

(No Model.)

C. SWANBERG.
LOCK.

No. 528,450.

Patented Oct. 30, 1894.

Fig. 4.

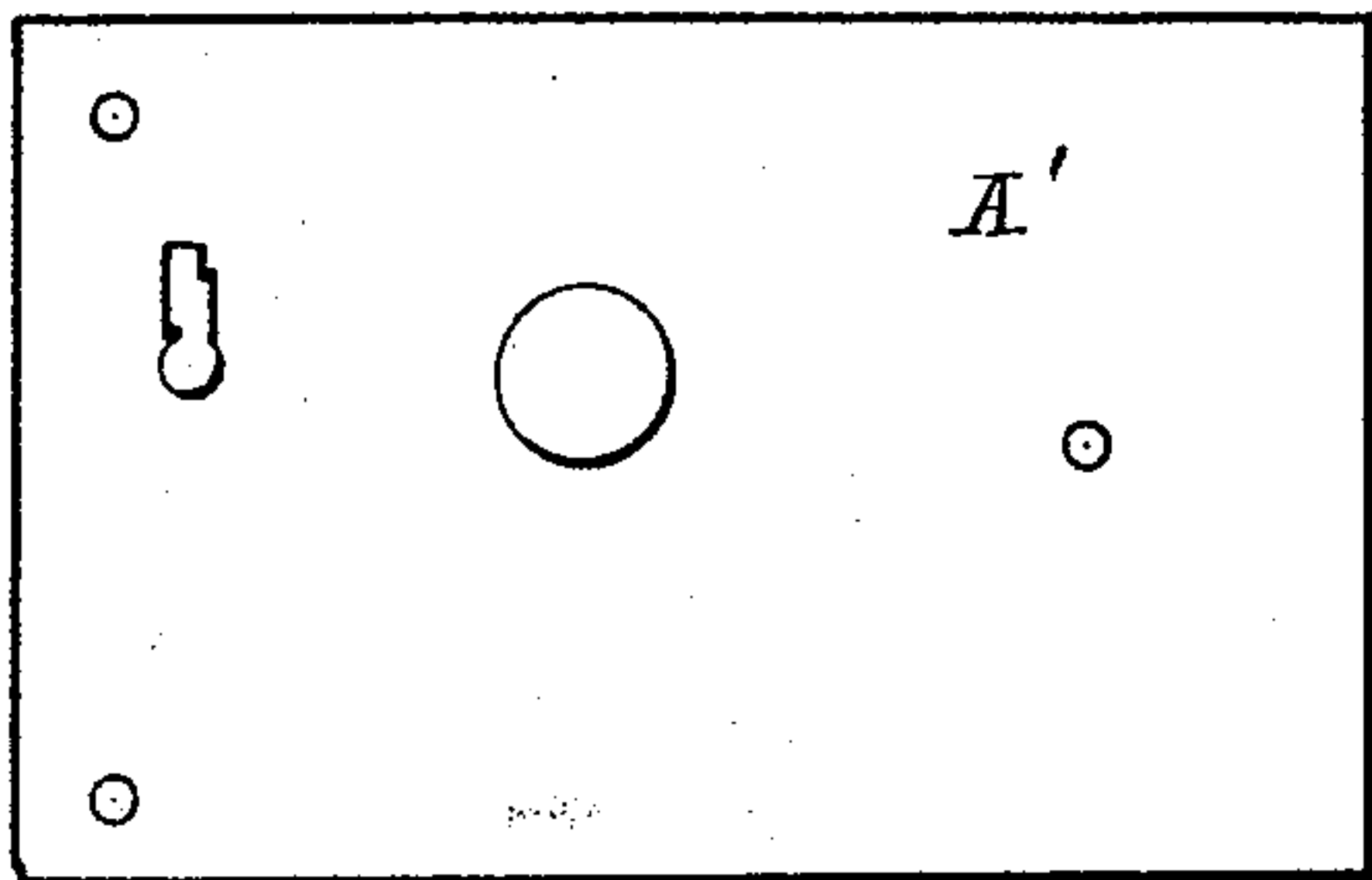
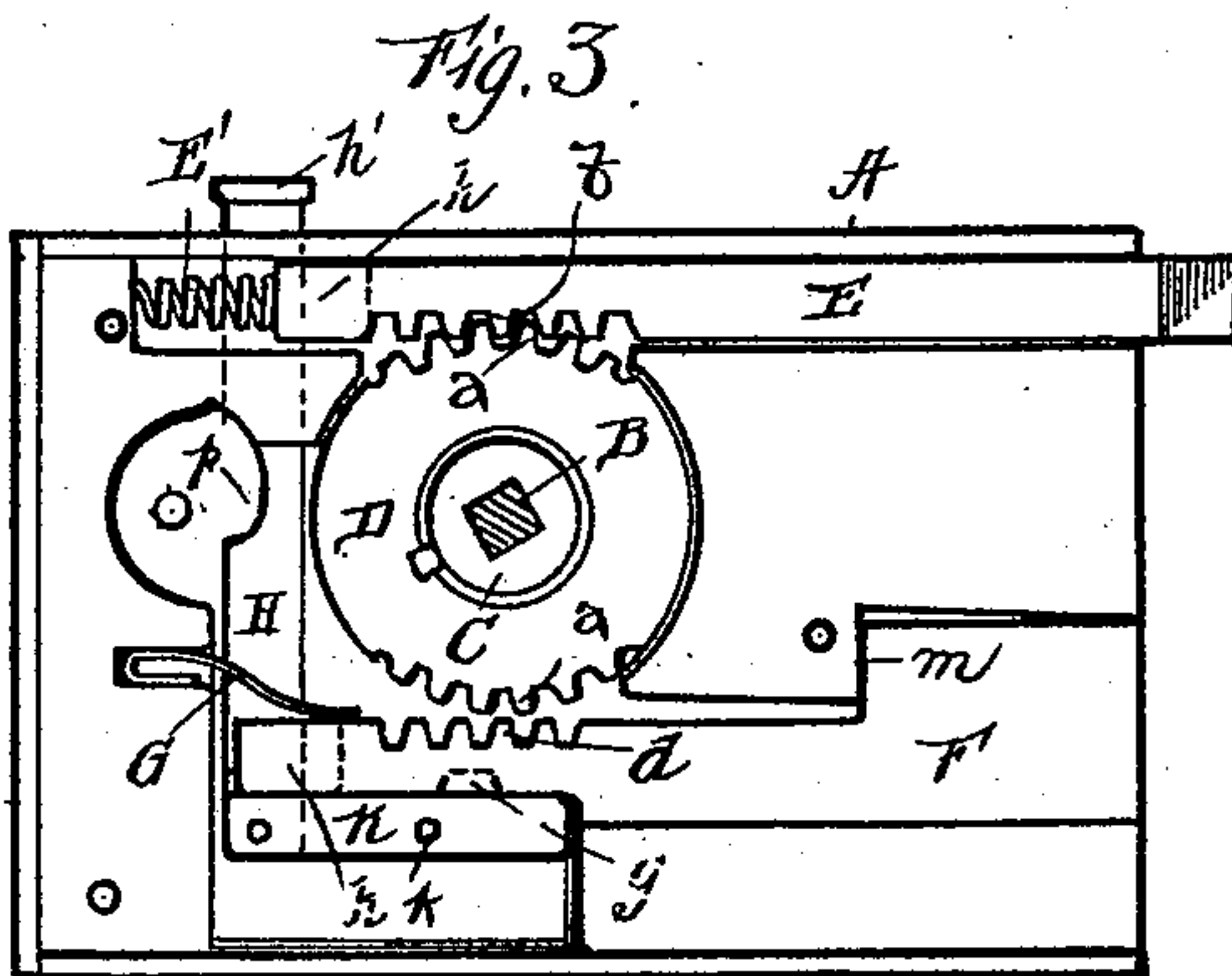
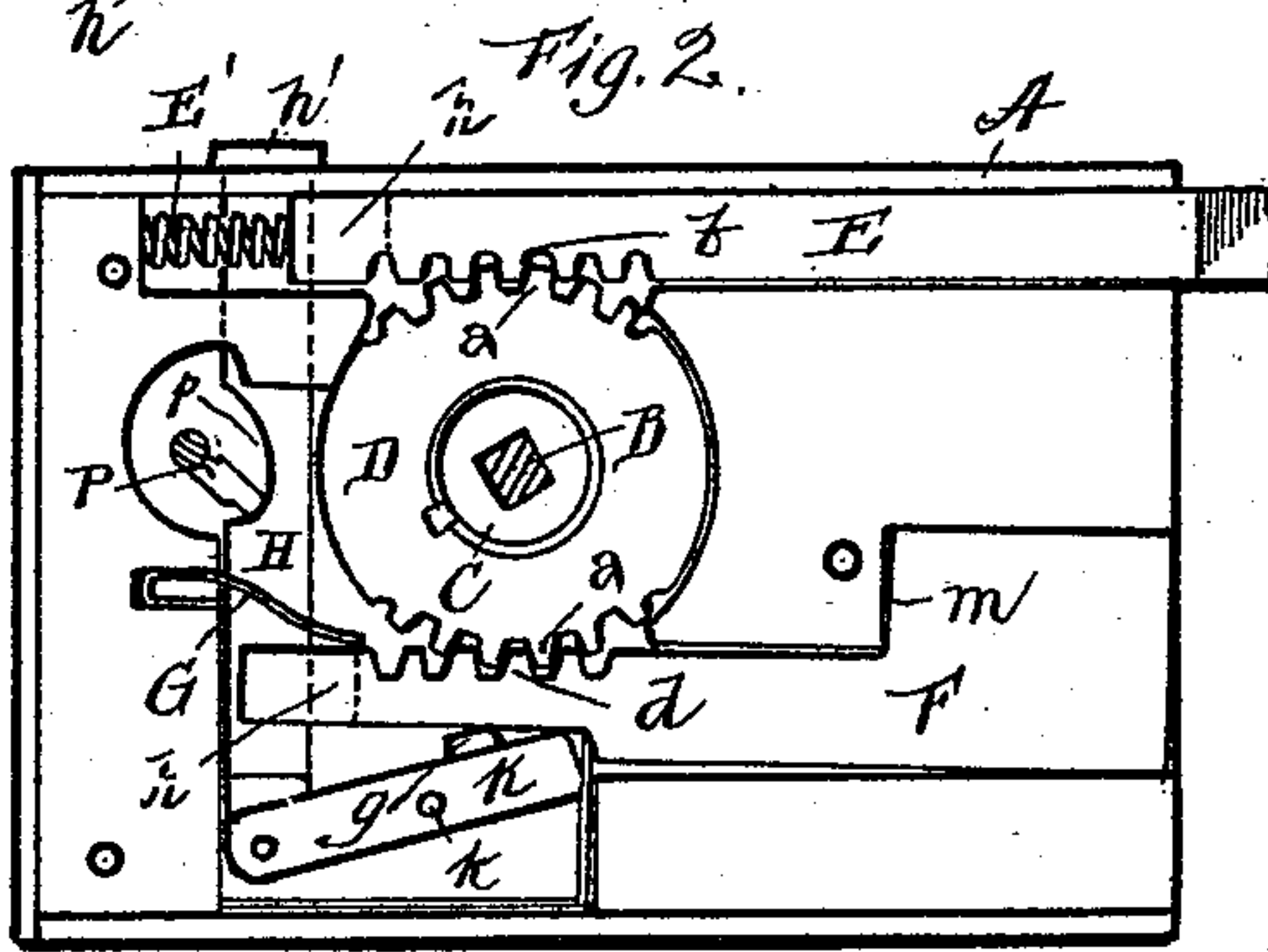
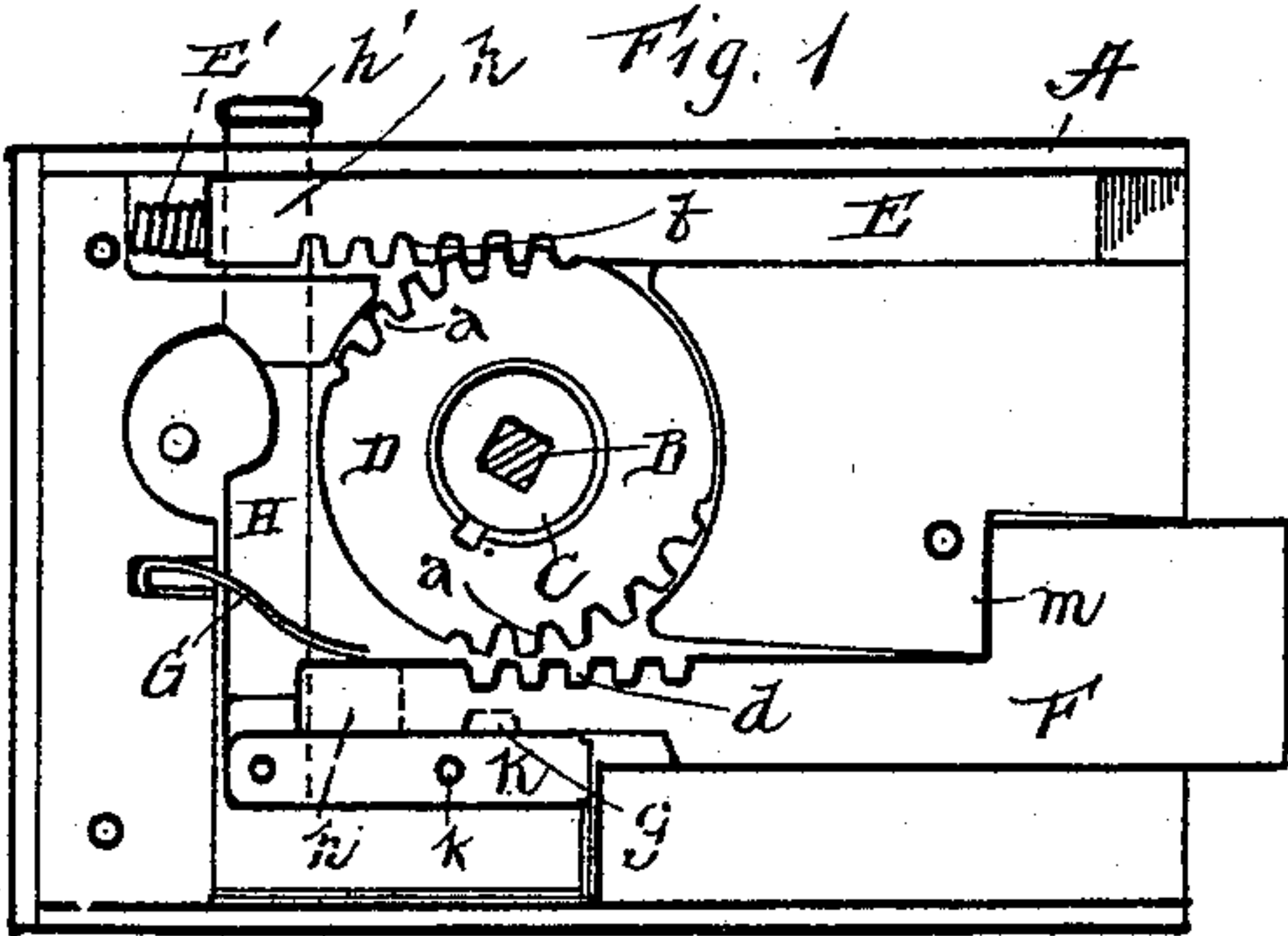
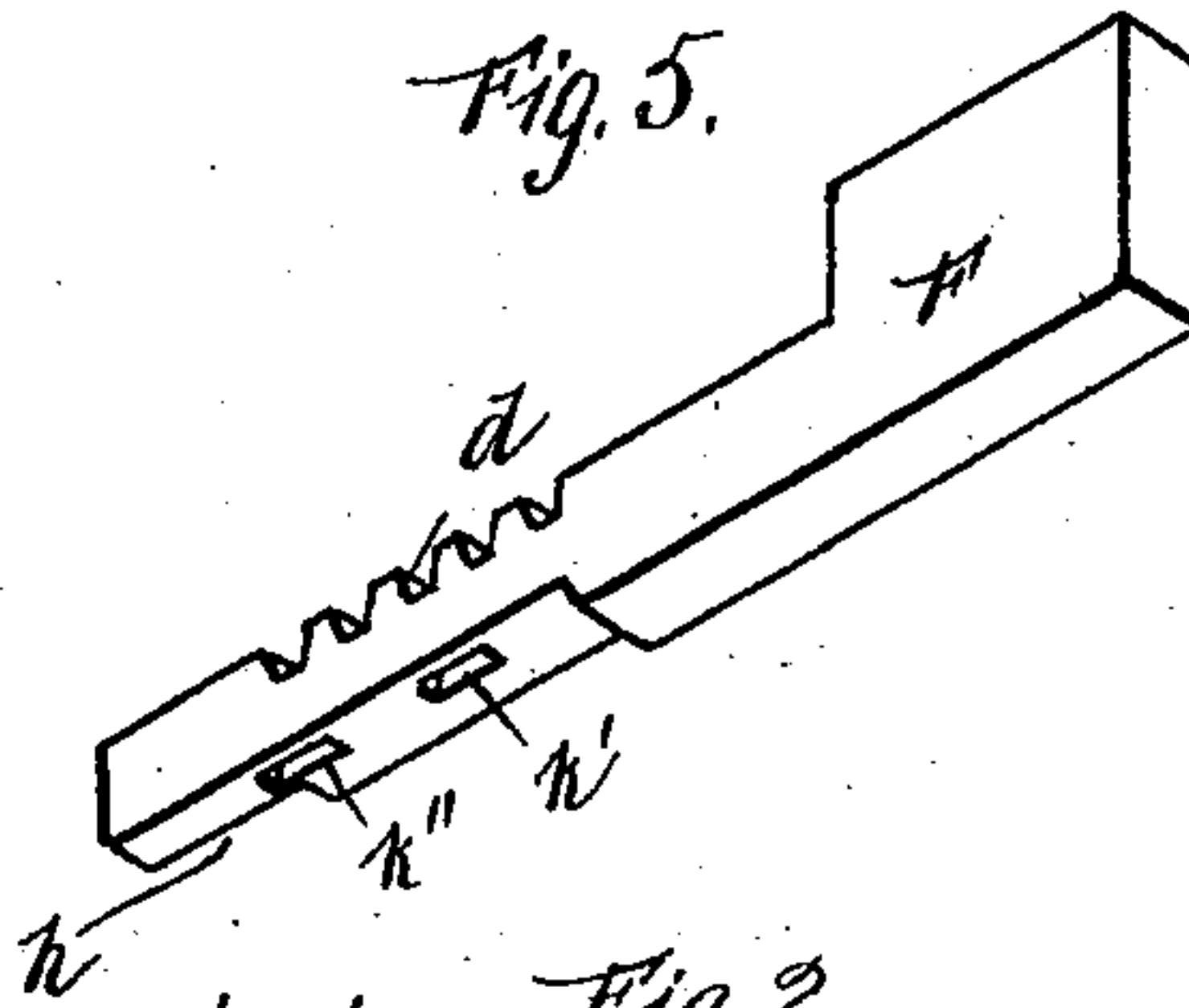


Fig. 5.



Witnesses:

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C. Smanberg
by E. W. Anderson
his Attorney.

UNITED STATES PATENT OFFICE.

CLAUS SWANBERG, OF GILBERT, MICHIGAN.

LOCK.

SPECIFICATION forming part of Letters Patent No. 528,450, dated October 30, 1894.

Application filed August 3, 1894. Serial No. 519,365. (No model.)

To all whom it may concern:

Be it known that I, CLAUS SWANBERG, a citizen of the United States, residing at Gilbert, in the county of Wexford and State of Michigan, have invented certain new and useful Improvements in Locks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a side elevation of invention with cap removed showing bolt shot. Fig. 2 is same with bolt drawn and its rack teeth pushed into engagement with pinion. Fig. 3 is same with rack teeth of bolt out of engagement with pinion. Fig. 4 is a plan view of removable cap plate. Fig. 5 is a perspective view of bolt.

This invention has relation to certain new and useful improvements in combined locks and latches, the object being to provide an improved device of this character consisting of but few parts, simple but effective in action, and having its lock so arranged that it may be readily operated from the inside at all times without the aid of a key, but which cannot be worked from the outside without a key.

With this object in view, the invention consists in the novel construction and combination of parts, all as hereinafter described and pointed out in the appended claims.

Referring to the accompanying drawings, the letter A designates the case of the lock, having a removable cap plate A'.

B is the knob spindle which extends through the case, inside of which it carries a hub or boss C to which is keyed or otherwise rigidly secured a mutilated pinion D, whose toothed portions *a* are opposite to each other.

E designates the latch bolt which is arranged to slide in a guide way in the upper portion of the casing and which has formed thereon a rack *b* which is designed to be always in mesh with the pinion D and is therefore actuated whenever the knob spindle is turned. E' is a coiled spring which acts

against the inner end of said bolt to normally protract it.

F designates the lock bolt, which is arranged to slide in a guideway in the lower portion of the case, and which is capable of an up-and-down play in said guideway. The inner end of said bolt is reduced in width, and has on its upper edge a rack *d* whose teeth are normally out of engagement with the teeth of the pinion, the bar being held away from the pinion by means of a spring G bearing against its inner portion. In its normal position, therefore, the operation of the knob spindle has no effect upon the bolt lock.

H designates a push bar which slides in a guide in the casing at right angles to the lock and latch bars, and underneath the inner end portions thereof, such end portions being cut away on the under side, as indicated at *h*, to accommodate said bar. The upper end portion of said bar projects through an opening in the casing, and terminates in a button *h'*. The lower end portion of the bar is pivoted to an arm K, which rocks on a horizontal pivot *k*, and which is situated just below the inner reduced portion of the lock bolt and in contact therewith. On the said arm is a tooth or projection *g*, which is adapted to engage either one of two recesses *k k'*, on the under side of said bolt.

It will be apparent from the above description, that when the button *h* is pressed, the arm K is rocked, bringing its free end portion to bear positively against the lock-bolt, and forcing the rack teeth of the latter into engagement with the teeth of the pinion, so that if the knob spindle be turned, said bolt will be actuated. As the arm K is rocked, its tooth or projection *k* is moved out of engagement with the recess *k' k'*, it being in engagement with the former when the bolt is protracted, and with the latter when it is withdrawn. As soon as the button *h'* is released, the spring G throws the lock bolt down out of engagement with the pinion. It will be observed, therefore, that the lock may be readily operated from the inside, but it cannot be operated from the outside except by means of a suitable key P, whose bit is arranged to engage a depression *p* in the push

bar H, and throw said bar up or down to effect the engagement and disengagement of the lock bolt and pinion. *m* is a stop shoulder on the lock bolt, designed to engage with
5 a similar shoulder *m'* of the case.

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

1. In a lock, the combination with a knob
10 spindle, a pinion fast therewith, a sliding latch bolt having a rack thereon in constant engagement with said pinion, a lock bolt at the opposite side of said pinion, having a rack normally out of engagement with said
15 pinion, a push device arranged to be operated from one side of the door to throw said lock bolt into engagement with said pinion, and a key arranged to act upon said push device from the opposite side of the door, substantially as specified.
20

2. In a lock, the combination of a knob

spindle, a pinion fast thereto, a latch bolt having a rack thereon in constant engagement with said pinion, a lock bolt upon the opposite side of the pinion and having a rack
25 thereon normally out of engagement with said pinion, a push bar having a projecting button at one end, a rocking arm to which the opposite end portion of said push bar is loosely connected, said arm being in contact
30 with said latch bolt, a tooth or projection on said rocking arm adapted to engage recesses on the lock bolt, and a spring bearing upon said lock bolt and normally holding it out of engagement with said pinion, substantially
35 as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CLAUS SWANBERG.

Witnesses:

E. E. HASKINS,
BEN OLSEN.