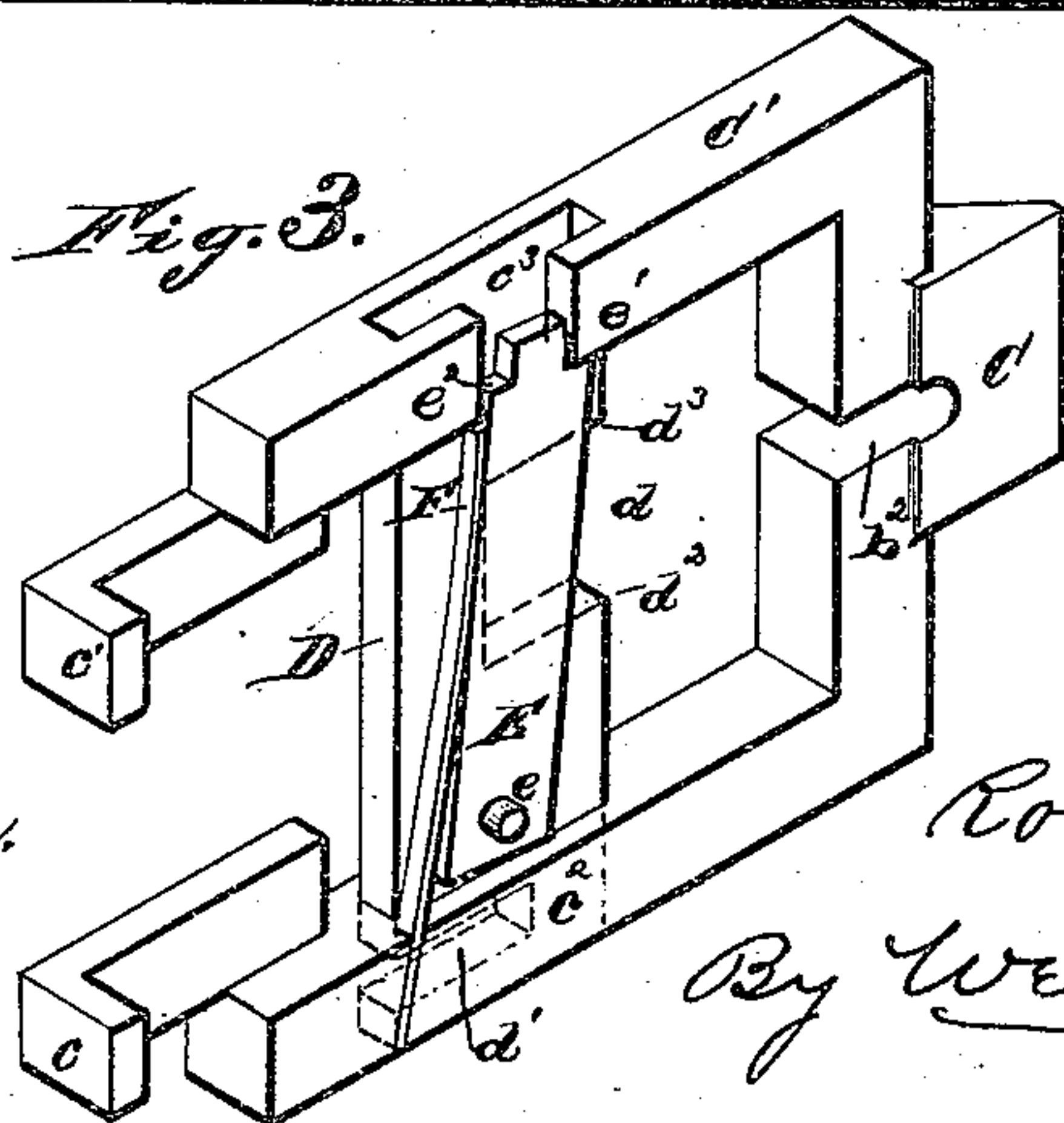
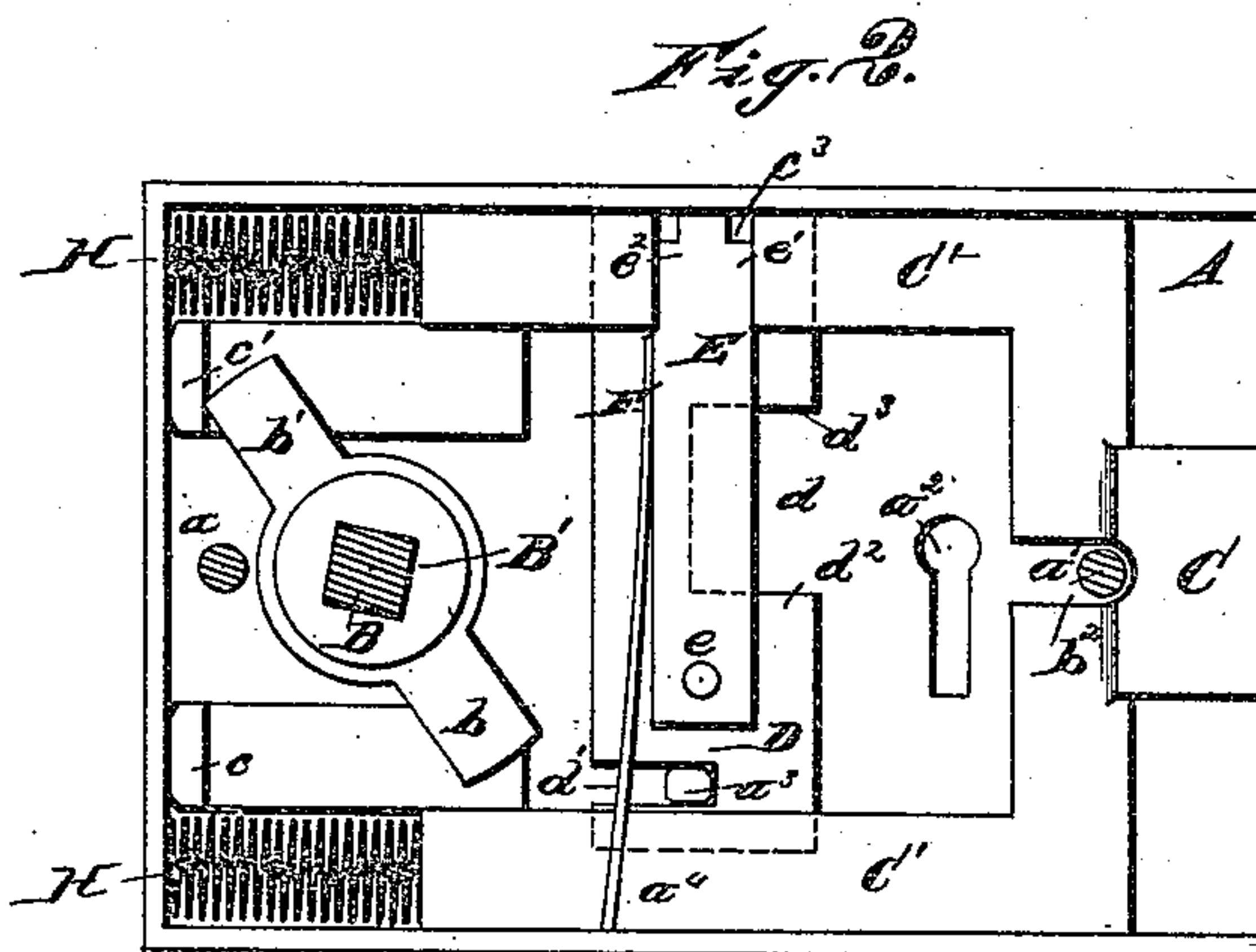
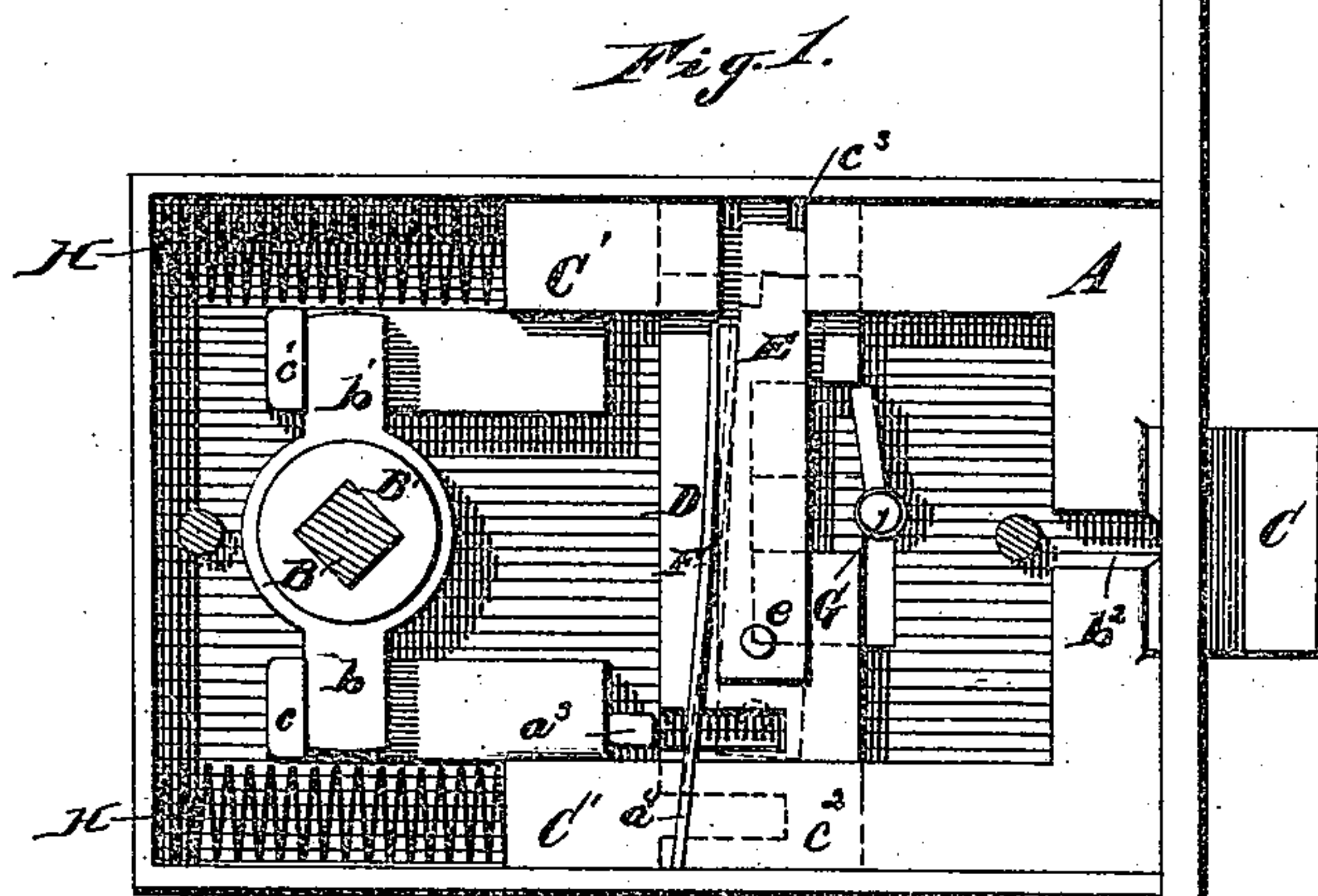


(No Model.)

R. S. ROBERTSON.
COMBINED LOCK AND LATCH.

No. 356,013.

Patented Jan. 11, 1887.



WITNESSES

Jno. E. Stiles.
N. S. Wright.

INVENTOR

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UNITED STATES PATENT OFFICE.

ROBERT S. ROBERTSON, OF TORONTO, ONTARIO, CANADA, ASSIGNOR OF
ONE-HALF TO PAMELA W. WRIGHT, OF SAME PLACE.

COMBINED LOCK AND LATCH.

SPECIFICATION forming part of Letters Patent No. 356,013, dated January 11, 1887.

Application filed December 26, 1885. Renewed November 4, 1886. Serial No. 218,018. (No model.)

To all whom it may concern:

Be it known that I, ROBERT SMITH ROBERTSON, of Toronto, Province of Ontario, Dominion of Canada, have invented a new and useful
5 Improvement in Combined Locks and Latches; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object the construction of an improved door lock and latch which shall be simple and efficient in its operation,
5 not likely to get out of order, and which shall be strong and durable.

The invention consists in the combination of devices hereinafter described and claimed, reference being had to the accompanying
10 drawings, in which—

Figure 1 is a side elevation with the cover of the case removed, showing the location of the interior mechanism when the latch is thrown forward, but not locked. Fig. 2 is a
25 similar view showing the bolt retracted into the case and the interior mechanism in its corresponding position. Fig. 3 is a view in perspective showing the construction of the bolt and bolt-frame, together with the slide which
30 reciprocates therein.

I carry out my invention as follows:

A represents the case.

a^1 are the screws which secure the cover upon the case; a^2 , the key-hole.

35 B is the spindle; B', the socket which receives the spindle, said socket provided with arms b b' , so that the device may be operative whichever way the spindle may be thrown.

C is the bolt or latch, which may be constructed with any suitable frame, C', and constructed at the rear to receive the impact of the arms b b' of the spindle-socket, so as to retract the bolt by the engagement of either arm therewith, as shown at c c' . The bolt or latch
40 I prefer to make integral with this frame.

The sides of the frame are slotted, as shown at c^2 c^3 , to receive a tumbler, D, and permit said tumbler to be reciprocated in said slotted portion of the frame, as indicated in dotted lines.

50 The tumbler D is cut away upon one side, as

shown at d , to form a keyway, and also upon the opposite side toward one of the ends of the slide, as shown at d' , so as to receive a stop, a^3 , secured upon the case.

E is a keeper pivotally engaged upon said
55 tumbler at one end, as shown at e , so that its opposite end may be thrown slightly to and fro. One or more keepers may be used.

F is a spring acting against the movable end of said keeper. It may consist simply of a band
60 located in a kerf at a^4 in one side of the bolt-frame. The outer end of the keeper is cut away so as to leave engaging shoulders, as shown at e' and e^2 .

It will be seen that when the tumbler D is
65 in the position shown in Fig. 2 and in full lines of Fig. 1 the orifice d' is situated to permit the bolt to be withdrawn, the frame with the tumbler engaged therein moving inwardly to the rear of the case, the socket or orifice d'
70 allowing the tumbler to ride back until its inner edge comes in contact with the stop a^3 .

When the tumbler is thrown in the position just described, the bolt may be freely operated by the spindle. The forward end of the frame
75 of the bolt may also be slotted, so as to ride past the adjacent engaging-screw, as shown at b^2 . When the latch is in this position the device is unlocked, and may be readily locked by throwing the key so as to engage the edge
80 d^2 of the guideway portion of the tumbler. This throws the notch d' away from the stop a^3 and brings the edge of the tumbler against said stop, preventing the withdrawal of the bolt. At the same time as the tumbler D is
85 retracted to the limit of its reciprocation the spring, acting upon the free end of the keeper, will throw its movable end forward, so that the shoulder e' will have a bearing against the adjacent edge of the bolt-frame, effectually pre-
90 venting the reciprocation of the tumbler D in the opposite direction to unlock the device until the movable end of the keeper is thrown so as to bring said shoulder e' away from engagement with the adjacent edge of the bolt-
95 frame, permitting the tumbler D to be thrown in the opposite direction, or into the position shown in full lines in Figs. 1 and 2.

The position which the tumbler D and the keeper E, with its spring F, will assume when
100

they are thrown to lock the bolt is shown in dotted lines in Fig. 1 and in full lines in Fig. 3.

The key G is constructed in such a manner that when it is desired to unlock the device it will first form a bearing against the keeper E, so as to throw its engaging shoulder out of engagement with the adjacent edge of the bolt-frame in a position to move into the adjacent socket in the bolt-frame. A further throw of the key will form a contact with the edge d^3 of the cut-away portion and force the tumbler forward.

In Fig. 1 the edge of the key is shown at the limit of its engagement with said edge, the springs H serving to throw forward the bolt. The keeper forms in reality a latch peculiarly constructed and arranged, not likely to be displaced, and rendering the device difficult of operation by any but the key fitted thereto.

Should the key have a too extended bearing against said keeper, it is evident that it would throw the keeper too far over and bring the shoulder e^2 against the corresponding edge of the bolt-frame, effectually preventing the movement of the tumbler.

Only a key exactly fitted to the lock will open the device, for if the keeper be not sufficiently pushed back, or if it be pushed back too far, the operation of the slide will be checked, and the opening of the lock effectually prevented.

From the simplicity of the construction of the mechanism herein shown and described it can be made of small size, and hence in compact form, so that when used as a mortise-lock the door may be weakened to less extent than would be the case where larger locks were used.

I prefer to construct the bolt-frame C' as shown in the drawings, the frame extended to the sides of the case and thence rearwardly. As so constructed the case itself forms a guide for the reciprocation of the frame, the arms engaged by the spindle-socket being offset at the rear end of the frame, shortening thus the arms of the spindle-socket and affording a guideway between them and the case for the springs which throw forward the bolt. This

construction gives a very even pressure of the springs upon the frame in operating the bolts.

What I claim; and desire to protect by Letters Patent, is—

1. In a combined lock and latch, the combination of the lock-case provided with stop a^3 , a bolt having a frame fitted within the lock-case and provided with projections $c c'$ and slots $c^2 c^3$, a recessed tumbler adapted to engage said stop and slots, springs bearing against the rear end of the bolt-frame, and a spindle-socket having arms for engaging the projections $c c'$ of the bolt-frame, substantially as described.

2. In a combined lock and latch, the combination of a single bolt having a slotted frame, C', provided with projections $c c'$, a recessed tumbler adapted to engage said bolt-frame, springs H H, a spindle-socket having arms for engaging the projections $c c'$, a keeper, E, having one end pivoted to the tumbler and its other end provided with shoulders $e' e^2$, and a keeper-spring, F, substantially as described.

3. In a combined lock and latch, the combination of a case having stop a^3 , a bolt having a frame fitted within said case and provided with projections $c c'$ and slots $c^2 c^3$, a tumbler adapted to engage said slots and provided with recesses $d d'$, a keeper having one end pivoted to the tumbler and provided at its other end with shoulders $e' e^2$, a keeper-spring, F, spindle B, spindle-socket B', provided with arms $b b'$, and the springs H H, substantially as described.

4. In a combined lock and latch, the combination of a bolt having a slotted frame, a reciprocating tumbler, a keeper pivoted to said tumbler and adapted to engage the bolt-frame, a keeper-spring, bolt-springs, and a spindle-socket having arms to engage the bolt-frame, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ROBERT S. ROBERTSON. [L. S.]

Witnesses:

J. W. WRIGHT,
WM. M. HALL.

Correction in Letters Patent No. 356,013.

It is hereby certified that the name of the assignee of one-half interest in Letters Patent No. 356,013, granted January 11, 1887, upon the application of Robert S. Robertson, of Toronto, Ontario, Canada, for an improvement in "A Combined Lock and Latch," was erroneously written and printed "Pamela W. Wright," whereas said name should have been written and printed *Pamela W. Wright*; and that the Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 8th day of March, A. D. 1887.

[SEAL.]

D. L. HAWKINS,
Acting Secretary of the Interior.

Countersigned:

R. B. VANCE,
Acting Commissioner of Patents.