

(No Model.)

T. W. DAWES.
KEY HOLE GUARD.

No. 390,158.

Patented Sept. 25, 1888.

Fig. 1.

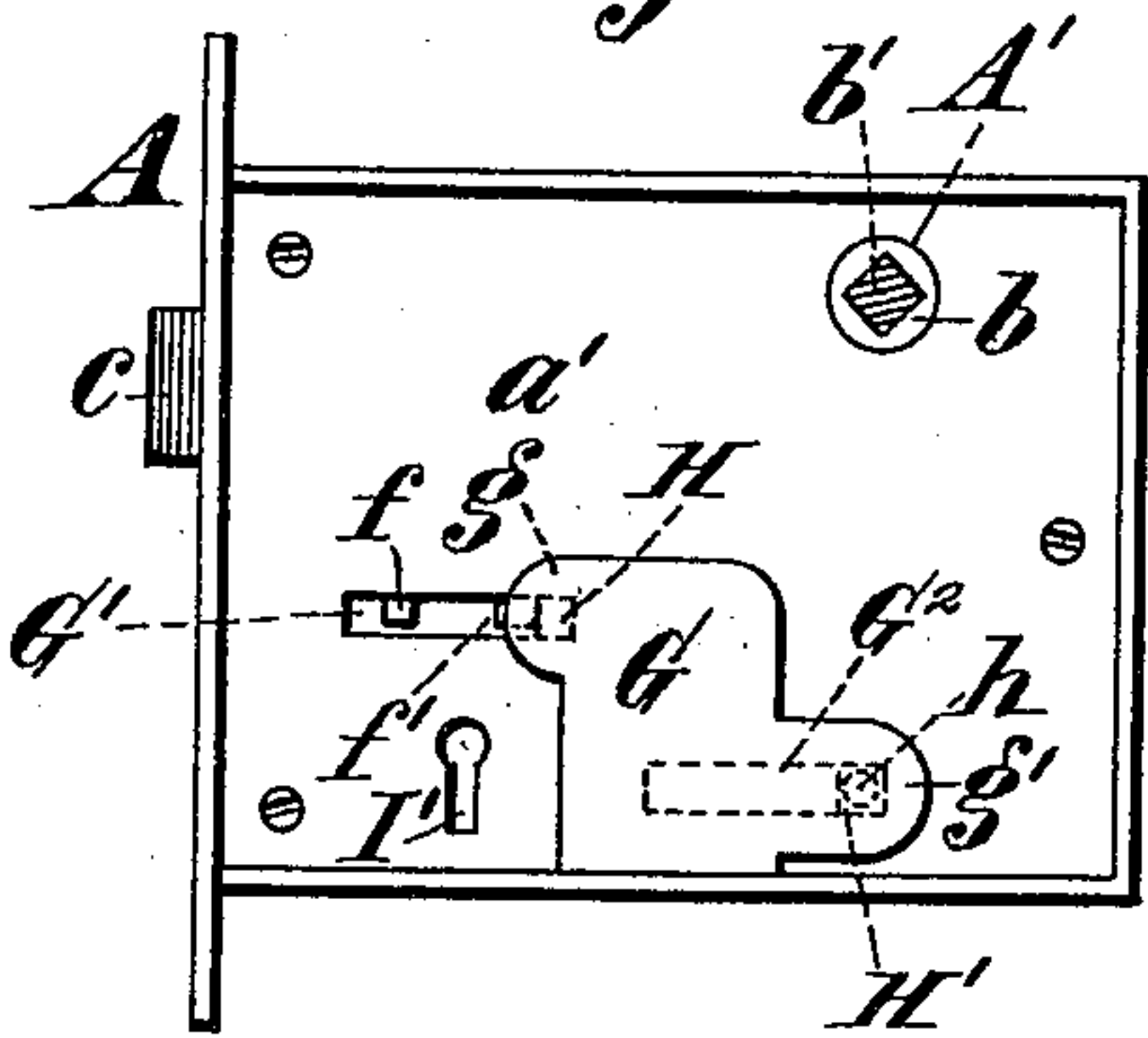


Fig. 2.

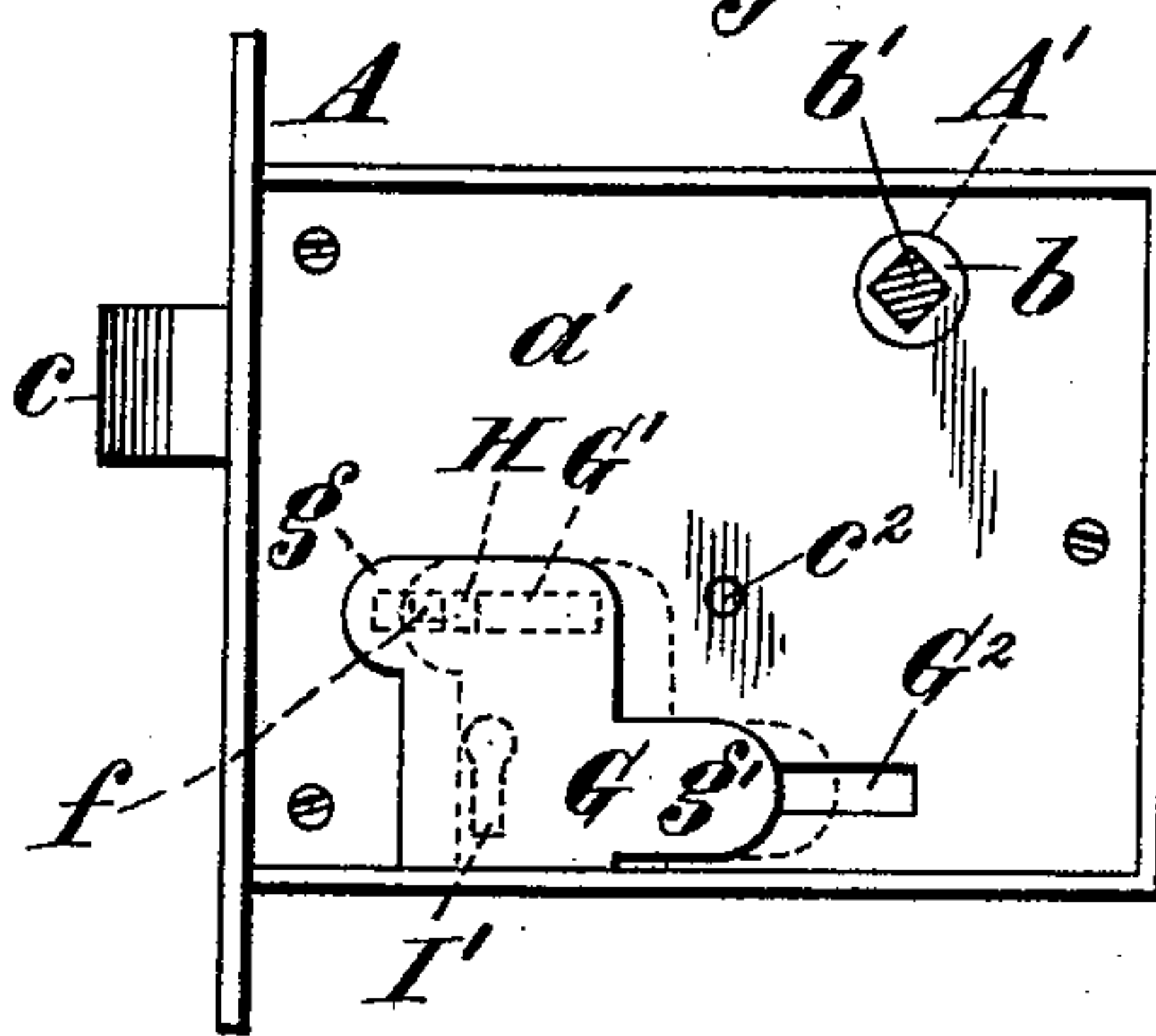


Fig. 3.

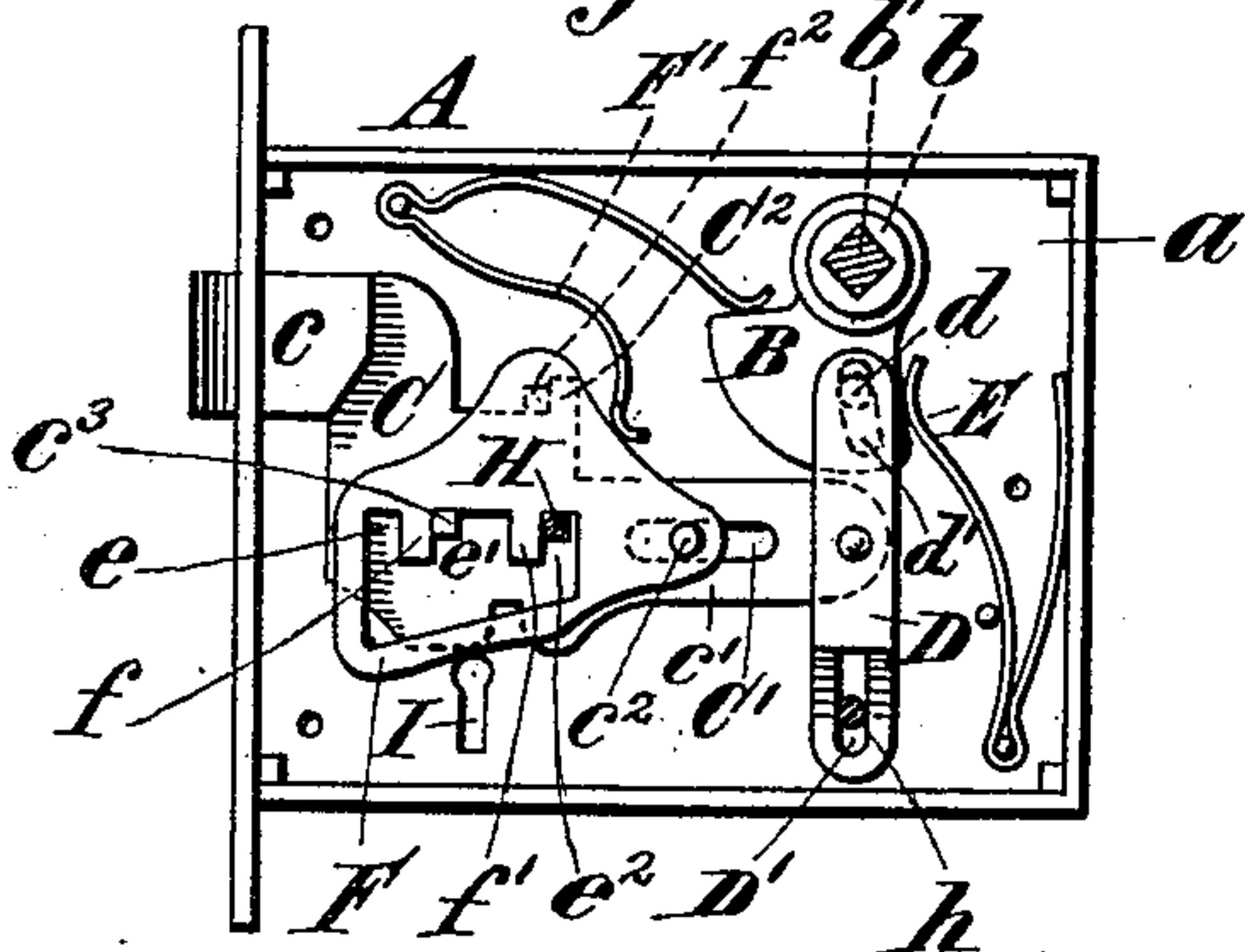


Fig. 4.

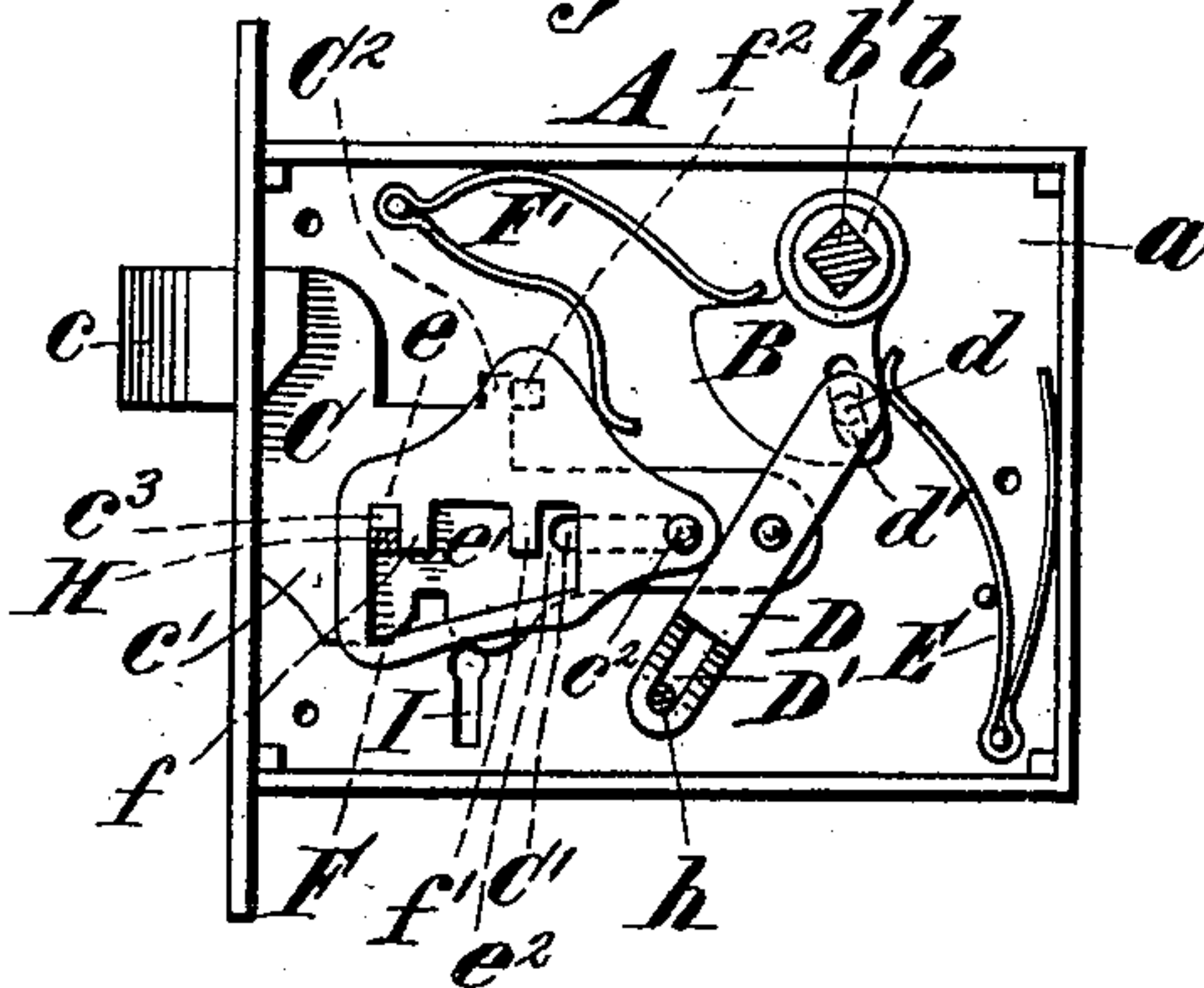


Fig. 5.

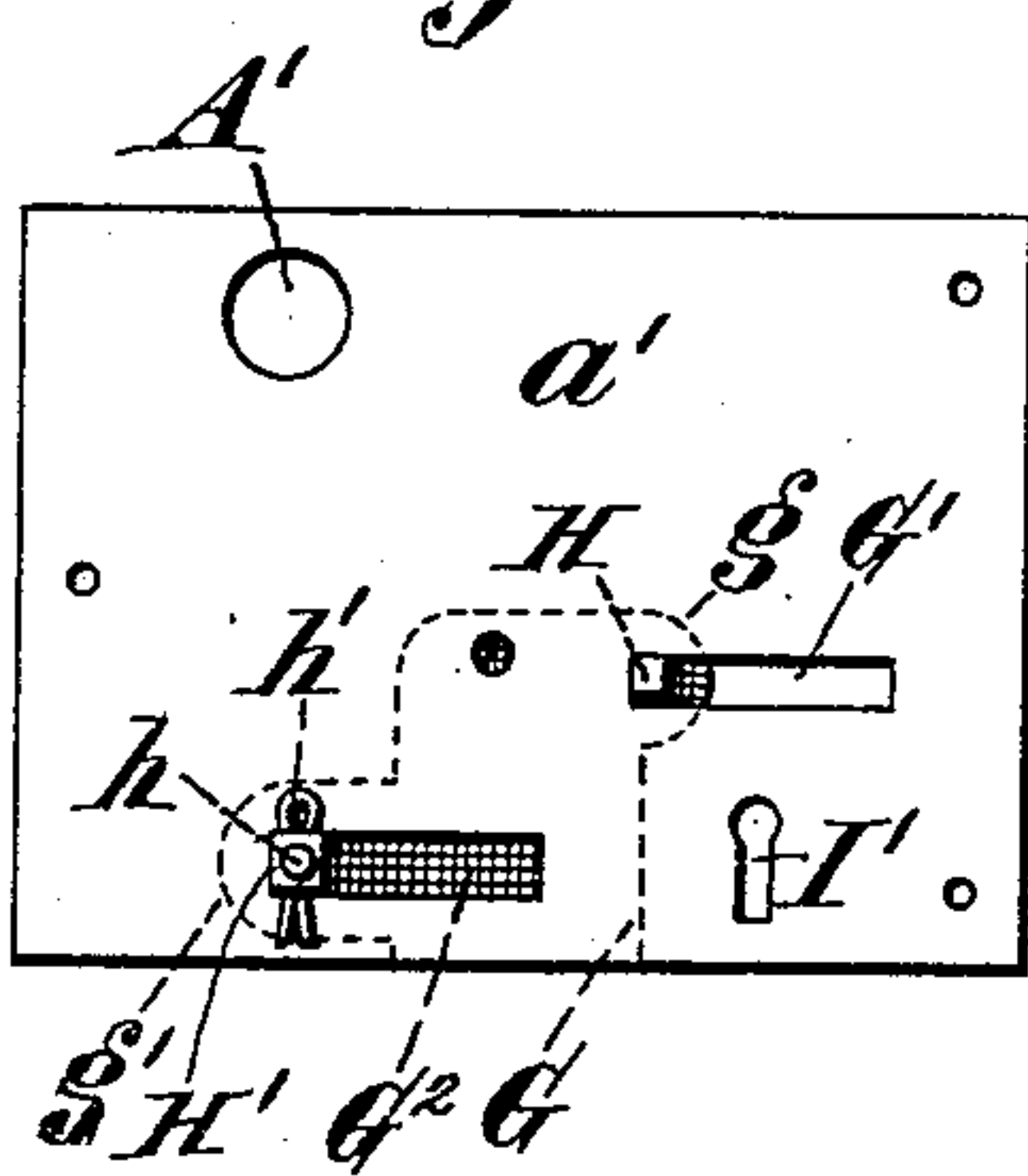
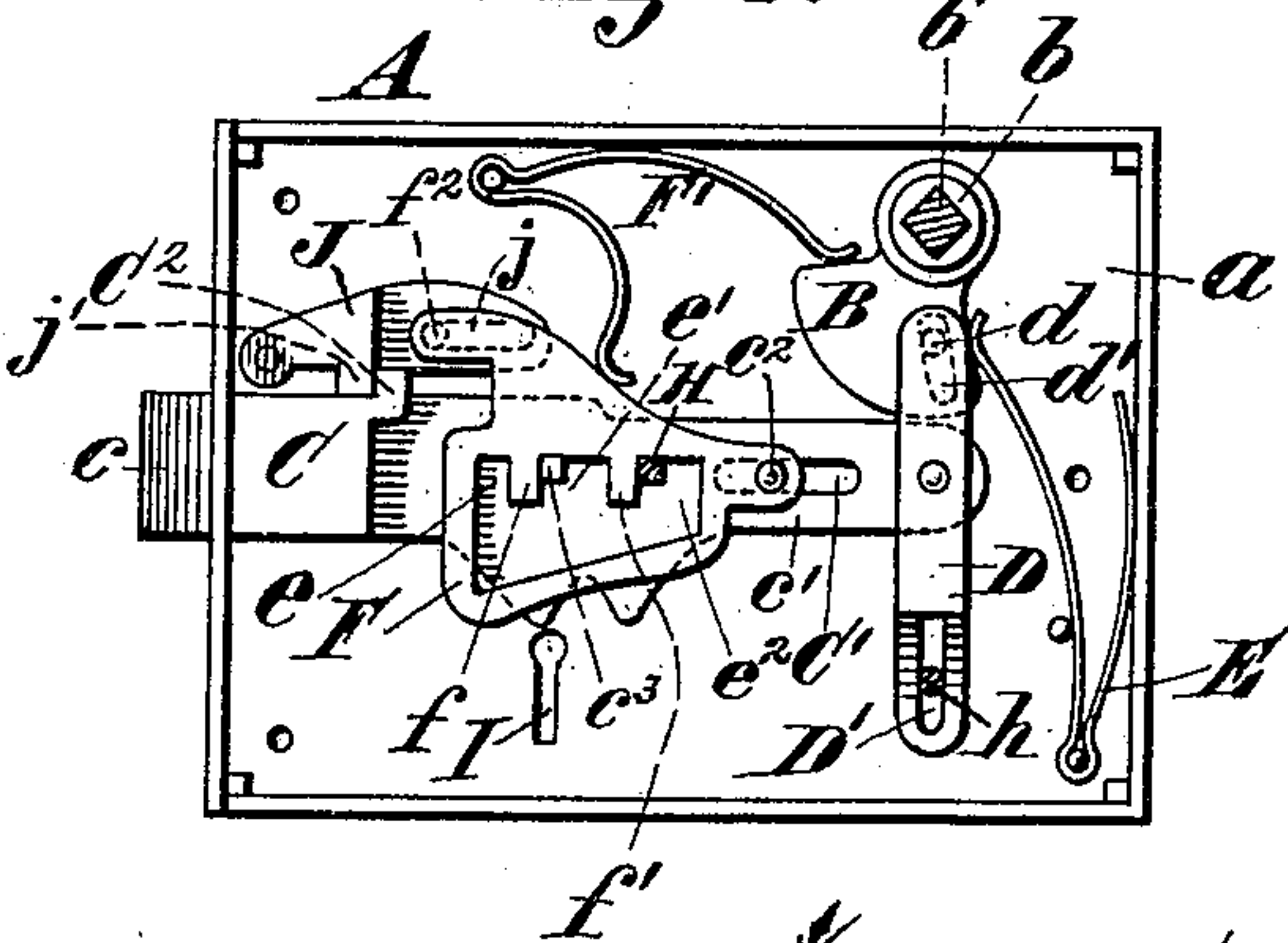


Fig. 6.



Attest

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UNITED STATES PATENT OFFICE.

THOMAS WM. DAWES, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO
HENRY H. LINFERT, OF SAME PLACE.

KEY-HOLE GUARD.

SPECIFICATION forming part of Letters Patent No. 390,158, dated September 25, 1888.

Application filed February 18, 1888. Serial No. 264,515. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WILLIAM DAWES, a subject of the Queen of Great Britain, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Key-Hole Guards, of which the following is a specification.

My invention relates to that class of door-locks in which an interior guard or cover is applied to the key-hole to prevent any unlawful insertion of a key therethrough and the consequent picking or unlocking of the door from the outside.

My invention consists in the combination of a lock shell or case, a bolt, a detent-plate, a connecting link or lever, a knob-latch tumbler, suitable controlling-springs, and an automatic key-hole guard, arranged and operating as hereinafter fully described, and shown in the drawings.

Figure 1 is an elevation of a mortise lock, showing my improved key-hole guard applied thereto and in its retracted or normal position away from the key-hole. Fig. 2 is a similar view showing the guard in position covering the key-hole, the latter being in dotted lines. Fig. 3 is an inside view of the lock shown in Fig. 1, the detachable plate or cover and the guard-plate being removed, and the pins or projections on the inner face of said guard-plate shown in section. Fig. 4 is a similar view to Fig. 3, but showing the inner parts or movement of the lock in the thrown or locked position, as in Fig. 2, the pins or projections on the inner face of the guard-plate being again shown in section. Fig. 5 is an elevation of the inner face or back of the detachable lock-plate, showing the key-hole guard in dotted lines and in its normal or retracted position, (the same as in Fig. 1;) and Fig. 6 is an elevation of a large rim-lock, showing the inner working parts thereof in their normal unlocked position, with the detachable plate and its accompanying key-hole guard removed, the pins or projections on the inner face of the said guard being shown in section.

A represents the case or shell of the lock, of which *a* is the bottom plate, and *a'* the top or detachable plate. Openings *A'* are made as usual in both plates *a* and *a'*, for accommodat-

ing the shouldered ends of knob-hub *b* of the latch-tumbler B.

b' is the knob spindle or shaft passed through hub *b*, as customary.

C represents a bolt comprising within itself both a latch and lock bolt, of which *c* is its head and *c'* the plate, with the usual key-notches in its lower edge.

C' is a slot in bolt-plate *c'* to permit it to slide over the upright post or pin *c''* on the bottom plate, *a*.

C'' is a projection on the upper edge of the bolt-plate, with a wide notch or space, *C'''*, between it and the upright neck of the latch-bolt. *c''* is a pin on the face of said bolt-plate.

D represents a lever pivotally connected at or about its center with bolt C.

d is a pin (shown in dotted lines in Figs. 3, 4, and 6) at the upper end of lever D, and engaging a slot, *d'*, in the latch-tumbler.

D' is a slot in the lower end of lever D.

E is a spring suitably set in place in the lock and controlling the latch movement, to properly shoot the latch-bolt subsequent to an ordinary retraction of it by the knob.

F represents an open detent-plate or dog, pivoted at its rear end upon the pin *c''* and controlled by means of one branch of a suitable spring, *F'*, set within the lock. The other branch of spring *F'* exerts its force upon latch-tumbler B, the purpose of which, in connection with lever D, will be fully described hereinafter.

f f' are pendent projections in the opening of detent-plate F, with notches *e*, *e'*, and *e''* on either side of them.

f'' represents a pin projecting from the under side of the upper part of said detent-plate, engaging the projection *C''* on the bolt-plate, as shown in dotted lines in Figs. 3 and 4.

G represents a sliding plate having fore and aft noses, *g* and *g'*, respectively, and preferably placed in position on the outer face of detachable plate *a'*, which latter lies sufficiently below the plane of the side walls of shell A to bring said plate G on a level or in the same plane with said side walls and permit it to reciprocate freely without coming into frictional contact with the adjacent face of the door or the material composing it or necessitating a separate recess therefor in the door.

G' and G² are longitudinal slots in plate a', through which pass pins H and H', cast on the backs of noses g and g', respectively, of the detent-plate. Both pins H and H' are square in cross-section, excepting that the latter has a round tip, h, which engages the slot D' in the lower end of lever D, as clearly shown in section in Figs. 3, 4, and 6.

h' represents a split pin inserted through an opening in the square part of pin H' to properly connect the plate G with the plate a'.

I and I' represent the customary key-holes in both plates a and a', respectively.

The operation of my lock is as follows: It will be first necessary to state that the plate a' and the sliding plate G of the lock are toward the outside of the door when my lock is set in place, and the shouldered bearing end of the key is made the proper length, so that it does not project beyond the outer face of plate a' to come into obstructing contact with said sliding plate G when said key is inserted from the inside. When the door is to be locked from the inside, as is usually the case, the turning of the key raises the spring-controlled detent-plate or dog and simultaneously slides the bolt C into locking engagement with its keeper-plate. Simultaneous with the advance movement of bolt C is the forward movement of plate G through the instrumentality of the slotted connecting link or lever D D' and the engaging-pin H', which movement brings said plate over the key-hole, as clearly shown in Fig. 2, thereby forming a guard or cover therefor and effectually preventing any insertion of a key or any other opening or picking implement into the lock from the outer or other side of the door. The guard-plate G is preferably of case-hardened steel to offer all the resistance possible to a surreptitious entrance. The respective pins on both the bolt-plate and detent or dog occupy the positions in their respective notches (all being above named) shown in Figs. 1 and 3 when the lock is in its normal condition—that is, with the door unlocked and the parts retracted; but when the door has been locked from the inside they occupy the positions shown in Figs. 2 and 4, with the parts advanced. Pin c³ on the face of the bolt-plate in its normal position lies in the notch e' between projections f and f', the spring E bringing it to bear against projection f. Notch e' is of proper width to permit a backward movement of the pin c³ therein when the bolt is to be retracted by the knob and used as an ordinary latch. Notch C³ on the top of the bolt-plate is also of about the same width and provided for the same purpose as notch e'. When the lock-bolt is advanced or shot outward, said pin c³ is in the bottom of notch e, which it just fits, as shown in Fig. 4, and thereby the retracting of the bolt is impossible without first elevating the pivotal detent F. The pin H on the back of the guard-plate in its normal position lies snugly within the notch e² of the detent F, as shown in Fig. 3, and is thereby held firmly re-

tracted from the key-hole; but when the bolt is shot into locking position said pin assumes the position shown in Fig. 4, wherein it lies snugly within the notch e of the detent F, against the under side of pin c³ on the bolt-plate, and is firmly held in place against movement in either direction until the said detent or dog is raised.

The pin f² on the under side of the detent-plate and the projection C² on the bolt-plate both serve as safety and strengthening accessories in the working of said parts to which they belong, but could be dispensed with, especially in a very light lock, as is obvious.

When the lock is to be operated or locked from the outside, the key raises the detent-plate and shoots the bolt as before; but the guard-plate, being on that face of the lock through which said key has been inserted, is now obstructed in its further and full movement by the presence of the shank of the key. Said key having completed its revolution in the lock, and the detent-plate being again in its normal position, the guard-plate is held at part stroke, (but just covering the key-hole, as shown in dotted lines in Fig. 2,) with the pin H in notch e' and bearing against the detent projection f through the exertion of spring F' on the knob-tumbler.

To be able to unlock the door from the outside (a necessary precaution during the day or a temporary absence at any time) by the proper person, the knob is turned a partial revolution in a reverse direction to that usual in the ordinary latch movement, thereby depressing its branch of spring F' and moving the lower slotted end of link or lever D D' backward, and causing a simultaneous retraction of the guard-plate from over the key-hole without moving or otherwise disturbing the bolt in the least. The key-hole is now open and ready for the insertion of the key, which, if it be the true one—that is, the one that properly fits the key-hole and lock—will open the door; but if the key is a false one and does not fit the lock, or is a thin wire picking implement or skeleton-key fitting the key-hole loosely, it will, on the turning back of the knob and on its being turned, or on such tampering, raise the detent-plate out of engagement with the guard-plate, as is obvious, and on its withdrawal permit the now-liberated guard-plate to shoot forward full stroke, effectually covering the key-hole against further entrance from the outside, even with the proper key, as the guard-plate and detent would then be in the same relative engaging positions as when the door is locked from the inside. Spring F' brings the guard-plate back to position over the key-hole on the withdrawal of the key from the outside and holds it so until the knob is turned backward, and for the purpose stated.

The lock shown in Fig. 6 embraces in its construction, in addition to the parts stated in connection with the lock shown in the other views, a pivotal arm, J. A projection, C², is

again present therein on the upper edge of the bolt-plate, and so also is a pin, f^2 , on the under side of the detent-plate; but instead of the pin f^2 engaging projection C^2 , as before, it engages a slot, j , (shown in dotted lines,) in the free end of said pivotal arm J. A projection, j' , on the lower edge of arm J engages the projection C^2 on the bolt-plate, and thereby serves as a supplemental stop or an auxiliary for the pin c^3 and projections f and f' in the event of the lock being a very large or heavy one. The pivotal lever or arm J operates simultaneous with the detent-plate by reason of the coupling-pin f^2 engaging the slot j , as before stated.

15 I claim—

1. The combination, with spring-detent F, having pin f^2 , and the lock-bolt having pro-

jection C^2 , of a slotted pivotal arm, J j , slotted lever D D', and key-hole guard G, substantially as herein set forth.

2. In a door-lock, the combination of shell or case A $a a'$, lock-bolt C c^3 , detent-plate F $f f'$, lever or link D D' d , knob-latch tumbler B $b' d'$, suitable controlling-springs, E F', and an automatic key-hole guard, G H H', connected, 25 arranged, and operating substantially as herein set forth.

In testimony of which invention I have hereunto set my hand.

THOMAS WM. DAWES.

Witnesses:

JOHN E. JONES,
H. LINFERT.