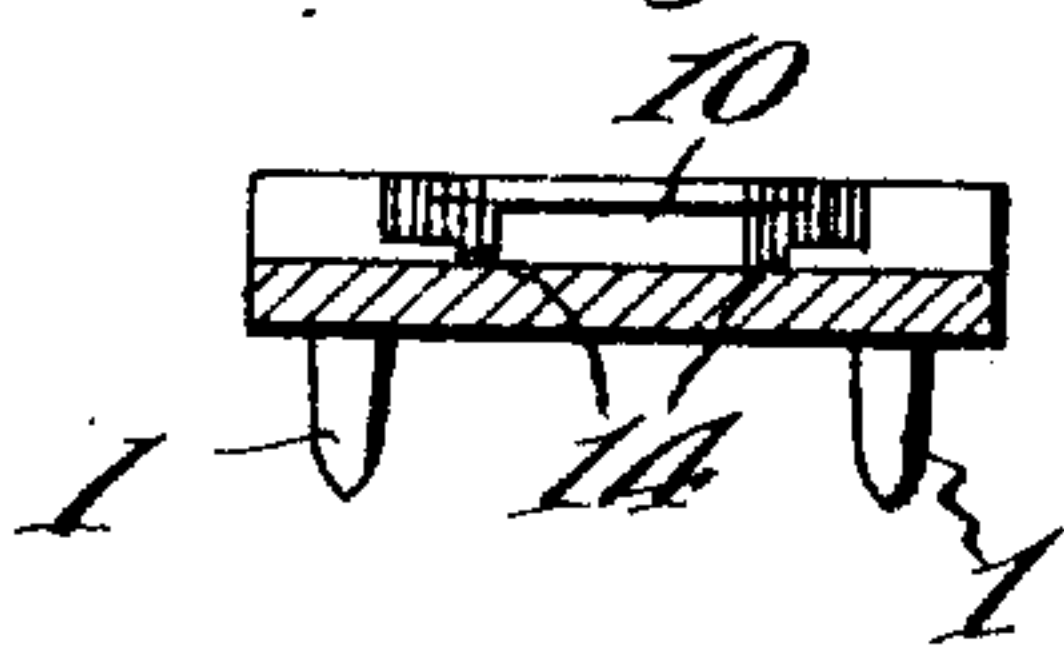


Fig. 7.

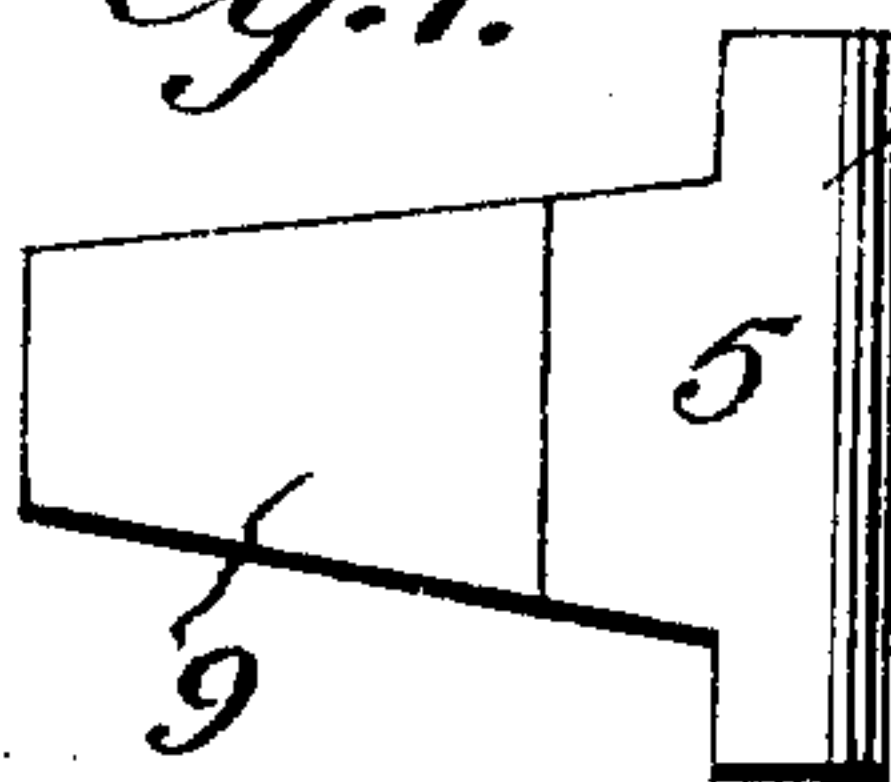


Fig. 4.

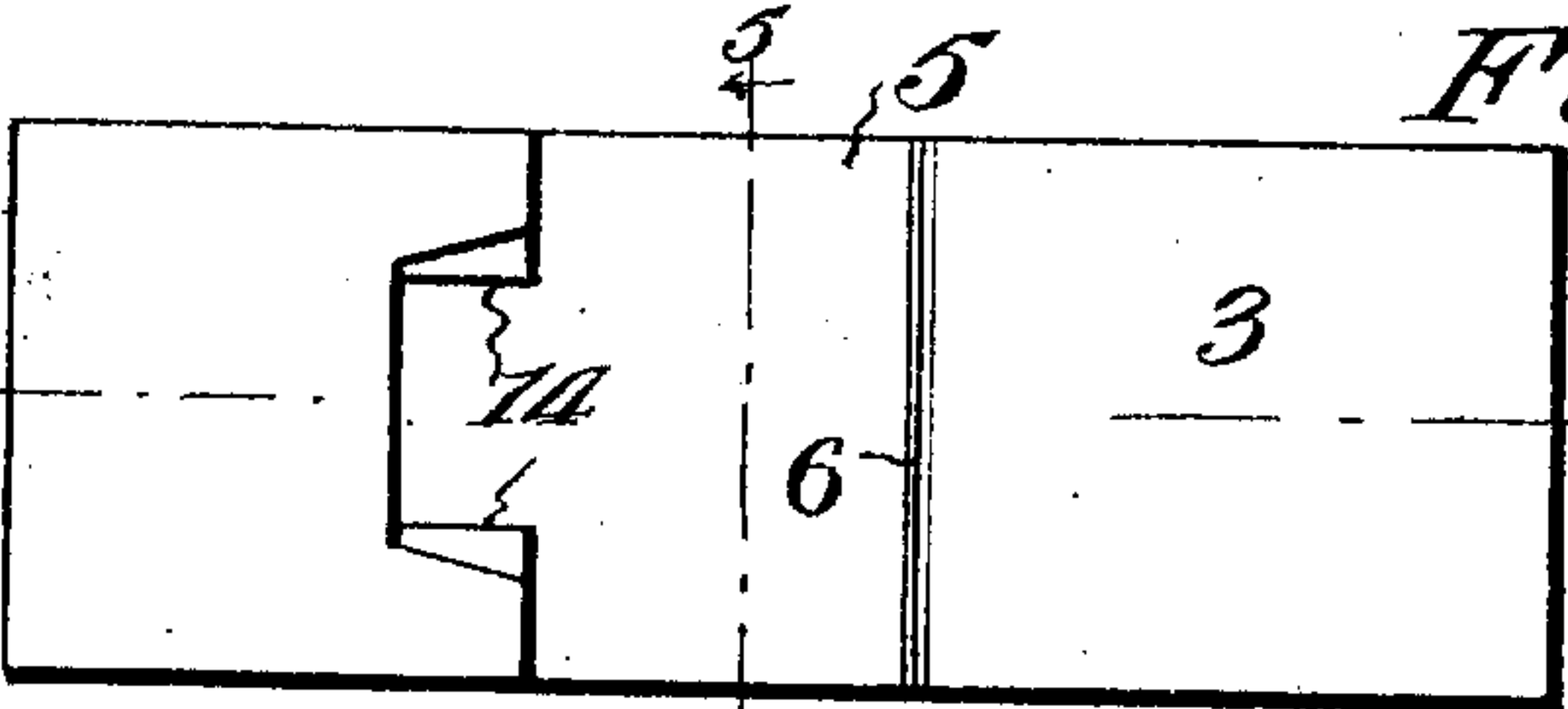
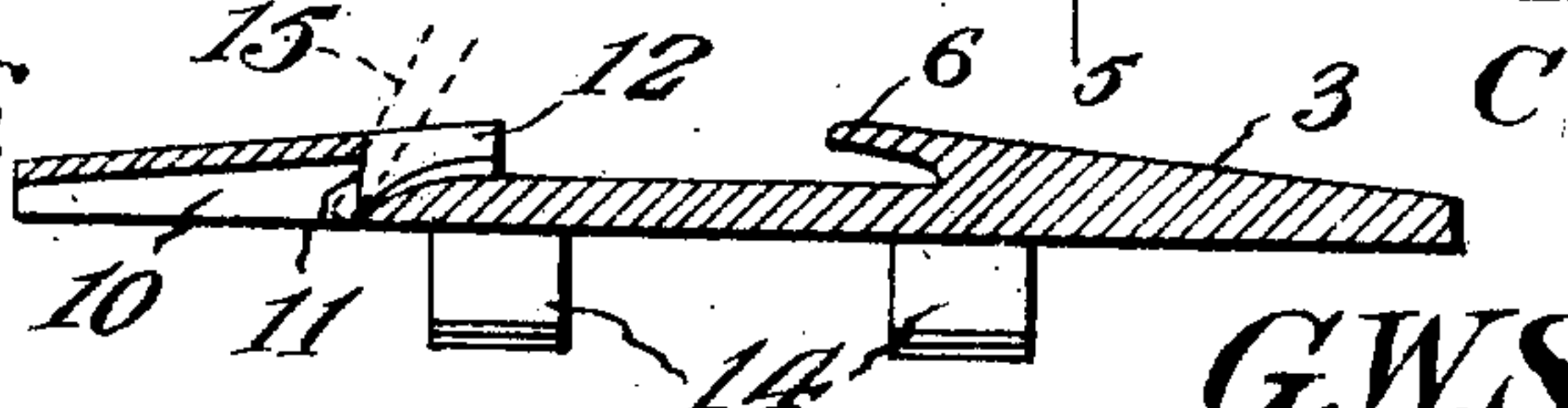
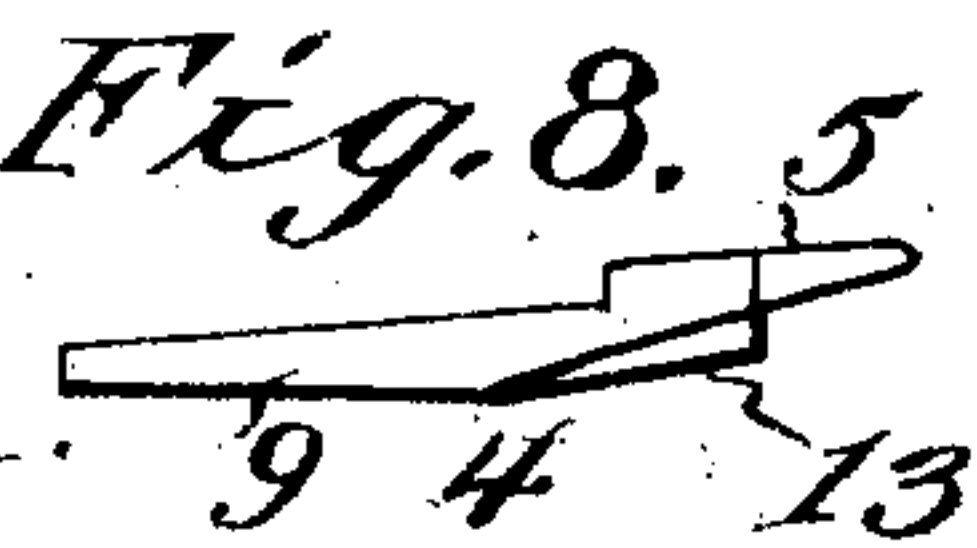


Fig. 6.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## RAIL-CHAIR.

No. 899,354.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed April 10, 1908. Serial No. 426,378.

*To all whom it may concern:*

Be it known that I, GEORGE W. SUTHERLAND, a citizen of the United States, residing at Newport, in the county of Stevens and State of Washington, have invented new and useful Improvements in Rail-Chairs, of which the following is a specification.

This invention relates to railroad track construction, and more particularly to chairs for securing the rails to the cross-ties.

The invention has for one of its objects to improve and simplify the construction of devices of this character so as to be comparatively easy and inexpensive to manufacture, and so designed that the rails can be quickly and conveniently laid or removed.

Another object of the invention is to provide an improved rail chair which can be rigidly secured firmly to the cross-tie without danger of the rails spreading or up-setting and without unnecessarily marring the tie from heavy traffic, or from repeated repair of the track, since the chairs can be replaced in their original position when new rails are substituted.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a side view of the rail chair applied to a rail and cross-tie. Fig. 2 is a plan view thereof. Fig. 3 is a bottom plan view with the locking member removed. Fig. 4 is a top plan view. Fig. 5 is a transverse section on line 5—5, Fig. 4. Fig. 6 is a longitudinal section on line 6—6, Fig. 4. Fig. 7 is a plan view of the locking member. Fig. 8 is a side view of the same.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, A designates one of the cross-ties of a track on which are laid the rails B of usual construction, the rails being secured in place by chairs C. These chairs are metal plates resting on the tops of the cross-ties and having fasteners 1 in the form of sharpened lugs depending from the plates and penetrating the cross-ties, thereby assisting in preventing movement of the chairs on the latter so as to maintain the

proper gage of the track. The chairs may be further secured in position by spikes 2 driven into the ties at the ends of the chairs.

The chair C is composed of two parts, one comprising a supporting member 3 and the other a locking member 4, the member 4 having a recess 5 for receiving the base of the rail B, one side of the recess being undercut to form a hook or flange 6 extending the full width of the chair and adapted to engage over the base 7 of the rail B projecting from one side of the web thereof. The opposite side of the recess is vertical, as at 8, so that the rail can be lowered into the recess after the base of the rail is partly inserted under the hook 6. After the rail is placed on the member 3 of the chair, the locking member 5 is inserted so as to lock the rail in position. The member 5 is shaped to correspond to the hook or flange 6 so as to engage the base of the rail in the same manner as such hook, and the member 5 has a tapering tail 9 that fits in a correspondingly-shaped chamber 10 that is open at the bottom of the main member 3, as clearly shown in Figs. 3 and 6, the said chamber or pocket 10 leading into the recess 5 through an opening 11, the recess having an off-set portion 12 whose opposite walls are continuations of the converging walls of the chamber 10 so as to fit the tail 9 of the member 5. The bottom of the locking member 5, as shown in Fig. 8, has a projection 13 that fits between the parallel walls 14, Fig. 4, said walls serving to guide the locking member as the latter is inserted. The rail chair constitutes an automatic lock and the weight of the train passing over the track firmly locks the chairs to the rails. Furthermore, the chairs protect the ties from being cut by the rails under heavy traffic.

In laying the rails, the chairs are applied to the latter by inserting the bases of the rails under the flanges 6, and after the rails are completely seated in the recesses 5, the locking members are inserted in the chambers 10 by holding the said members in the position indicated by dotted lines at 15, Fig. 6. After the locking members are inserted as far as they can be, they are moved so as to be brought into engagement with the bases of the rails, so that their tails will be flush with the bottoms of the chairs. After the chairs are thus applied, they are secured to the cross ties by forcing the fastening members 1 into the ties. The spikes 2, which are next driven into the cross-ties to



hold the chairs in place are located at the ends of the latter, one of the spikes serving to force the locking members 5 inwardly in firm engagement with the rails.

5 From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described  
10 the principle of operation, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely  
15 illustrative, and that such changes may be made when desired as are within the scope of the claims.

Having thus described the invention, what I claim is:—

20 1. A rail chair comprising a supporting member of such length as to extend beyond opposite sides of the rail, integral fastening lugs depending from the member for penetrating a cross-tie, said member having a re-  
25 cess provided with an undercut wall and also

having a chamber communicating with the recess and open at the bottom of the chair, and a locking member adapted to engage over the base of the rail and provided with a tail portion disposed in the said chamber, 30 and extending through the opening of the chamber and under the supporting member.

2. A rail chair comprising a plate having a transversely-extending recess at its top and a longitudinally-extending chamber commu- 35 nicating with the recess and open at the bottom of the plate, the opposite walls of the chamber converging outwardly from the recess, a locking member disposed in the chamber and arranged to engage over the base of 40 a rail at one side thereof, and means on the plate to engage the base of the rail at the opposite side.

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

GEORGE W. SUTHERLAND.

Witnesses:

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FRED. STEVENS.