

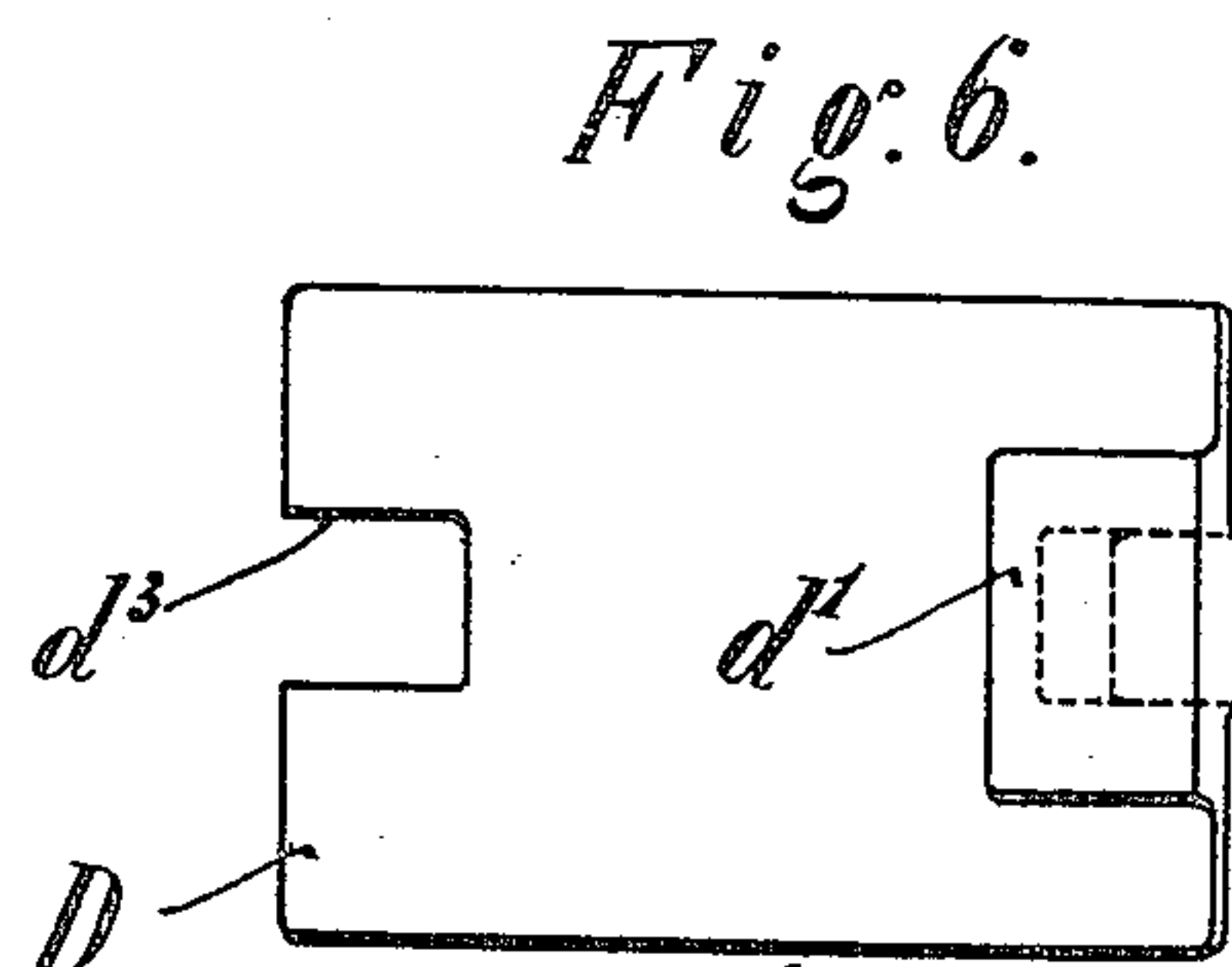
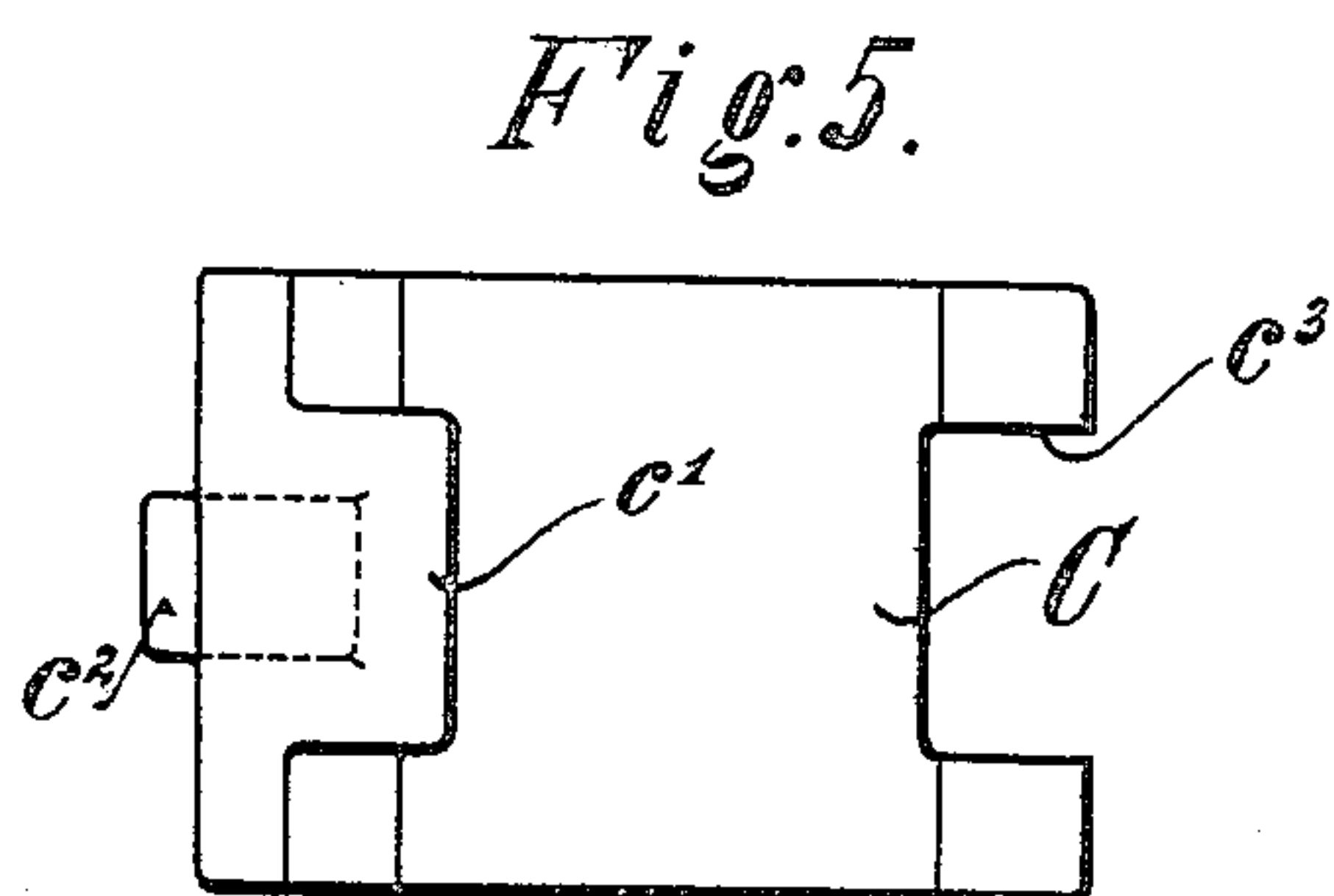
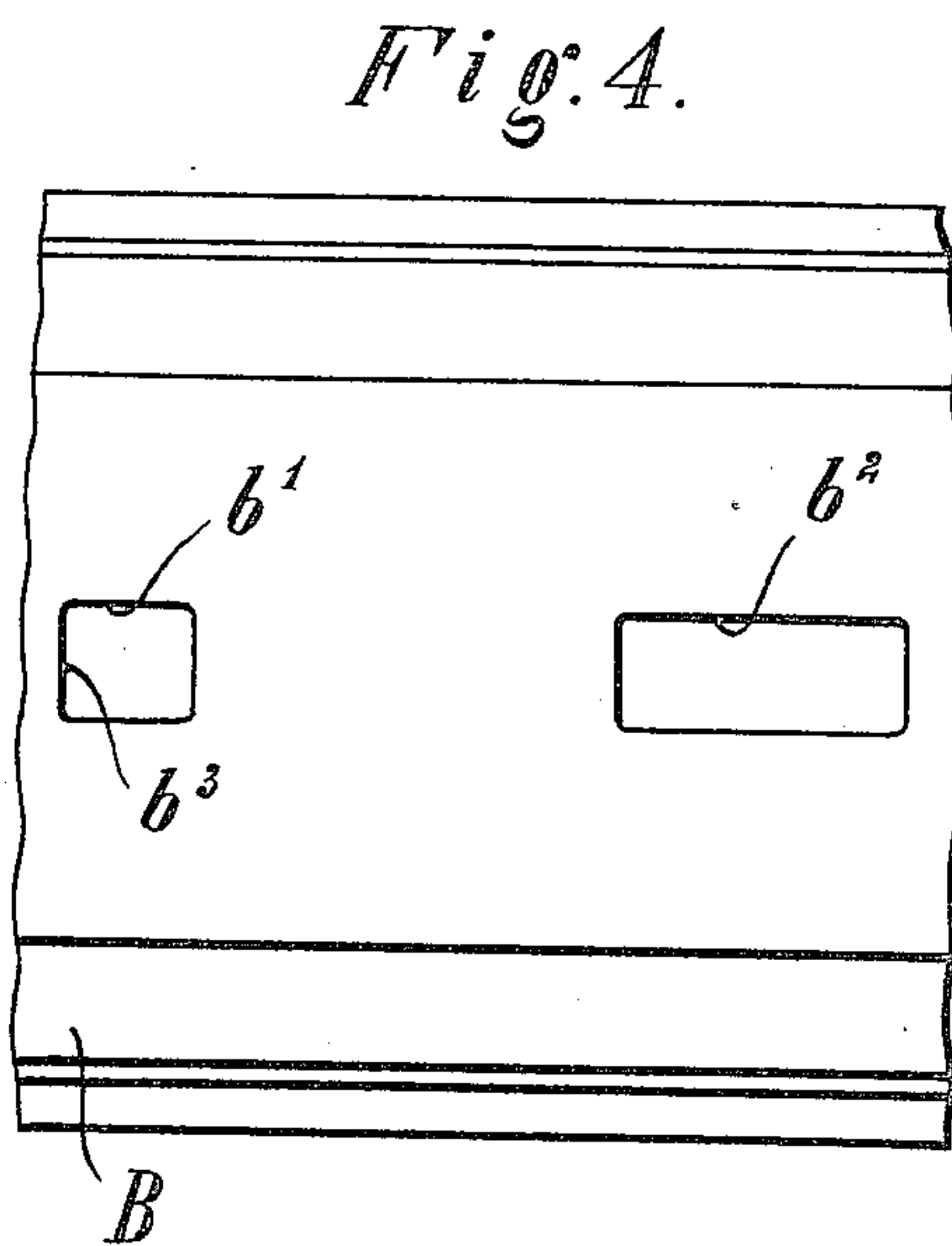
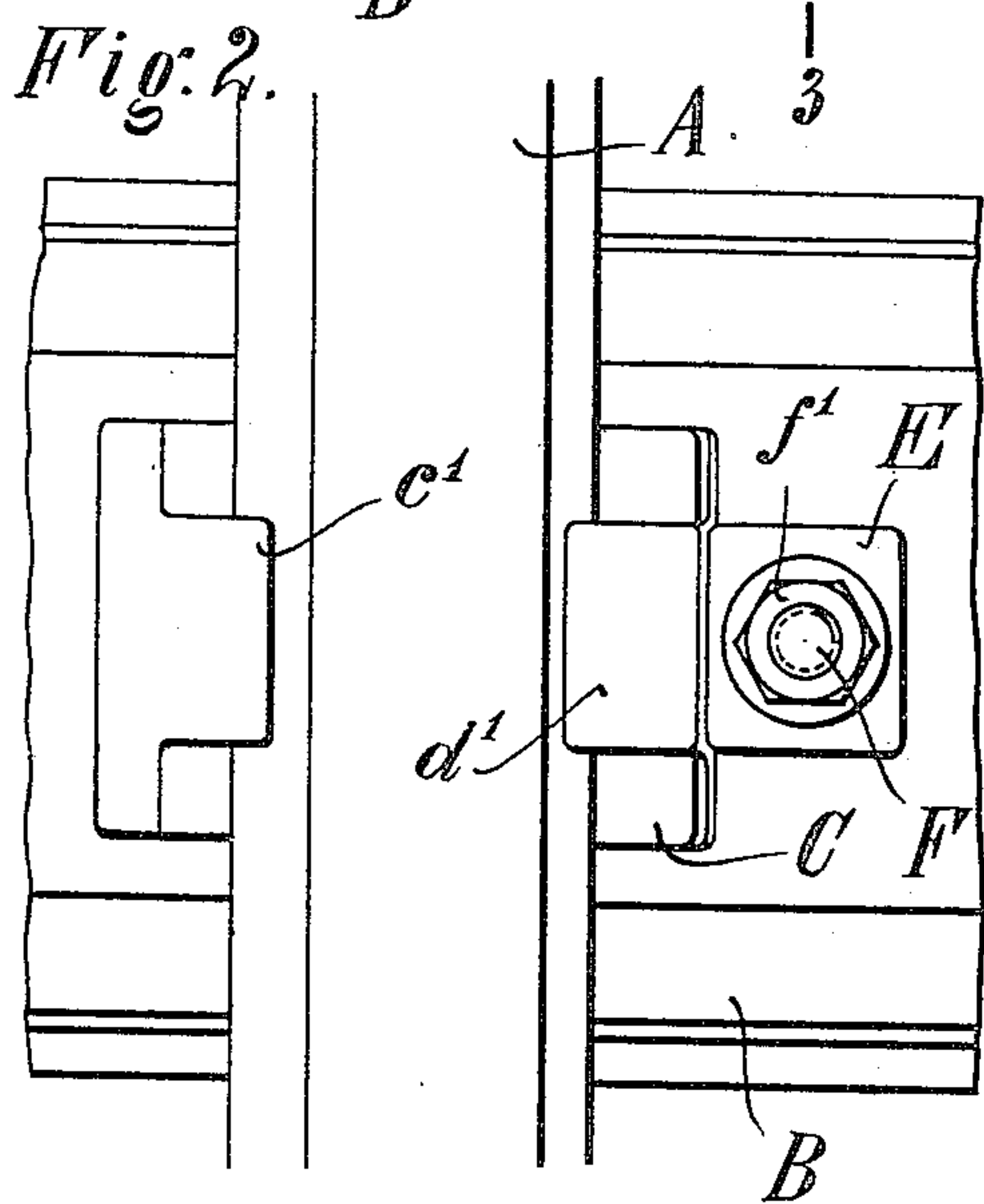
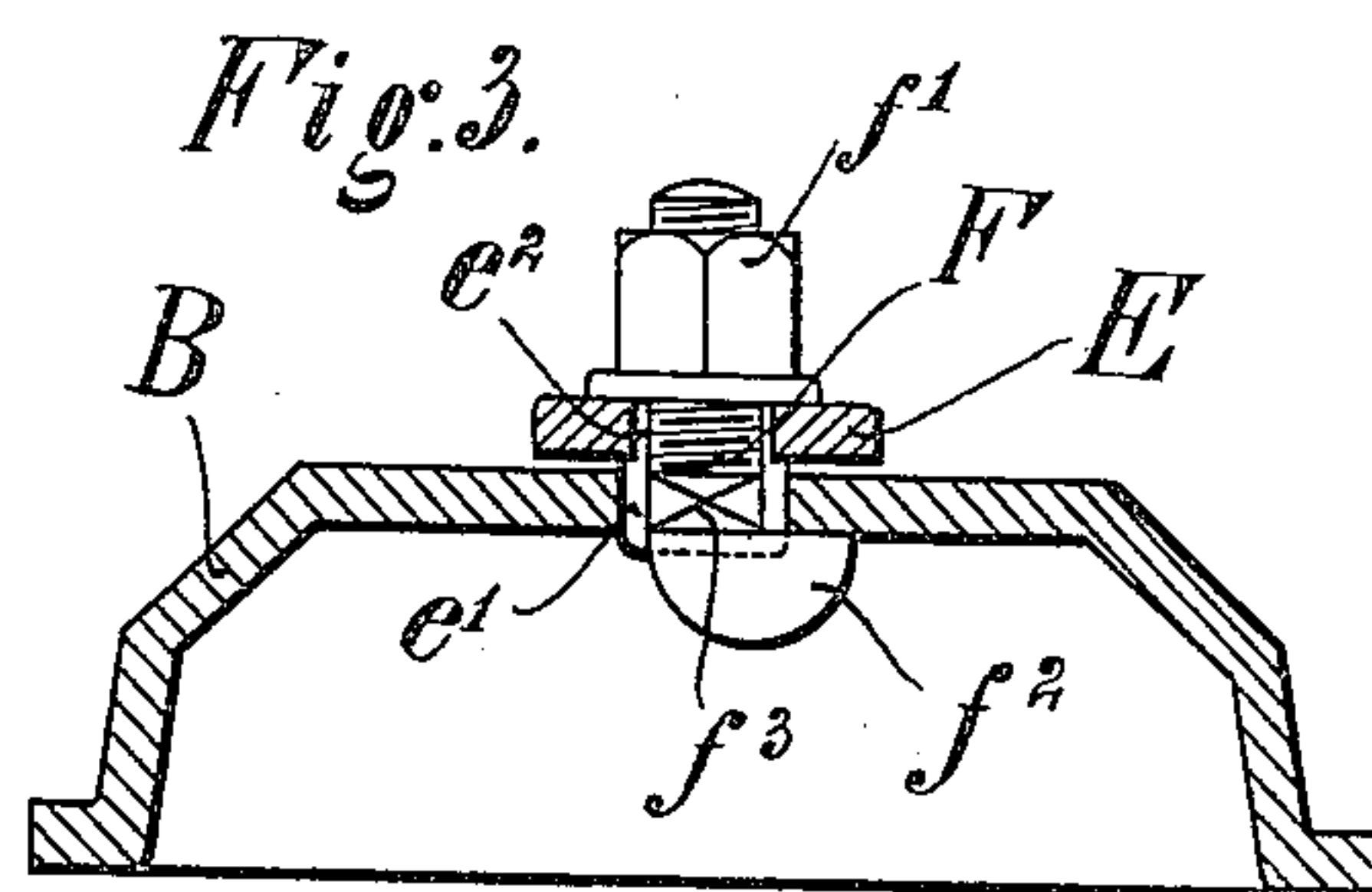
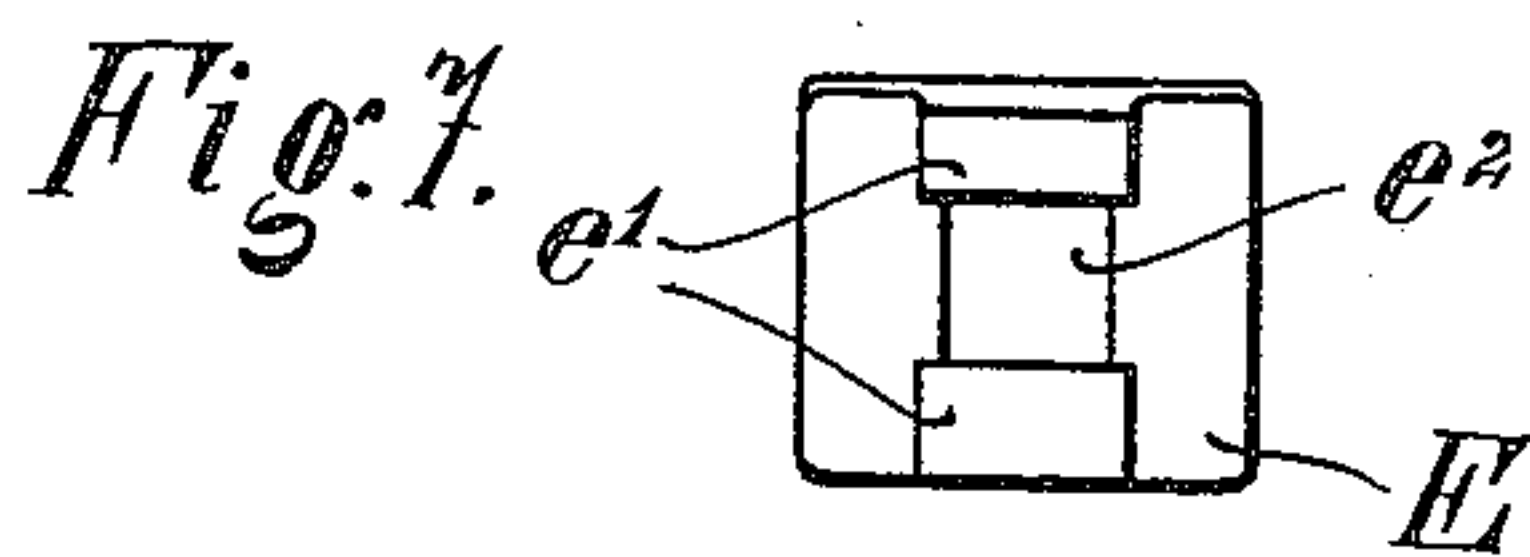
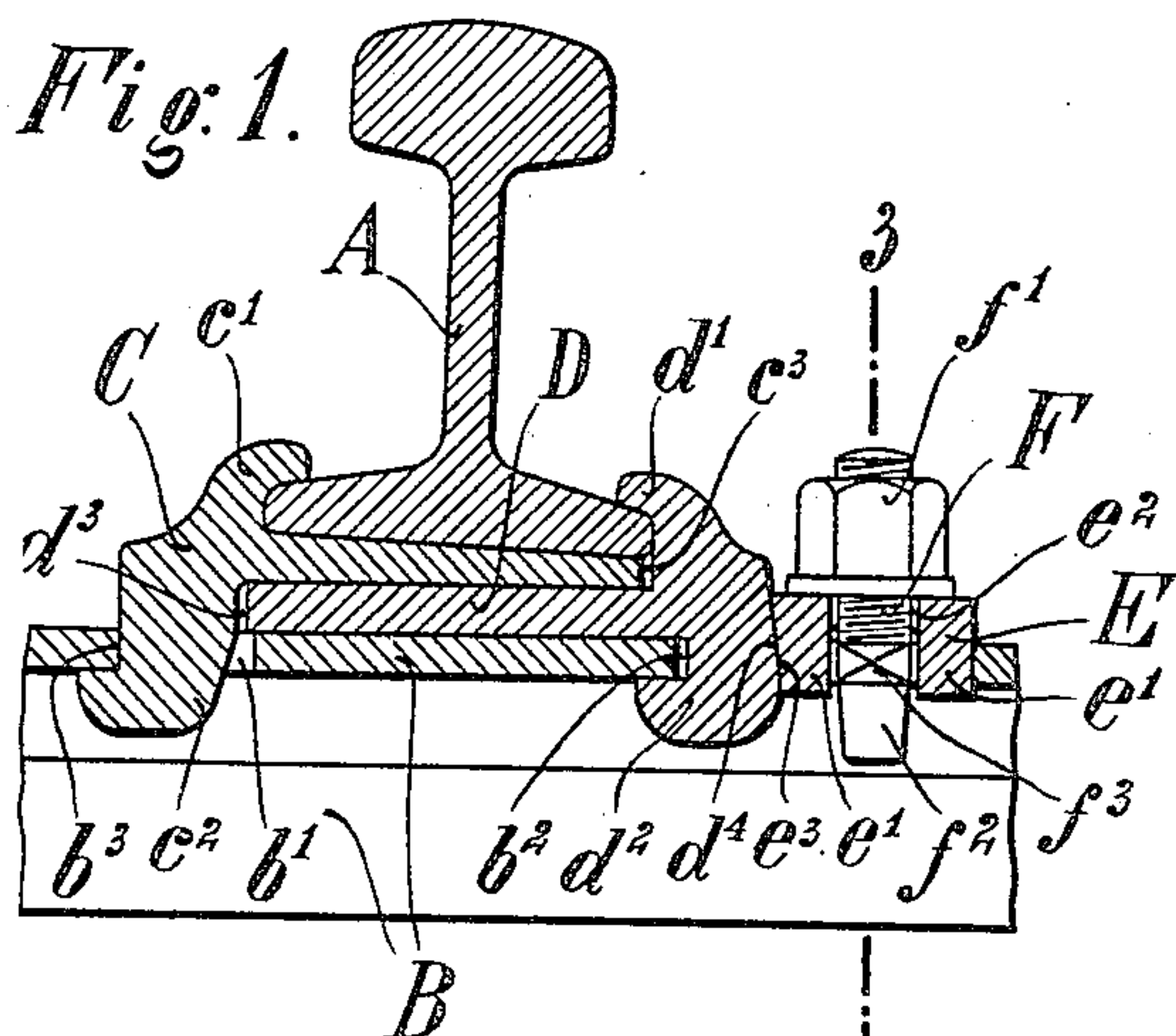
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T. GARDIN.

RAIL SECURING MEANS.

APPLICATION FILED DEC. 21, 1905.



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RAIL-SECURING MEANS.

No. 816,575.

Specification of Letters Patent.

Patented April 3, 1906.

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To all whom it may concern:

Be it known that I, THEODOR GARDIN, a subject of the German Emperor, and a resident of Essen-on-the-Ruhr, Germany, have invented certain new and useful Improvements in Rail-Securing Means, of which the following is a specification.

The present invention relates to a device for securing rails on ties; and it has for an object to provide a device that will hold the rail to the tie notwithstanding the vibrations and other forces to which the parts are subjected.

Other and further objects will appear in the following description and will be more particularly pointed out in the appended claims.

One embodiment of the invention is shown in the accompanying drawings by the way of example.

Figure 1 shows the invention's vertical section. Fig. 2 is a top view. Fig. 3 is a section on line 3-3, Fig. 1, looking from the left. Fig. 4 shows a part of the tie in top view, and Figs. 5 to 7 are detail views.

In the drawings the left side of Figs. 1, 2, and 4 to 6 corresponds to the outer side of the track. Two superposed brace-plates C and D, a lock-piece E, and a hook-screw F serve the purpose of securing the rail A on the transverse metallic tie B. The plates C and D are approximately of the same width and length. The plate D rests on the tie B, and the plate C covers the plate D and carries the rail A. The part of the plate C that is below the rail A is wedge-shaped in order to obtain an inclined position of the rail. Both plates are provided with claws c' d' and with hooks c^2 and d^2 ; the arrangement of the hooks relatively to the claws being clearly shown in the drawings. The plate C is provided with a cut-away portion c^3 (see in particular Fig. 5) for the passage of claw d' of the plate D, and the latter is provided with a cut-away portion d^3 (see in particular Fig. 6) for the passage of the hook c^2 of the plate C. The claw c' engages the outer flange of the rail-base, and the claw d' engages the inner flange of the rail-base. The hooks c^2 and d^2 are directed toward the outer side of the track and project through rectangular holes b' and b^2 (see in particular Fig. 4) in the top of the tie B to lie against the inner face of the

top of the tie. The hook c^2 abuts against the wall b^3 , Figs. 1 and 4, of the opening b' , so as to secure the plate C and the rail A against movement toward the outer side of the track, the plate D being held from such movement through the medium of the rail A. Movement of the plate D, the rail A, and the plate C toward the middle of the tie is prevented by means of the plate-shaped lock-piece E, which is provided with two projections e' , that project into the opening b^2 adjacent to the hook d^2 . The lock-piece E is provided with a perforation e^2 for the hook-screw F and is held in position by means of the latter and the nut f' . The hook f^2 of the hook-screw F engages beneath the top of the tie B, and the screw is held from rotation through the medium of the squared portion f^3 and the projections e' of the lock-piece. The adjacent faces e^3 and d^4 , Fig. 1, of the lock-piece E and the plate D are preferably inclined relatively to the top of the tie, so as to cause the plates C D to be firmly connected to the rail A when the nut f' is drawn tight.

By reason of the above-described arrangement any force that tends to tilt the rail outwardly or inwardly will be taken up by the hook-plates C D in such a manner that the hook-screw F is entirely or almost relieved from the effect of such force, and consequently does not become loose. The improved rail-securing device is therefore more safe than those devices in which the forces tending to tilt the rail are taken up by a connection between the rail-base and the tie, (such as spikes, clamp-plates with hook-screws,) which is arranged either at both sides of the rail or at one side only and which is liable to become loose under the effect of such forces.

Having thus described my invention, what I claim as new is—

1. In a rail-securing device, the combination with the rail and the tie, of a pair of superposed plates upon which the rail rests, having claws engaging the base-flange of the rail, and each being provided with means engaging the tie.

2. In a rail-securing device, the combination with the rail and the tie, of a pair of superposed plates upon which the rail rests, each having a claw engaging the foot of the rail and a lateral projection engaging the

lower face of the tie, and locking means engaging the tie and holding the plates from lateral displacement.

3. In a rail-securing device, the combination with the rail and the tie having a perforation at each side of the rail, of a pair of superposed plates upon which the rail rests, each having a claw engaging the foot of the rail and a projection projecting through a perforation in the tie to engage the lower face of the tie, a lock-piece seated in one of the perforations of the tie and engaging one of the plates and means for securing said lock-piece in position.

4. A rail-securing device comprising a pair of plates one adapted to be supported upon the other, each having a claw to engage the base-flange of the rail and a projection to engage the tie.

5. A rail-securing device comprising a pair of plates one adapted to be supported upon the other, each having a claw to engage the base-flange of the rail and a projection to engage the tie, the upper plate being provided with a cut-away portion at one end to receive the claw of the other plate, and the latter be-

ing provided with a cut-away portion to receive the projection of the former.

6. A rail-securing device comprising a pair of plates adapted to be superimposed and to support the rail a claw carried by each plate to engage the rail, a hook projection carried by each plate to engage within an opening in a tie, and a wedge lock-piece adapted to engage within an opening in the tie and secure the plates in position.

7. A rail-securing device comprising a pair of plates adapted to be superimposed and to support a rail, a claw carried by each plate to engage the rail, a hook projection carried by each plate to engage within an opening in a tie, and a wedge lock-piece adapted to engage within an opening in the tie and secure the plates in position, said lock-piece carrying means for holding it within an opening in the tie.

The foregoing specification signed at Düsseldorf this 6th day of December, 1905.

THEODOR GARDIN.

In presence of—

WILLIAM ESSENWEIN,
ERNEST BUDRÉ.