

No. 607,866.

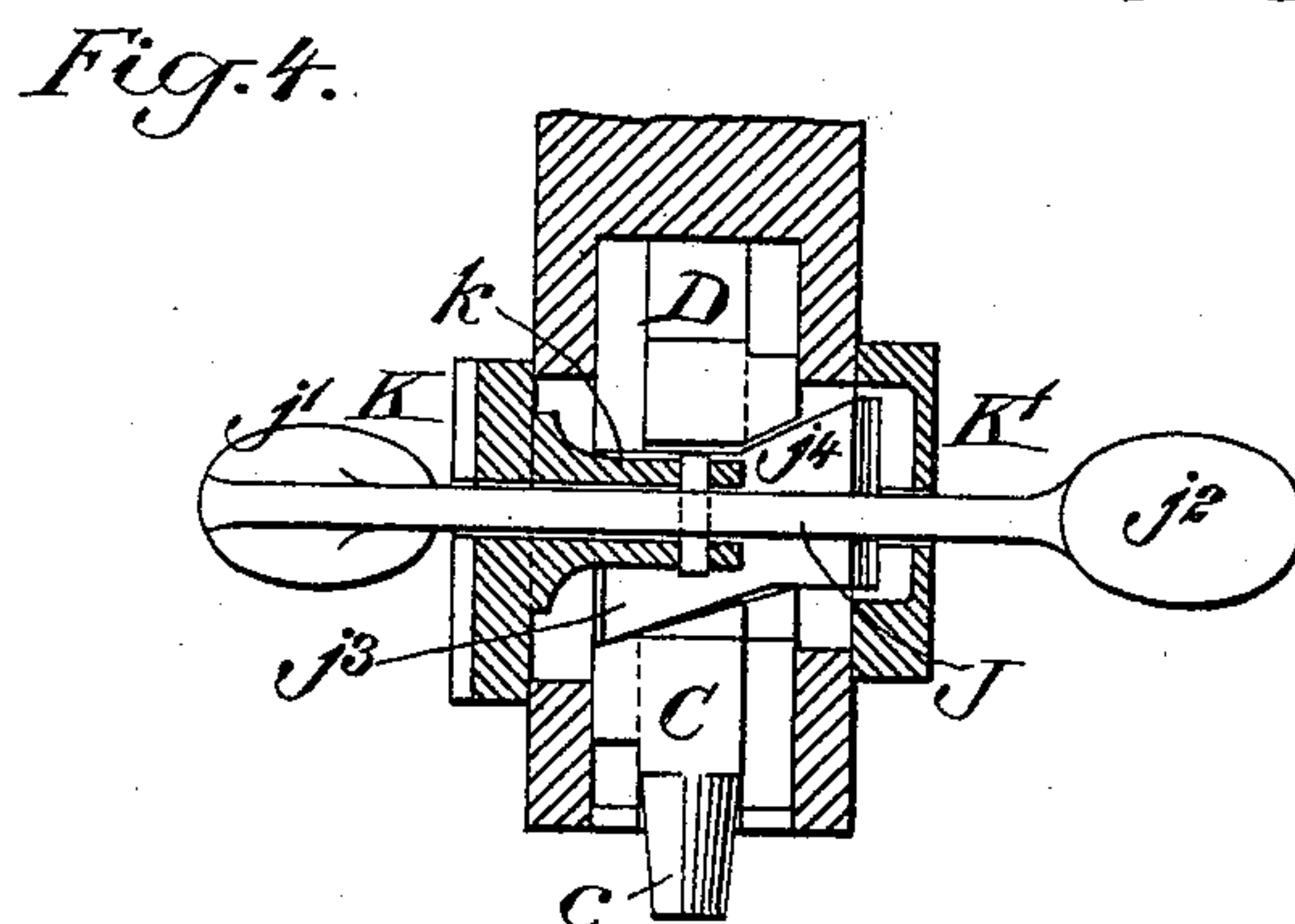
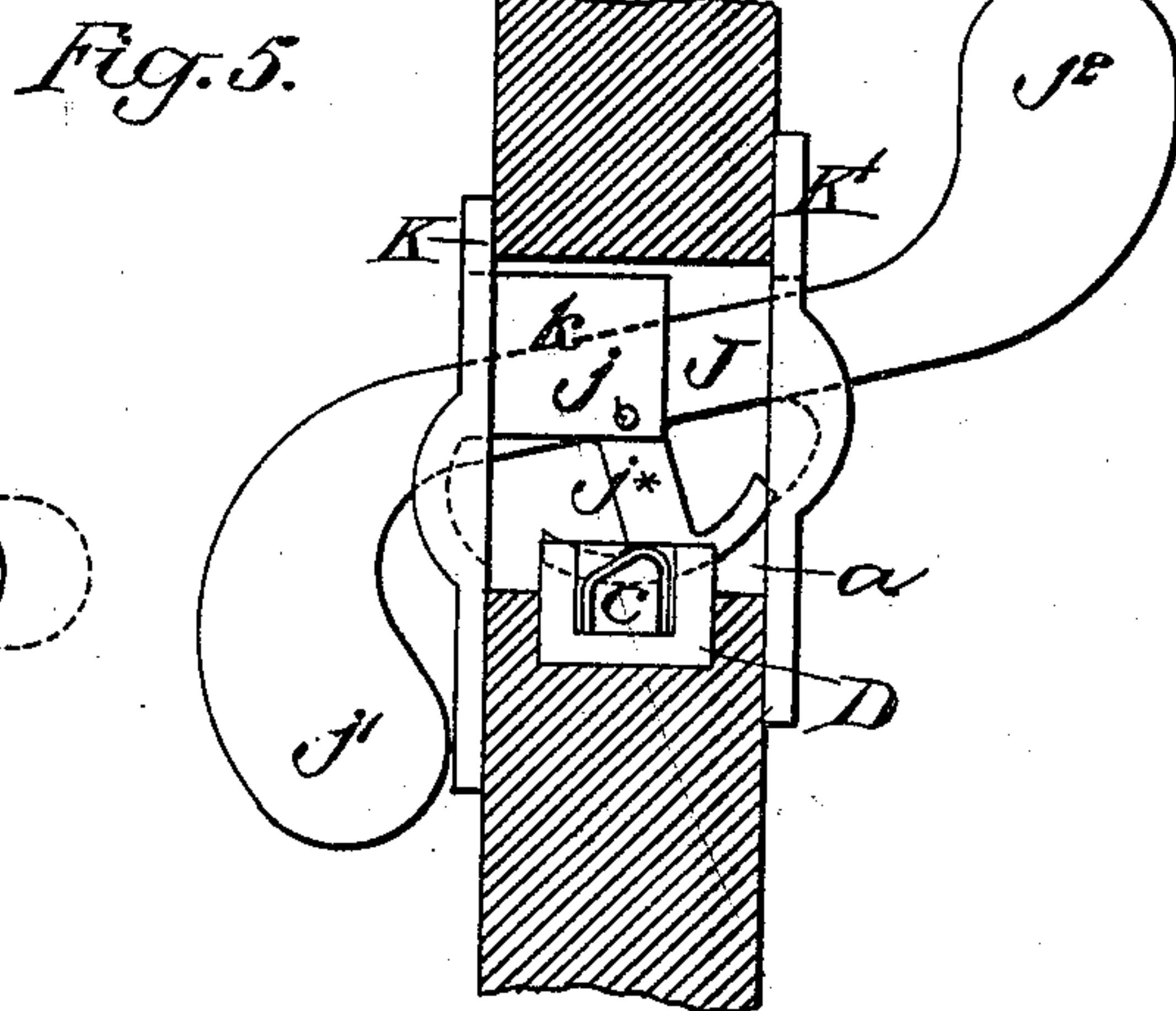
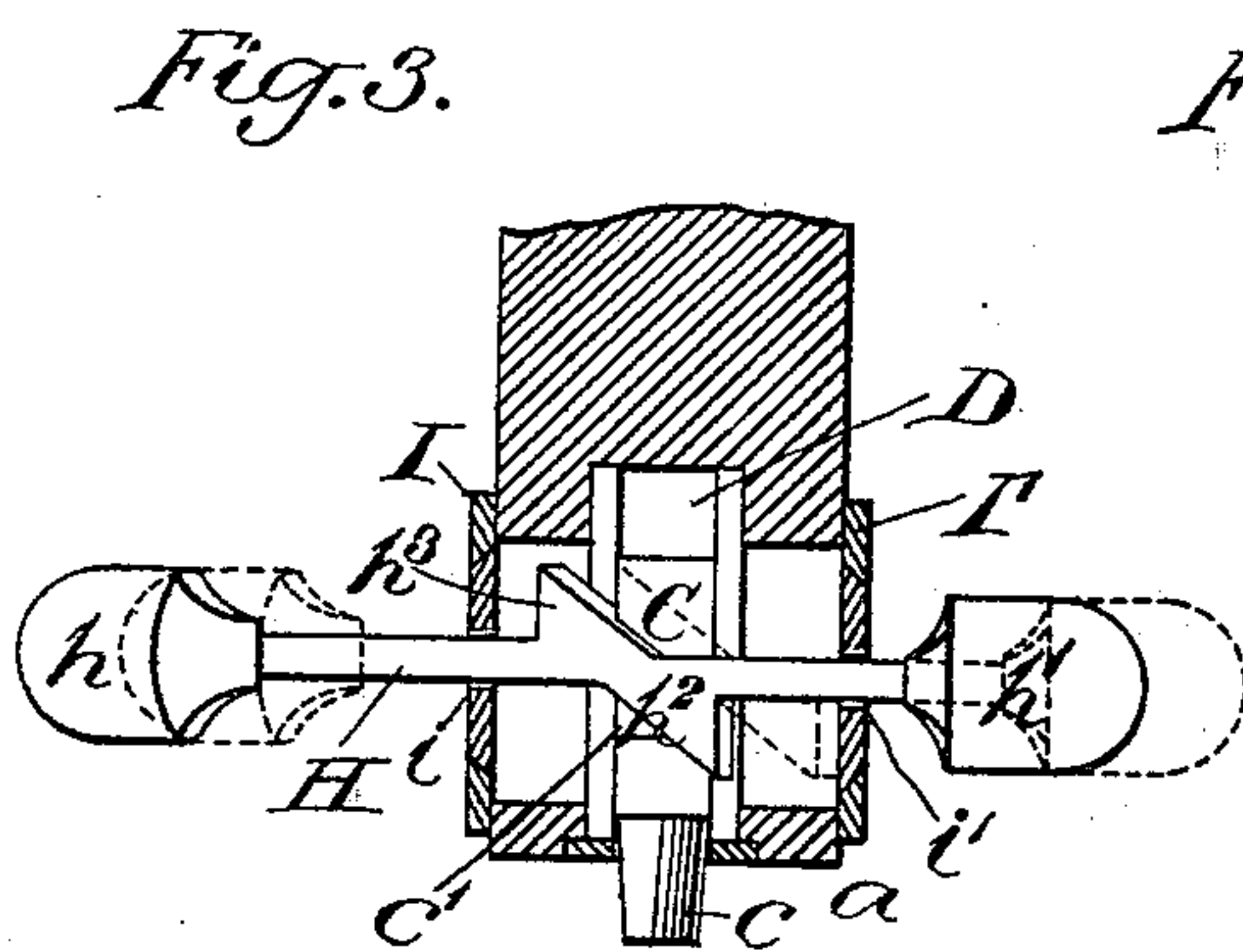
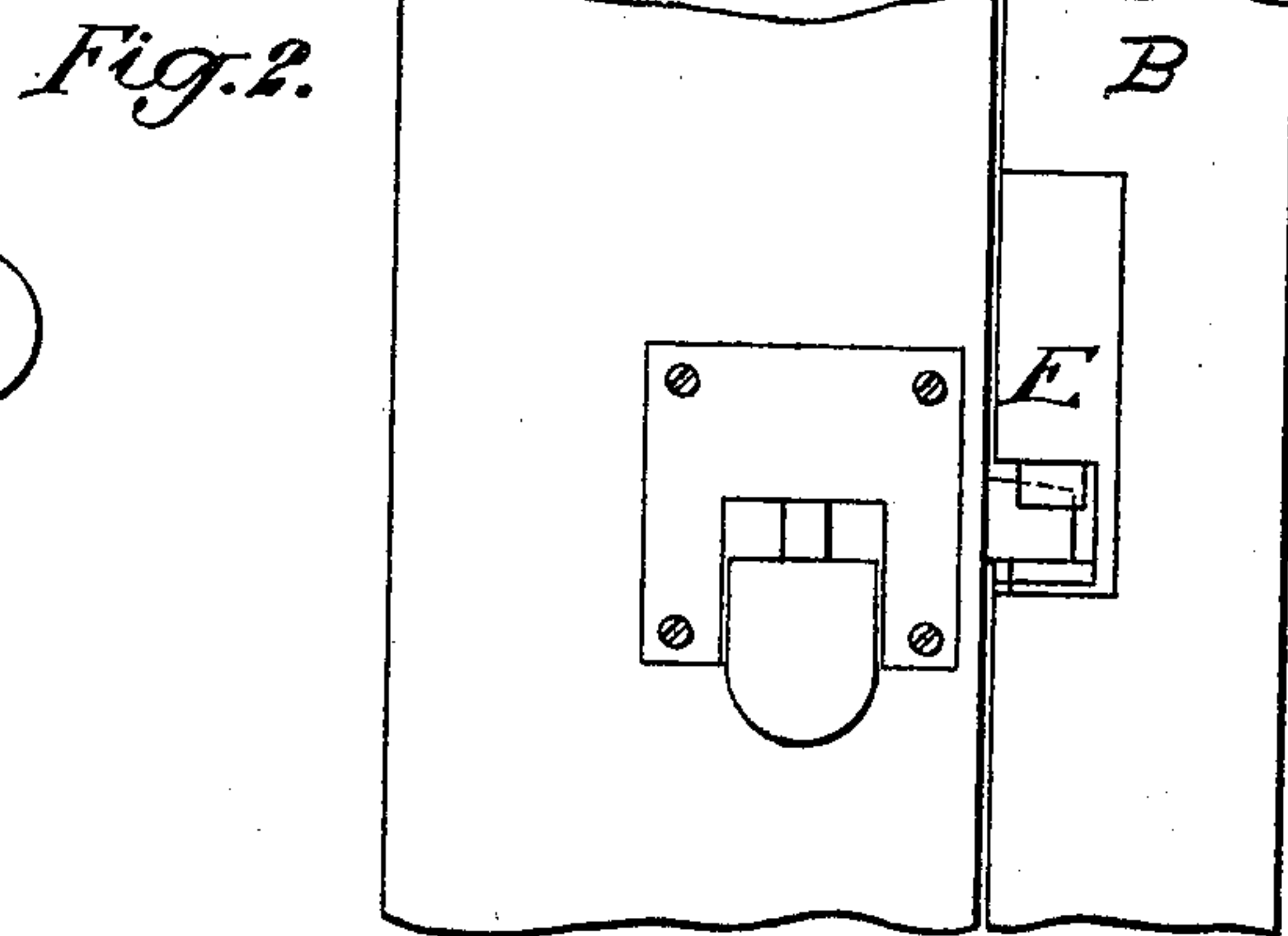
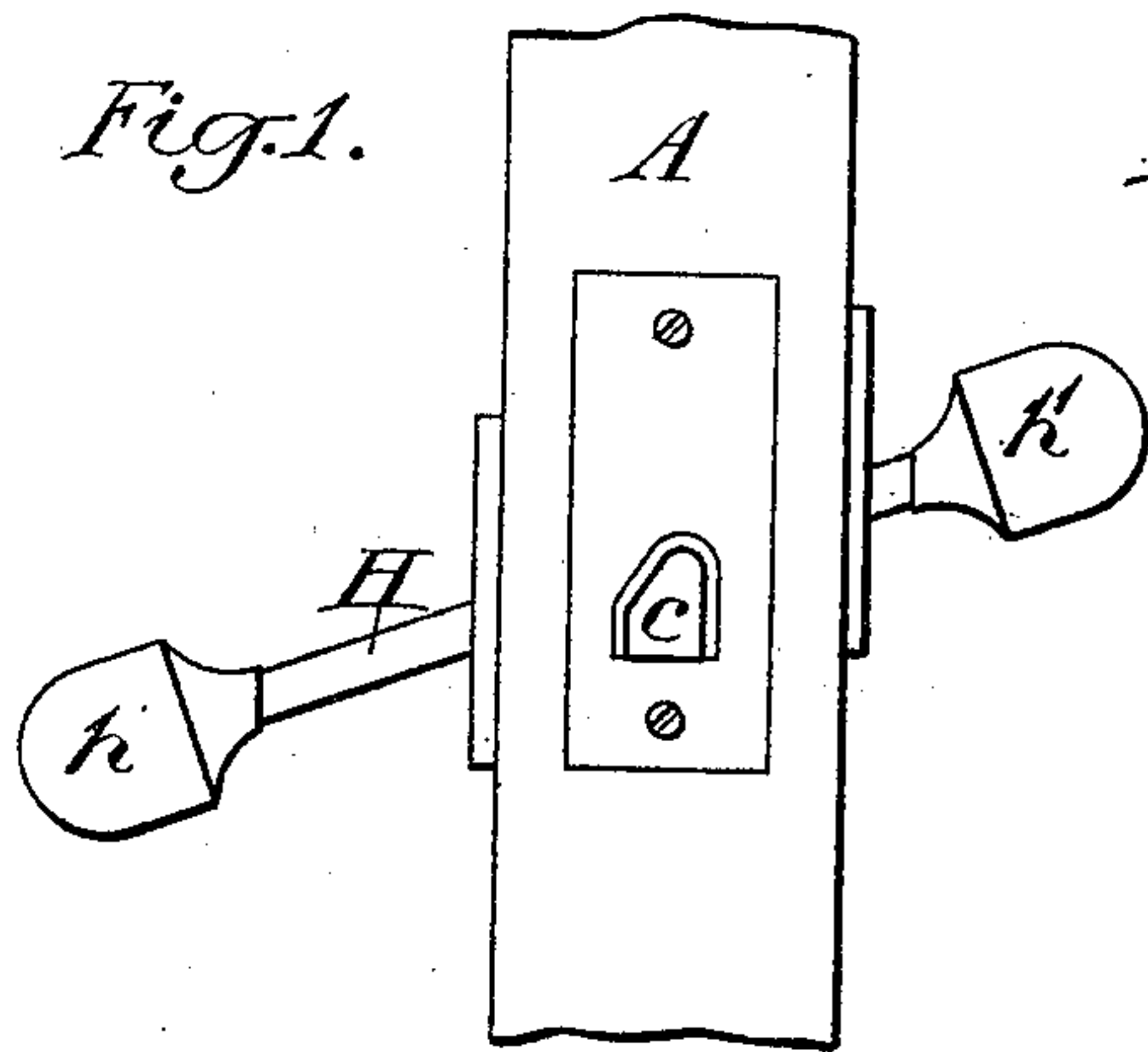
I. N. LAUDER.

Patented July 26, 1898.

LATCH.

(No Model.)

(Application filed Nov. 7, 1896.)



Witnesses:-
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UNITED STATES PATENT OFFICE.

ISAAC N. LAUDER, OF BINGHAMTON, NEW YORK.

LATCH.

SPECIFICATION forming part of Letters Patent No. 607,866, dated July 26, 1898.

Application filed November 7, 1896. Serial No. 611,426. (No model.)

To all whom it may concern:

Be it known that I, ISAAC N. LAUDER, of Binghamton, in the county of Broome and State of New York, have invented a new and useful Improvement in Latches, of which the following is a specification.

My invention relates to an improvement in latches, with the objects in view of producing a very simple and effective latch, one which is not liable to get out of order and in which the sliding bolt is positively moved in both directions, the bolt-operating mechanism being arranged to normally throw the bolt forward to the limit of its movement in that direction by gravity.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a partial end view of the door, its bolt and bolt-operating mechanism being shown in their normal position. Fig. 2 is a view of a portion of the inside of the door and its casing with my approved latch applied thereto. Fig. 3 is a transverse section through the door, showing the bolt and its operating mechanism in full lines in their normal position and in dotted lines the position of the parts when the bolt is forced backwardly to cause it to be released from its receiving mechanism in the casing; and Figs. 4 and 5 are horizontal sections and vertical sections, respectively, through the door, showing a modified form of bolt-operating mechanism in top plan and side views.

The door is denoted by A and the casing by B.

The sliding bolt is denoted by C, which bolt is mounted to slide freely in a suitable guide or socket plate D. The bolt C is provided with a tapered nose *c*, whereby the outer end of the bolt is of considerably less size than the body of the same. The bolt C is further provided with a socket *c'* for the reception of the bolt-operating mechanism, which slides the bolt positively forward and backward.

A suitable bolt-receiving mechanism E is mounted in the door-casing B, adjacent to the door A, in position to be engaged by the bolt C.

Proceeding to describe the form of the door-operating mechanism shown in Figs. 1, 2, and 3, a bolt-operating bar (denoted by H) has a

limited longitudinal sliding movement at substantially right angles to the movement of the bolt C, the said bolt-operating bar being provided at its opposite ends, at the front and back of the door, with suitable knobs or handles *h h'*. The bar H is caused to positively throw the bolt forwardly by means of a wedge *h²* along its outer side and caused to throw the bolt backwardly or inwardly by means of a wedge *h³*, located with its incline in a reverse direction to the incline upon the wedge *h²*, the wedge *h³* being located along the inner side of the bar H. These two wedges are so located with respect to each other that when the bar H is slid in one direction to cause the wedge *h²* to be released from engagement with the bolt the wedge *h³* immediately begins to take effect to force the bolt inwardly. These wedges are adapted to slide back and forth within the recess *c'*, hereinbefore referred to. The door is cut out adjacent to the bolt and bar, as shown at *a*, sufficiently to permit both of the handles *h h'* to pass therethrough for putting the bar H in position, whereby the said bar and handles may be made in a single piece, if so desired. The open ends of the space or cut-away portion *a* are closed by suitable plates *I I'*, which plates are provided with suitable slots *i i'*, through which the bar H slides. These plates *I I'* are preferably made in sections, so that they may be readily assembled around the bar H after the same has been placed in position to operate the bolt C. The bar H is arranged to slide on an incline in such a manner that the wedge *h²* will tend to force the bolt C forwardly as the said bar slides down to the limit of its downward movement by gravity. In this manner when it is desired to force the bolt C inwardly to release the door the bar H has to be slid against the influence of gravity. If so desired, the lower handle, in the present instance the handle *h*, may be weighted to quicken the gravity sliding action of the bar H.

In the form shown in Figs. 4 and 5 the bolt C is shown as being thrown positively forwardly and rearwardly by means of a double wedge of curved form connected to a rocking bar J by an arm *j**. The rocking bar J is pivoted at *j* between inwardly - extended flanges *k*, projecting from one of the plates

K K', in the present instance the plate K, which cover the open ends of the space *a* in the door. The rocking bar J is provided with suitable knobs or handles *j'* *j*² at its opposite ends, the handle *j'* being heavier than the handle *j*² for causing the front wedge *j*³ of the wedge portion to force the bolt C forwardly. When the handle *j'* or the handle *j*² is depressed, the bar J is rocked, thereby causing the rear wedge *j*⁴ of the curved wedge portion of the bar to engage the bolt C for forcing it positively to the rear to withdraw the same. The periphery of the wedge portion is preferably concentric with the pivot *j* of the rocking bar J. The space *a* in the door A is preferably of sufficient size in this form also to permit of the handle *j*² being passed therethrough, whereby the rocking bar J and its handles may be made of a single piece, if so desired.

It is evident that slight changes might be

resorted to in the construction and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim is—

In a latch, a suitable support, a bolt fitted to slide longitudinally therein and a movable bolt-operating bar having a reverse double-wedge portion engaging the bolt, the reverse inclines of the wedge being located upon opposite sides of the bar for positively forcing the bolt in both directions as the bar is reciprocated, substantially as set forth.

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

ISAAC N. LAUDER.

Witnesses:

B. H. NELSON,

Mrs. E. LAUDER.