

Arndt & Moebius,

Latch.

No 67,938.

Patented Aug. 20, 1867.

Fig: 1.

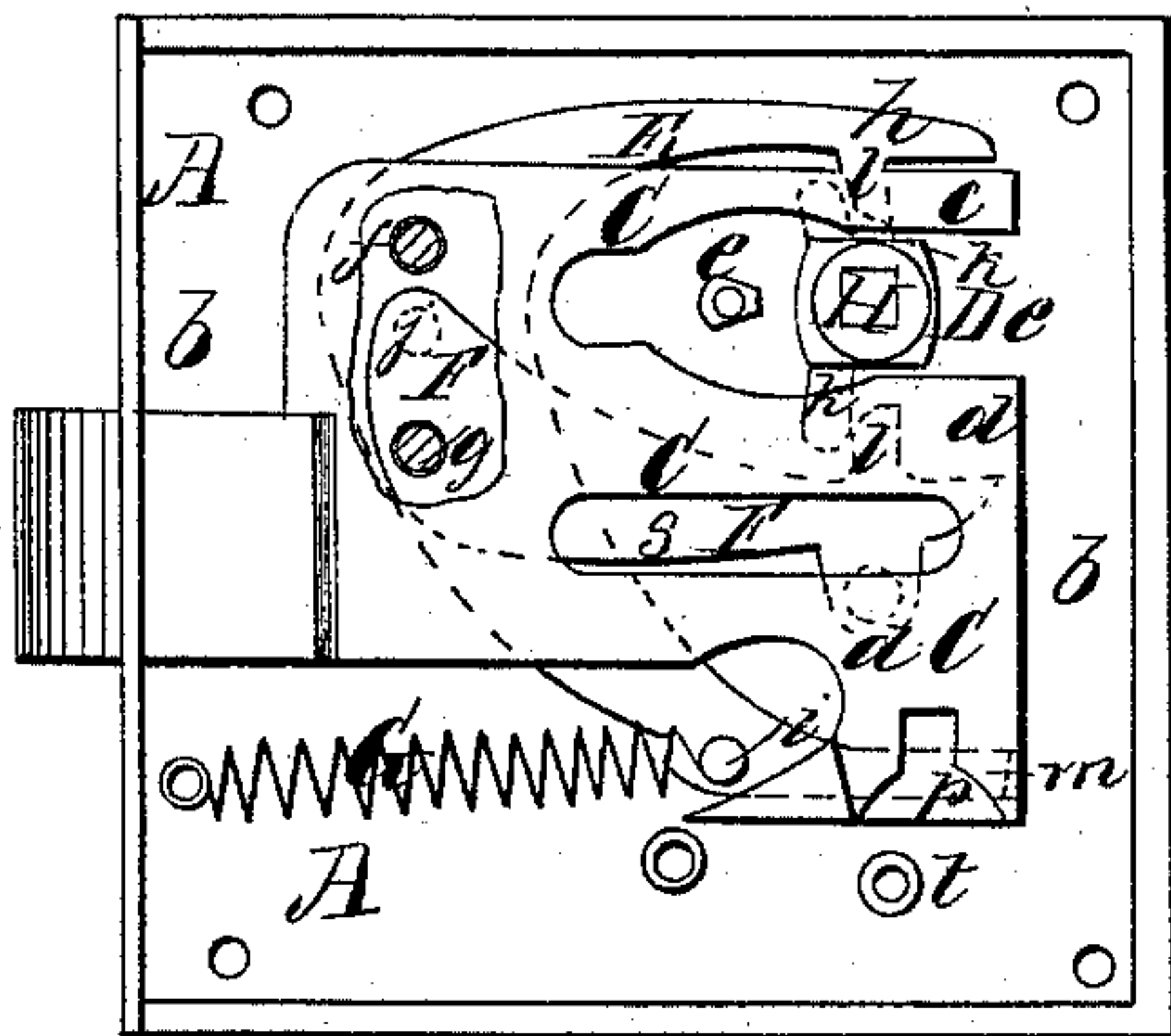


Fig: 2.

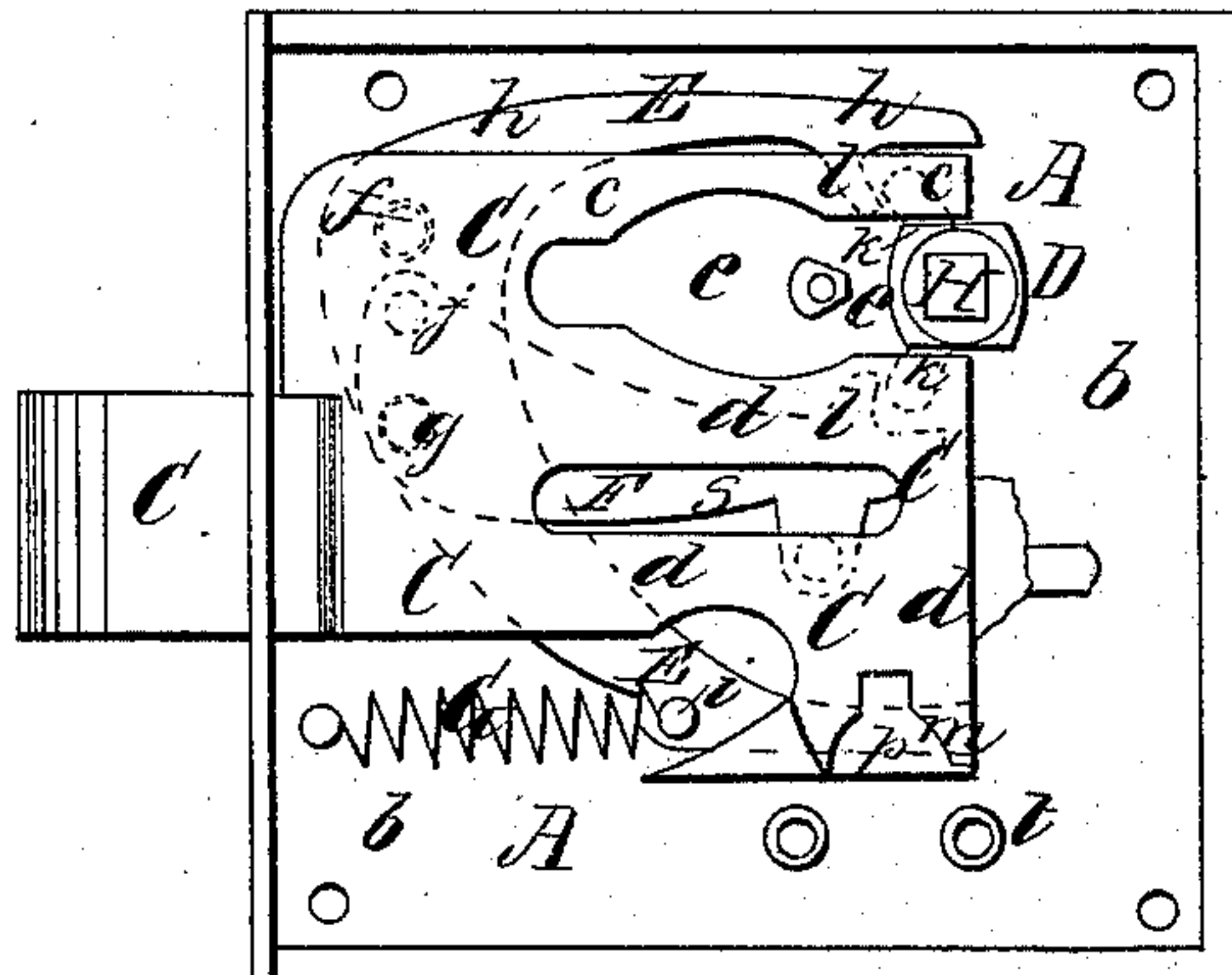


Fig: 4.

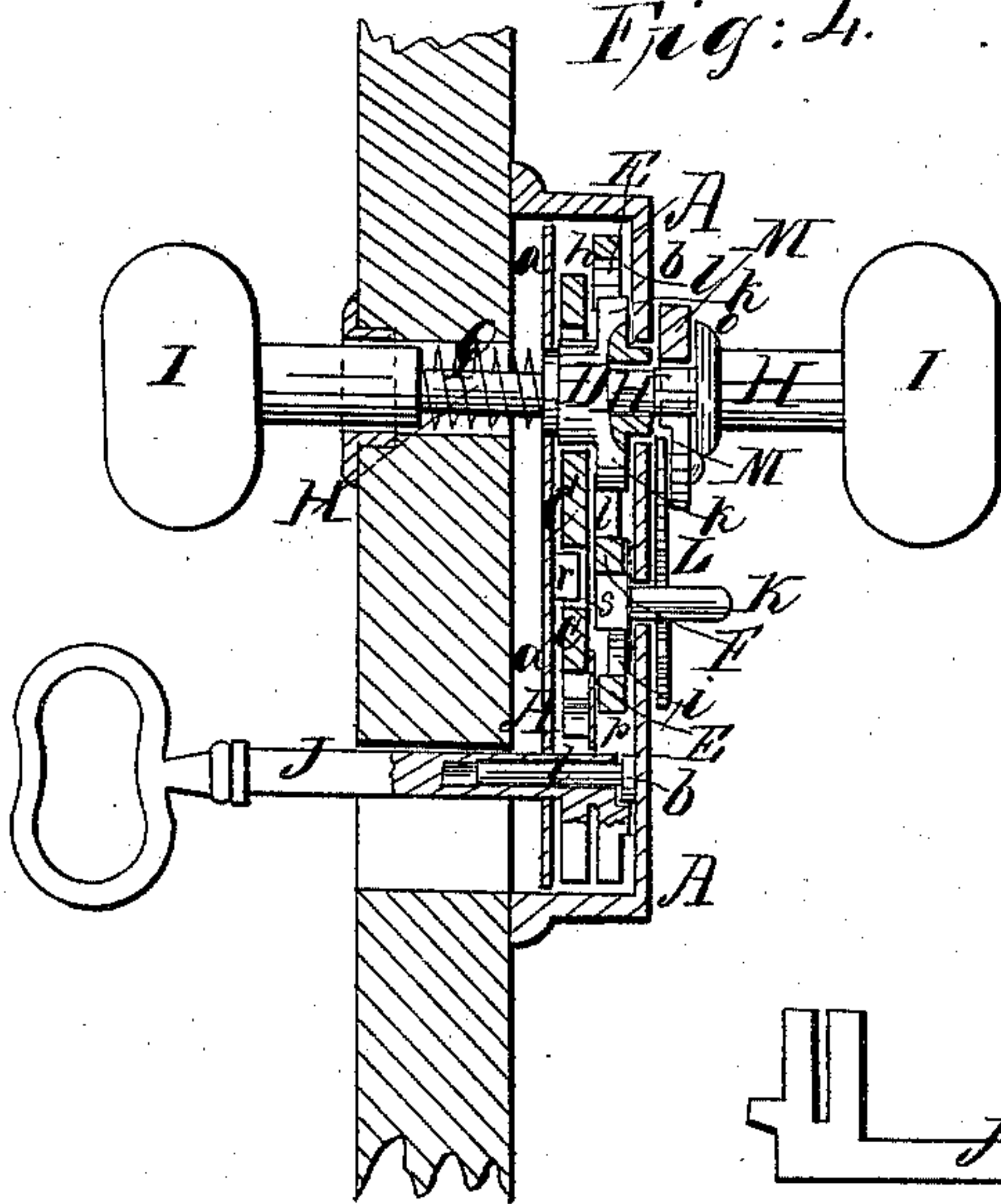


Fig: 3.

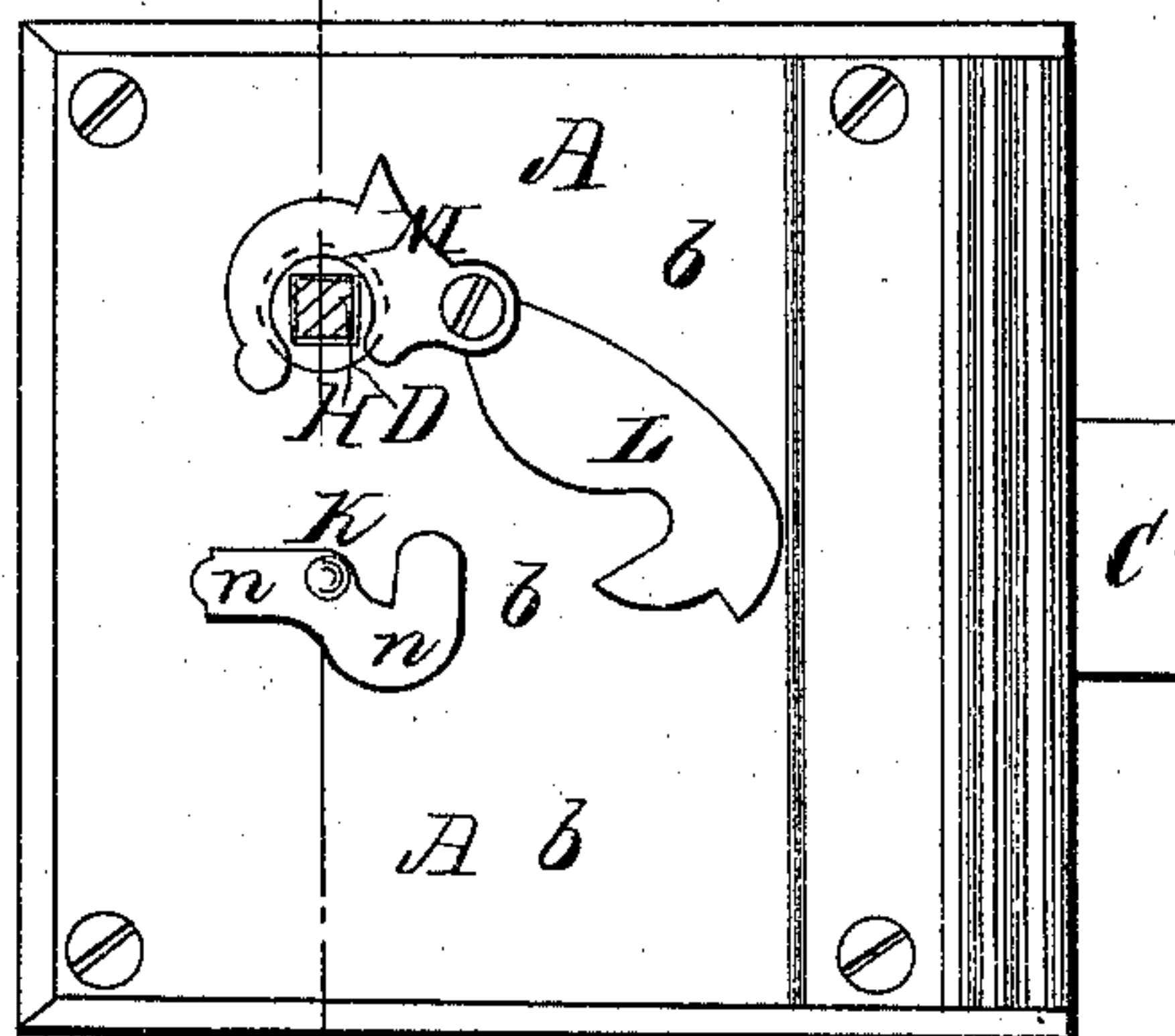


Fig: 5.

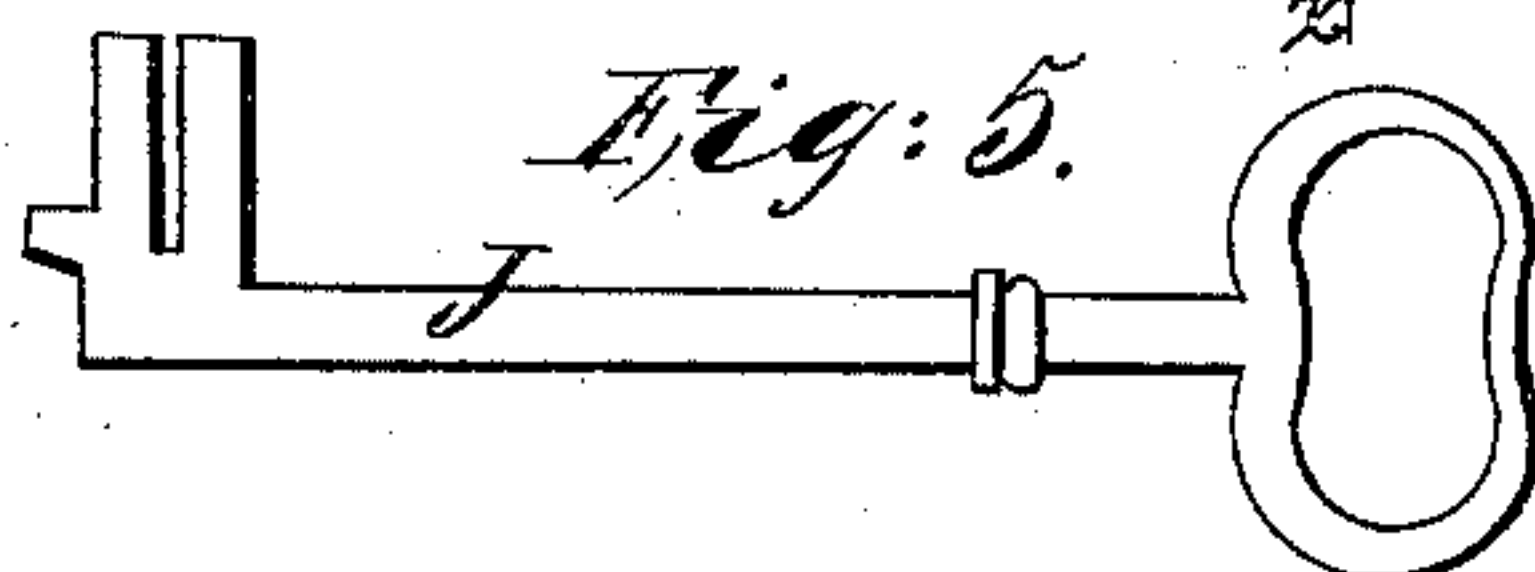
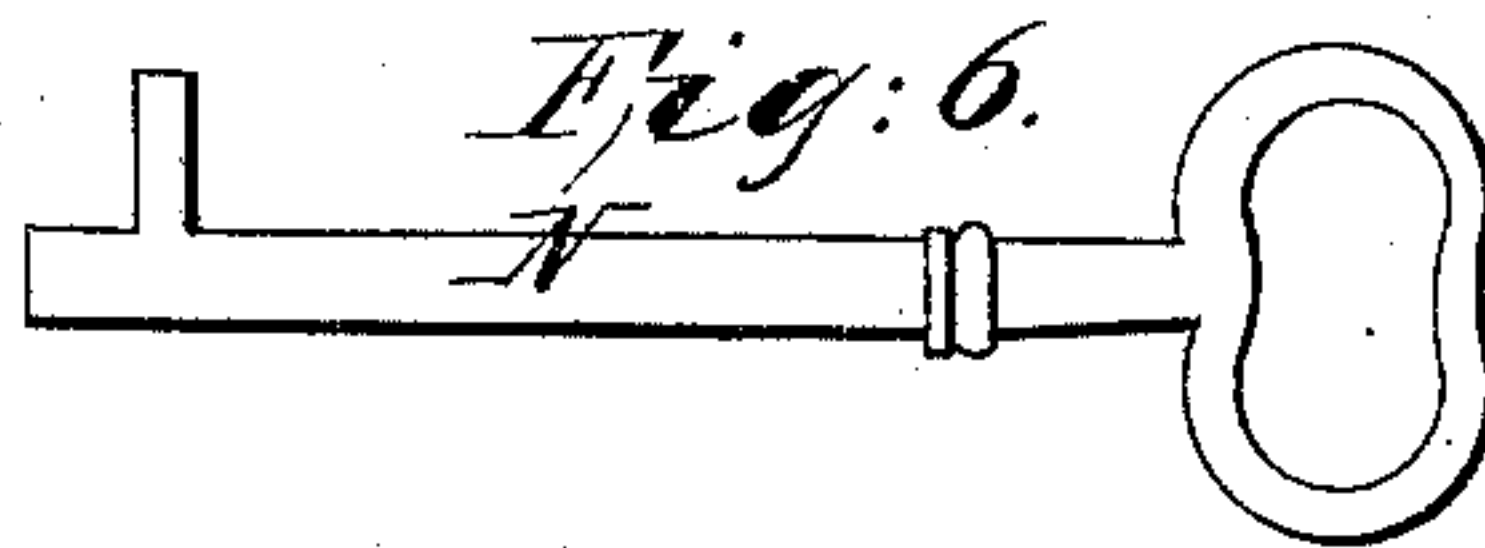


Fig: 6.



Witnesses:

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United States Patent Office.

E. G. F. ARNDT AND C. E. L. MOEBIUS, OF NEW YORK, N. Y.

Letters Patent No. 67,938, dated August 20, 1867.

IMPROVEMENT IN COMBINED LOCK, AND KNOB-LATCH.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, E. G. F. ARNDT and C. E. L. MOEBIUS, of the city, county, and State of New York, have invented a new and useful Improvement in Locks; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view partly in section of our improved lock, the outside covering-plate being removed.

Figure 2 is a similar view of the lock, the parts being in different position.

Figure 3 is a side view of the lock.

Figure 4 is a vertical cross-section of the same, the plane of section being indicated by the line $x x$, fig. 3.

Figure 5 is a side view of the key by which this lock may be opened.

Figure 6 is a view of the night-key, by which the bolt can be momentarily drawn in.

Similar letters of reference indicate corresponding parts.

This invention relates to certain improvements in the lock for which Letters Patent were granted to E. G. F. Arndt and A. Hühne on the eleventh day of November, 1862. The invention consists in so arranging a spring-bolt lock that it may be used as a common bolt-lock, or as a night-lock, and which can be so locked from the inside by a guard-plate that the bolt cannot be moved by a key.

A represents the rectangular case of the lock, in which a is the front plate and b the back or inside plate, or that which will be on that side of the door which is in the hall or room on which the lock is applied. C is the bolt, of which that part which is on the inside of the case A consists of two arms, c and d , between which a groove or recess, e , is formed, through which the hub D passes. The latter is round where it fits through the plates a and b of the lock, but that portion of it which is between these plates is square or polygonal, so that it cannot revolve in the narrow end of the recess e , while in the widened portion of the same it can be freely turned. To one side of the bolt are secured two pins, f and g , to which the vibrating tumblers E and F are respectively pivoted. The form of the tumbler E is made similar to that of the letter U, its one arm h being on the upper side of the hub D, together with the arm c of the bolt, while its other arm i is near to the lower extremity of the arm d of the bolt, and so as to be reached by the key-bit. The tumbler F is a bent plate, as is shown (partly by dotted lines) in figs. 1 and 2. Its one end is pivoted by a pin, j , to the tumbler E, which pin is directly between and almost in line with the pins g and f , when the bolt is unlocked, and its other end is on the under side of the hub D. The latter is thus enclosed between the arms $c d$ of the bolt, and also between the tumblers E and F. A spiral spring, G, which is secured to the arm i of the tumbler E, tends to force the tumblers toward the hub, and also to throw the bolt out, while the same is unlocked, and when it is drawn in by the action of the stem H or key. $k k$ are the studs on the hub D, and $l l$ are studs secured to the edges of the tumblers, which enclose the hub. By turning the hub it operates the tumblers by means of these studs k and l . When the bolt is unlocked, as in fig. 1, it can be operated by the shank or stem H, which passes through the hub. By turning the hub in either direction one of the studs k will operate one of the tumblers, and as the latter is connected with the bolt by either the pin f or g , the said bolt will be drawn into the lock, but will at once be thrown out again by the spring G as soon as the handle I of the stem is released. Thus far the bolt operates like a common spring or catch-lock. By applying the key J, which turns on a pin, t , through a hole in the front plate a of the lock, its bit will strike and raise the arm i of the tumbler E, and will thereby throw the arm h of the same off the hub, and as the two tumblers are connected by the pin j the tumbler F will be also thrown off the hub, so that when the bit of the key comes between two lugs, $m m$, which project from the arm d of the bolt C, the latter can be freely moved forward or locked, and will then carry the tumblers forward with it, as the lugs l run clear of the lugs k on the hub. The bolt is guided by a pin, r , which is secured to the plate a of the case, and which passes through a slot, S, in the bolt, as is clearly shown in the drawing. As soon as the bit of the key is disengaged from the bolt the tumblers will, by the action of the spring G, be again thrown against the hub, the lugs l coming in front of the lug k , (while formerly they were in rear of the same,) and then all the parts will be in the position shown in fig. 2. It will be seen that when the bolt is thus locked the hub is in the narrow part of the recess e and cannot be turned, so that the bolt, when locked, cannot be operated by the stem H, but only by the key J. To the tumbler F is secured a pin, K, which projects through

the inside plate *b* of the lock-case, in which plate a slot, *n*, is provided for the said pin to move in during the motion of the tumbler *E*. By means of this pin the bolt can be unlocked from the inside of a room or hall without the use of the key. By a guard plate, *L*, which is pivoted or hinged to the plate *b*, as is clearly shown in fig. 3, the pin *K* can be locked so that not even the key from the outside can operate the bolt. Only one end of the stem *H* is made square, the main portion being rounded. When it is desired to throw the stem out of gear with the hub *D* it is only necessary to pull it toward the inside of the hall or room and throw a guard-plate, *M*, between a shoulder, *o*, on the stem and the plate *b* of the lock-case. The round portion of the stem will then only be in the hub, and the stem can be turned as much as desired without operating on the hub, and the stem thus made useless the door can only be opened by the use of the key *J* or by a night-key, *N*, the bit of which only operates against the side of one of the lugs *m* on the bolt. By the use of this night-key the bolt can be operated in a similar manner as it is by the stem *H*. When the bolt is locked the night-key cannot be used, nor can the stem, even if the same is again thrown into gear with the hub. Only the key *J* can unlock the bolt again. Between the lugs *m m* and the arm *i* of the tumbler *E* is interposed a thin plate, *p*, secured to the bolt, which fits into a notch in the key *J*, and prevents feeling of the lock. A spiral spring, *O*, is arranged around the stem *H*, between the plate *a* and a shoulder on the said stem, which will throw the square end of the stem into the hub again as soon as the guard-plate *M* is disengaged from the stem. The lock can thus be used for a great many purposes. By leaving off the pin *K* and slot *n* the lock can be made so as to be only operated by the keys and stem.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The square or polygonal hub *D*, when arranged between the arms *c* and *d* of the bolt in the recess *e*, which is narrow at the end, substantially as and for the purpose herein shown and described.
2. The stem *H*, when made partly square (or polygonal) and partly round, in combination with the guard-plate *M* and spring *O*, all made and operating substantially as and for the purpose herein shown and described.
3. The vibrating tumblers *E* and *F*, when pivoted together and arranged substantially as herein shown and described, in combination with the bolt *C*, spring *G*, and square or polygonal hub *D*, all made and operating substantially as herein shown and described.
4. The guard-plates *L* and *M*, in combination with each other and with the stem *H* and pin *K*, all made and operating substantially as and for the purpose herein shown and described.
5. A spring-bolt lock, which is so constructed that it can be operated by a stem, *H*, and key, *J*, or by the latter and a night-key, *N*, or by all three, or by the key *J* only, substantially as and for the purpose herein shown and described.

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C. E. L. MOEBIUS.

Witnesses:

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