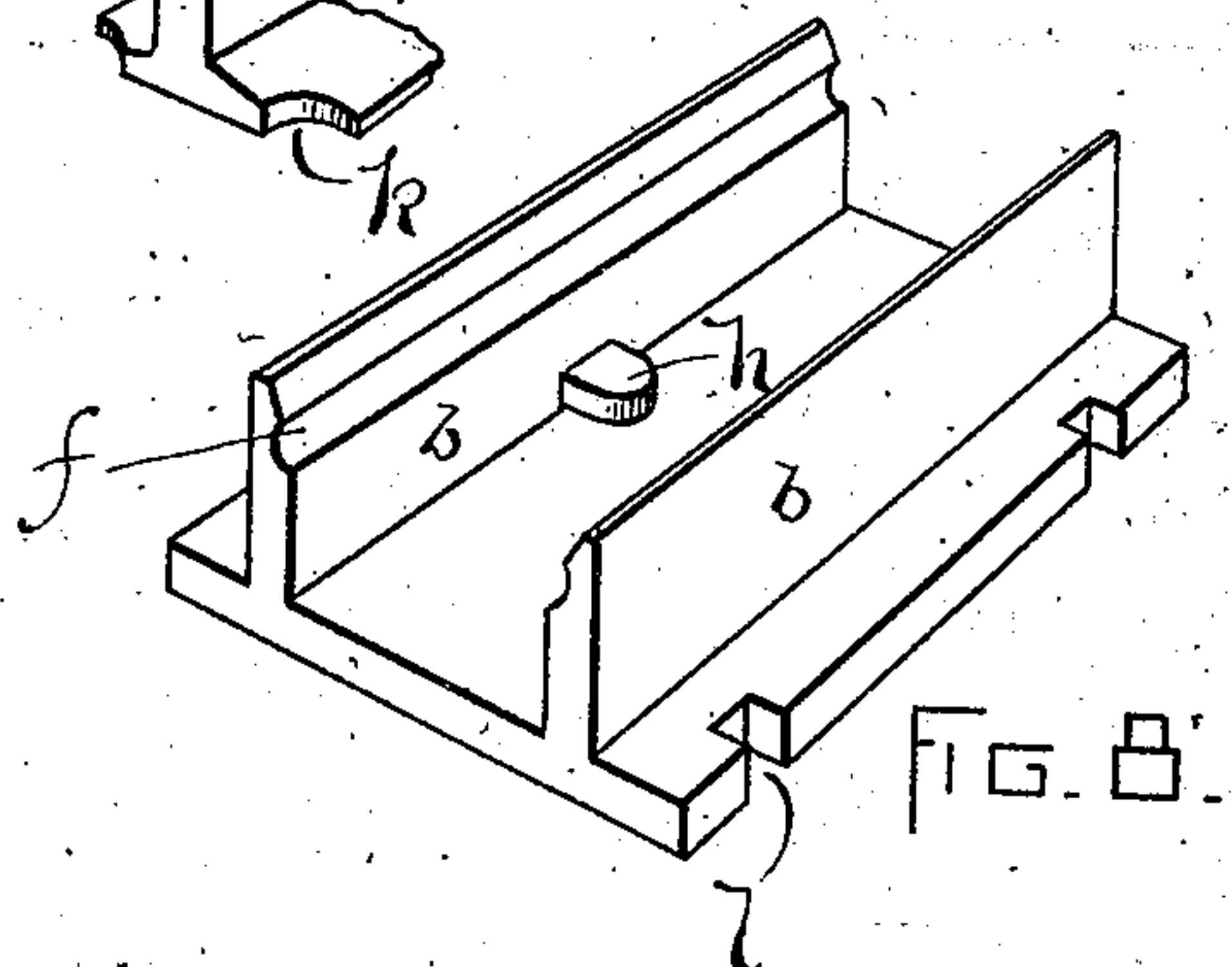
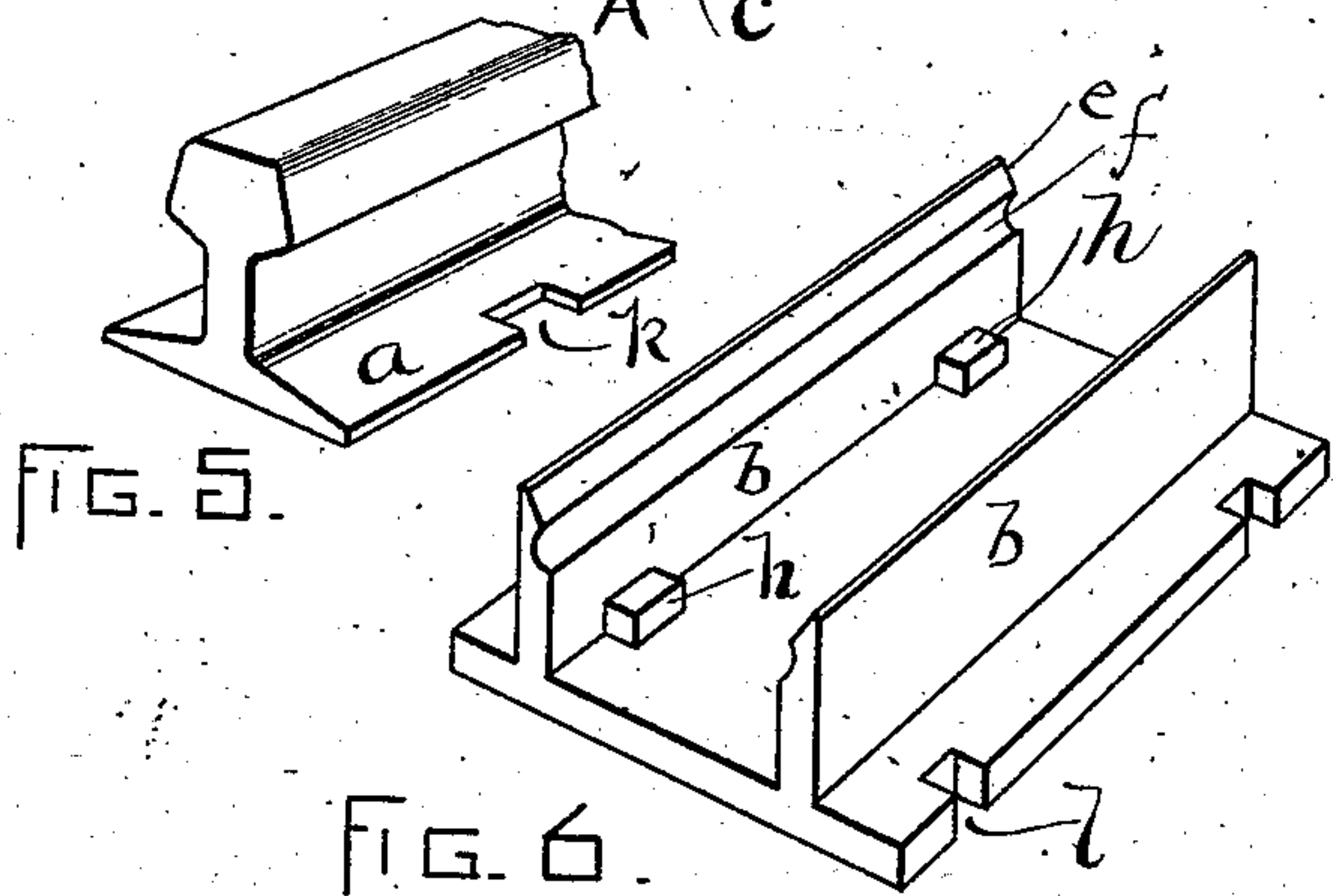
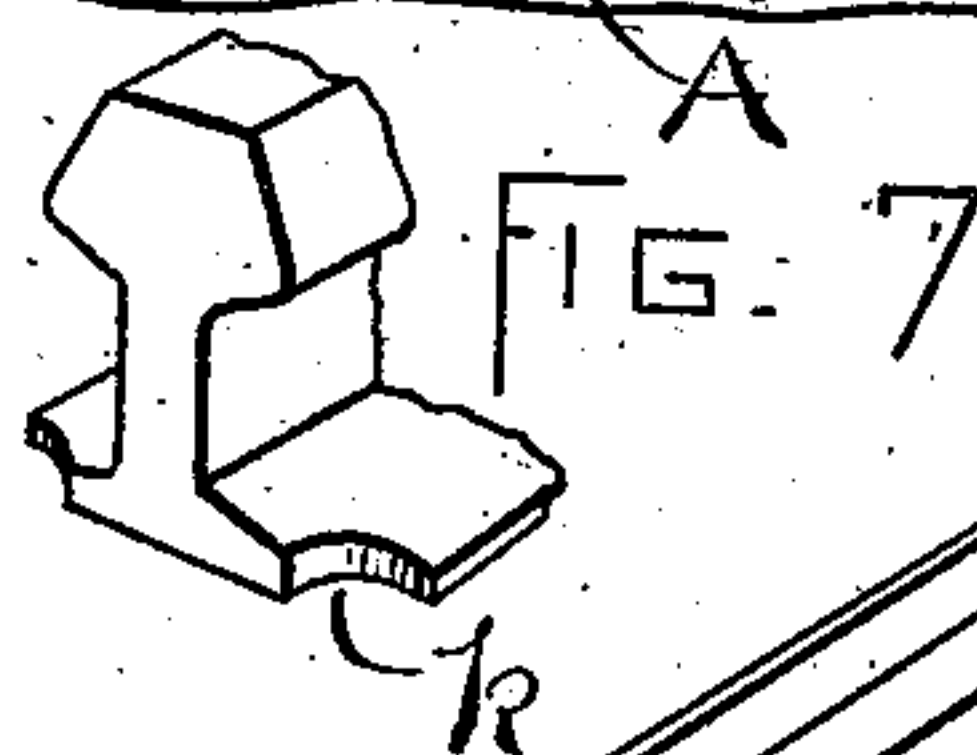
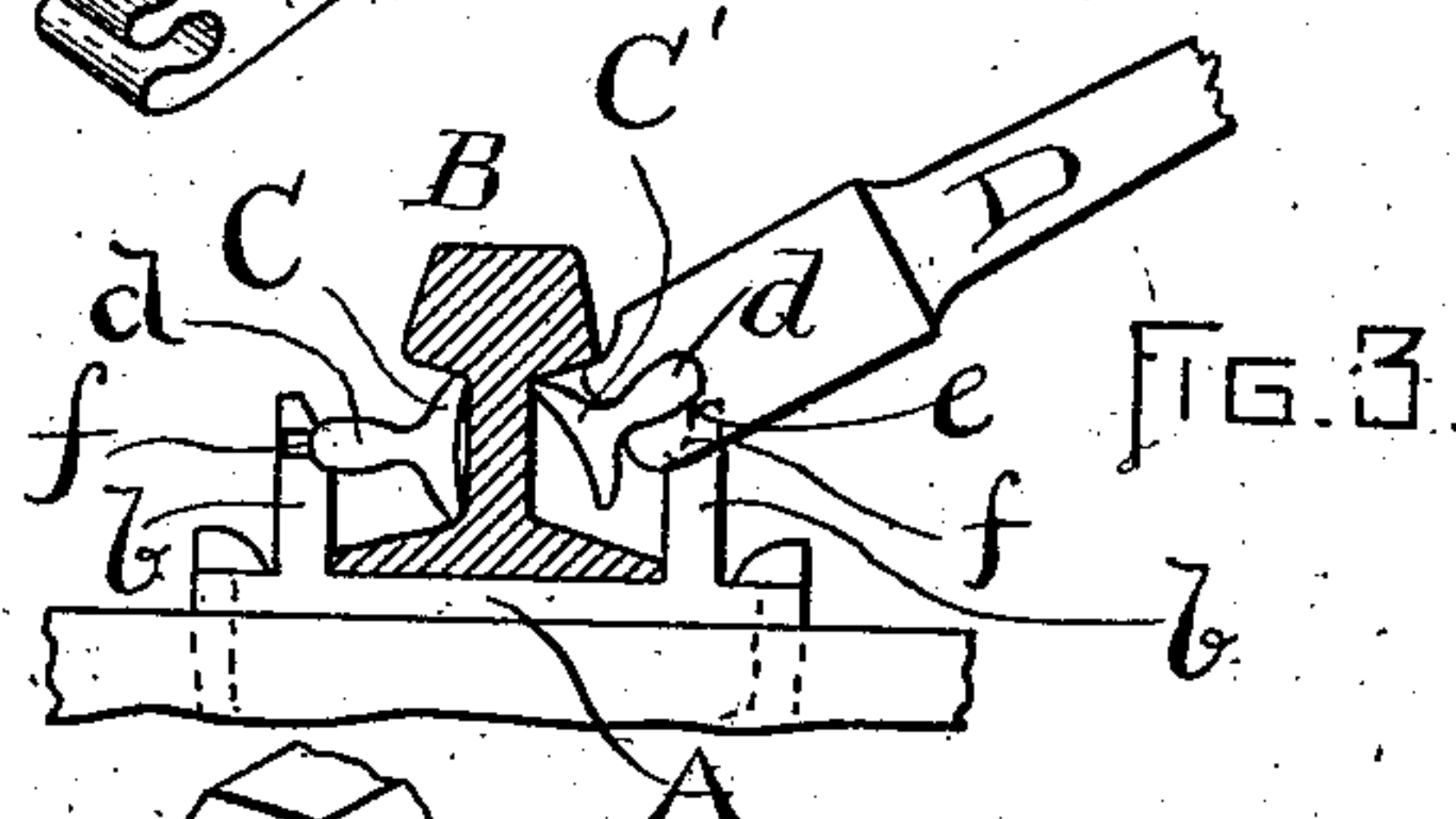
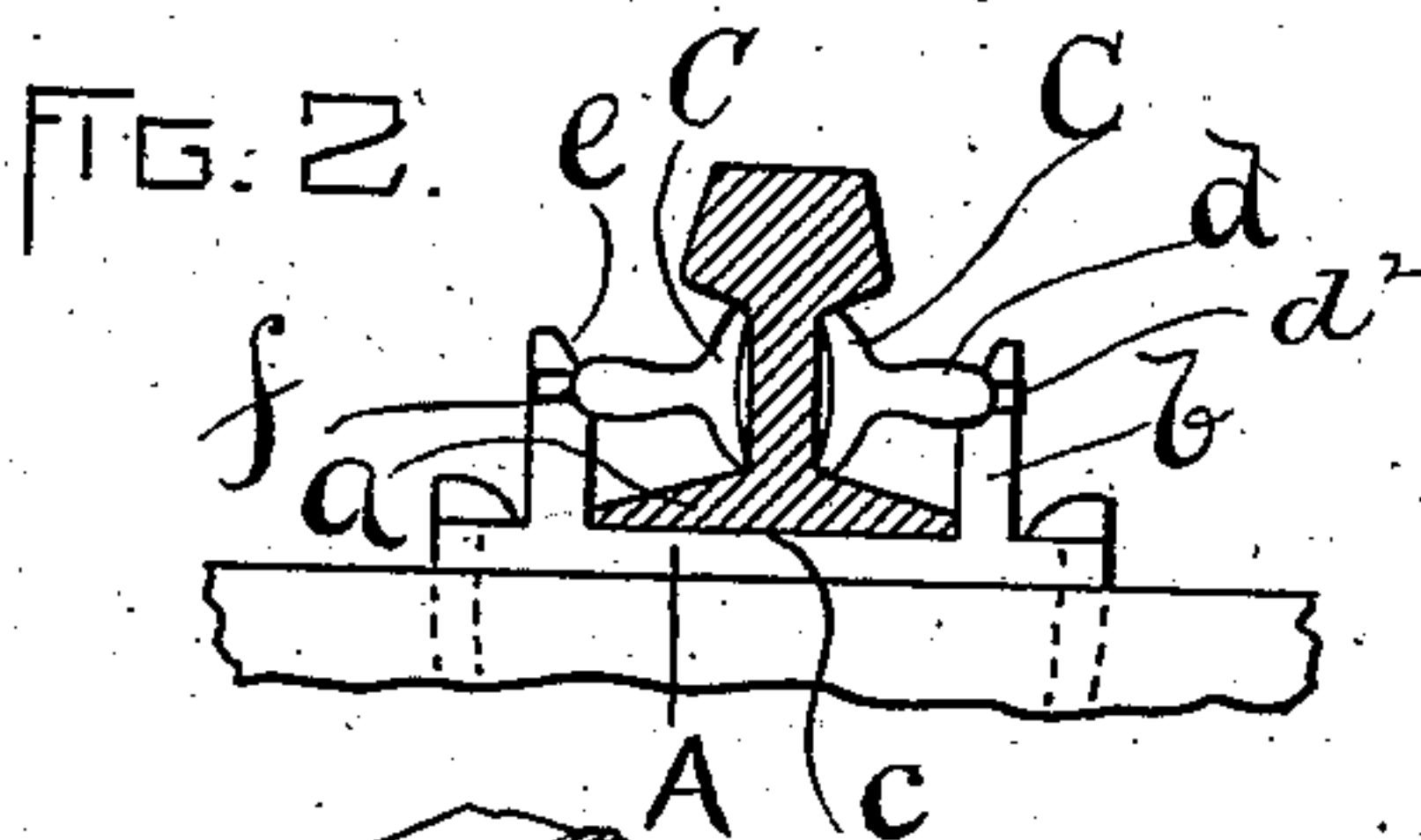
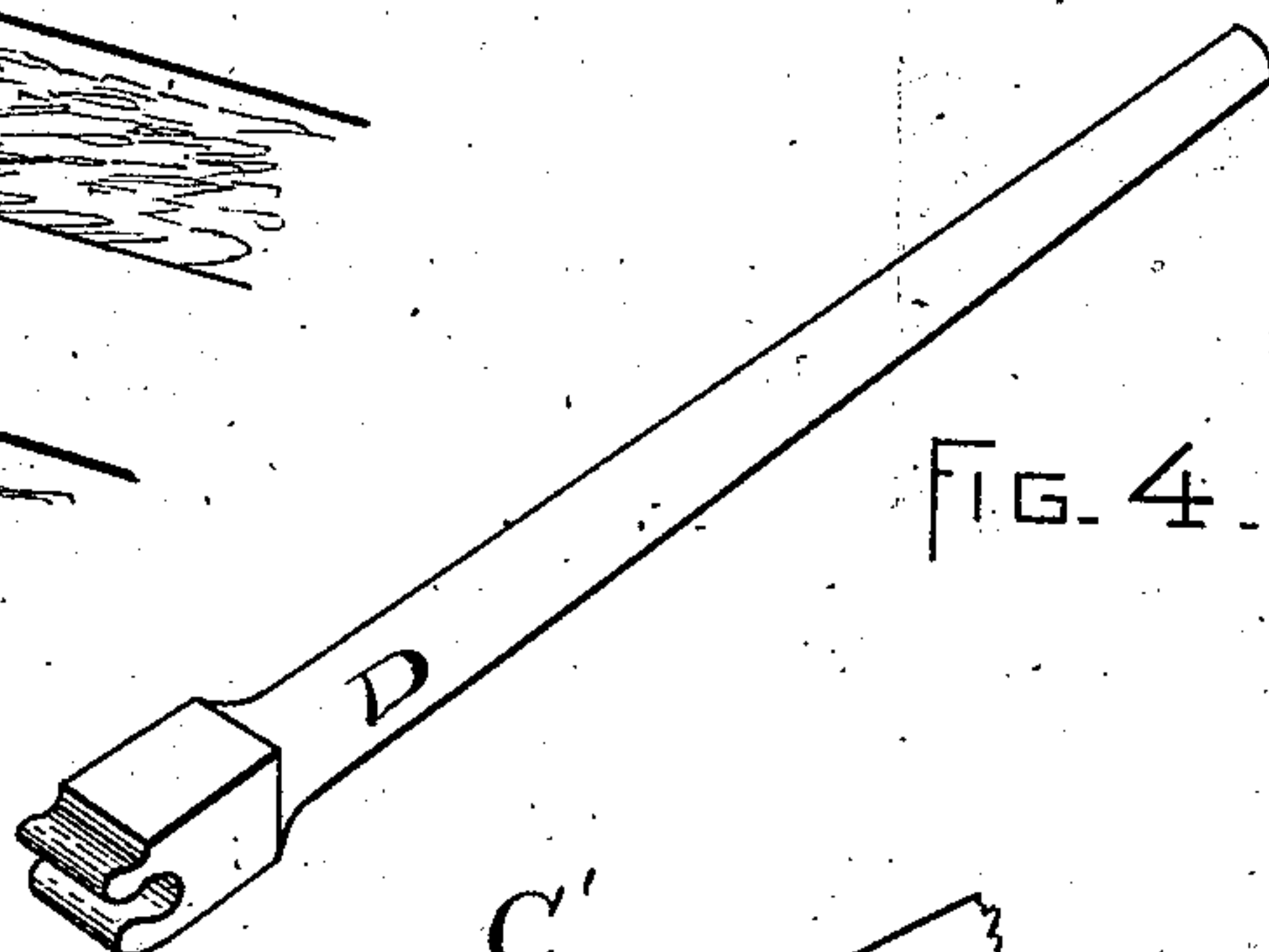
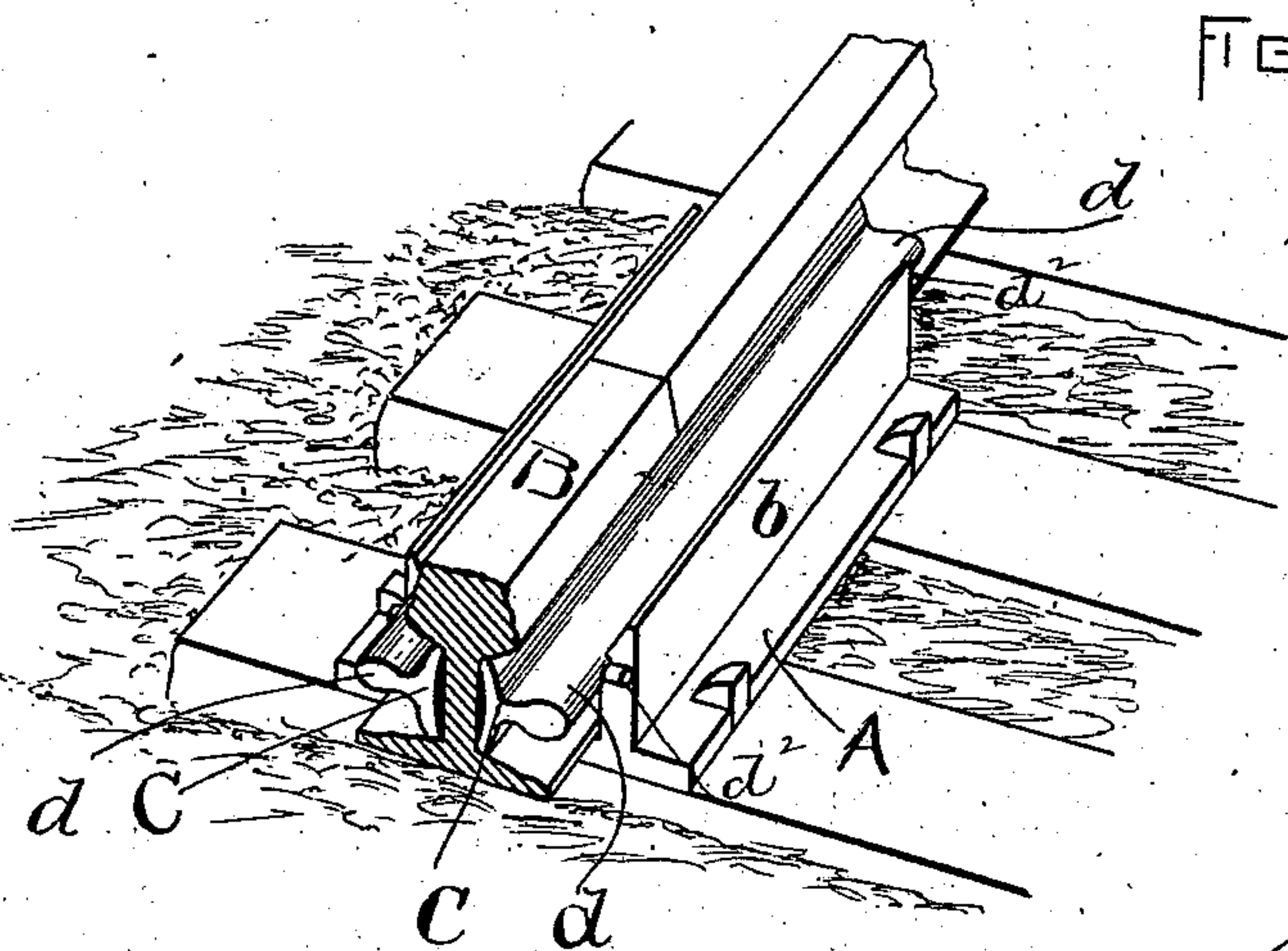


(No Model.)

W. H. BAKER.  
RAIL JOINT.

No. 552,082.

Patented Dec. 24, 1895.



WITNESSES:  
A. D. Harrison.  
H. A. Hall.

INVENTOR:  
W. H. Baker  
by Knight Brown & Lundy  
attys.



# UNITED STATES PATENT OFFICE.

WILLIAM H. BAKER, OF PAWTUCKET, ASSIGNOR TO BAKER & BURNETT,  
OF PROVIDENCE, RHODE ISLAND.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 552,082, dated December 24, 1895.

Application filed March 1, 1895. Serial No. 540,196. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. BAKER, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification:

This invention has for its object to provide a rail-joint to secure together the abutting ends of two rail-sections quickly and securely without the use of bolts and nuts and therefore without the liability of the accidental disconnection of two connecting parts which is liable to occur where bolts and nuts are employed.

To this end the invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of my improved rail-joint complete. Fig. 2 is a transverse section of a rail and my improved rail-joint. Fig. 3 is a transverse section similar to Fig. 2, showing the manner of applying my improved rail-joint. Fig. 4 is a perspective view of a special tool for applying my-improved rail-joint. Fig. 5 is a perspective view of the end of a rail. Fig. 6 is a perspective view of a chair forming part of my improved rail-joint. Fig. 7 is a modification of Fig. 5. Fig. 8 is a modification of Fig. 6.

Corresponding parts in the several views are indicated by like letters of reference.

The essential parts of my improved rail-joint are, first, a chair A formed to support the flange *a* of the rail B and provided with two upwardly-projecting resilient flanges *b* located at opposite sides of the rail-supporting seat or surface *c* of the chair; and, secondly, two fish-plates C formed to fit the rail in the usual manner and provided with outwardly-projecting ribs *d*, which are located between the edges of the fish-plates, so that the outer edge of each rib is at the apex of an equilateral isosceles triangle, of which the inner side of the fish-plate is the base. The said resilient flanges are beveled at their inner upper sides *e* and provided with longitudinal grooves *f* below the beveled portions and at a height above the rail-seat to engage

and hold the edges of the fish-plate ribs. The said fish-plates and the intermediate portion of the rail are proportioned to spring the said resilient flanges outwardly, and the length of the said fish-plates is greater than the length of the said chair, to receive a special tool D formed to grasp firmly the said fish-plate ribs.

The operation of connecting and disconnecting is performed in the following manner: Referring in particular to Fig. 3, A is a chair, B is a rail seated therein, and C is a fish-plate adjusted to the rail and to the resilient flange *b*, the edge of the rib *d* being engaged with the longitudinal groove *f*. The second fish-plate is placed in the position shown at C' and a special tool D applied to each projecting end. Downward pressure upon the outer ends of the said special tools causes the edge of rib *d* to slide or ride down the beveled portion *e* and snap into the groove *f*, the resilient flange *b* yielding outwardly as the said edge is forced downward and pressing inwardly upon the said edge when the same passes from the said beveled portion into the said groove, the pressure exerted by the said resilient flanges being such as to grasp and hold firmly the said fish-plates and the interposed rail. The special tools are then removed and the joint is complete. To disconnect, the special tools are applied as before, and pressure upward against the outer ends thereof forces the said edge of the rib from the said groove and releases the several parts. The location of the rib between the edges of the fish-plate, as above described, causes the rib to be firmly supported by the fish-plate, so that it cannot be easily tipped in either direction.

The chair A is further provided with projections *h* in the side of the seat thereof adapted to engage with notches *k* in the rail-flanges at or near the ends thereof for the purpose of preventing an endwise movement of the rail in the chair; and with notches in the edge of the base-plate *l* thereof, by which the same may be bolted or spiked to the road-bed.

It will be seen that by the described construction I avoid weakening the rail by drilling or punching bolt-holes therein; that the joint is quickly made and broken, and that



my improved rail-joint is simple and inexpensive in manufacture and application.

It will be further evident that the fish-plate ribs could be made to receive any wrench or lever; but I prefer to make it in the form and manner shown and to provide a special tool fitted thereto, thus preventing tampering with the joint by unauthorized persons for unlawful purposes.

10 Pins or plugs  $d^2$  may be driven into the ribs  $d$  in position to bear against the ends of the flanges of the chair, to prevent endwise displacement of said ribs and the fish-plates.

I claim—

15 1. A rail-joint comprising a chair having resilient flanges, and fish-plates formed to fit the sides of the rail and having outwardly projecting ribs located between the upper and lower edges of the fish-plates and formed  
20 to exert outward pressure on said flanges when the fish-plates are in place, said fish-plates and ribs being formed to interlock, so

that the flanges yieldingly hold the fish-plates in their operative position.

2. In a rail-joint, the combination with the 25 rail, of a chair provided with upwardly projecting resilient flanges having their inner upper sides beveled and provided with longitudinal grooves below the beveled portions, and two fish-plates fitted to the said rail in 30 the usual manner and provided with outwardly projecting ribs having their outer edges shaped to fit the said longitudinal grooves, the said fish-plates and the intermediate portion of the rail being proportioned 35 to spring the said resilient flanges outwardly.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 28th day of February, A. D. 1895.

WILLIAM H. BAKER.

Witnesses:

A. D. HARRISON,  
H. A. HALL.