

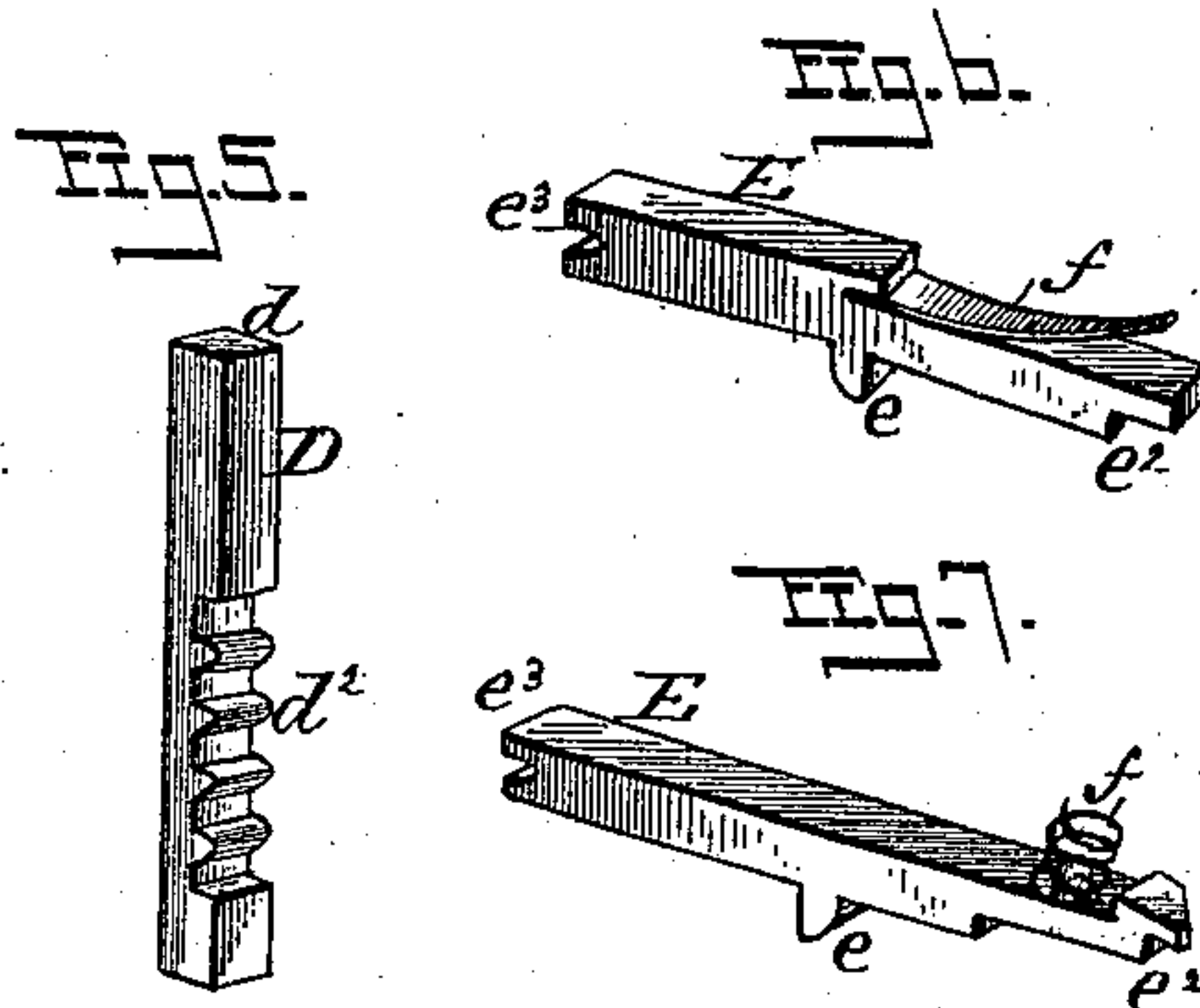
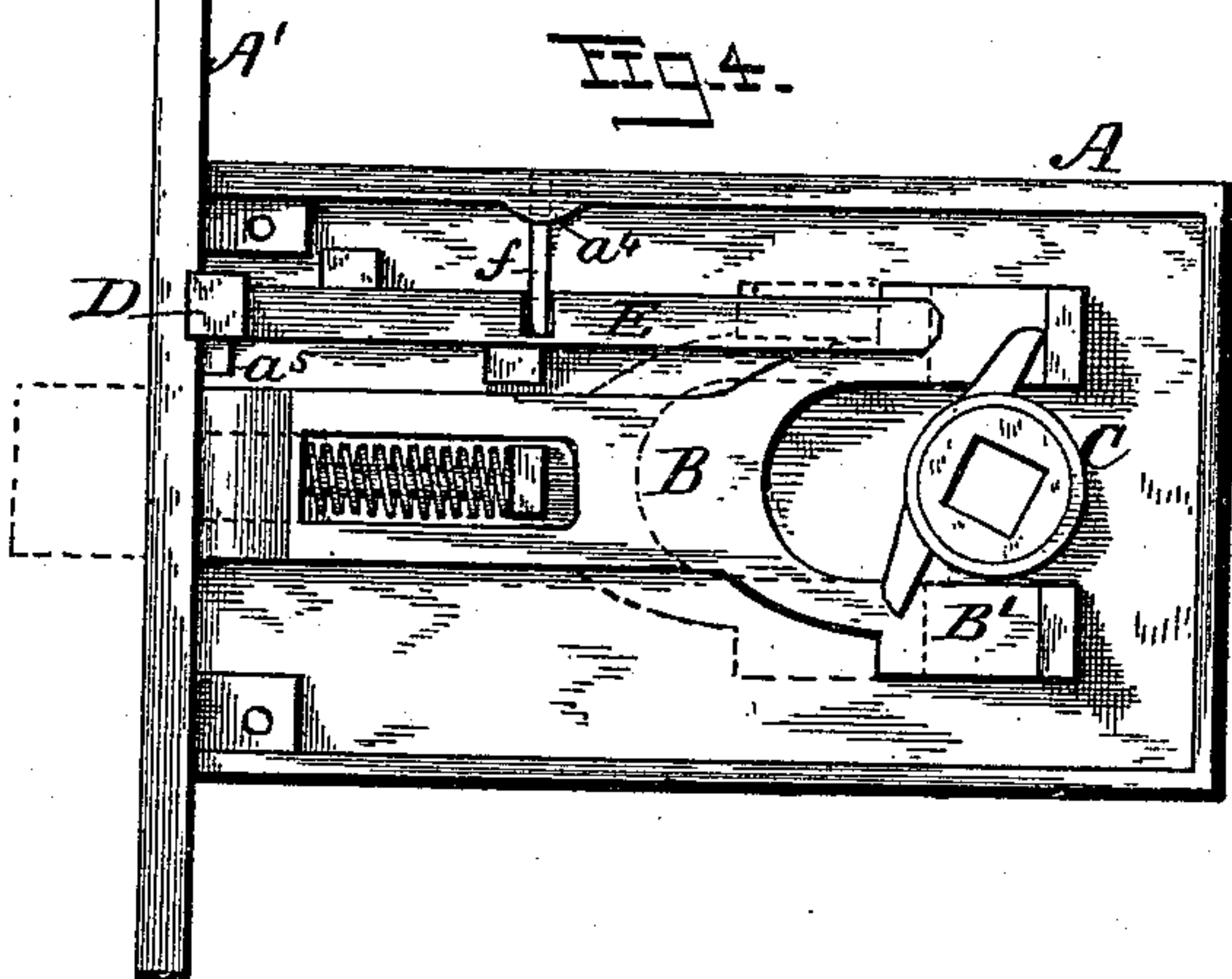
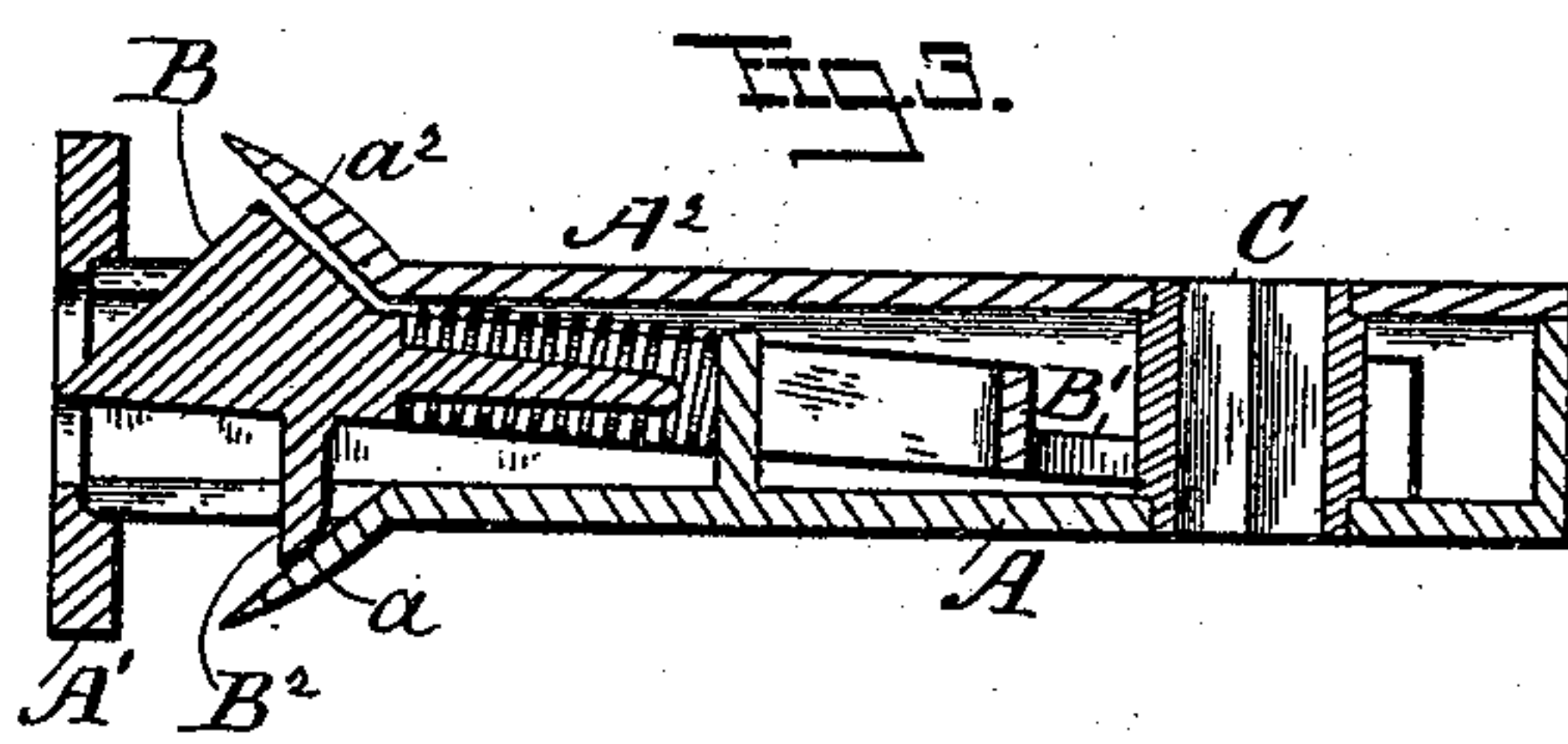
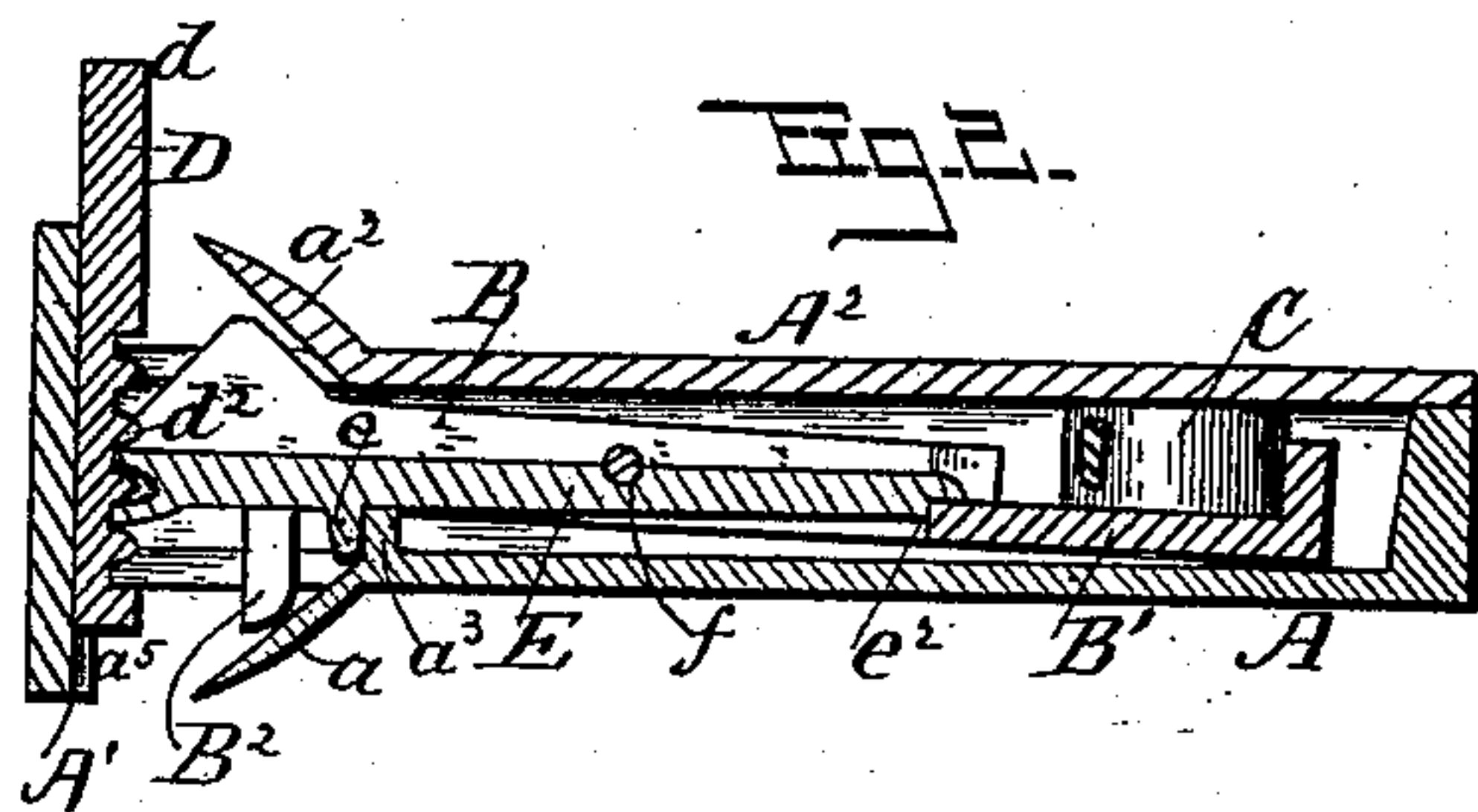
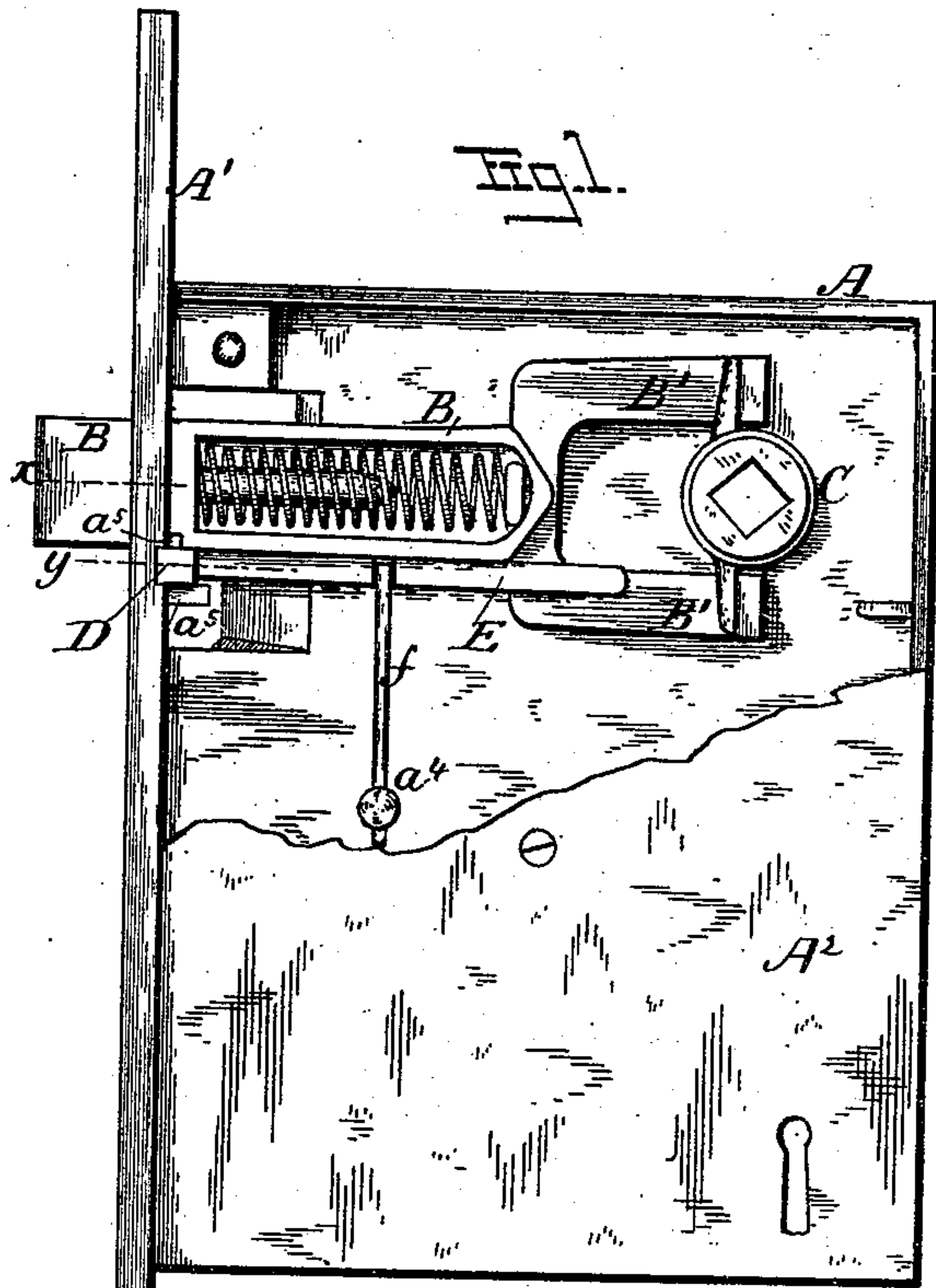
(Model.)

W. B. CANTRELL.

LATCH.

No. 355,680.

Patented Jan. 11, 1887.



Witnesses:
E. Murdeman.
W. B. Masson

Inventor:
William B. Cantrell,
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atty.

UNITED STATES PATENT OFFICE.

WILLIAM B. CANTRELL, OF PORTLAND, OREGON, ASSIGNOR OF TWO-THIRDS
TO ELIJAH Y. JEFFERY AND SYLVESTER W. RICE, BOTH OF SAME PLACE.

LATCH.

SPECIFICATION forming part of Letters Patent No. 355,680, dated January 11, 1887.

Application filed May 28, 1886. Serial No. 203,530. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM B. CANTRELL, a citizen of the United States, residing at Portland, in the county of Multnomah, State of Oregon, have invented certain new and useful Improvements in Latches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in door-latches in which are used a spring-bolt with hand-knobs and a device for holding the latch-bolt retracted while the door is open, to prevent the jar and noise incident to the forcing back of the latch, and also prevent injury to the latter and to the keeper while closing the door; and the object of my invention is to render the bolt-releasing pin adjustable in its relation to the bolt-holding lever for doors of different thicknesses; to provide said lever with an integral fulcrum, and to shift the outer end of the latch-bolt laterally while retracting it, so as to strike the central portion of the opening made in the keeper for its reception. I accomplish these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a mortise-lock with the cover partly broken away to show the spring latch-bolt having the locking, releasing, and shifting devices constructed in accordance with my invention. Fig. 2 is a horizontal section on line *y y* of Fig. 1. Fig. 3 is a horizontal section on line *x x* of Fig. 1. Fig. 4 is a side view of a spring door-latch, showing the locking and releasing devices on the opposite side of the latch-bolt from that shown in Fig. 1. Fig. 5 is a perspective view of the adjustable releasing-pin. Figs. 6 and 7 represent in perspective bolt-holding levers provided with different forms of springs.

In said drawings, A represents the frame of the lock, and A' its front plate. Within said frame is retained the latch-bolt B, slotted, as usual, for the reception of its spring, and having at its rear end two branches, B', provided with lugs for engagement with the ears of the latch-tumbler C. To insure the entrance of the point of the latch-bolt into the opening made for its reception in the keeper or plate secured to the door-jamb when the latch-bolt is released, said latch-bolt is provided on one

side with a lug, B², which is adapted to move upon an inclined lip, *a*, formed upon the case of the lock adjacent to the position occupied by the latch-bolt, so that when the latter is drawn within the lock-case it forces the bolt laterally, to insure its entrance into the opening in the keeper without striking the metal body thereof.

The cover A² of the lock is provided with a similarly-inclined lip, *a*², to partly cover an opening made therein to permit the latch-bolt to occupy this lateral position when retracted by the spindle of the door-knobs acting upon the latch-tumbler.

To release the retracted latch-bolt at the time it comes opposite the keeper, there projects laterally from the lock-case a pin, D, preferably square in cross-section, and the end *d* of said pin projects slightly beyond the face of the door and strikes against the door-jamb. The pin D is connected with the latch-bolt by means of a lever, E, that is pivoted upon a short rib, *a*³, projecting from the lock-case, by means of a lug, *e*, projecting from the side of said lever at a point from one-half to one-fourth of its length. The rear end of the lever E has a shoulder, *e*², to bear against the front edge of one of the branches B' or other projecting portion of the latch-bolt, and keep it retracted. The rear end of the lever E is pressed into engagement with the bolt by a spring, *f*, preferably made of a straight piece of spring-wire, secured at *a*⁴ to the lock-case, as shown in Figs. 1 and 4; but it may have a flat or a coiled spring, as shown at *f* in Figs. 6 and 7, to bear against the cover of the lock-case. The front end of the lever E may be provided with one or more projections, *e*³, to engage with depressions in the side of the pin D. To permit this pin D to be adjusted to doors of different thicknesses, it has on its inner sides a series of rack-teeth or depressions, *d*², either one of which can enter into engagement with the front end of the lever E. The pin D is guided between ribs *a*⁵, projecting from the rear of the front plate, A', or from the lock-case.

Having now fully described my invention, I claim—

1. The combination of a lock-case and spring-bolt with a pin, D, provided with rack-teeth

or a series of depressions, d^2 , and a lever, E, provided with a fulcrum-lug, e , and a shoulder, e^2 , for connecting said pin with the spring-bolt, substantially as described.

5 2. The combination of a lock-case provided with a rib, a^3 , and spring-bolt, with a lever, E, provided with a fulcrum-lug, a spring bearing upon its inner end, and a pin provided with rack-teeth in engagement with its outer
o end, substantially as and for the purpose described.

3. The combination of a lock-case provided with an inclined lip, a , on the outside thereof, with a spring latch-bolt having a lug, B^2 ,
5 adapted to ride upon said inclined lip, substantially as and for the purpose described.

4. The combination of a lock-case provided with an inclined lip, a , and a spring-bolt having a lug adapted to ride thereon, with a lever, E, a spring pressing thereon in the rear of its
fulcrum, and a pin in engagement with the
front end of said lever, substantially as and
for the purpose described.

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

WILLIAM B. CANTRELL.

Witnesses:

S. B. RIGGEN,

B. F. CLAYTON.