

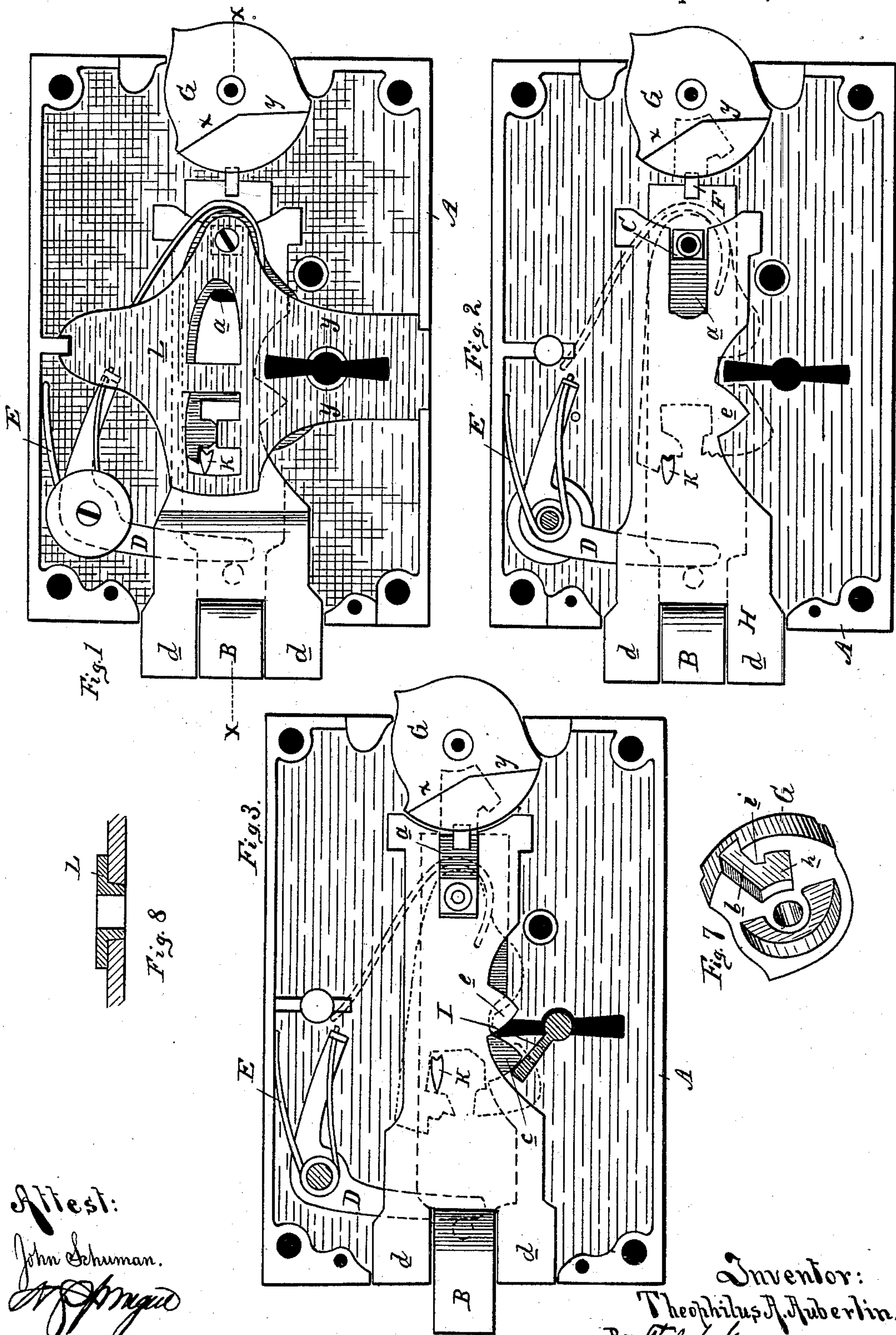
(Model.)

2 Sheets—Sheet 1.

T. A. AUBERLIN.
COMBINED LATCH AND LOCK.

No. 370,517.

Patented Sept. 27, 1887.



Attest:
John Schuman.
[Signature]

Inventor:
Theophilus A. Aublerin.
By *[Signature]*
Att'y.

(Model.)

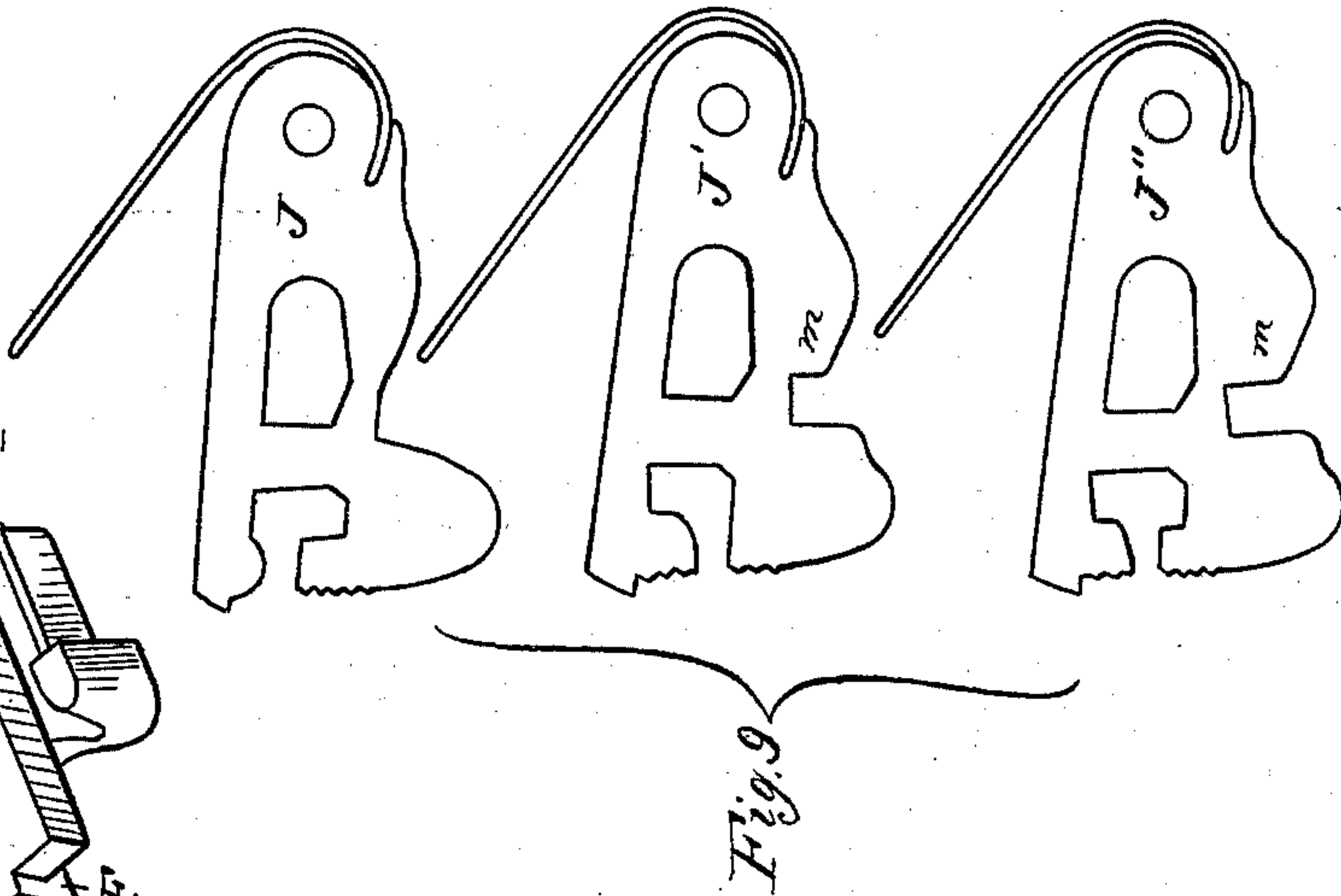
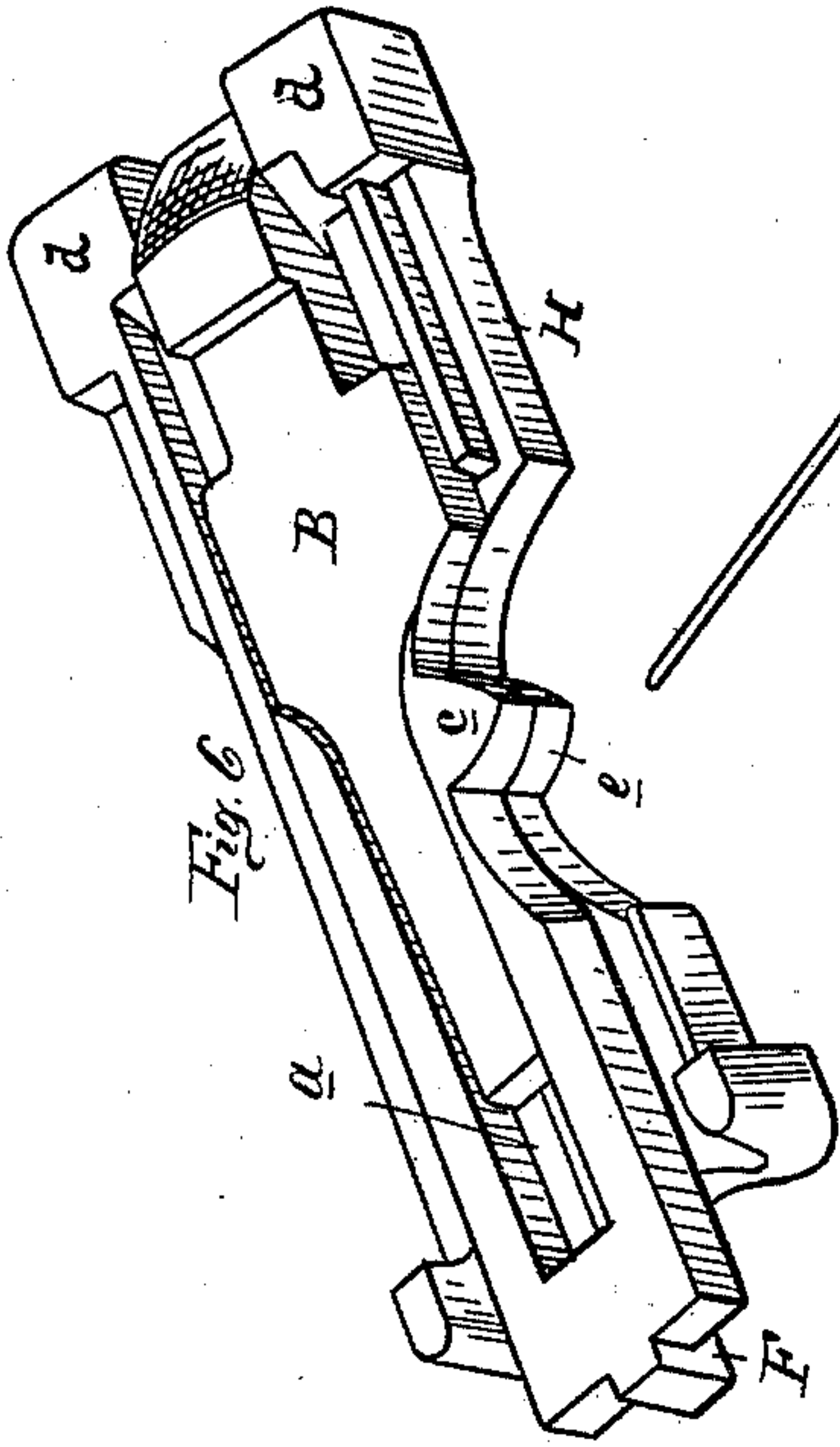
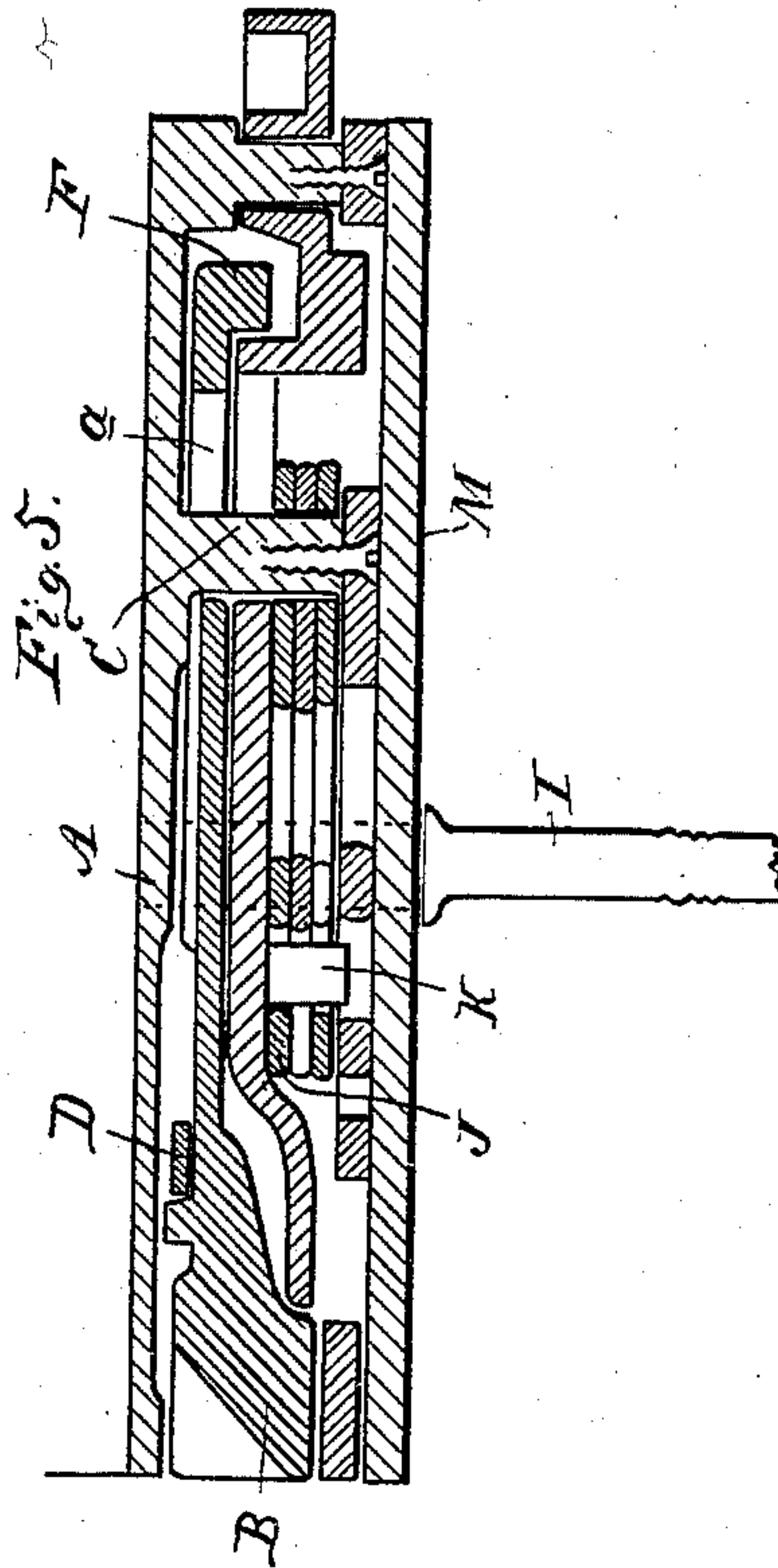
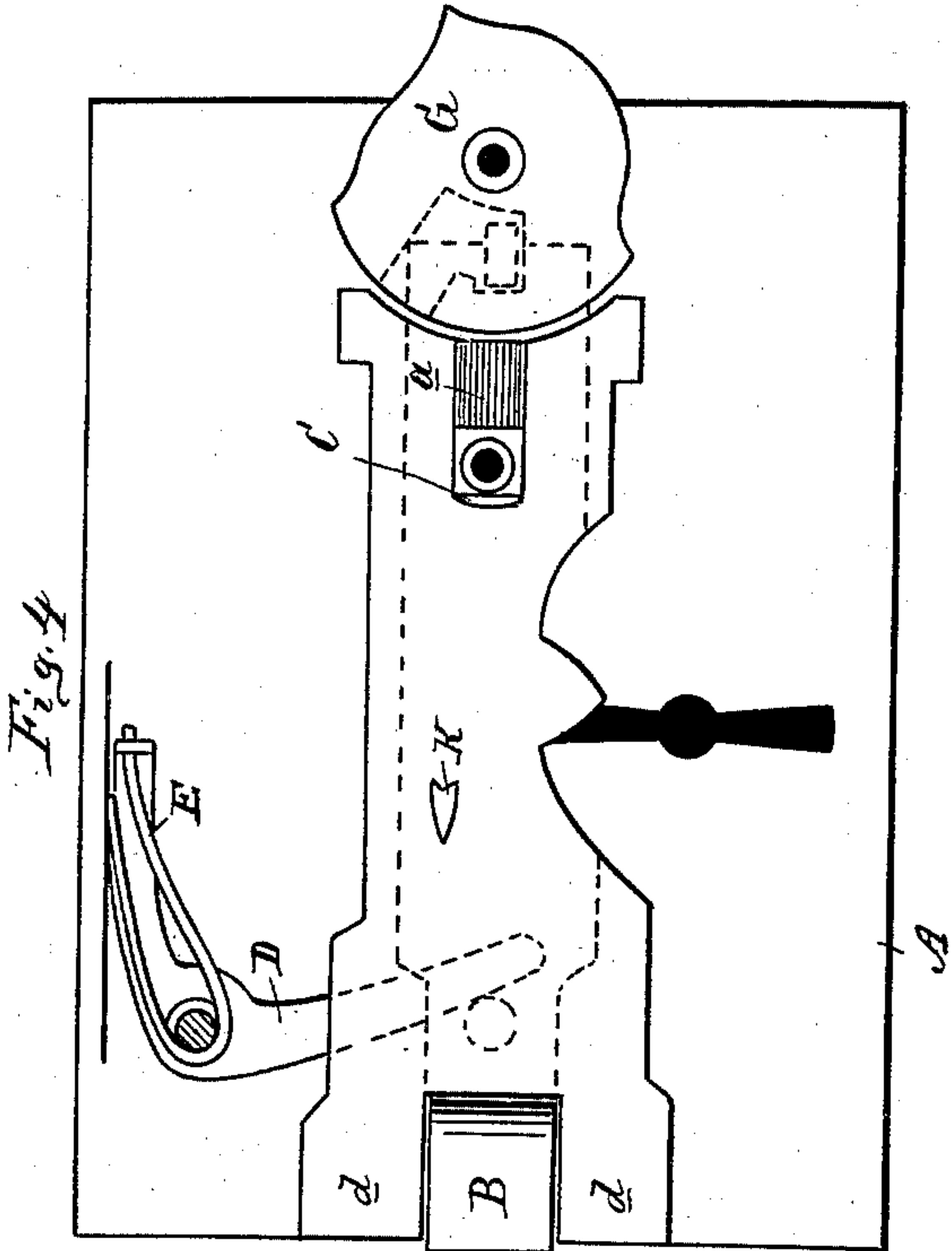
2 Sheets—Sheet 2.

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Inventor:
Theophilus J. Huberlin.
By *Thos. L. Sprague*

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UNITED STATES PATENT OFFICE.

THEOPHILUS A. AUBERLIN, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-FOURTH TO THE DETROIT SAFE COMPANY, OF SAME PLACE.

COMBINED LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 370,517, dated September 27, 1887.

Application filed December 17, 1885. Serial No. 185,935. (Model.)

To all whom it may concern:

Be it known that I, THEOPHILUS A. AUBERLIN, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in a Combined Latch and Lock; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The invention relates to certain new and useful improvements in a combined latch and lock, the object being to produce a lock where the key performs the functions of both a knob and key.

The invention consists in the peculiar construction and arrangement of the latch and latch-dog; in the peculiar construction, arrangement, and combination of the latch and key bolts, and in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter set forth.

Figure 1 is a plan of my improved lock with the outside plate removed. Fig. 2 is a similar view with the key-plate and tumblers removed. Fig. 3 is a similar view with key-bolt retracted. Fig. 4 is a similar view with both the latch and key bolts retracted. Fig. 5 is a section on line *xx*, Fig. 1, with bolts retracted. Fig. 6 is a perspective view of the latch and key bolt, (detached, but in their relative positions as when in place.) Fig. 7 is a detached perspective view of the latch-dog. Fig. 8 is a section on line *yy*, Fig. 1. Fig. 9 is a diagram of the tumblers.

In the accompanying drawings, which form a part of this specification, A represents the lock-case, which contains the operating parts and is designed to be secured to the door by bolts or rivets.

B is the latch-bolt, near the rear end of which is formed a slot, *a*, which engages with a stud, C, and upon which it rides, the opposite end of said latch-bolt projecting through the case, as usual. The latch-bolt is kept in its projected position by means of a bell-crank lever, D, actuated by a spring, E, as in the ordinary manner. At the extreme inner end the latch-bolt B is provided with an arm or stump, F, which lies within the slot *b* in the edge of the dog G, which is pivotally secured in the rear

wall of the casing, as is clearly shown in the various figures of the drawings. The lower edge of the latch-bolt is provided with an arm, *c*, with which the web of the key is designed to come in contact to retract said bolt. The dog G is formed with a slot, *b*, recess *h*, and stud *i*, as shown in Fig. 7, the object of which will soon appear. Upon the opposite side of the dog are two radial stops, *x y*, which impinge at intervals against the outside plate.

H is a key-bolt which overrides the latch-bolt B, its outer end being provided with the bolt-heads *d*, designed to project through the end of the casing above and below the latch-bolt, as shown in Figs. 1 and 2; and it is also provided with an arm, *e*, by means of which it may be "shot" by the key I.

J is the key-bolt tumbler, slotted at one end to allow the stump K of the key-bolt to pass into the tumbler and engage therewith, so as to be retained in either its retracted or projected positions. When in its locked position, the lower edge of the tumbler is in position to engage with the key as the latter is turned, raising the tumbler sufficiently to allow the stump K to pass into the slot as the latch-bolt B is retracted by the key and forces the key-bolt back in advance of it. Upon releasing the key the latch-spring compels the latch-bolt to project and turns the key back. The latch is now free to be operated as an ordinary door-latch, being operated by the key instead of a knob.

In the lock shown three tumblers are used, as shown in Fig. 9, being marked, respectively, J J' J'', and all of them are employed to retain the key-bolt in its position against accidental displacement. It will be observed that in unlocking or retracting the bolts the key can turn but half-way, and that the projections of the tumblers that are employed in unlocking cannot be used for operating the tumblers in locking; hence rear projections, *m*, upon the tumblers J' J'' are provided, with which the key engages in locking, the web of the key coming in contact with the arm *e* of the key-bolt, projecting it forward till the web of the key is vertical and opposite the upper part of the double key-hole. The tumblers dropping behind the key prevents its being turned back; hence it is removed by withdraw-

ing from the key-hole, with the web of key projecting upwardly, although such tumblers could be filed away sufficiently to allow the key to be turned back without departing from the spirit of my invention.

L is a tumbler-plate which is secured over the tumblers in such a manner as to retain them in place, but allow them their free action when operated by the key, which is inserted through the key-hole in such plate. By the employment of this plate the fitting of a key to the lock can accurately be done, as the plate is perforated sufficiently, so that the action of the tumblers can readily be seen, the plate keeping the key in its proper position. Again, this plate forms an additional protection against the bending of the tumblers by reason of pressure or a blow upon the outside plate, M.

Supposing the parts to be in the positions shown in Fig. 1, or locked, the key is inserted and partially turned, simultaneously retracting both latch and bolt, the stump of the key-bolt passing into and engaging with the tumblers, retaining such bolt in its retracted position, while the latch shoots out again immediately upon the release of the key. In this position the lock may be used as an ordinary latch operated by the knob; but if it is desired to retain the latch-bolt in its retracted position the dog G is partially rotated until the arm or stump F on the inner end of said bolt has passed into the recess *h* of the dog behind the stud *i*, the latch-spring compelling this engagement until the parts are disengaged by pushing the latch in a little, either by hand or by turning the key, so that the gravity of the dog will cause the same to turn and bring the slot *b* coincident with the stump F.

What I claim as my invention is—

1. In a combined latch and lock, the combination, with the key-bolt provided with arm *e*, of the latch-bolt provided with coincident arm *c*, the tumblers, and the spring-actuated bell-crank D, acting on the said key-bolt, substantially as described.

2. In a combined latch and lock, the combination, with the latch-bolt and key-bolt, of the slotted tumbler J, constructed and arranged to keep the key-bolt in proper position, when unlocked, when the key is employed to operate the latch-bolt only, the key operating such tumbler only in throwing back or retracting the key-bolt and independent of such tumbler when operating the latch-bolt, substantially as and for the purposes specified.

3. In a combined latch and lock, the combination, with a case provided with a double key-hole, of the tumblers J' J'', provided with notches to admit of the withdrawal of the key through the upper key-hole, substantially as described.

4. The combination, with the latch-bolt provided with arm or stump F, of the pivoted dog G, provided with slot *b*, recess *h*, and stud *i*, substantially as described, and for the purpose specified.

5. The combination, with the case and latch and key bolts, of the tumblers J J' J'', pivoted upon a pivot common to all, a separate spring for each tumbler, and the tumbler-plate L, provided with a key-hole and arranged to protect and keep said tumbler in position, substantially as described.

THEOPHILUS A. AUBERLIN.

Witnesses:

H. S. SPRAGUE,
CHARLES J. HUNT.