

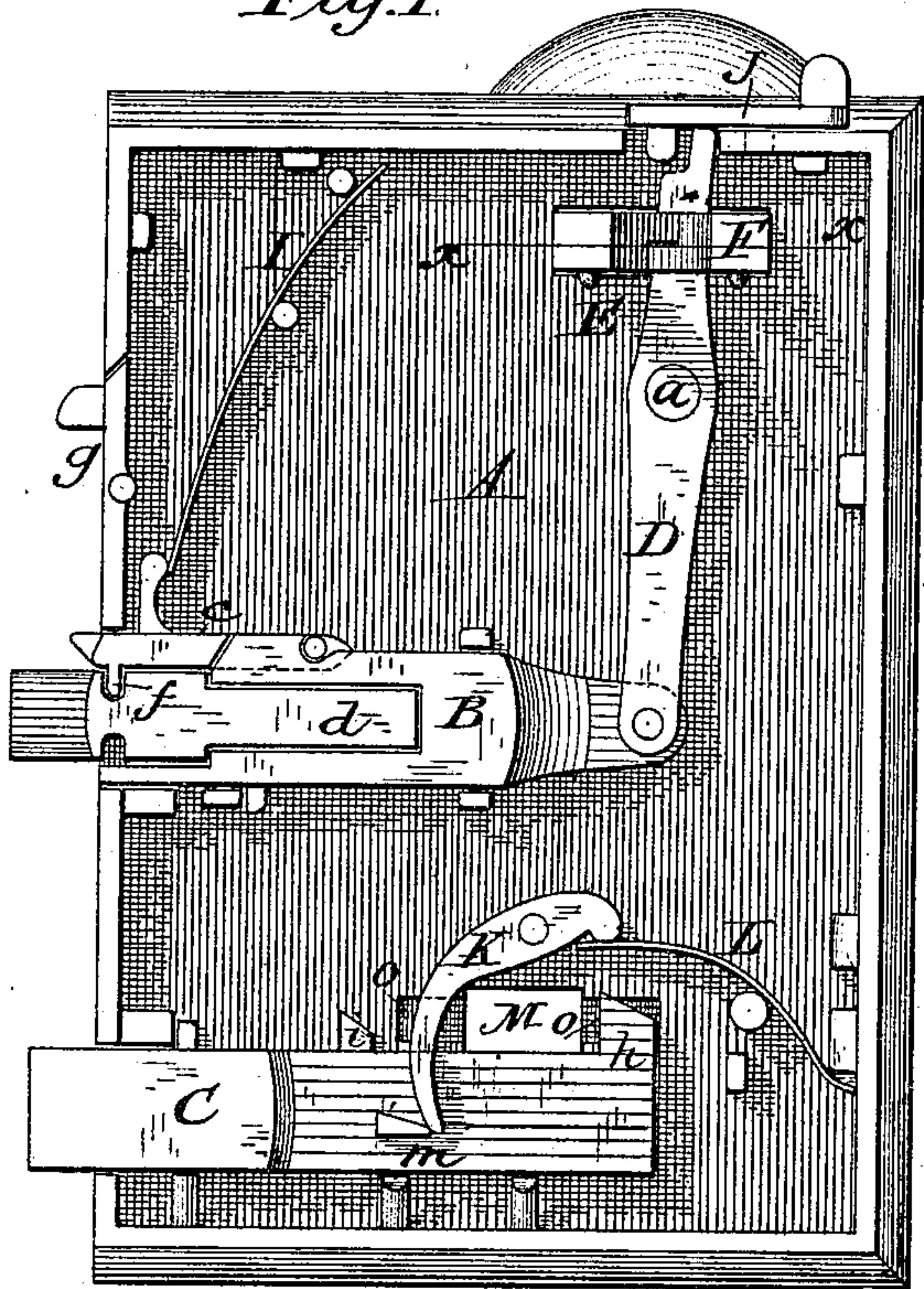
(Model.)

O. EWERS.  
LATCH AND LOCK.

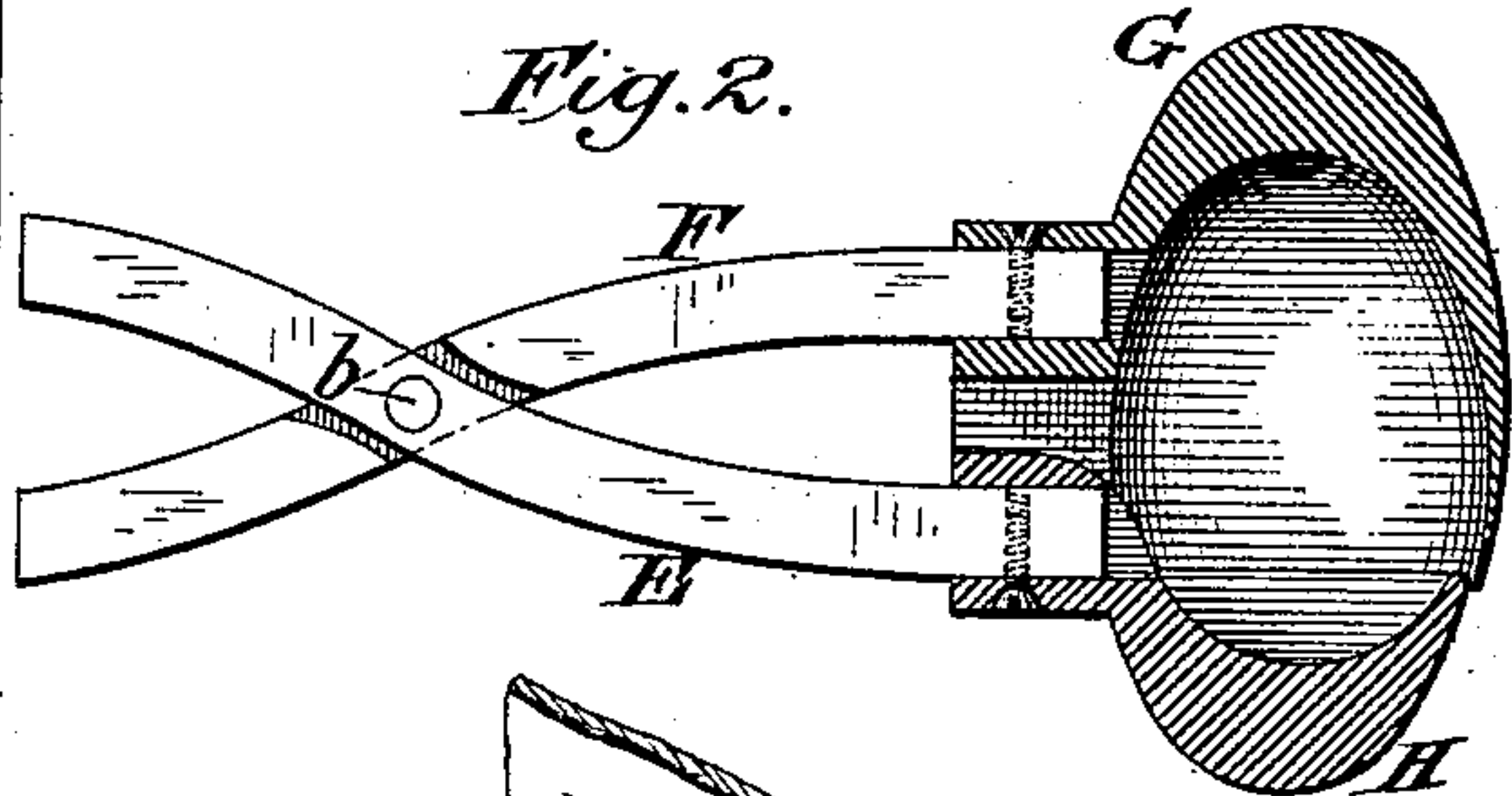
No. 252,870.

Patented Jan. 31, 1882.

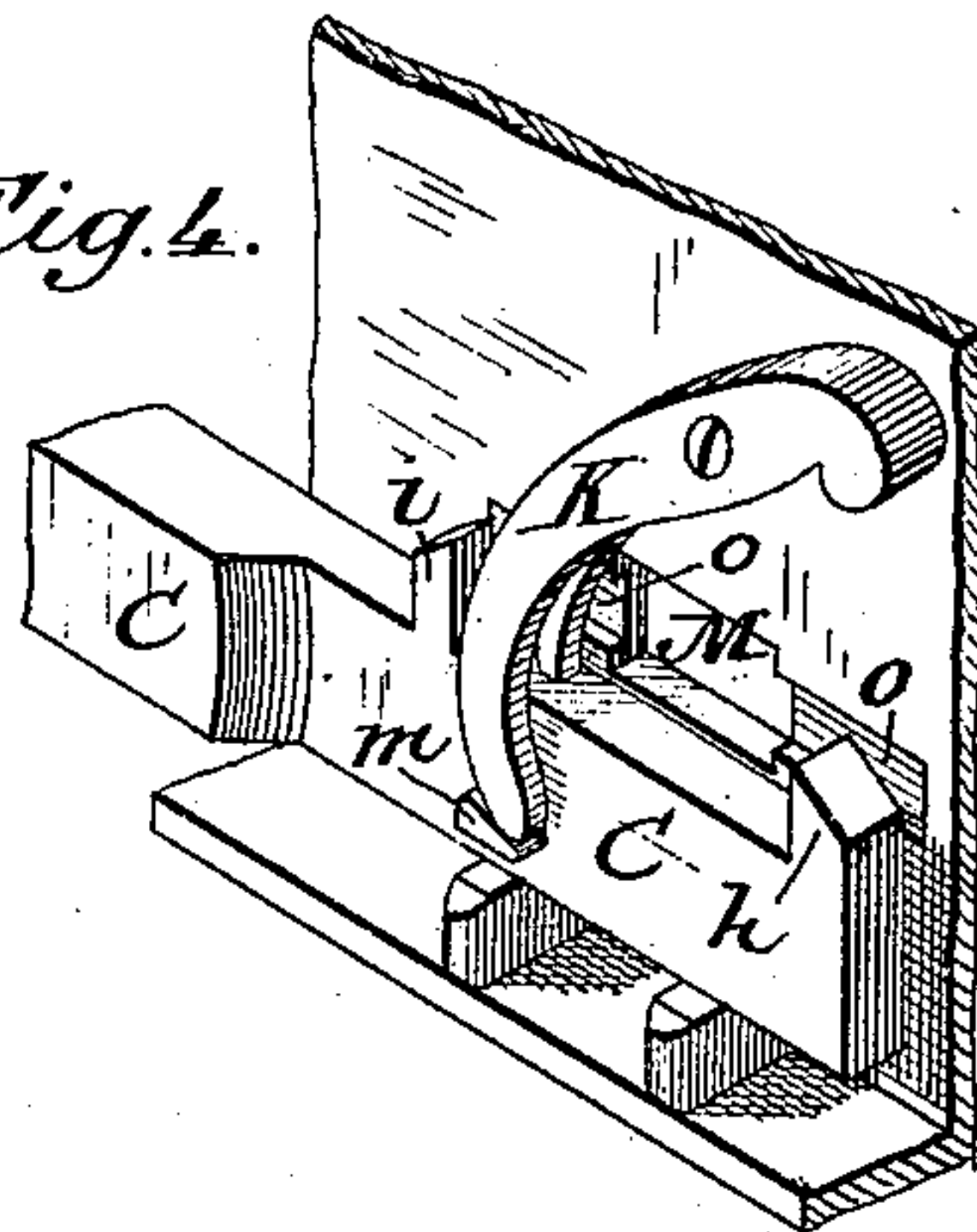
*Fig. 1.*



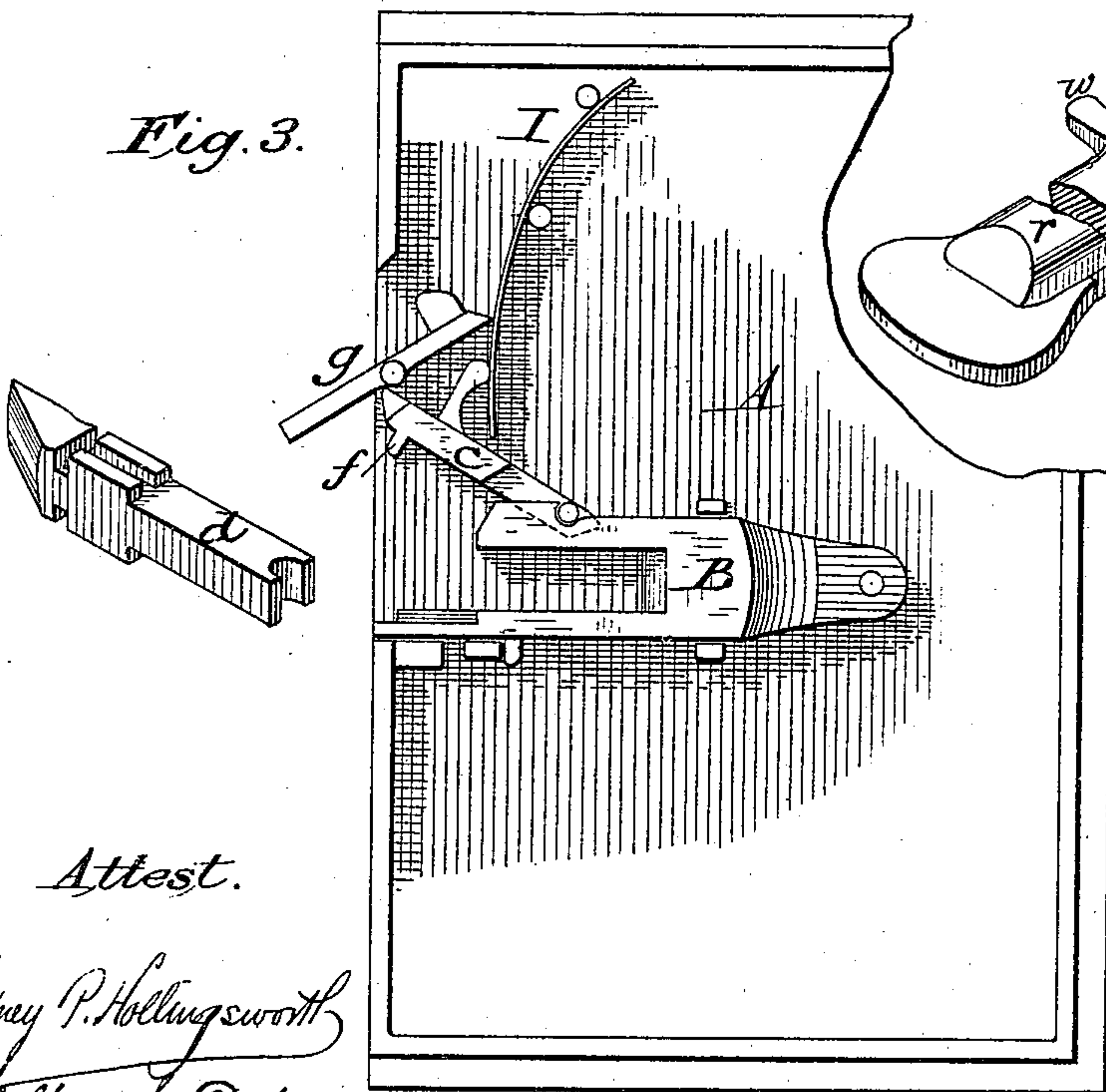
*Fig. 2.*



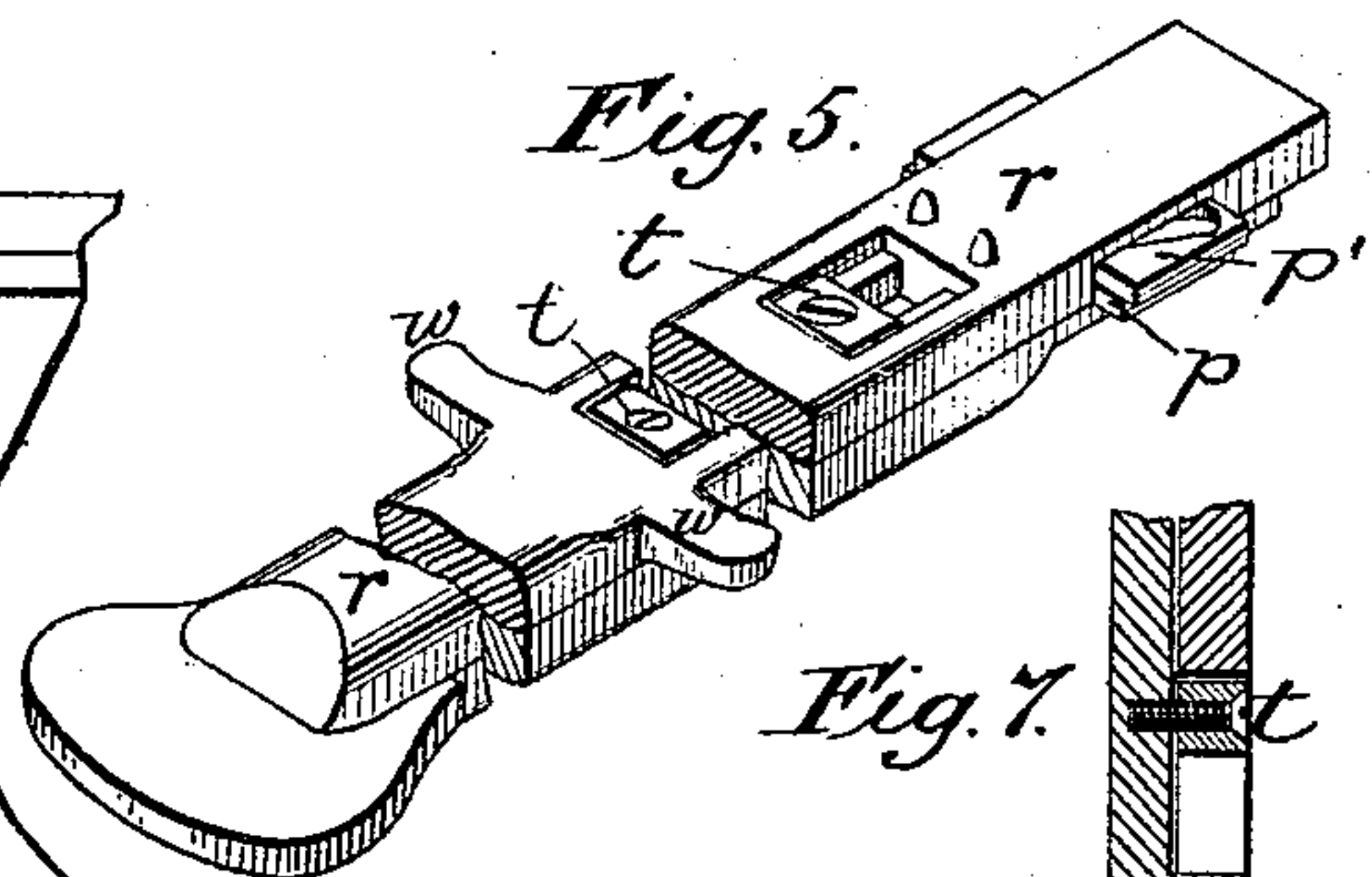
*Fig. 4.*



*Fig. 3.*

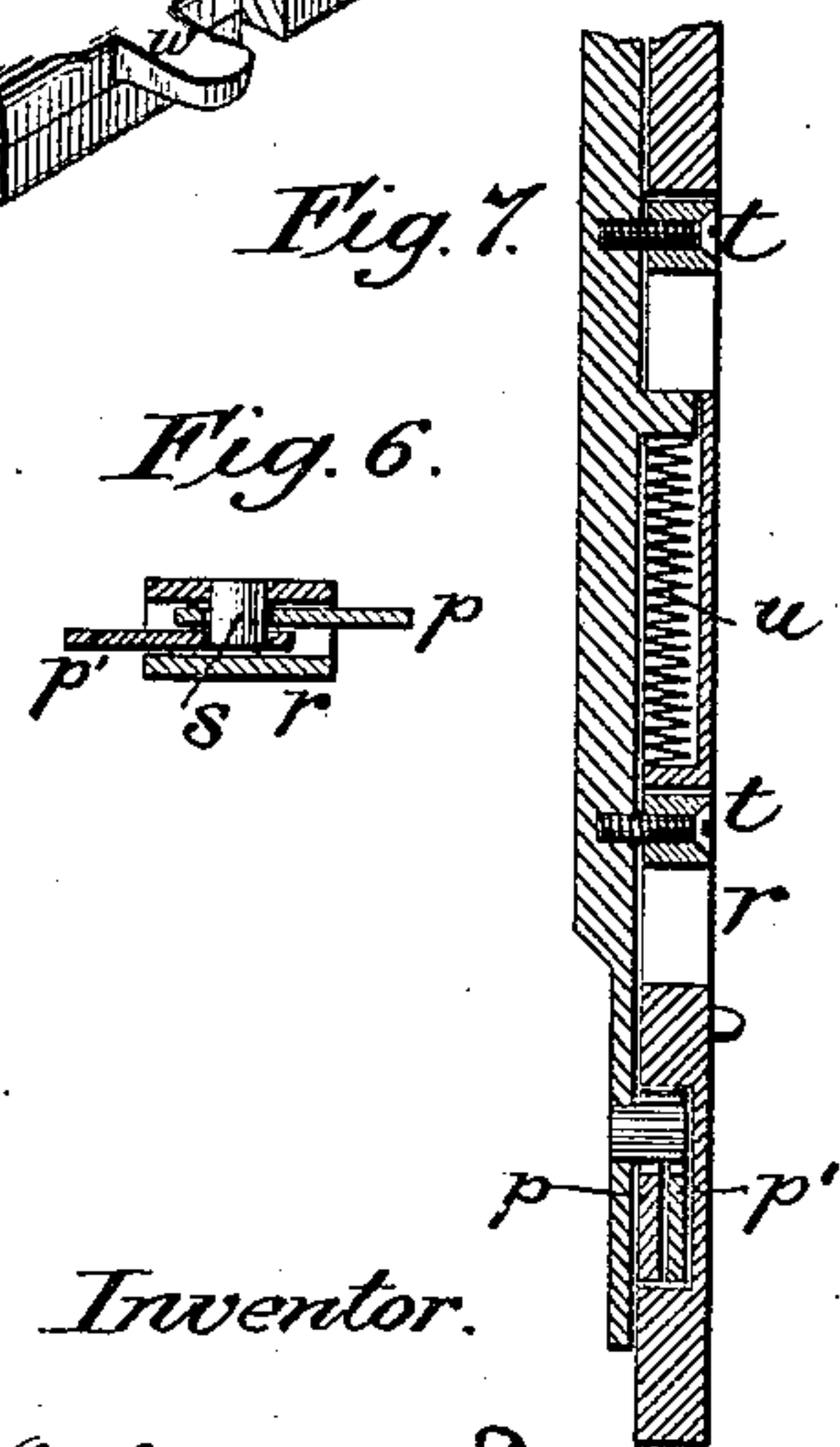


*Fig. 5.*



*Fig. 7.*

*Fig. 6.*



*Attest.*

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# UNITED STATES PATENT OFFICE.

ORLANDO EWERS, OF DE SOTO, WISCONSIN.

## LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 252,870, dated January 31, 1882.

Application filed May 13, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, ORLANDO EWERS, of De Soto, in the county of Vernon and State of Wisconsin, have invented certain Improvements in Locks and Latches, of which the following is a specification.

This invention relates to that class of combined locks and latches in which the latch-bolt is made reversible.

10 The invention consists in various details of construction, more especially in improved devices for operating the latch-bolt, in means for locking the same in its outward position, in a peculiar construction to permit the reversal  
15 of the latch-bolt, in the construction of the lock-bolt and the devices for securing the same, and in a key especially adapted for use in connection with my lock.

Figure 1 represents a face view of my lock  
20 with the covering-plate removed, the lock and latch bolts being both represented in their outward position. Fig. 2 is a horizontal section on the line *x x*, Fig. 1. Fig. 3 is a view illustrating the construction of the reversible latch-  
25 bolt. Fig. 4 is a perspective view, showing the construction of the lock-bolt and fastening devices. Figs. 5, 6, and 7 are views illustrating the construction of the key.

A represents the rectangular frame or case  
30 of the lock, B the sliding latch-bolt, and C the sliding lock-bolt. The latch-bolt B slides endwise, and is provided with a beveled protruding end, as usual. At its inner end it is pivoted to the lower end of a lever, D, which is  
35 mounted on a stud, *a*, within the case. The lever D is acted upon at its upper end to retract the bolt by means of a horizontal lever, E, this lever extending through the case of the lock on both sides, and being pivoted at  
40 the point *b* to a corresponding stationary arm, F, which also extends from both sides of the lock. The arm F is provided at each end with a knob, G, each knob being recessed in one side to receive a knob or enlargement, H, formed  
45 on the end of the lever E, as shown in Fig. 2.

The operator, grasping the knob, presses upon the end H of lever E with his thumb, thereby causing the lever E to act upon the upper end of lever D to retract the latch-bolt. The latch-  
50 bolt is urged forward by means of a spring, I, seated against studs on the inside of the case,

and bearing at its lower end against a lip on the upper side of the latch-bolt, as shown in Fig. 1. It will be observed that this is the only spring required in connection with the latch, and that after the operation of the latch  
55 this spring restores all the connecting parts to their original positions.

In order to prevent the retraction of the latch-bolt from the outside of the door when  
60 desired, a small thumb-piece, J, is pivoted to the top of the casing, as shown in Fig. 1, and provided with a lip, which may be engaged over the upper end of lever D, so as to prevent the latter from being moved.  
65

In order to permit the reversal of the latch for right and left hand doors, the beveled end is made in a separate detachable piece having a long neck, *d*, which extends backward within the body of the bolt, this detachable portion  
70 being provided with lips interlocking with the body to prevent lateral movement, and being held back in place within the bolt by means of a pivoted dog, *c*, secured to the body of the bolt and provided with a lip, *f*, which engages  
75 in the beveled piece, as clearly represented in Fig. 1. The latch-operating spring I, bearing against a lip on the upper part of the dog *c*, serves to keep the same in engagement with the removable portion of the latch. As an ad-  
80 ditional security to prevent the dog *c* from being accidentally disengaged, a small pivoted plate, *g*, is mounted in the front of the lock-casing, with its lower end resting above the dog *c*, as shown in Fig. 1. By pressing inward  
85 on the upper end of *g* its lower end is thrown outward from over the dog *c*, leaving the latter free to be turned upward, as shown in Fig. 3, whereupon the beveled end of the latch may be withdrawn, as shown in said Fig. 3, reversed,  
90 and again inserted in place. The dog *c* is cast in one piece with journals or pivots on its rear end, these journals being slipped loosely into the hook-shaped recesses in the upper edge of the bolt and retained in place therein by the  
95 pressure of the spring I.

The lock-bolt C, which slides endwise, as usual, is provided upon its upper side with two studs, *h* and *i*, and is also provided on one side with a stud, *m*. The bolt is secured in its  
100 locked and unlocked position by means of a pivoted dog or tumbler, K, pivoted in the cas-



ing above the bolt, and extending downward in such manner that its front end engages with the stud *m*. The rear end of the tumbler *K* is acted upon by a spring, *L*, resting against studs on the inside of the case, this spring urging the front end of the tumbler downward in contact with the stud *m*. Through the two sides of the case, immediately above the bolt *C*, I make a key-hole or opening, *M*, and on the inside of the case extend grooves or recess *o* outward from the sides of this key-hole. The lock-bolt thus constructed is operated by means of a peculiarly-constructed key. (Represented in Figs. 5, 6, and 7.) This key consists of a body or shank provided with two transverse sliding bits, *p* and *p'*, arranged to be projected on opposite sides. The projection and retraction of the bits are secured by means of a sliding bar, *r*, mounted on the shank or body of the key, and provided with a stud, *s*, which works in oblique slots in the bits. The bar *r* is secured to the body of the key by slots and studs *t*, as shown, and is urged forward, so as to automatically withdraw the bits, by means of a spiral spring, *u*, mounted between the two parts, as shown in Fig. 7. The sliding bar *r* is provided at one end with two lateral projections, *w*, by means of which the attendant, holding the key in his hand, can readily draw back the bar *r* to cause the projection of the bits *p*, one of which will be extended to a greater distance than the other. When the lock bolt is in its projected or locked position, with the dog *K* resting behind the stud *m*, as shown in Fig. 1, the unlocking is effected by introducing the key into the key-hole in such position that the long bit *p* will bear against stud *h*, while the short bit *p'* will bear against the rear side of the dog *K*. Upon drawing the bar *r* outward, the bit *p'* raises the dog *K* from the stud *m*, thereby releasing the bolt, after which the bit *p'*, acting against the stud *h*, forces the

bolt backward. The projection of the bolt is secured in like manner, the key being, however, turned the other side up, in order that the long bit may act against both the stud *i* and the dog *K*, in order to unlock the bolt and force the same forward.

Having thus described my invention, what I claim is—

1. In combination with the latch-operating devices, the fixed arm *F*, provided with a knob-like head, and the pivoted arm *E*, having one end arranged to operate the latch mechanism and the opposite end seated in a recess in one side of the before-mentioned head.

2. In combination with the reversible latch end *d*, the bolt *B*, the dog *c*, having one end provided with journals seated in the hook-shaped notches of the latch-bolt, and the spring *I*, applied as shown, whereby it is caused to serve the threefold purpose of throwing the latch, maintaining the connection between the dog and latch, and keeping the dog normally in a locked position.

3. In combination with the recessed latch-bolt *B*, the reversible nose *d*, the dog *c*, and the pivoted locking device *g*, arranged to engage over the nose of the dog, as shown.

4. The lock-bolt provided with the lateral stud *m*, the upright shoulders *h* and *i*, adapted to be acted upon by the key for throwing the bolt, and the pivoted dog *K*, having its lower end arranged to engage behind the stud *m*, to prevent the retraction of the bolt, substantially as described.

5. In combination with the key-body, the sliding bar *r*, mounted thereon, and the two obliquely-slotted transversely-sliding bits *p p'*, as described and shown.

ORLANDO EWERS.

Witnesses:

D. A. STEELE,  
W. R. LANE.