

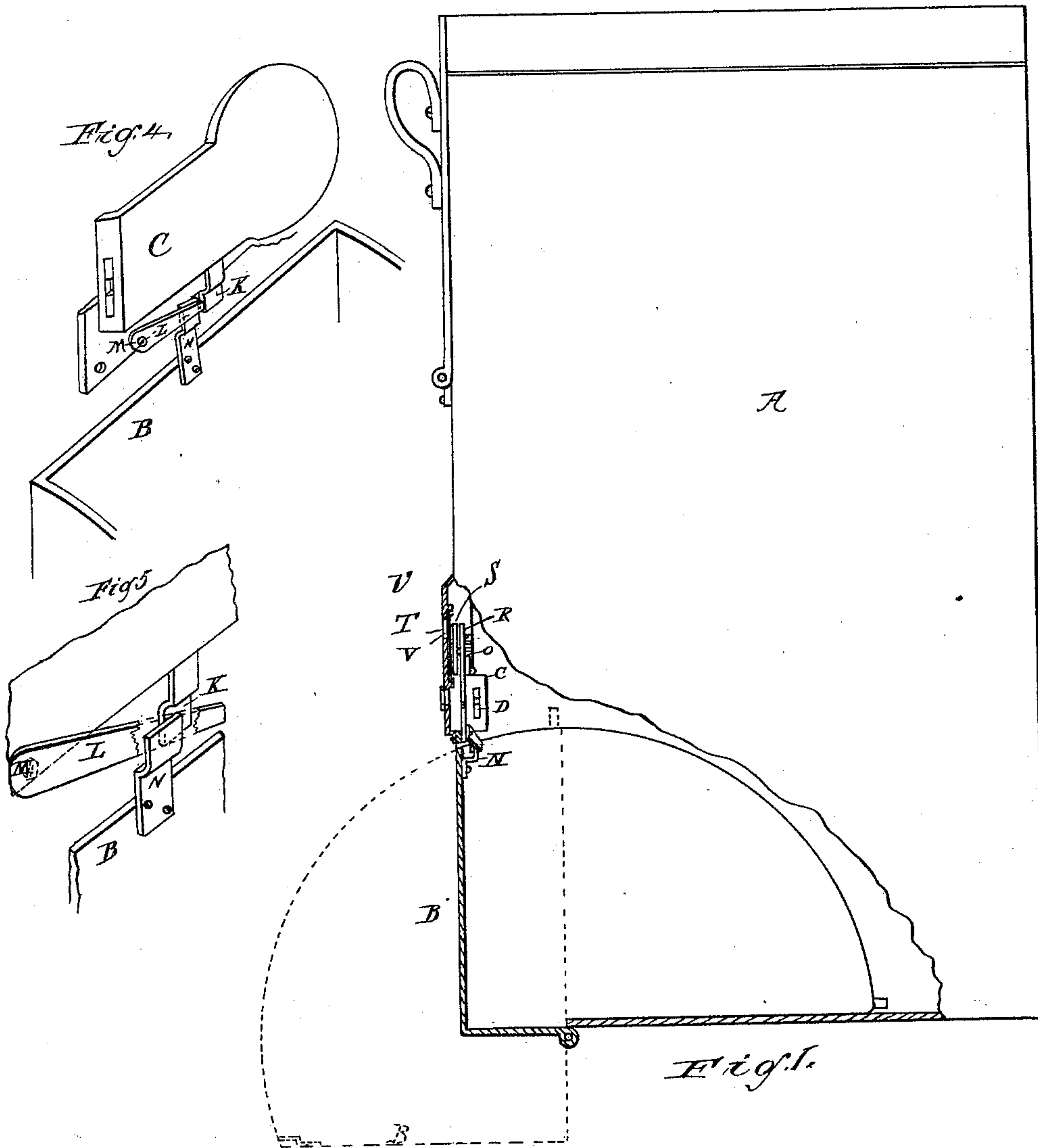
(No Model.)

2 Sheets—Sheet 1.

J. CORBETT.  
LOCK.

No. 424,859.

Patented Apr. 1, 1890.



WITNESSES:

*Benjamin*  
*Morris Arnhaim*

INVENTOR

*Joseph Corbett*  
BY *Phillips Abbott*  
his ATTORNEY

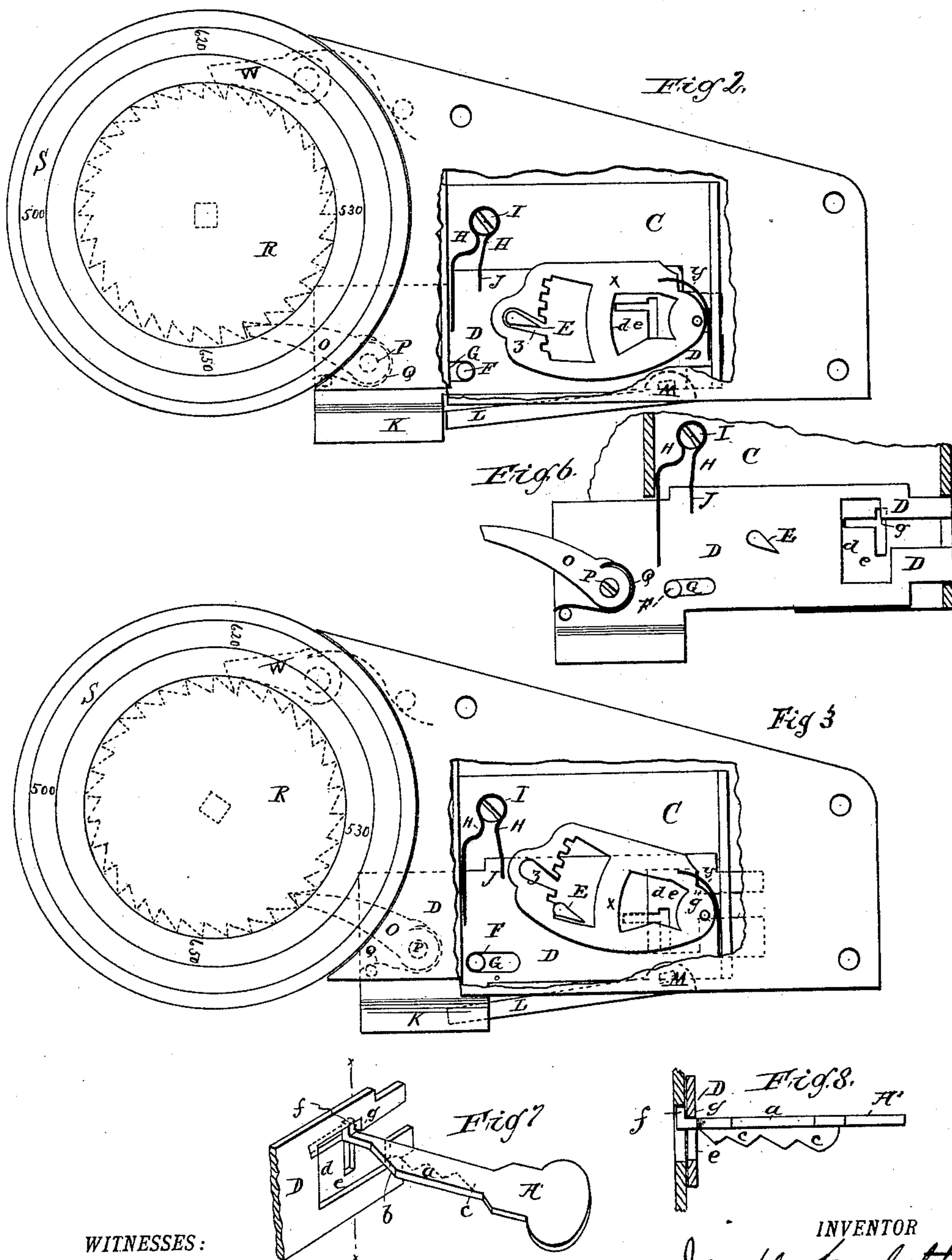
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WITNESSES:

*W. B. Benjamin*  
*Morris Conklin*

INVENTOR

*Joseph Corbett*  
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his ATTORNEY



# UNITED STATES PATENT OFFICE.

JOSEPH CORBETT, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO THOMAS F. SHAW AND HENRY M. WOOLF, OF SAME PLACE.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 424,859, dated April 1, 1890.

Application filed February 23, 1889. Serial No. 300,868. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH CORBETT, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates to new and useful features in letter or like boxes; and it consists in improvements in the lock and door of the box whereby the following advantages are secured: First, it is impossible for the postman to leave the box before the door thereof is closed; second, it is very difficult to pick the lock of the door; third, a different-shaped key from any now in use for letter-boxes or other purposes, so far as I am informed, is used; fourth, the device for relocking of the box is automatic.

By my invention also I secure by means of an index a registration of the number of times the letter-box has been opened, and I can also give notice on the box of the next time it will be opened.

In the drawings the same reference-letters indicate the same parts in all the figures.

Figure 1 illustrates a side view of the letter-box, a portion of it being in section. Fig. 2 illustrates a front view of the lock, case, and index, a part of the face-plate being broken away to show the lock mechanism behind it, the lock being unlocked. Fig. 3 illustrates a view similar to that shown in Fig. 2, the lock being locked. Figs. 4 and 5 illustrate perspective views showing the engagement of the lock-bolt with the door of the box. Fig. 6 illustrates the bolt and coacting parts separate from the tumbler, &c. Figs. 7 and 8 illustrate the key.

A is the box. It is made of such material and of such form as preferred.

B is the door through which the contents are withdrawn.

C is a lock-case attached to the inside of the box adjacent to the door-opening. The lock mechanism comprises a bolt D, which is provided with a fence E, rigidly fastened to one side thereof.

F is a pin or its equivalent, which works in a slot G in the bolt.

H is a spring which is attached to the case of the lock by means of a stud I, the free end whereof is attached to the bolt at J and normally throws the bolt forward into its locked position. (Seen in Fig. 3.) The bolt D is provided with an enlargement or wing K, which projects from the side of the lock-case. It is in the present case what may be termed the "locking-surface" of the bolt; but it may be otherwise disposed than as here shown. When the bolt is retracted by the key, this projection K, or some other suitable part of the bolt, engages with a spring-pawl L, which is attached at M to the lock-casing or other equivalent fixed part, thus holding the bolt in its retracted position until the door is again closed. The spring-pawl L, as shown in Fig. 4, is located in the path of the locking-piece N of the door. Thus when the door is closed the locking-piece N strikes the spring-pawl L and presses it inwardly away from its engagement with the bolt, and the bolt then, under the action of the spring H, instantly shoots forwardly, passing behind the locking-piece N of the door, and again locks the door.

O is a spring-pawl. It is pivoted to the lock-bolt D at P and is provided with a spring Q. This pawl engages with the teeth of a ratchet-wheel R, which is attached to the back side of an index-plate S, which carries on its exposed face such figures or other indicia as may be desired, which are observable through an aperture T, (one or more,) made in the front of the box.

V is a plate of glass, which is fastened in a suitable frame-work of the box U, whereby the index may be read, and dust, &c., prevented from getting to the lock or index mechanism.

W is a spring or gravity stop-pawl, (shown herein as spring-actuated,) which takes up the movement of the index and prevents backward turning thereof when the spring-pawl O is retracted by the forward movement of the bolt.

X is a lock-tumbler somewhat similar to



those used in the well-known Yale and other locks—that is to say, it is provided with a spring Y, whereby it is normally held in an elevated position, and it has also a recess Z, 5 into which the fence E moves when the tumbler is brought into proper position for such movement. It is also preferably provided with false notches Z', to render picking practically impossible.

10 I illustrate but one tumbler; but I wish it to be understood that, if desired, for the purposes of greater security or for other reasons, as many tumblers as desired may be used, they all being brought into proper position 15 relative to the fence E by means of the elevations and depressions on the key, as now well understood.

A', Figs. 7 and 8, is the key. It is composed of a piece of angle metal, preferably steel. 20 On one part *a*, which I will call the "horizontal section," there is formed a single cam-surface *b*, which is so located on the said horizontal section as that when the elevations and depressions on the other part of the key *c*, 25 which I will call the "vertical section," has brought the recesses Z of all the tumblers in line with the fence E that it (the cam-surface *b*) will press the bolt rearwardly by its impact against the rear edge *d* of an opening *e* 30 made in the bolt, through which the key passes. It will thus be seen that the location of this cam-surface on the horizontal section will be determined by the number of tumblers used in the lock.

35 In order that it may be impossible to withdraw the key from the lock after the lock has been unlocked without again locking the door, I provide on the forward end of the key an upwardly-extending spur *f*, which, as 40 shown in Figs. 6, 7, and 8, is covered by a part *g* of the bolt D when it is passed so far rearwardly as to engage with the spring-stop pawl L, the adjustment being such that the lock is not unlocked until this takes place. Thus 45 the key can be moved outwardly for the purpose of allowing forward movement of the bolt when the spring-pawl L is tripped by the closing of the door; but it cannot be removed from the lock until the door is closed and 50 locked.

The operation of this apparatus has been so fully described already that detailed description of the movements of the parts will not be necessary. Generally stated, however, 55 the operation is as follows: The operator presses the key inwardly. This act first depresses the tumblers, and, second, presses the bolt rearwardly, the fence E passing into the recesses Z in the tumblers, and the bolt is 60 held in its rearward position by the spring-pawl L. The door, being now unlocked, is moved slightly open by the pressure of the spring-pawl L, and it then by itself drops fully opened, by reason of the hinge being 65 out of the central line of gravity. This being done and the mail removed, the operator closes the door again, and the locking-piece N

thereof or its equivalent, striking the spring stop-pawl L, liberates the bolt, which at once 70 shoots forwardly, locking the door and liberating the key, which is then withdrawn by the operator, who proceeds upon his way. The spring H, as soon as the spring-pawl L is tripped by the closing of the door, presses 75 the key outwardly by reason of the impact of the bolt against the cam-surface *b* thereof, thus allowing the bolt to lock.

It will be noticed that when my lock is locked it becomes a "dead-lock," so called—that is to say, the bolt cannot be sprung back 80 until the tumblers are again rendered coincident with the fence. I call attention, also, to the fact that the point of contact between the tumbler-actuating part of my key and the tumblers is much nearer the pivot of the 85 tumblers than heretofore. Thus I multiply the movement necessary to bring the recesses Z coincident with the fence E, thus greatly increasing the difficulty of picking the lock. Each unlocking of the box makes a register 90 of such kind as may be desired on the index, depending on the character of the indicia on the face of the dial.

I do not limit myself to the details of construction shown. It is obvious that many 95 minor alterations may be made therein and still the spirit of my invention be used.

Having described my invention, I claim—

1. The combination of a lock having a spring-actuated bolt, a stop-pawl which en- 100 gages with the bolt and holds it when in its unlocked position, said pawl being tripped by the door when reclosed, an index operated by the movement of the bolt, and a shoulder on the key which engages with the bolt when in 105 its unlocked position, whereby the key cannot be removed from the lock until the bolt is again brought to its locked position, substantially as set forth.

2. The combination of a lock having a 110 spring-actuated bolt, a stop-pawl which engages with the bolt and holds it when in its unlocked position, said pawl being tripped by the door when reclosed, and an index operated by the movement of the bolt, substan- 115 tially as set forth.

3. The combination of a lock having a spring-actuated bolt, a stop-pawl which en- 120 gages with the bolt and holds it when in its unlocked position, said pawl being tripped by the door when reclosed, and a key having a shoulder thereon which engages with the bolt when in its unlocked position, whereby the key cannot be removed from the lock until the bolt is again brought to its locked posi- 125 tion, substantially as set forth.

4. A lock provided with tumblers and a spring-actuated bolt, and a key having two parts at substantially right angles to each other, one of which parts actuates the tum- 130 blers and the other retracts the bolts at the same inward movement of the key and without turning it.

5. A lock provided with tumblers and a



spring-actuated bolt, and a key having two parts at substantially right angles to each other, one of which actuates the tumblers and the other retracts the bolt at the same inward  
5 movement of the key, the bolt being held against endwise pressure by the tumbler when locked, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 11th day of February, A. D. 1889.

JOSEPH CORBETT.

Witnesses:

PHILLIPS ABBOTT,  
D. S. RITTERBAND.