

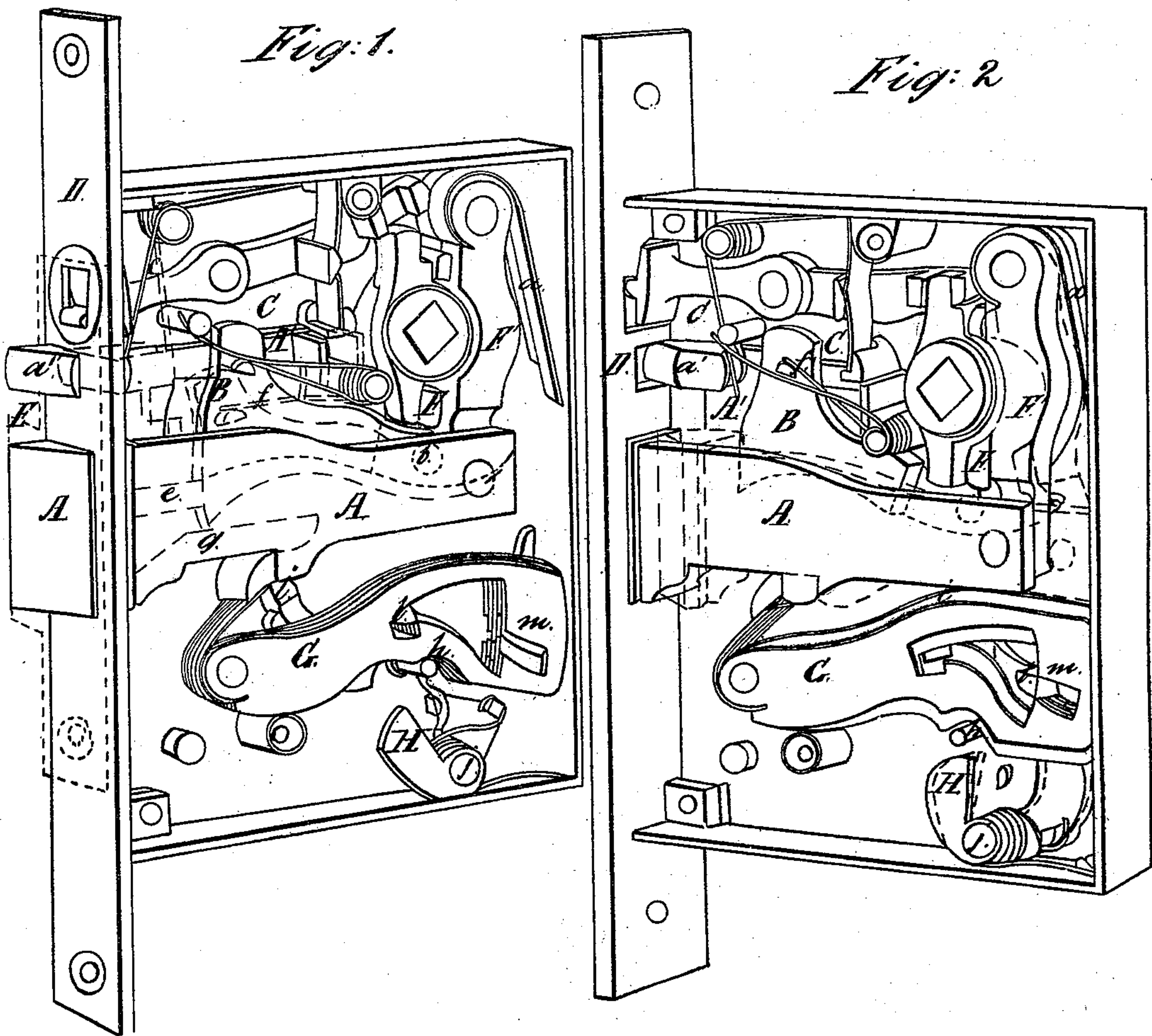
Sheet 1, 2 Sheets.

A. T. Brooks.

Knob Latch.

No. 92,153.

Patented Jul. 6, 1869.



Witnesses.
Emery Parker
J. D. Law

Inventor.
A. T. Brooks

Sheet 2, 2 Sheets.

A. T. Brooks.
Knob Latch.

No. 92,153.

Patented Jul 6, 1869.

Fig. 4.

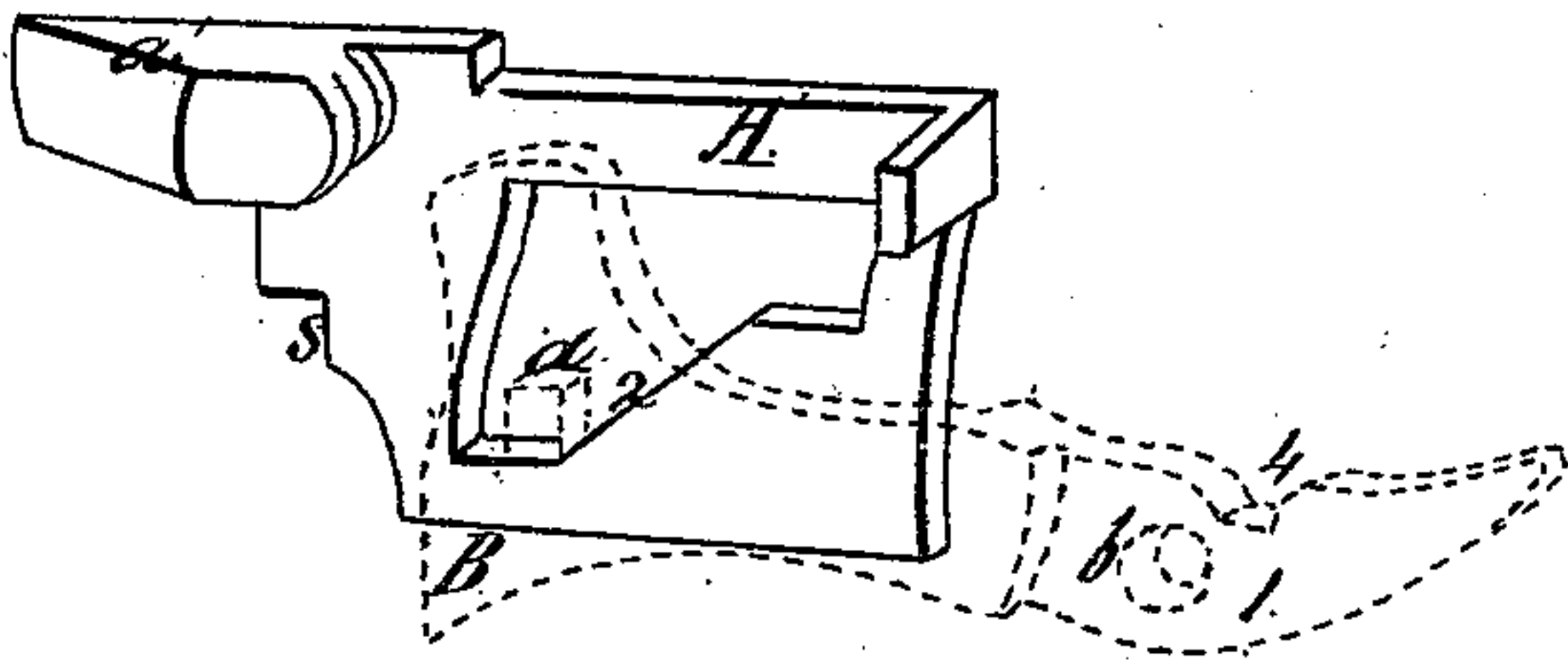


Fig. 3.

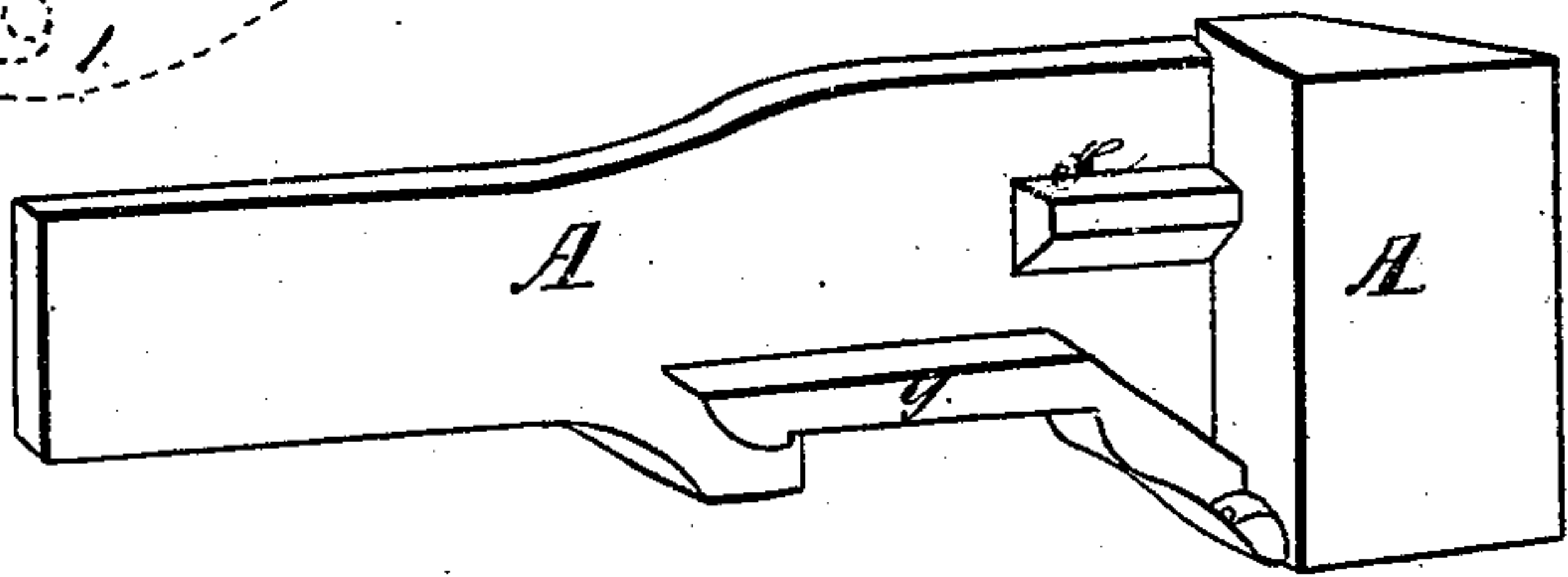


Fig. 5.

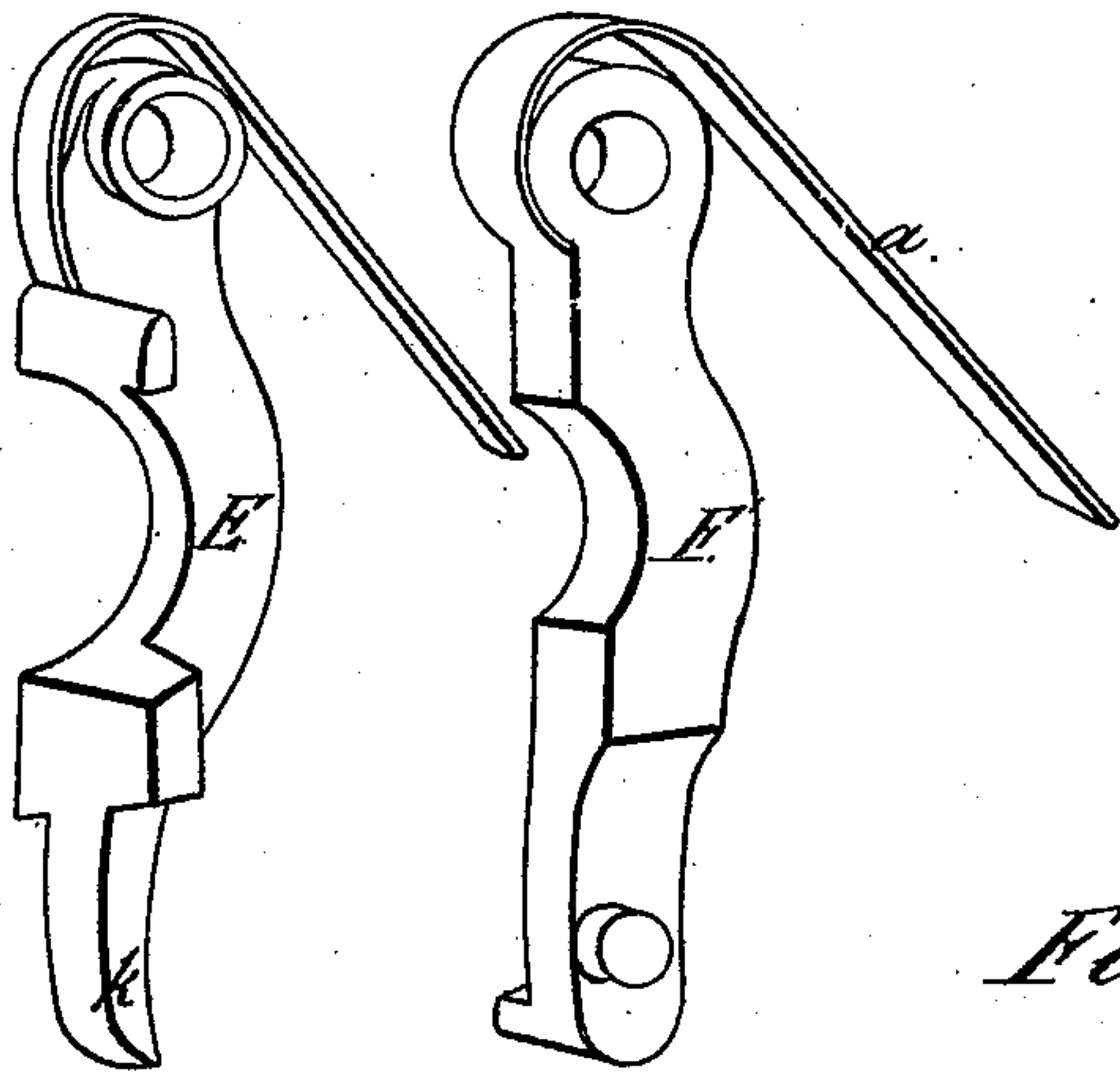


Fig. 6.

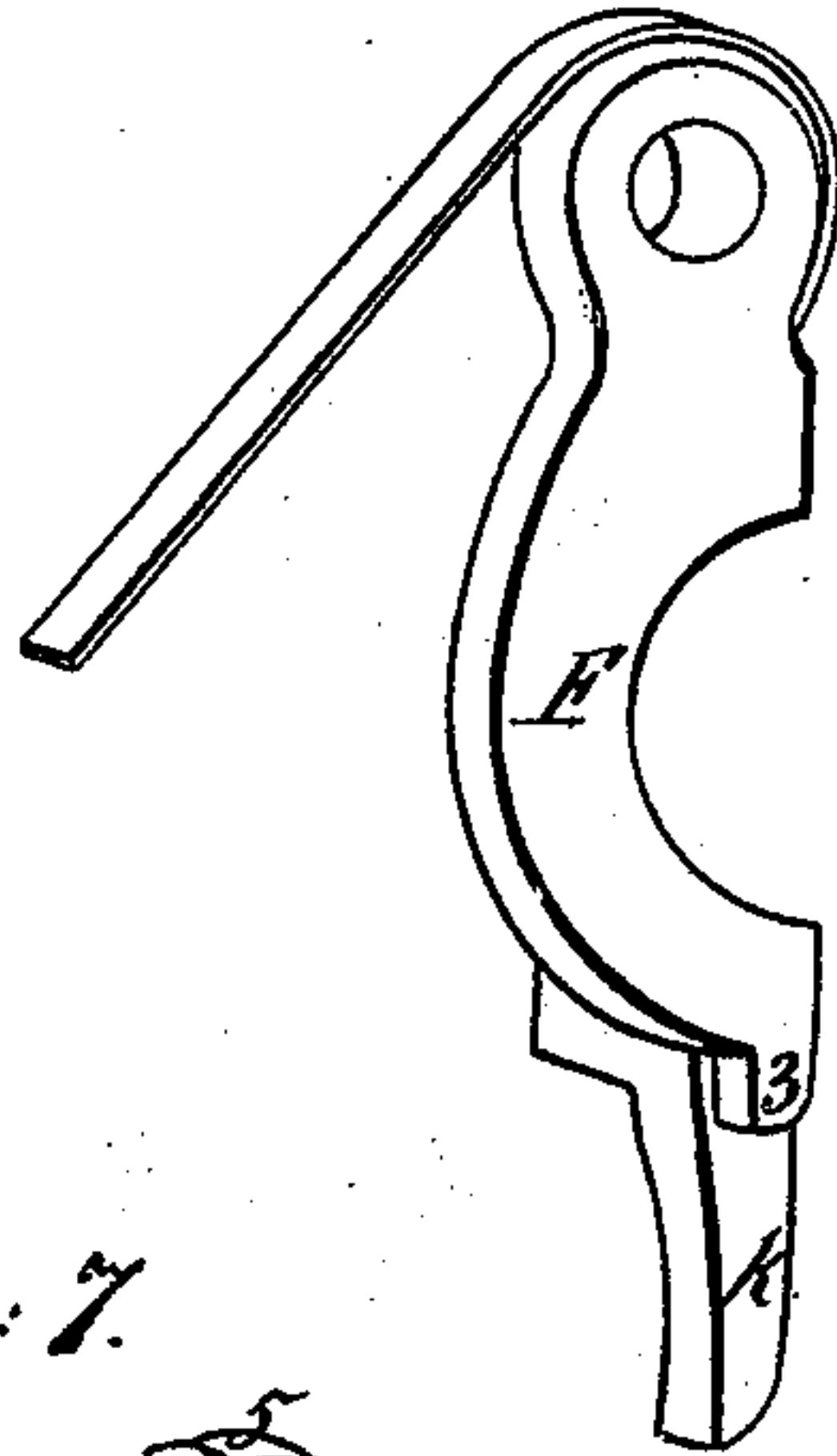
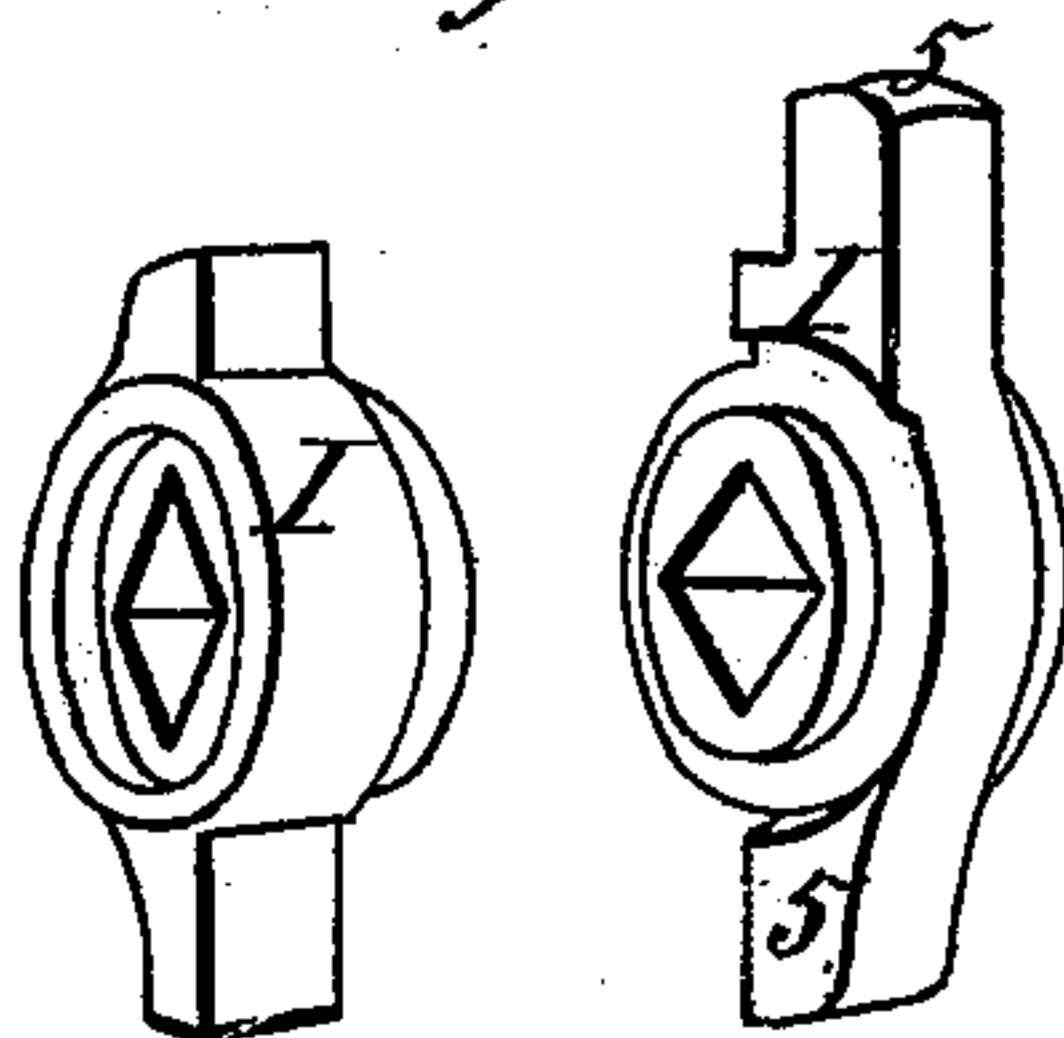


Fig. 7.



Witnesses.
Emery Parker
J. D. Law

Inventor.
Asa T. Brooks.

United States Patent Office.

ASA T. BROOKS, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL AND ERWIN MANUFACTURING COMPANY, OF SAME PLACE.

Letters Patent No. 92,153, dated July 6, 1869.

IMPROVEMENT IN KNOB-LATCHES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ASA T. BROOKS, of New Britain, in the county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Locking Knob-Latches; and I do hereby declare that the following is a full, clear, and exact description thereof, and of their mode or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and making a part of this specification.

The nature of my present improvements in knob-latches consists of a peculiar construction of the knob-lever, so called, and its combination with the latch-bolt, and the mechanism which locks or fastens the same, by which one part of the knob-lever is caused to elevate or remove out of the way of the latch-bolt, the locking-mechanism, so that the other portion of the knob-lever can carry back the latch-bolt.

Figure 1 shows the locking-mechanism in two positions, when the door is opened and when shut, and also the ordinary position of the divided knob-lever.

Figure 2 shows the position of the knob-lever, when one part has elevated the locking-mechanism, and also the position of such lever when the latch-bolt has been carried back.

Figure 3 is a view of the under side of the latch-bolt.

Figure 4 is a representation of the supplemental bolt and locking-mechanism.

Figure 5 is a representation of the parts of the divided knob-lever.

Figure 6 is a view of the under side of that portion of the knob-lever which elevates the locking-plate or bar.

Figure 7 is a representation of the divided knob-lever.

The main latch A, which can be operated by the knob, is in shape and structure substantially like ordinary latches, and is thrown forward by means of a spring, *a*, acting against one part of the knob-lever.

The mechanism for locking or fastening such latch, when it is thrown forward, consists of a latch-plate, A', and a locking-plate or bar, B. A full-sized representation of such latch-plate A' is shown in fig. 4, which lies partially behind the plate of the latch A, and between it and the case-plate C, and which has on its front end a small latch, *a'*, which moves in a suitable opening in the front plate D of the lock, such latch-plate and latch being thrown forward by the spring *e*, and forced back within the lock by a part of the main latch striking against a shoulder of such latch-plate A'. The central part of such plate A' is cut away, as shown in fig. 4, to receive a stud, or projection *d*, on the under side of the locking-bar B, which turns on a stud, *b*, projecting from the case-plate C, the back end, 1, of such locking-bar B, lying against the case-plate and under the lower end of the knob-lever, and the other end lying upon or over the latch-plate A'.

The position of the main latch and of the locking-mechanism before the door is closed is shown in fig. 1, the main latch A and the supplemental latch-plate A' and latch *a'* being thrown forward and beyond the front plate D, by the spring *a* and the spiral spring *c*, and the locking-plate B being elevated or raised above the rib *e*, fig. 3, on the backside of the latch A, by the action of the incline 2 of the latch-plate A', as such plate is thrown forward against the stud *d*, on such locking-plate.

The operation of these parts is as follows:

As the door is shut, the main latch A is forced back by the striking-plate E, which is attached to the door-casing, the rib *e* on such latch passing below the locking-plate B, and at the same time the latch-plate A' is pushed back by a part of the latch A striking against a shoulder, *s*, on the front part of such latch-plate A'. When the door is fully shut, the main latch A shoots forward through a suitable opening in the striker-plate E, and holds the door closed; but such striker is solid in front of the small latch *a'*, so that such latch is prevented from shooting forward, and is held back in the position shown in red lines in fig. 1, and also shown in fig. 2, and the inclined face, 2, of the central cavity in the latch-plate A' being carried back and away from the stud *d*, on the locking-plate B, such plate is permitted, as soon as the main latch A shoots forward into the striker, to drop down or be carried down by a spring, *f*, behind the rib *e*, on the under side of the latch A, and thus lock such latch, and prevent it being forced backward out of the striker, until such locking-plate B shall again be raised.

Such locking-plate is prevented dropping too far by means of a projection, *g*, on the lower edge of the plate of the latch A. The position of the locking-bar, when it is thus locking the latch A, is shown in red lines in fig. 1.

The locking-bar B is raised, so as to permit the latch to be moved backward, and the door be opened in the following manner: The key being inserted in the lock over the stem *h*, and turned, acts against the key-bar *i*, (which turns on a pivot, or stud *j*), and moves it until its end strikes against the lower end, *k*, of the under portion F' of the knob-lever, figs. 5 and 6, such end *k* lying over and projecting below the back end 1 of the locking-plate B, and a projection, 3, on the under side of such knob-lever F, resting within a notch, 4, in the back end of such locking-plate. As the key is further turned, the bar *i* moves backward the lower part F' of such knob-lever, and the projection 3 being carried from out the notch 4 and along the upper edge of the back end 1 of the locking-bar B, presses down that end, and consequently raises the other end, until it passes above the rib *e* on the latch A, so that the latch can be moved back. The parts of the divided knob-lever F F' can move irrespective of each other,

and they are so arranged that the part F can be moved backward a certain distance before it will meet the part F', and the space through which such lower part F' will move before it meets or comes in contact with the other part, F', of such knob-lever, as shown in fig. 2, is sufficient to raise the locking-plate just above the rib *e*; and the further movement of the key-bar *i* then forces back both parts of the knob-lever, and the latch A along with them, carrying the latch out of the striker, so that the door can be opened.

As soon as the door is opened, both the latches A and *a'* are carried forward by the springs *a* and *e*, and by the forward movement of the latch-plate A', and the action of the incline 2 against the stud *d*, the locking-plate B is elevated, so as to permit the latch A to again move back as the door is again closed.

The drawings show a series of guards, G, within the latch-case, which are severally acted upon by different parts of the key, and in combination therewith an upright stem, *l*, on the bar *i*, so arranged that the latch cannot be moved by any key, except by such a one as shall so place the guards that the stem *l* can pass into a recess, *m*, made in each of such guards before operating the knob-lever or locking-plate; and such drawings also show a key-hole guard, H, which is so connected with the bar *i* as to close the key-hole as the key is turned; but these devices, though adding security against the latch being picked, do not in any manner affect the action of the locking-mechanism before described.

In the construction of the divided hub I I, both parts of such hub are provided with arms 5 5, to act

upon the knob-lever. The inner part of the hub, or that portion I shown in fig. 7, connects with the knob on the inside of the door by means of the spindle, and consequently, as such knob is turned, the knob-lever will be operated, and the locking-plate raised and the latch drawn back. The other portion of the hub, and with which the outside knob of the door is connected, rests upon and partly within the inner portion, in a sort of socket, shown in fig. 7, but can only be turned from the outside when the stop L is raised, and is prevented from being turned when such stop is pushed or dropped down, when the latch can only be moved back by the use of the key, while from within, the latch can be drawn back and the door opened by means of the knob alone. The spindle used is the ordinary swivel spindle.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the main latch A, supplemental latch-plate A', locking-bar or plate B, and divided knob-lever, arranged and operating substantially as and for the purposes set forth.

2. The combination of the main latch A, locking-bar, or plate B, and divided knob-lever, substantially as and for the purposes set forth.

3. The combination of the main latch A, locking-bar, or plate B, divided knob-lever, and key-bar *i*, or its equivalent, substantially as and for the purposes set forth.

ASA T. BROOKS.

Witnesses:

EMERY PARKS,

M. J. WOODRUFF.