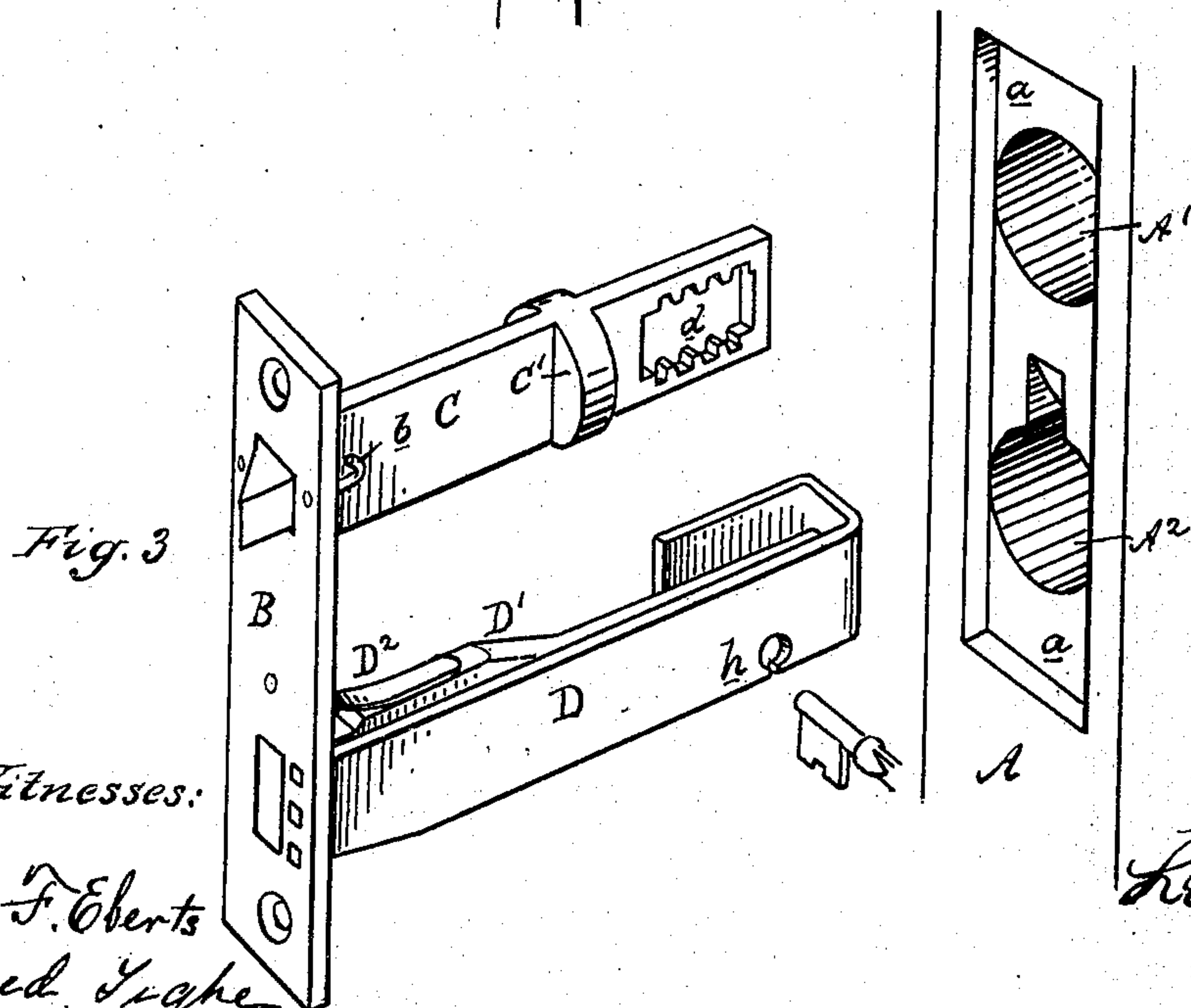
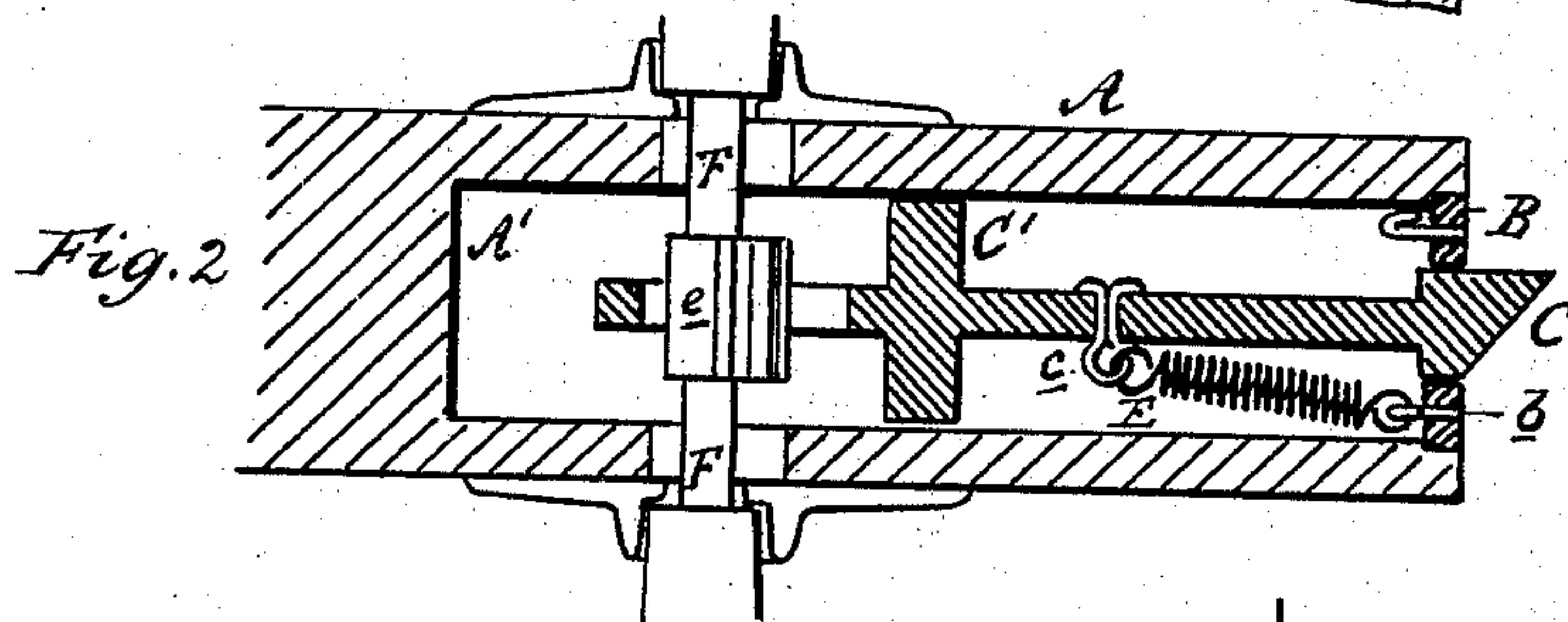
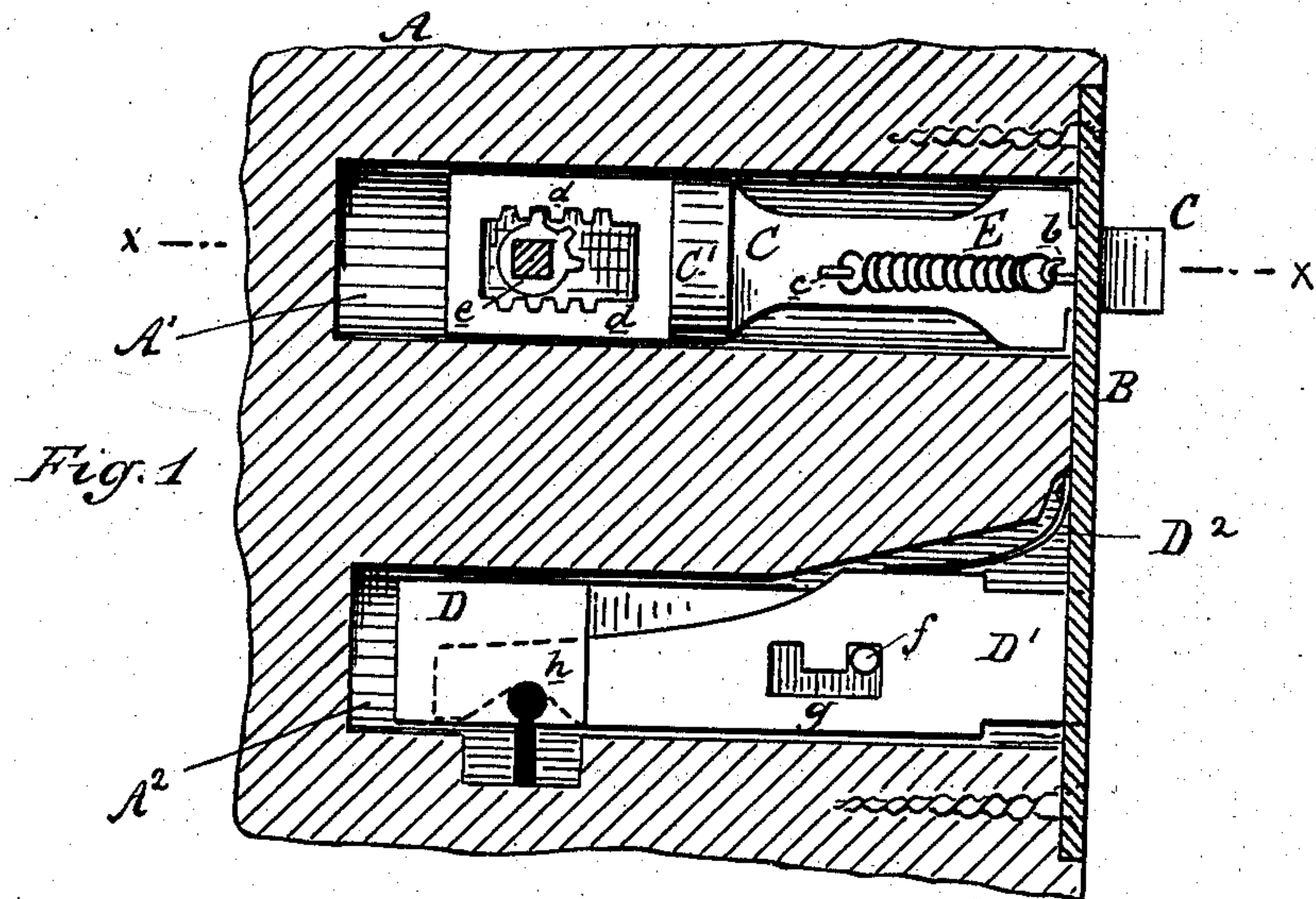


(No Model.)

L. TIGHE.  
MORTISE LOCK.

No. 322,505.

Patented July 21, 1885.



*Witnesses:*

26. F. Eberts  
Fred. L. L. L.

Inventor:  
Lewis Figue



# UNITED STATES PATENT OFFICE.

LEWIS TIGHE, OF DETROIT, MICHIGAN.

## MORTISE-LOCK.

SPECIFICATION forming part of Letters Patent No. 322,505, dated July 21, 1885.

Application filed October 30, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS TIGHE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Mortise-Lock, of which the following is a specification.

My invention relates to improvements in mortise-locks of that class which are not cased, and are adapted to be set in the door by simply boring two holes in the edge thereof; and the objects of my improvements are, first, to provide an improved means for longitudinally moving the latch-bar by the partial rotation of the knob-spindle; second, to provide the latch-bar (which is flat) with a guide for keeping it in line in its socket; third, to provide a frame, riveted at one end to the lock-face, which will support the tumbler-bolt and also furnish a bearing for the pin of a flat key; and, lastly, to simplify and cheapen the cost of the lock and reduce the time required to set it in the door. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation of my lock, showing also in vertical section part of a door in which it is set. Fig. 2 is a horizontal section of same at *xx* in Fig. 1. Fig. 3 is a detached perspective view of the lock and key and of a part of a door bored and countersunk on edge to receive the lock.

Similar letters refer to similar parts throughout the several views.

A represents the edge of a door, countersunk, as at *a*, to receive the face-plate B of my lock.

A' A' are two holes bored longitudinally in the door in horizontal plane to receive the latch-bar C and frame D.

C' is a disk, cast or otherwise, secured on the bar C, seven-eighths of an inch in diameter, to guide it in its movements in the hole A'. A spiral spring, E, is engaged at its outer end with one of the hooks, *b*, at the back of the face-plate, and its rear end hooks into a staple, *c*, in the latch-bar, thereby causing its beveled outer end to protrude from the slot in which it slides as far as the stop-shoulder will allow it. The rear end of the latch-bar is an open frame, at the top and bottom of which is a toothed rack, *d*, with which engages a segment-pinion, *e*, located on the knob-spindle F, and secured within the slot between the upper and lower racks, *d*, by collars on each

side of the hub. The spindle is inserted so as to engage the segment with either the upper or lower rack to withdraw the latch-bar within the hole A', so as to permit the opening of the door, and at the same time the latch-bolt may be reversed in the face-plate mortise, as required for right or left hand doors, two hooks, *b*, being riveted to the face-plate to engage the spring E, as seen in Fig. 2, in either position.

The frame D is a flat plate riveted at its front end to the face-plate at one side of the bolt-mortise. Its rear end is rectangularly bent upon itself so as to form an open-ended frame.

D' is the tumbler-bolt, whose outer end is supported in a slot in the face-plate. A stud, *f*, on the frame D, projecting into its notched slot *g*, supports its inner end and locks it at either end of its throw. Two bearing-holes, *h*, in line near the lower edge of the frame, form a bearing for the pin of a flat-bitted key, shown in Fig. 3, and the frame is slotted out from the bottom of each hole to pass the key-bit, in the rotation of which the tumbler-bolt is lifted to clear the stop-notches from the stud *f*, and then thrown in the usual manner, dropping by gravitation at the end of the throw, so that the notch at the end of the slot will interlock with the stud *f*. To insure this interlocking, as well as to keep the bolt in place, an L-shaped spring, D<sup>2</sup>, may have one end riveted to the back of the face-plate, so that its free end may maintain a constant pressure upon the top edge of said bolt, as shown in Figs. 1 and 3, in which case the door is recessed to receive it at the top of the hole A', as shown.

The key and spindle holes are made in the door proper, in the usual manner.

This lock is not only simple and cheap of construction, but can be applied to a door in less than one-third of the time required to mortise the door for the ordinary cased lock.

What I claim as my invention is—

The face-plate B, having the plate-frame D, provided with slotted key-bearings *h*, and stud *f*, in combination with tumbler-bolt D', having notched slot *g*, and spring D<sup>2</sup>, and operating by a flat-bitted key, all arranged and operating substantially as described, and for the purpose set forth.

Witnesses:

H. F. EBERTS,  
FRED H. TIGHE.

LEWIS TIGHE.