

(No Model.)

C. H. AYARS.
LATCH.

No. 560,888.

Patented May 26, 1896.

Fig. 1.

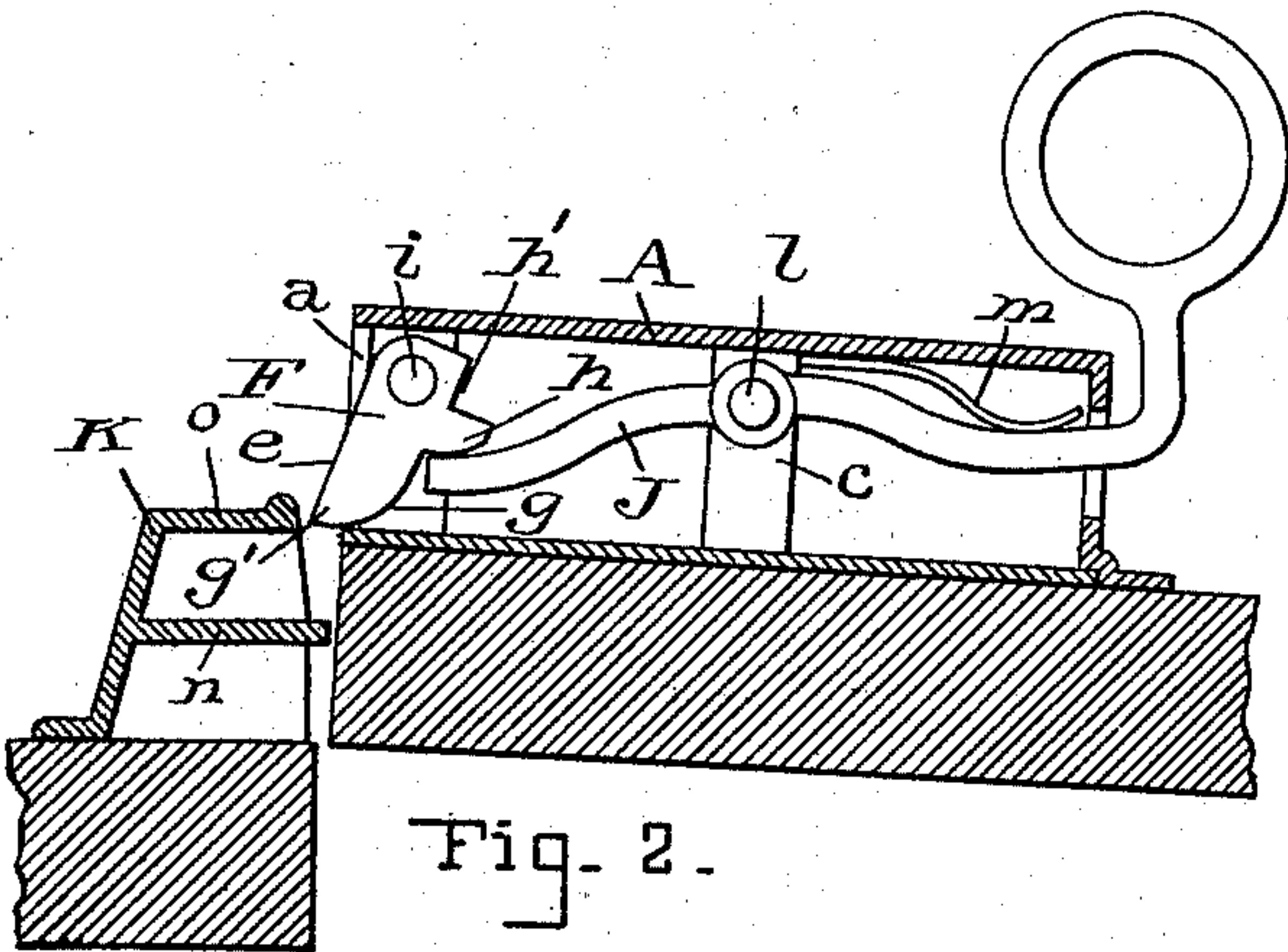
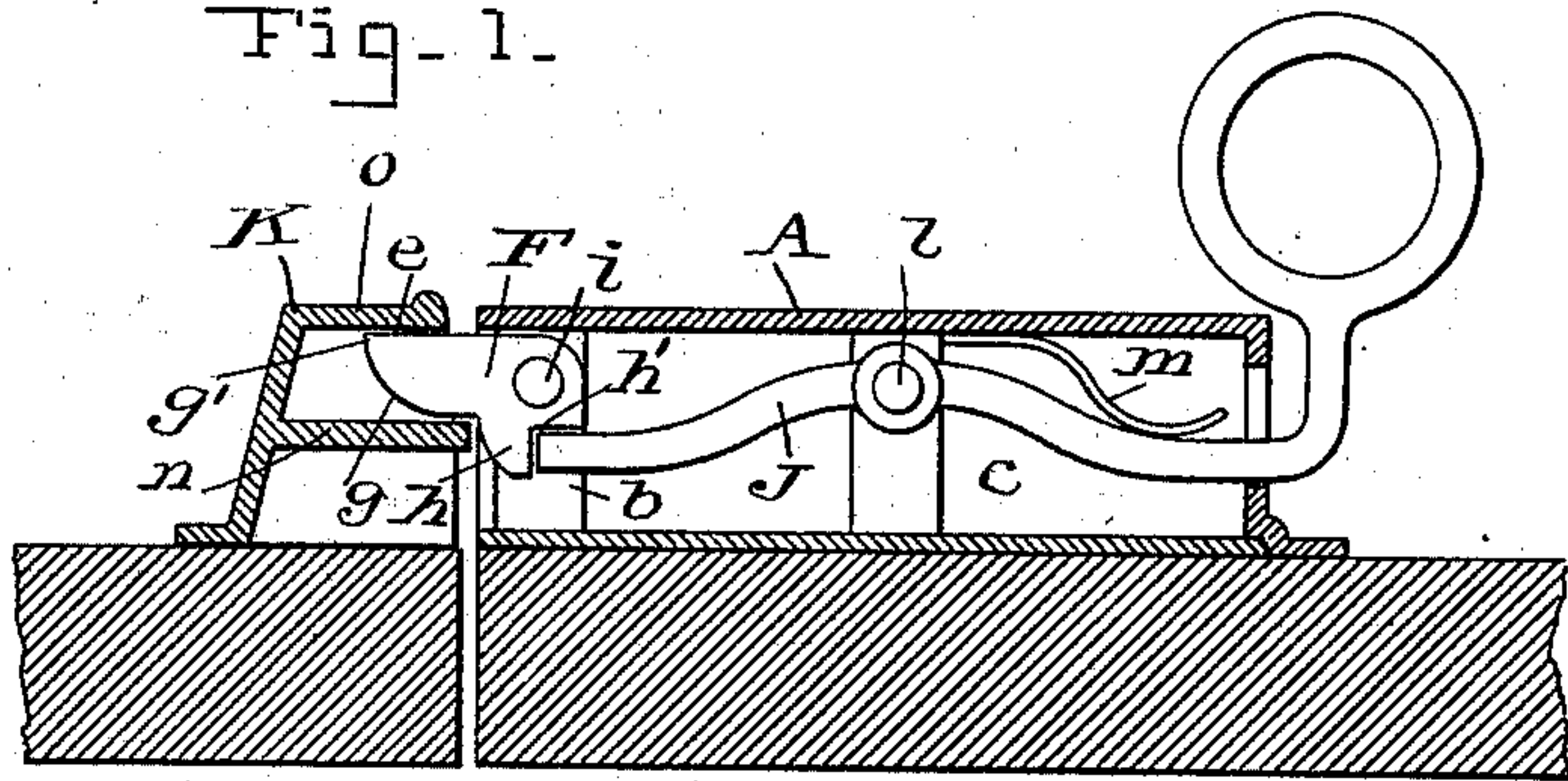


Fig. 2.

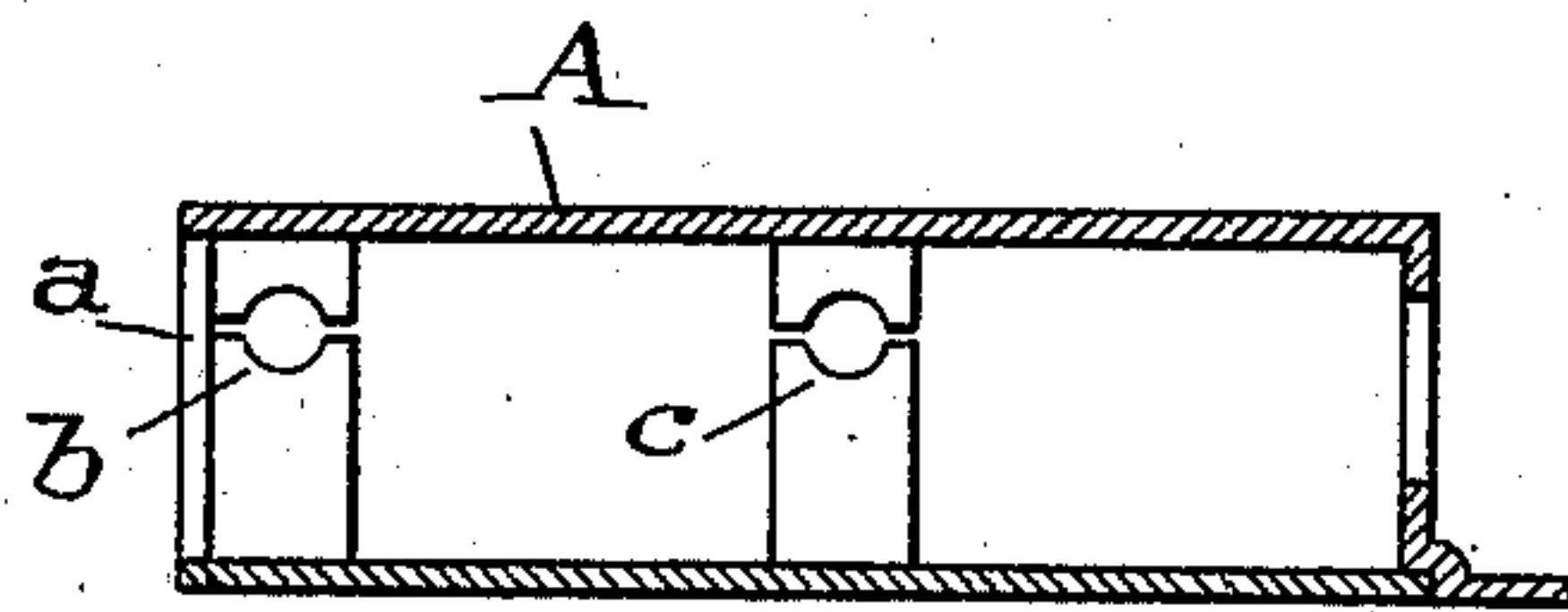


Fig. 4.

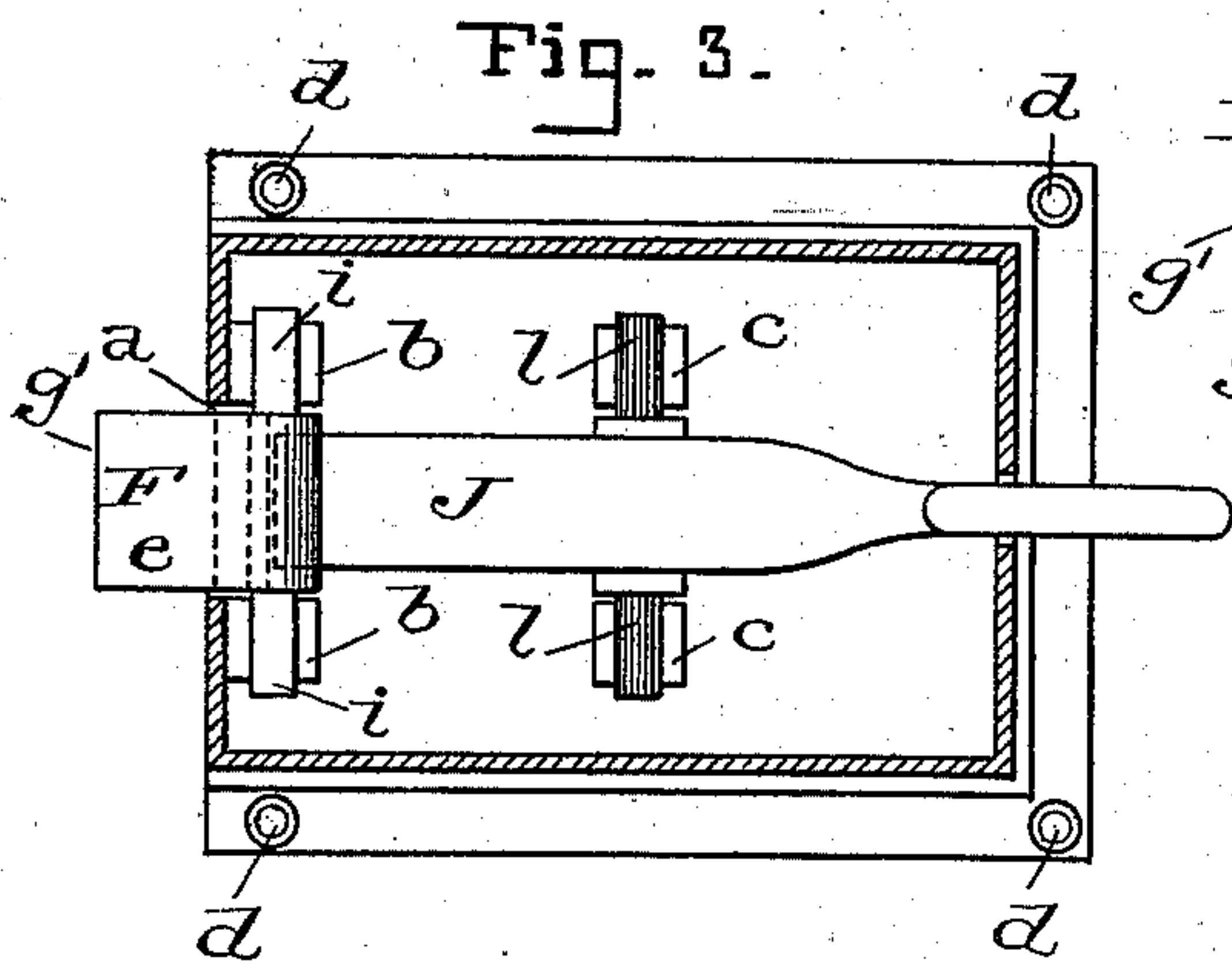


Fig. 3.

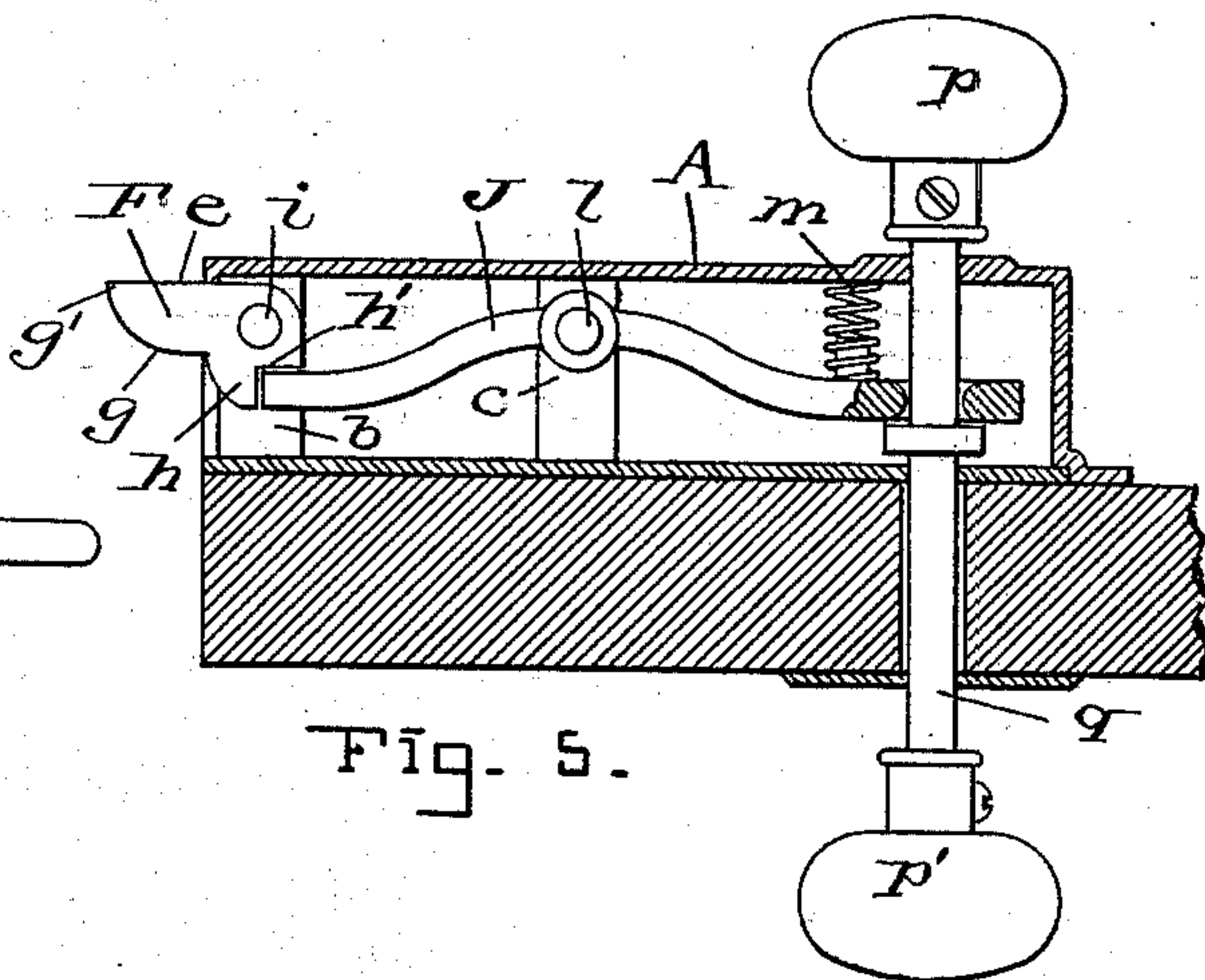


Fig. 5.

WITNESSES:—

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LATCH.

SPECIFICATION forming part of Letters Patent No. 560,888, dated May 26, 1896.

Application filed February 25, 1896. Serial No. 580,713. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. AYARS, a citizen of the United States, residing at Salem, in the county of Salem and State of New Jersey, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification.

This invention relates to an improved door-latch.

The object of the invention is to provide a door-latch which will be operative to unlatch and open the door by the act of merely pulling the handle on one side of the door or pushing the handle on the other side of the door.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a horizontal section of the latch parts in the engaged position. This form is suited for a cupboard-door. Fig. 2 is a similar view, but shows the position of the parts when the latch is disengaged from the catch. Fig. 3 is an inside elevation of the latch. Fig. 4 is a section of the latch-case, showing the pivot-bearings. Fig. 5 is a view of the latch with two knobs. This is a form suited for any door.

The letter A designates a box or case for the several movable parts of the latch. This case has pivot-bearings *b* for the latch proper and pivot-bearings *c* for the retaining-bar. The case also has holes *d* for bolts which fasten it to the door.

The latch F is pivoted in the case and swings to an inward position when disengaged and to an outward-projecting position when engaged. An opening *a* in the side of the box-case affords space for the latch to swing in and out. One face *e* of the pivoted latch is flat, and the opposite face *g* is curved, which curve intersects the said flat face, forming a curved point *g'*. A lug or shoulder *h* projects from the curved face near its heel end and forms a notch *h'*, and a pivot or trunnion *i* is on each side. These take in the bearings *b*. A movable retainer-bar J in the case has one end which enters the notch *h'* and engages with the shoulder *h* of the latch, and thereby holds the latch in the locked position.

This retainer-bar can be moved to withdraw its end from the notch, and then the latch may tilt and disengage from the catch K. In this instance the retainer-bar has pivots *l*,

which take in the bearings *c* in the case, so as to allow the bar a tilting movement. A spring *m* acts on the bar and tends to keep it normally pressed, so that the end which engages the latch may normally be in position to effect engagement whenever said latch is turned the proper way to admit of such engagement. The retainer-bar may be operated by a suitable handle, ring-pull, or knob of any material, so as to move said bar against the pressure of the spring *m*, and thus disengage the latch F. When the latch is disengaged and the door opens, the latch will take the position shown in Fig. 2, its curved face *g* being partly within the opening *a* of the case, but its point *g'* projecting.

A catch or keeper K, similar to those used for ordinary box-locks, is to be secured to the frame of the door. This catch differs, however, from the ordinary catches in that it has a trip-plate *n*, which is parallel with the outer flange-plate *o*, with which the catch F engages. The edge of this trip-plate *n* projects farther than the edge of the flange-plate *o*. In other words, the edge of the trip-plate on the frame must be nearer to the box-case A on the door than the said flange-plate edge. By this construction, when the door is swung to close it, the projecting point end *g'* of the latch will pass the outer flange-plate *o* of the keeper and strike the said projecting trip-plate *n* thereof, and thereby the curved face of the latch will slide on the trip-plate and the latch will be tripped or tilted to the locked position and wholly concealed in the keeper.

Whatever form of handle is employed to move the retainer-bar J, the shank of said handle must project through a suitable opening in the case. In Fig. 5 the two knobs *p p'* are attached to a shank *q*, which passes through the latch-case, and said shank is loosely connected to the retainer-bar. This shank does not turn, but has an endwise movement. Normally the spring *m* keeps the shank and two knobs pressed toward one side. To unlatch and open the door, the knob *p* on one side must be pulled or the other knob, *p'*, must be pushed.

It is obvious that various changes may be made in the details of constructing the retainer-bar and attaching the handle thereto without departing from my invention.

Having thus described my invention, I claim—

In a latch, a keeper having the ordinary flanged outer plate, *o*, and a separate trip-plate, *n*, whose edge projects beyond the edge of said outer flanged plate; combined with a latch-case having a single-pronged latch, *F*, pivoted in the case and provided with an outer flat face, *e*, and an opposite curved face, *g*, which curve intersects the said flat face and forms a curved point end *g'*—the said flat face and point end always projecting exteriorly of the case-opening, so that upon closing the

door said point end will pass the said outer flanged plate of the keeper and strike the said projecting trip-plate thereof, whereby the curved face will slide on the trip-plate and thereby the latch will be tilted to the locked position and wholly concealed in the keeper.

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

CHARLES H. AYARS.

Witnesses:

WM. H. HAZELTON,
I. OAKFORD ACTON.