

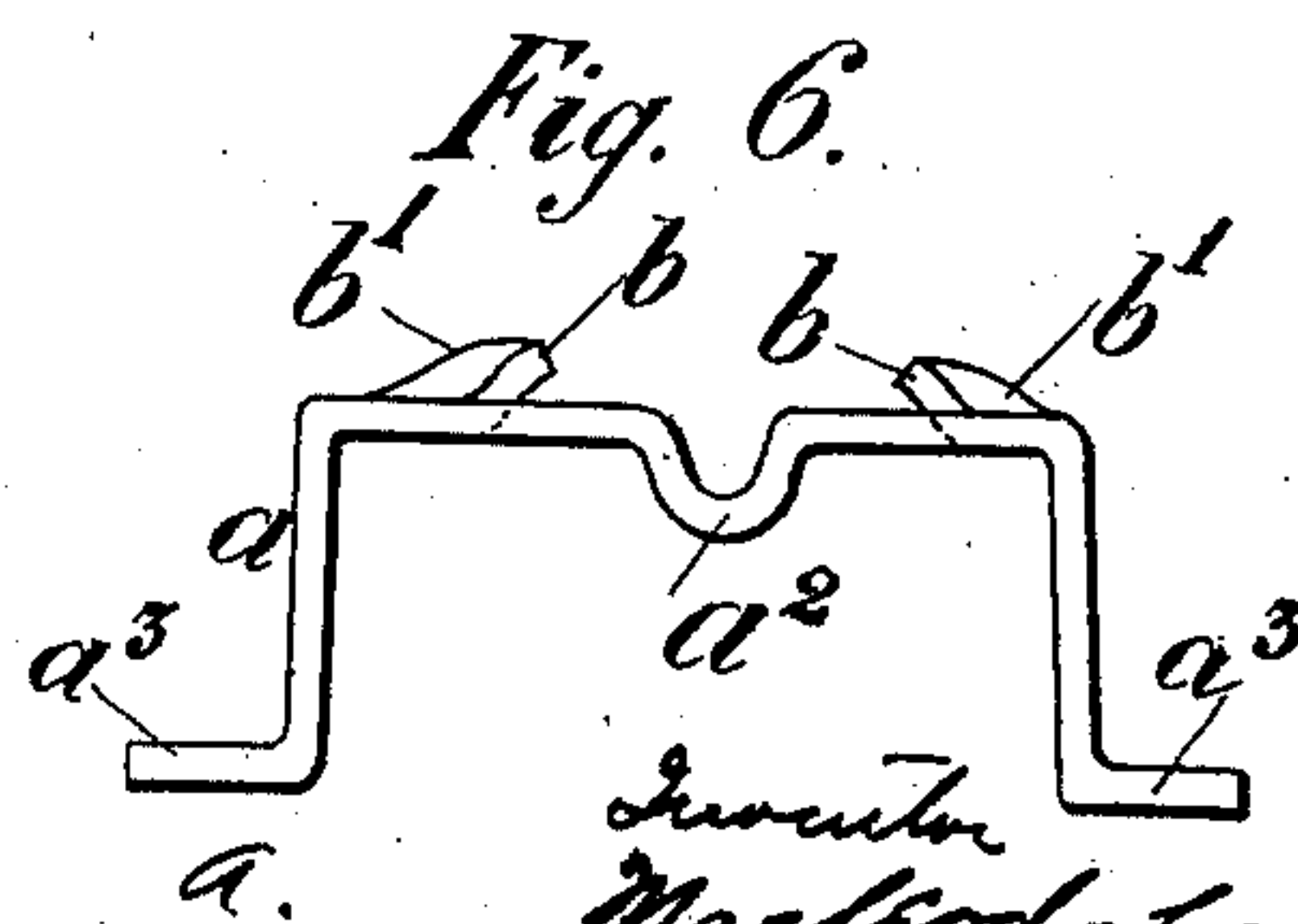
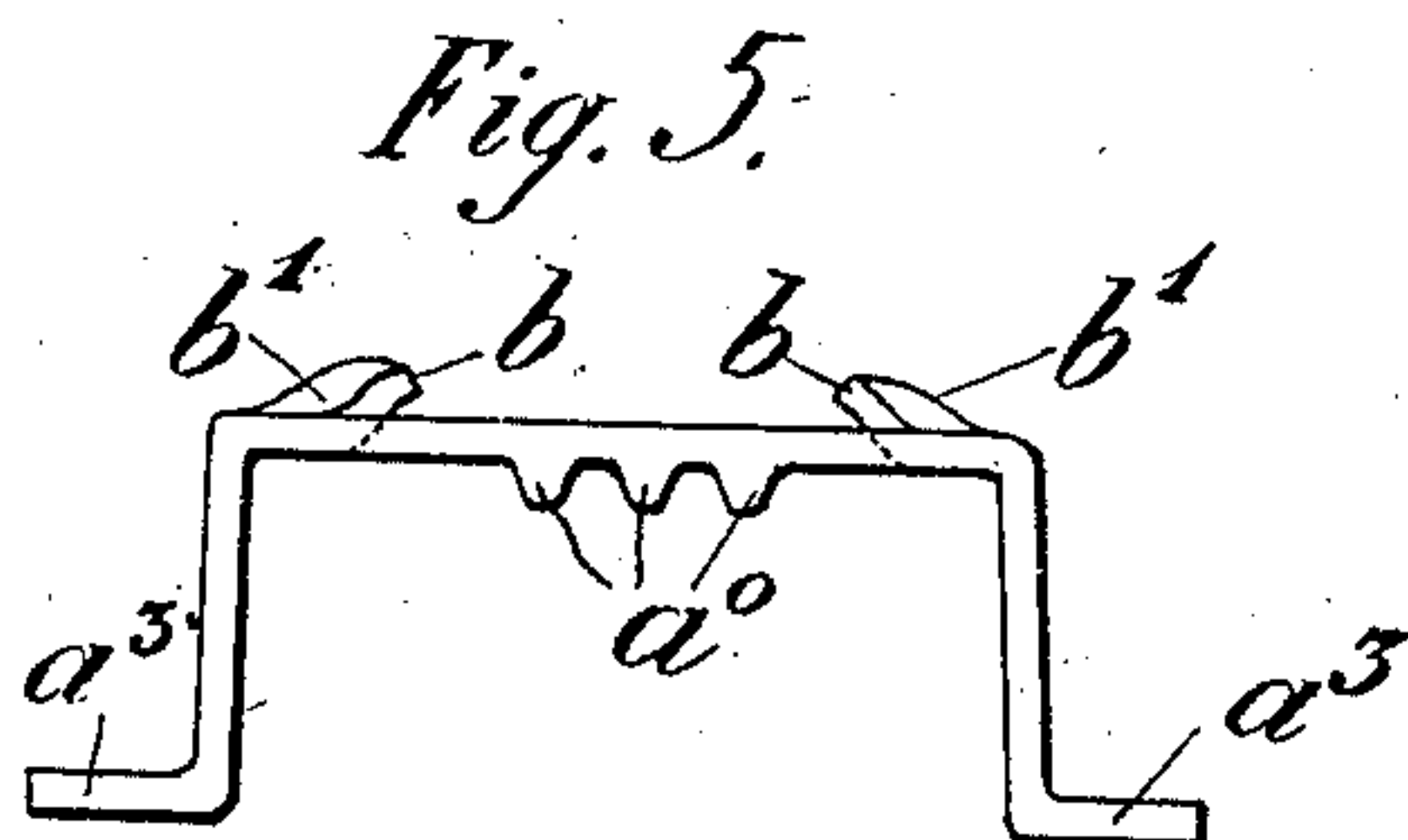
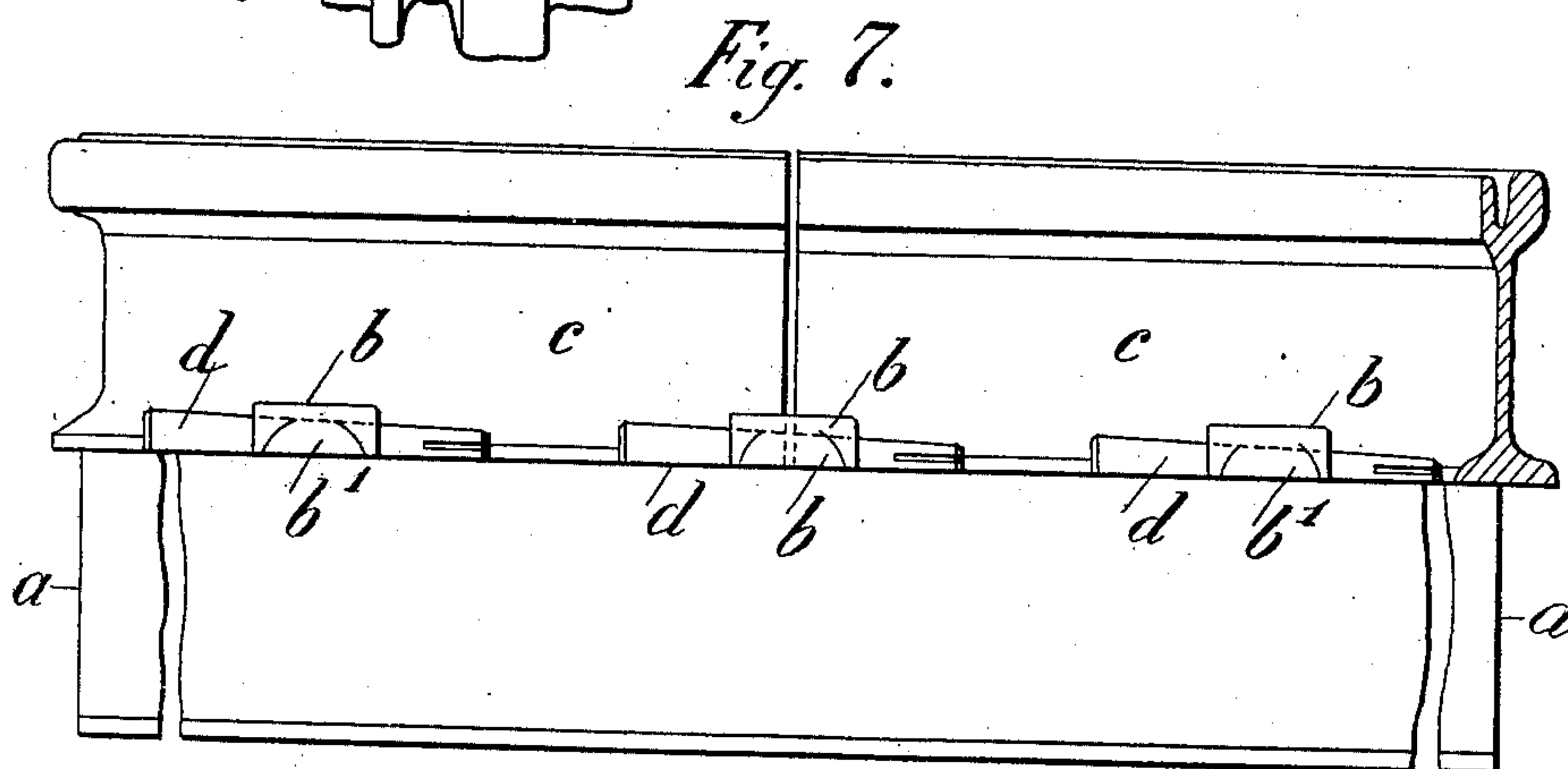
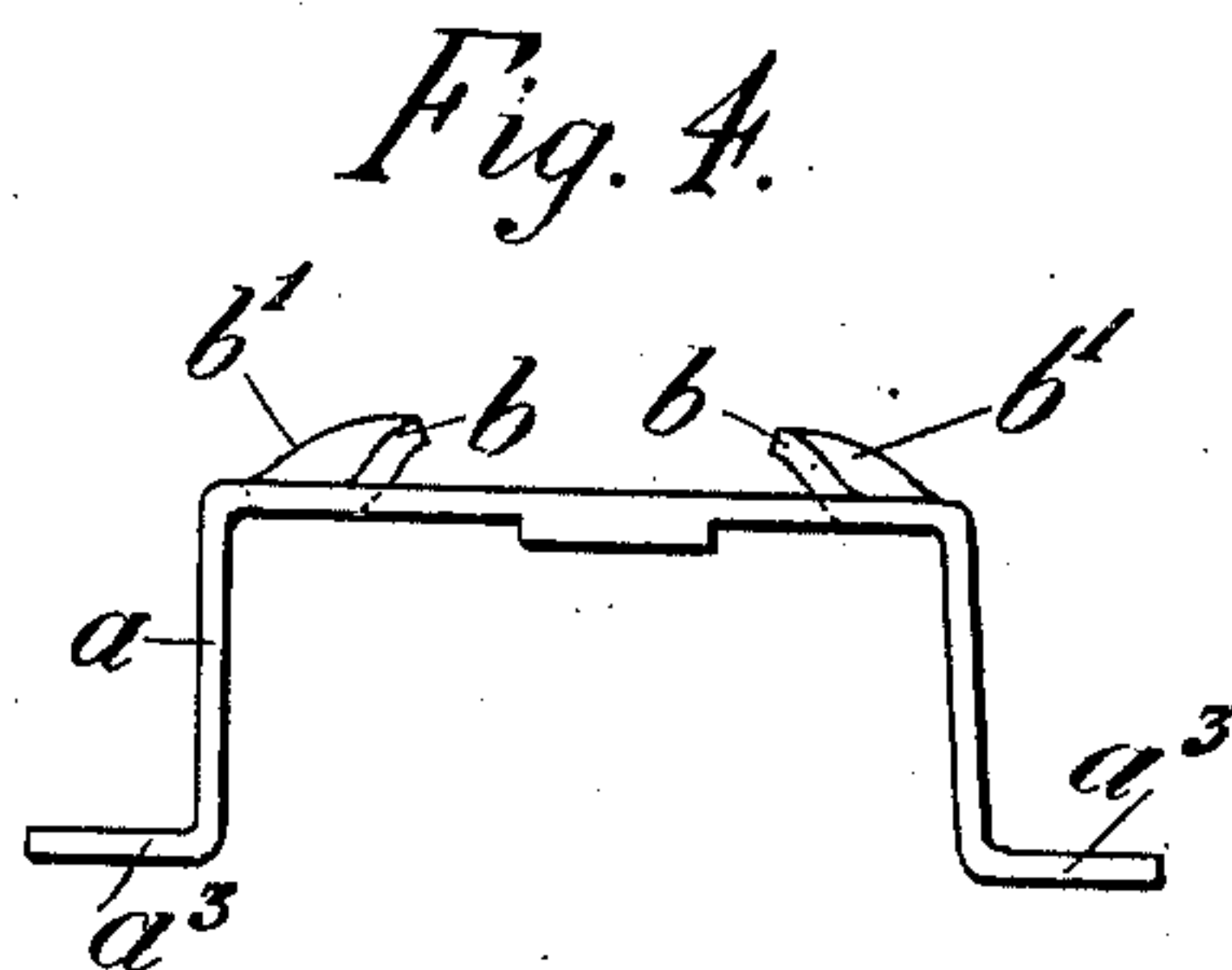
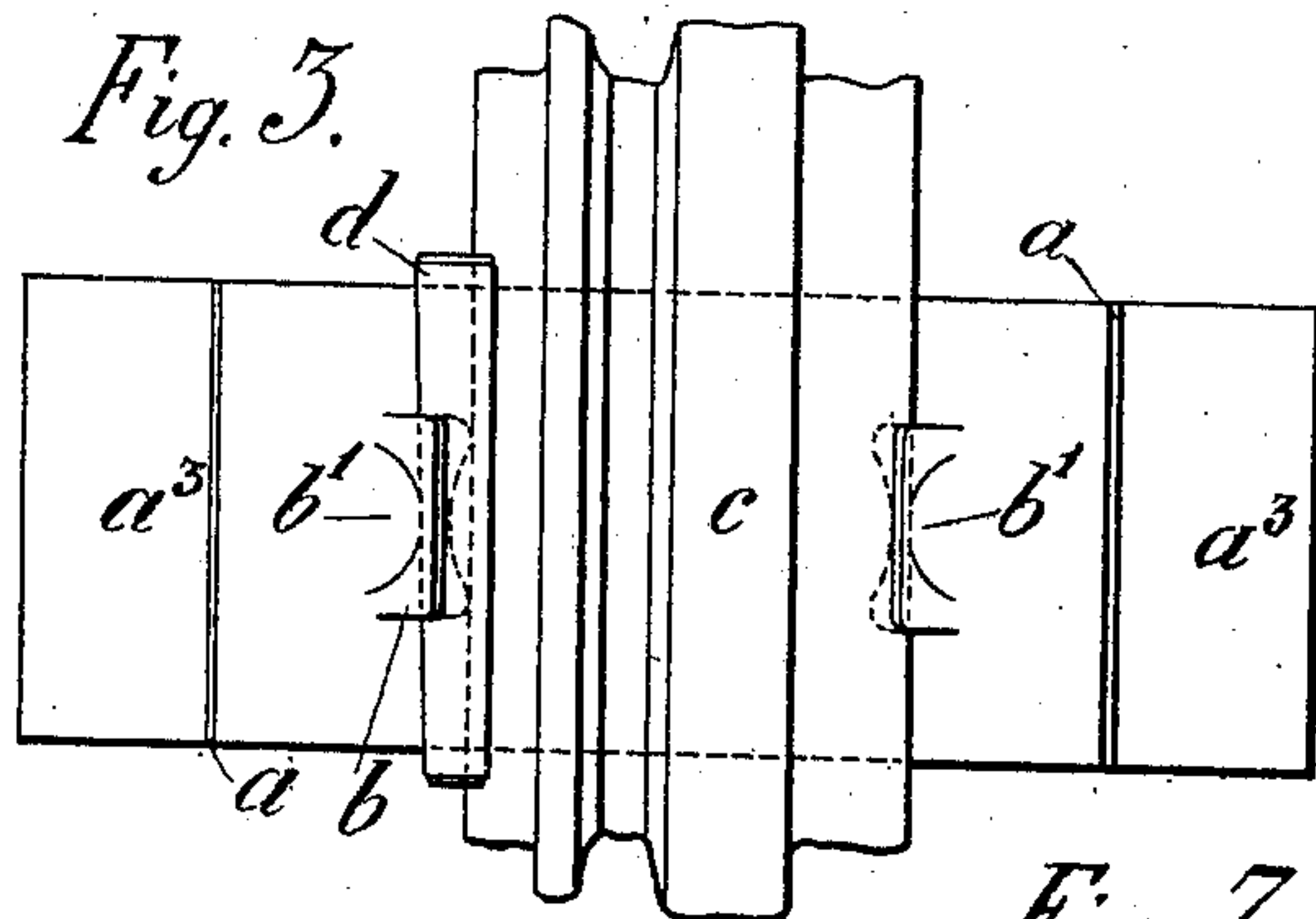
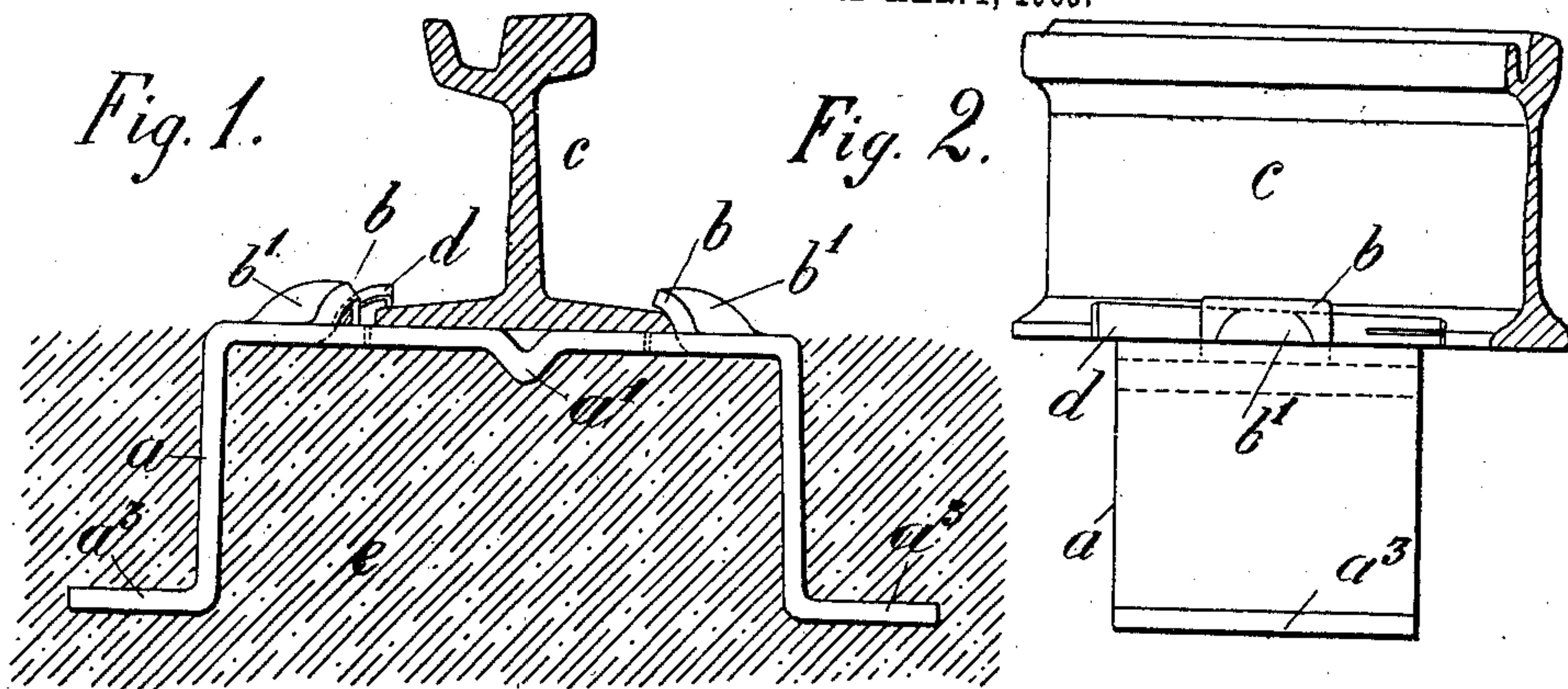
No. 830,607.

A. MACLEOD-CAREY.

PATENTED SEPT. 11, 1906.

MEANS FOR ANCHORING AND SECURING FLAT BOTTOMED RAILS
IN THE PERMANENT WAYS OF RAILWAYS, &c.

APPLICATION FILED MAR. 1, 1905.



Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR MACLEOD-CAREY, OF MIDDLESBROUGH, ENGLAND.

MEANS FOR ANCHORING AND SECURING FLAT-BOTTOMED RAILS IN THE PERMANENT WAYS OF RAILWAYS, &c.

No. 830,607.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed March 1, 1905. Serial No. 247,983.

To all whom it may concern:

Be it known that I, ARTHUR MACLEOD-CAREY, inspecting engineer and naval architect, a subject of the King of Great Britain, residing at 2 Woodlands Terrace, Middlesbrough, in the county of York, England, have invented certain new and useful Improvements in Means for Anchoring and Securing Flat-Bottomed Rails in the Permanent Way of Railways and Tramways, of which the following is a specification.

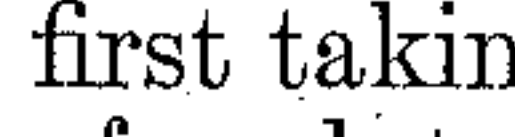
This invention relates to intermediate chairs and anchor-joints for use in the permanent way of railways laid with rails having bottom flanges, such as the rails of tramways and other light railways, the objects being to provide an article of simple construction, and therefore easy and cheap to manufacture, which when placed at intervals under the flat-bottomed rails and at the joints thereof affords the requisite support and anchorage for the rails and joints.

The article comprises a plate of iron or steel of suitable dimensions which by means of a rolling operation or pressure is caused to assume approximately a U shape in cross-section. This when inverted serves as a support for the foot or bottom flange of the rail, the latter being secured by means of a shaped wedge or key forced between the lateral edge of the bottom flange and a clip formed on the upper face of the plate during the shaping or pressing operation. The clips are stiffened or strengthened by bowed or shouldered portions or buttresses also produced in the aforesaid pressing or shaping operation.

In order that the said invention may be clearly understood and readily carried into effect, I will proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 is a side view of the anchor or chair having the rail in position thereon, the latter being shown in transverse section. Fig. 2 is an end view of the anchor or chair, a portion of the rail being shown in side elevation. Fig. 3 is a plan corresponding with Fig. 1. Figs. 4, 5, and 6 are views respectively illustrating modifications of stiffening means for the bridge of the anchor or chair. Fig. 7 is a view illustrating the improved anchor or chair applied at a rail-joint.

According to one mode of carrying the invention into effect, the anchor or chair *a* is

formed of a saddle-shaped section of iron or steel of the requisite thickness, the section first taking a U form, thus: . A plate of such transverse section is capable of being readily produced by rolling the same in suitable lengths which may be sheared or sawed to the requisite or intended width in order to constitute the said anchors or chairs. Clips or cheeks *b* are set up on the plate *a* by punching or other convenient means, whereby the flat bottom flange of the rail *c* can be accommodated between the insets of the clips or cheeks and secured in position by a shaped split wedge or key *d*, the end of which is splayed out to prevent the wedge or key working loose and becoming displaced.

In order to stiffen the anchor or chair *a*, the bridge portion may be formed with a V-rib, such as shown at *a'*, Fig. 1 or the bridge may be thickened at the central portion *a^x*, as shown in Fig. 4. With the same object the bridge may be provided with several small ribs *a'*, as shown in Fig. 5, or with a U-rib *a²*, as shown in Fig. 6. The clips or cheeks *b* are moreover rendered strong and rigid by forming them with a bowed part or shoulder *b'* preferably produced in the act of pressing up the clips or cheeks. The particular form of anchor plate or chair *a* not only enables it to be rolled or pressed to shape but also facilitates the setting up of the clips or cheeks *b* by punching at parts where the swell or shoulder or buttress formation *b* imparts to them great strength and rigidity with a certain amount of elasticity. The anchor or chair is furthermore capable of being embedded in the concrete *e* or other material constituting the track or permanent way, leaving the clips *b* always free for the fitting or refitting of the rails *c* without disturbing the said anchors or chairs, the lateral projecting or outwardly-turned bottom flanges *a³ a³*, when the chairs are embedded in the ballast or concrete *e*, affording the necessary anchorage therefor.

In Fig. 7, wherein the anchor or chair *a* is shown applied to a rail-joint, the said plate is of increased width and formed with three clips or cheeks *b b*, whereof the clips occupying the central position preferably embrace the joint of the rail.

The clips may be punched in such a manner that the rail may lie either transversely or longitudinally in relation to the chair. If lying along the chair, the pressed plate of

rolled saddle-section would naturally be made wider to accommodate the clips.

What I claim, and desire to secure by Letters Patent of the United States, is—

5 1. An anchor-chair of saddle-shape section having clips punched or pressed up on its upper face in which clips the bottom flanges of the rail are secured by a key or wedge adapted to fit the clip and the lateral edges
10 of the bottom flange of the rail.

2. In permanent way for a light railway or tramway the combination, with the concrete bedding, of an anchor-chair of saddle-shape section, clips formed on its upper face by
15 punching or pressing out portions of the plate and a key or wedge formed with a longitudinal lateral recess for the engagement of the edge of the rail-flange.

3. In the permanent way of a light railway
20 or tramway, the combination, with the concrete bedding, of an anchor-chair of saddle-shape section, clips formed on its upper face by punching or pressing out portions of the aforesaid chair, a key or wedge formed with
25 a longitudinal lateral recess for engaging the edge of the rail-flange and a split or saw cut in the said key or wedge for enabling the same to be splayed out for preventing displacement.

30 4. In the permanent way of a light railway or tramway the combination of an anchor-chair of saddle-shape section, clips on the upper face thereof, a swell or shoulder or but-

tress on each of said clips and a key or wedge adapted to fit the clip and the lateral
35 edge of the rail.

5. In the permanent way of a light railway or tramway, the combination, with the concrete bedding, of an anchor-chair of saddle-shape section clips on the upper face thereof,
40 a swell or shoulder or buttress on each of said clips and a key or wedge adapted to fit the clip and the lateral edge of the rail.

6. In the permanent way of a light railway or tramway, the combination, with the concrete bedding, of an anchor-chair of saddle-shape section, clips on the upper face of said
45 plate and a swell or buttress on each of said clips.

7. In the permanent way of a light railway
50 or tramway, the combination, with the concrete bedding, of an anchor-chair of saddle-shape section, clips on the upper face of said plate, a swell or buttress on each of said clips
55 a key or wedge adapted to fit the clip and the lateral edge of the rail and a split or saw cut in the said key for enabling the same to be splayed out when inserted in the said clip.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing
60 witnesses, this 12th day of January, 1905.

ARTHUR MACLEOD-CAREY.

Witnesses:

T. D. H. STUBBS,
W. G. BUNTING.