

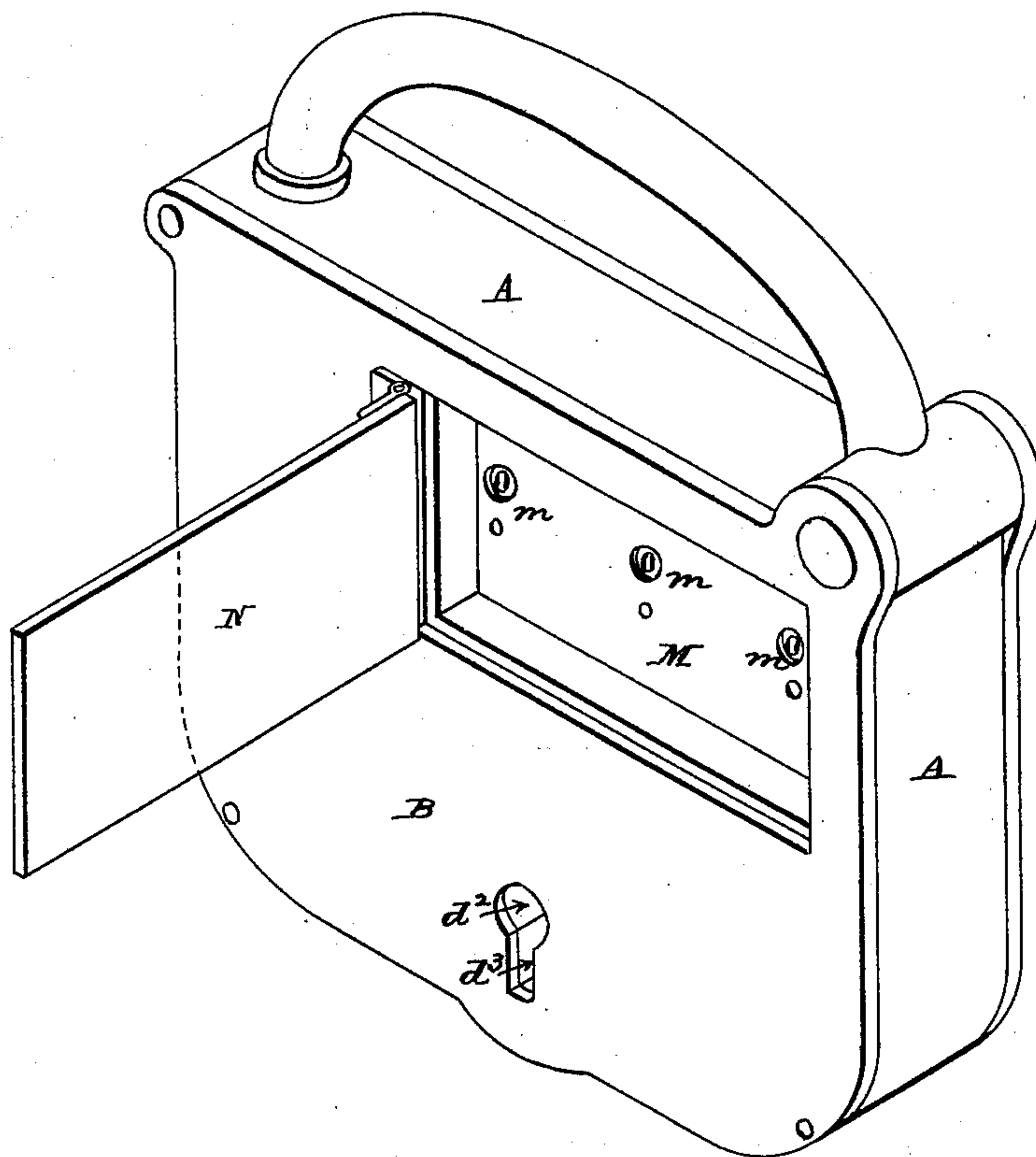
3 Sheets—Sheet 1.

L. R. NORMAN.  
INDICATOR LOCK.

No. 170,889.

Patented Dec. 7, 1875.

FIG. 1.



ATTEST:

Robert Burns  
John Winter

INVENTOR:

Leslie R. Norman

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FIG. 2.

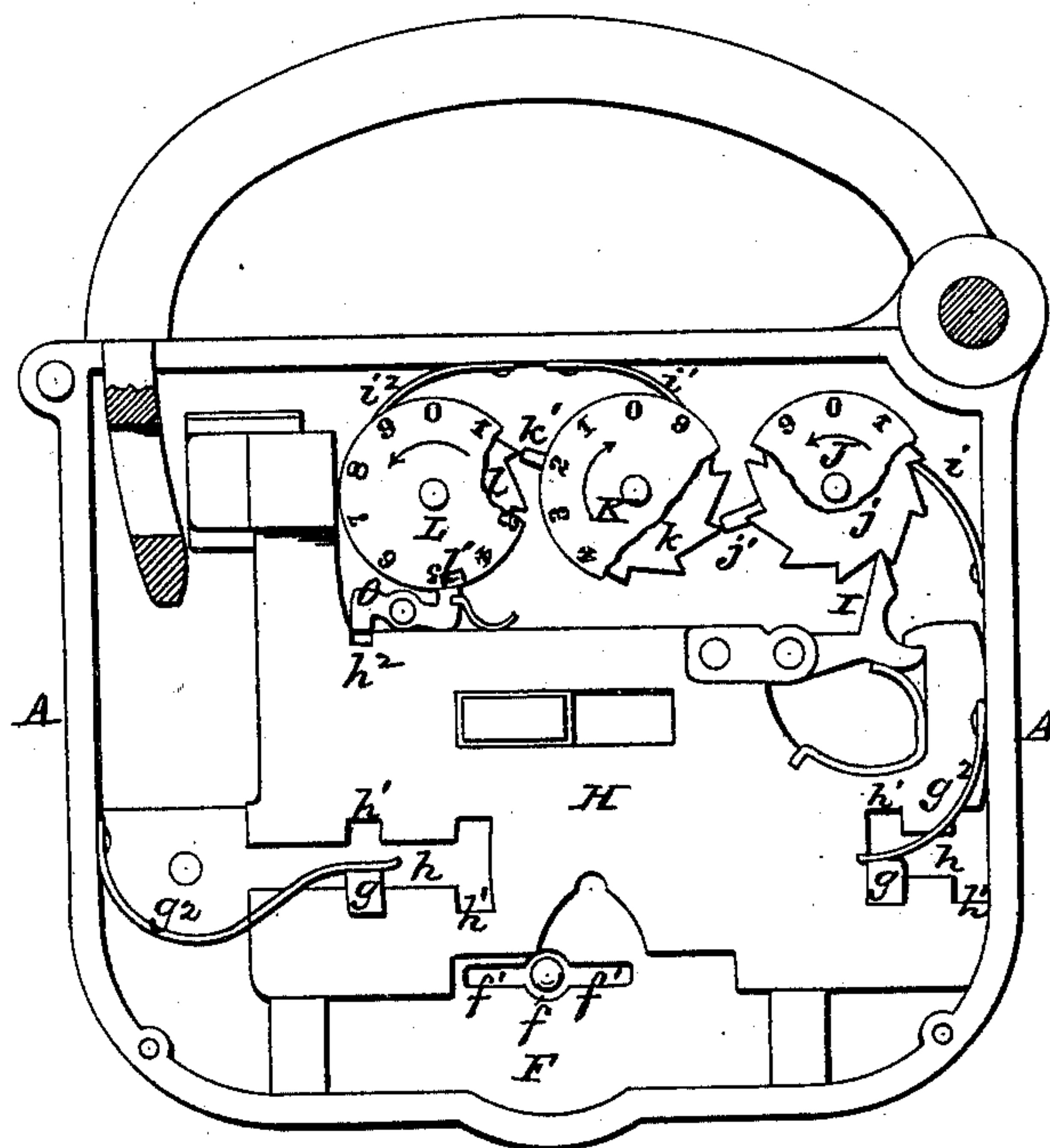
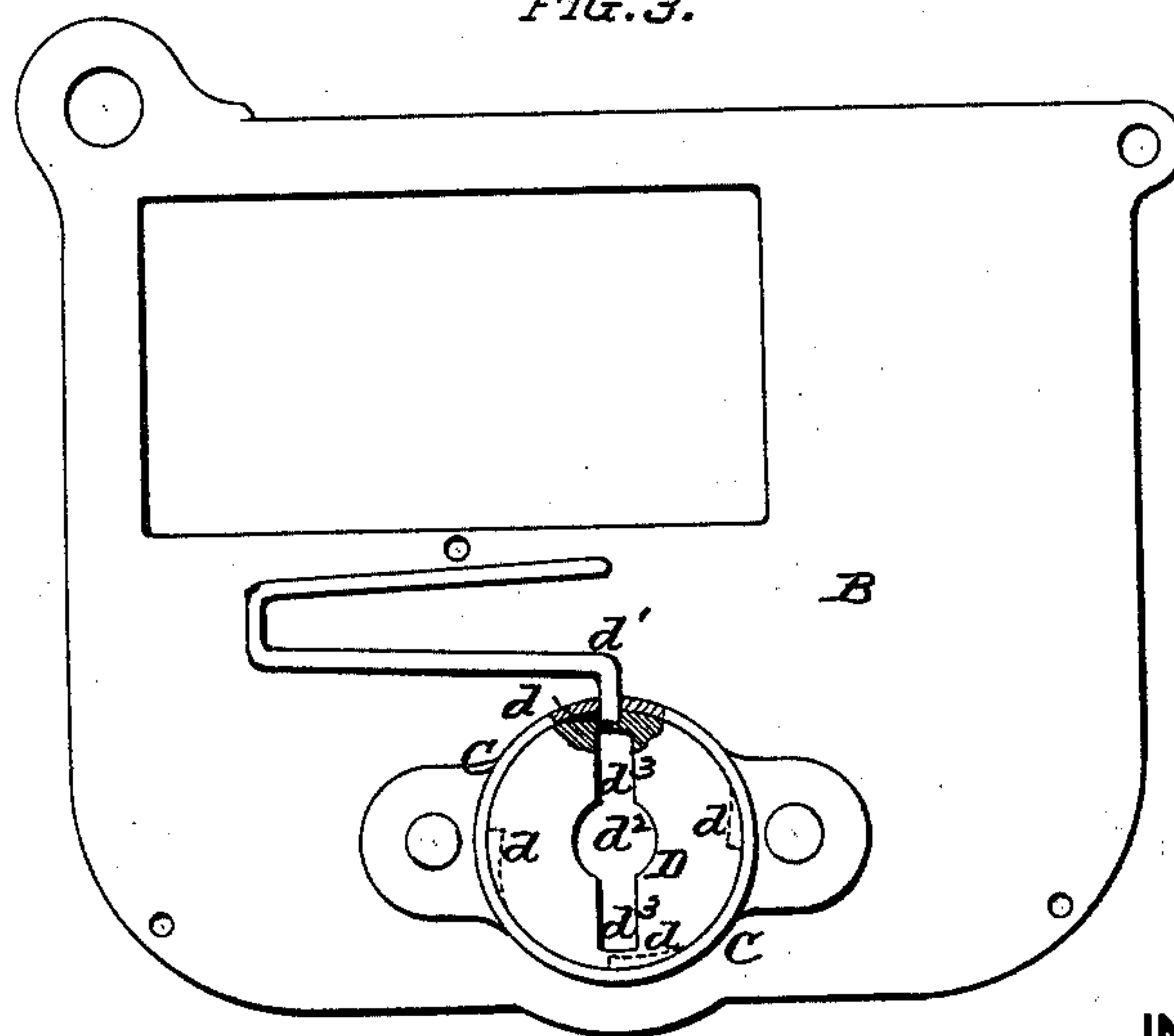


FIG. 3.



ATTEST:

*Robert Burns.*  
*John Winter*

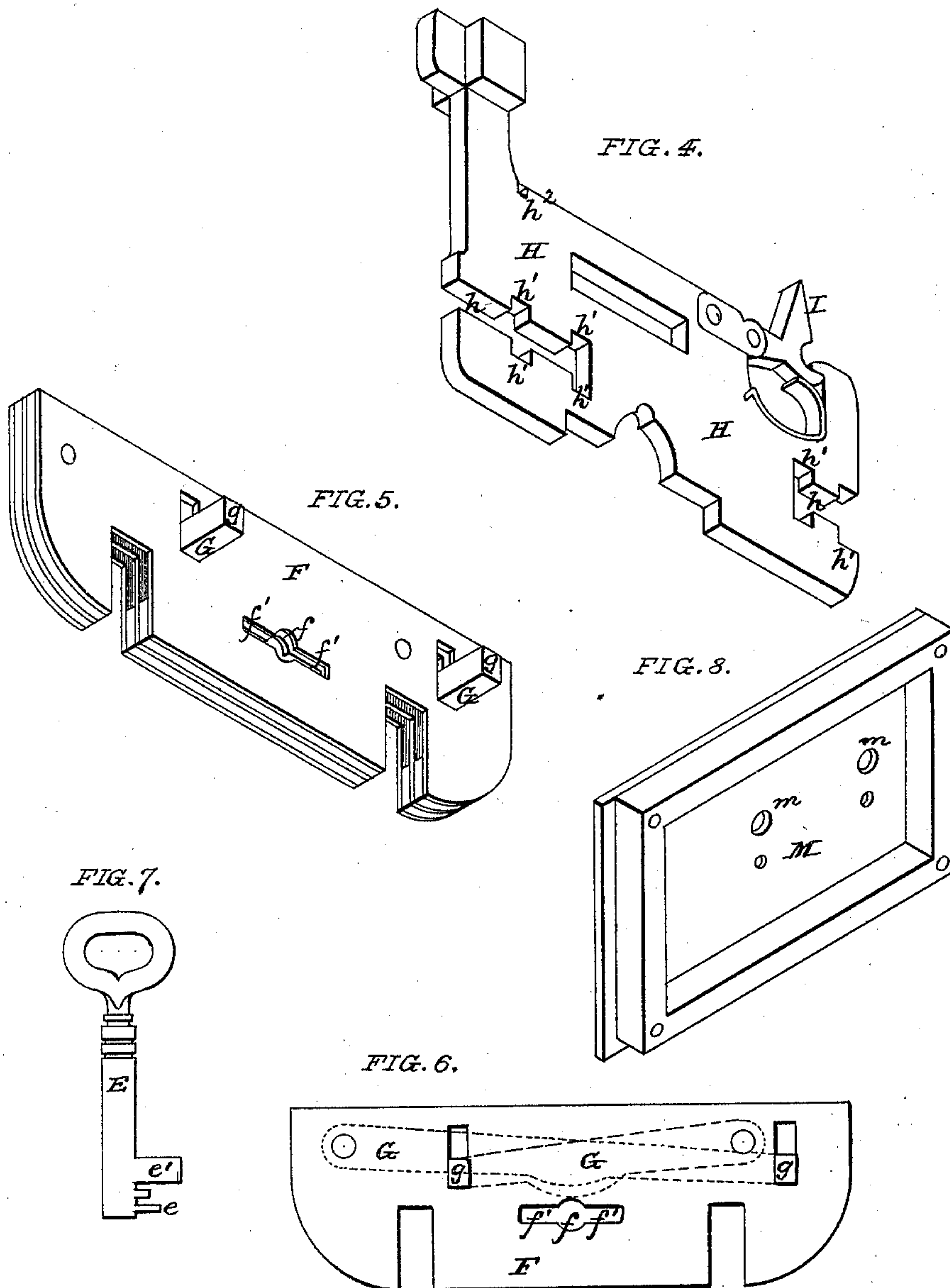
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**ATTEST:**

Robert Burns  
John Wither

**INVENTOR:**

Leslie R. Norman



# UNITED STATES PATENT OFFICE.

LESLIE R. NORMAN, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN INDICATOR-LOCKS.

Specification forming part of Letters Patent No. **170,889**, dated December 7, 1875; application filed October 8, 1875.

*To all whom it may concern:*

Be it known that I, LESLIE R. NORMAN, of the city and county of St. Louis and State of Missouri, have invented a new and useful Improved Lock, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

My invention consists in providing the bolt with a spring-pawl, which engages and operates a ratchet-wheel of an indicator or register at each movement of the bolt, and thus indicates the number of times the bolt has been moved.

In the accompanying drawings, Figure 1 is a perspective view of the lock. Fig. 2 is a side elevation of the lock mechanism, the front plate of the casing being removed. Fig. 3 is a rear view of the front plate of the casing. Fig. 4 is an under perspective of the lock-bolt. Fig. 5 is an under perspective of the tumbler and casing. Fig. 6 is a side view of the same. Fig. 7 is a side view of the key. Fig. 8 is a perspective view of the plate covering the dials.

A is the casing of the lock, of any suitable form and construction, having a front plate, B, which is provided with a housing, C, for the reception of a rotatable disk, D, which has notches  $d$  in its periphery, in which engages a spring-pawl,  $d^1$ , so arranged that the disk can be rotated in one direction only. This disk has a central opening,  $d^2$ , through it for the reception of the stem of the key E, and on each side of this opening are radial slots  $d^3$  for the reception of the lugs  $e e'$  of the key. Back of this disk is the tumbler-casing F, having openings  $f$  immediately beneath the opening  $d^2$ , and said opening has radial slots  $f'$  similar to  $d^3$  for the passage of the lugs  $e e'$  of the key. This casing F is composed of three or more plates of steel, between which plates are arranged the tumblers G, which have the usual tumbler-lugs  $g$ , which play in the tumbler-slots  $h$  of the bolt H. The tumblers are held down by springs  $g^2$ , said slots  $h$  having the usual false wards  $h^1$ , in which the tumblers engage to prevent the bolt being operated when an attempt is made to open the lock by a false or blank key. I is a spring-pawl, pivoted to the lock-

bolt H, and engaging and operating the ratchet-wheel  $j$  of the first dial-plate J. In the drawings this dial-plate is shown with a projecting tooth,  $j'$ , which, on each rotation of the dial J, moves the dial K around one tooth of the ratchet-wheel  $k$  of said dial K. Similarly the dial L is operated by the tooth  $k'$  engaging the ratchet-wheel  $l$  of the dial L.  $i^1 i^2$  are spring-dogs to prevent the backward movement of the dials. These disks constitute a registering mechanism for indicating the number of times the lock has been opened, and a more or less number of disks may be used to form the indicator, according to the number of times the indicator is required to indicate. In front of these disks is a sunken plate or cover, M, to the dials, and having openings  $m$  through it for the purpose of showing the number that the dials indicate. These openings are covered by a hinged lid, N, which may be provided with a lock if desired. O is a pivoted spring-lever, which, when the indicator has reached its last indication, said lever springs into a notch,  $h^2$ , in the lock-bolt H and into the notch  $l'$  of the last one of the dials, and locks the indicating mechanism and the lock-bolt, so as to prevent their further action by the key.

In the construction shown by the drawings this locking of the bolt and indicating mechanism takes place when the lock is open. By changing the position of the notch  $h^2$ , this locking of the bolt, &c., may be made to take place when the lock is locked. In the drawings my improvements are shown as applied to a padlock; but it is equally applicable to door or other locks, the only change required being that the bolt H be made to play through the casing A in the ordinary manner.

The operation of my improvement is as follows: The key is first introduced into the slots  $a^2 d^3$  of the disk D, and turned a quarter round, which brings it over one of the slots  $f'$  into which the key is pushed, so as to bring the lug  $e'$  in line with the tumblers. It is then turned forward, and in turning the lug  $e$  lifts the tumblers, and the lug  $e'$  moves the bolt. In case a "blank" or false key should be used it would be caught in the lock, so that it could not be withdrawn, as the tumblers would prevent its being turned forward, and

the spring-pawl  $d^1$  and disk D would prevent its being turned backward, and therefore it would remain fixed in the lock. On each backward movement or unlocking of the bolt the spring-pawl I turns the disk J one notch of the ratchet  $j$ , and this dial J at every rotation moves the dial K one notch of the ratchet  $k$ . Similarly each rotation of the dial K moves the dial L one notch of the ratchet  $l$ , and when said dial L has reached its last indication a spring-lever,  $o$ , drops into a notch,  $l^1$ , in its periphery and into a notch,  $h^2$ , of the bolt and locks them both, so that no further movement can be communicated to them.

I claim as my invention—

1. The lock-bolt H, having spring-pawl I, in combination with the dials J K L, and ratchet  $j k l$ , as and for the purpose set forth.
2. The spring-pawl or lever O, in combination with the dial L, and lock-bolt H, substantially as and for the purpose set forth.

LESLIE R. NORMAN.

Witnesses:

ROBERT BURNS,  
JOHN WINTER.