

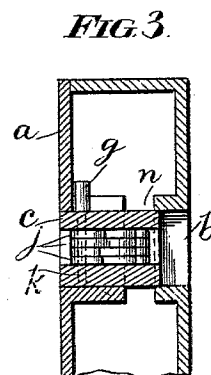
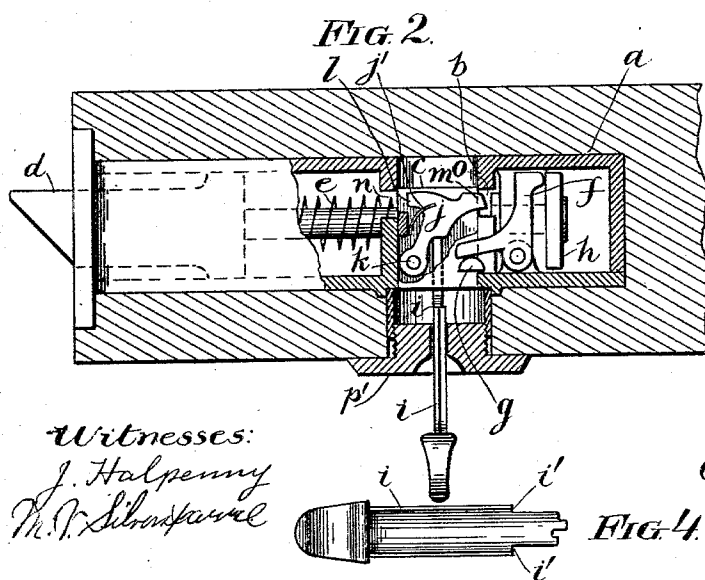
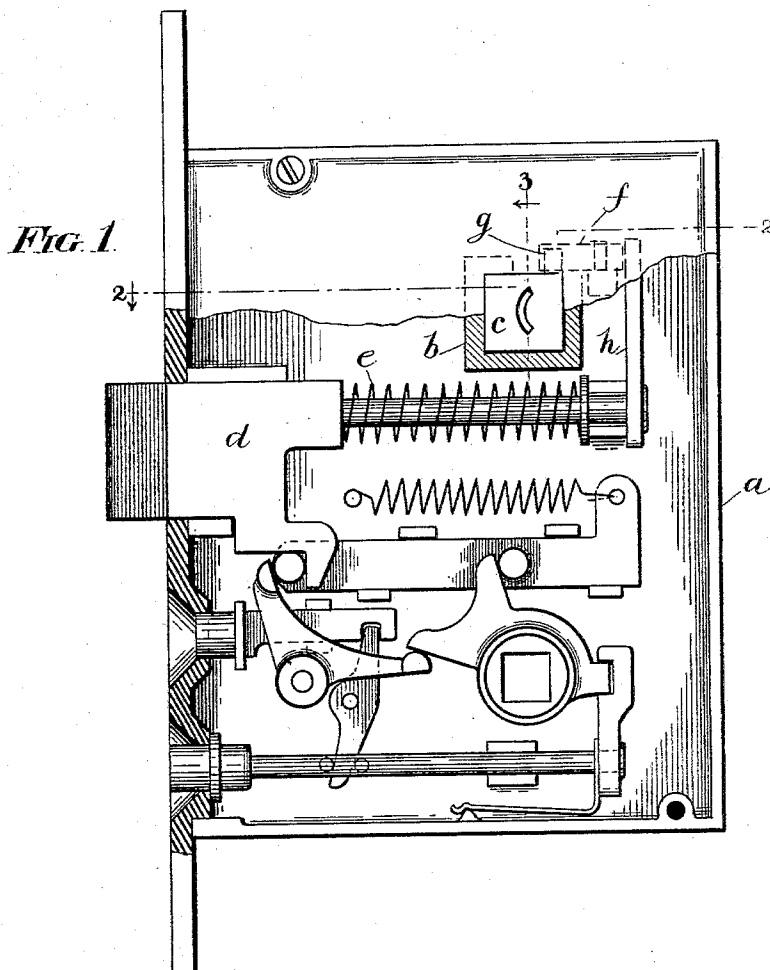
(No Model.)

3 Sheets—Sheet 1.

A. JOSLER.
LOCK.

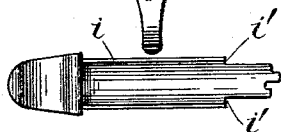
No. 561,941.

Patented June 9, 1896.



Witnesses:
J. Halpenny
M. J. Silberrad

Inventor:
Angelo Josler,
By David H. Fletcher
his Att'y.



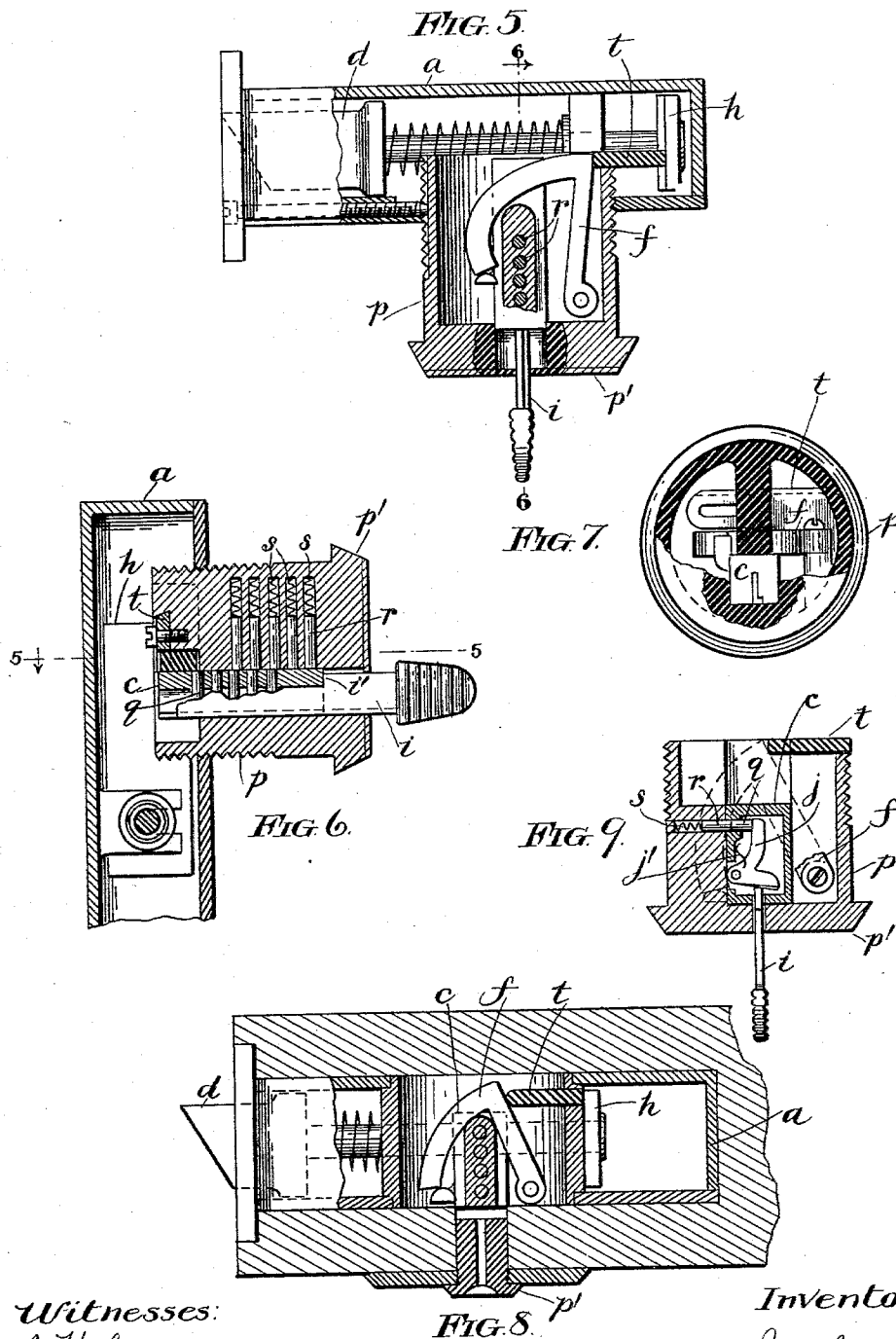
(No Model.)

3 Sheets—Sheet 2.

A. JOSLER.
LOCK.

No. 561,941.

Patented June 9, 1896.



Witnesses:
J. Halpenny
M. V. Liberman

Inventor:
Angelo Josler,
By David H. Filcher
his Att'y.

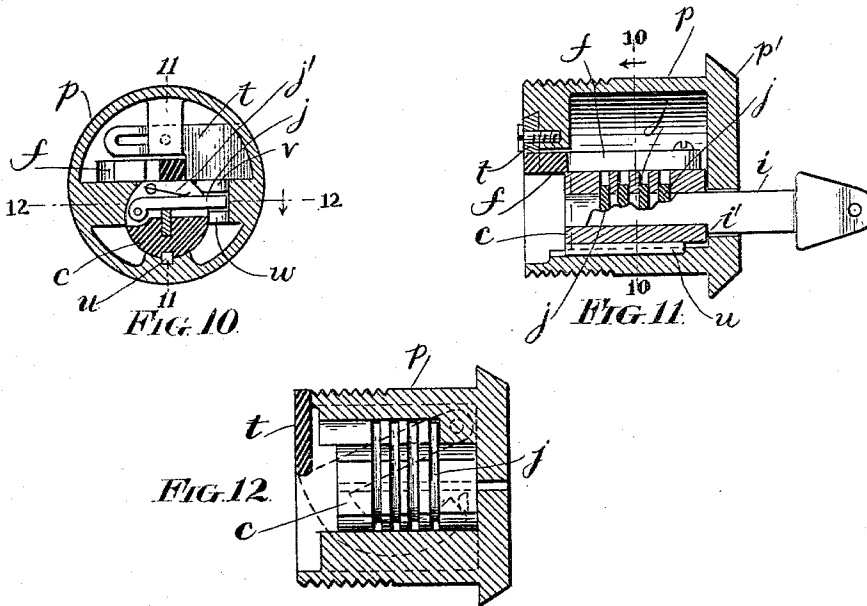
(No Model.)

3 Sheets—Sheet 3.

A. JOSLER.
LOCK.

No. 561,941.

Patented June 9, 1896.



Witnesses:
J. Halpenny
Dr. V. Silva Paul.

Inventor:
Angelo Josler
By David H. Fletcher
his Atty.

UNITED STATES PATENT OFFICE.

ANGELO JOSLER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
EDMUND S. MOSS, OF SAME PLACE.

LOCK.

SPECIFICATION forming part of Letters Patent No. 561,941, dated June 9, 1896.

Application filed March 20, 1894. Serial No. 504,479. (No model.)

To all whom it may concern:

Be it known that I, ANGELO JOSLER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which like letters of reference in the different
10 figures indicate corresponding parts.

The object of my invention is to produce a simple, cheap, secure, and effective lock the wards or tumblers of which may be released and the bolt actuated as a result of the longitudinal movement of the key.

To this end my invention consists in the combination of elements hereinafter more particularly described, and definitely pointed out in the claims.

20 In the drawings, Figure 1 is a face view of a lock embodying the features of my invention, in which a portion of the case is broken away to show the parts. Fig. 2 is a sectional view thereof, taken upon the line 2 2, Fig. 1.
25 Fig. 3 is a transverse sectional view in detail of a portion of the lock, showing the tumblers, the same being taken upon the line 3, Fig. 1, viewed in the direction of the arrow there shown. Fig. 4 is a side view in detail of my
30 improved key. Fig. 5 is a sectional view in plan of a modification of said invention, taken upon the line 5 5, Fig. 6. Fig. 6 is a sectional view taken upon the line 6 6, Fig. 5, viewed in the direction of the arrow there shown.
35 Fig. 7 is a front view of the escutcheon or lock cylinder shown in Fig. 5, in which the front plate is broken away to show the interior. Fig. 8 is a horizontal sectional view showing a further modification of said invention
40 in which the cylinder containing the pin-tumblers is inserted within the lock-case. Fig. 9 is a horizontal sectional view in plan of a lock-cylinder, showing a further modification. Fig. 10 is a transverse vertical
45 sectional view of a lock-cylinder, showing a modified construction, the section being taken upon the line 10 10, Fig. 11. Fig. 11 is a longitudinal sectional view of the same, taken upon the line 11 11, Fig. 10. Fig. 12 is a longitudinal sectional view taken upon the line
50 12 12, Fig. 10.

Referring to the drawings, *a* represents the lock-case, which is substantially the same as that employed in the usual mortise-lock. I prefer to place the lock tumblers or wards
55 which control the manipulation of the lock-bolt in the lock-case itself, although they may be located in a detachable cylinder; but the former adjustment simplifies the construction, while it tends to lessen its cost.

60 The principal aim of my improvement is to so combine with the lock-case proper a movable tumbler-case in such a manner as to permit the use of a small flat or thin key, the longitudinal movement of which, to a given extent, will serve to release the tumblers, while
65 a continuation of the movement will serve, through the movable tumbler-case, to actuate or release the lock-bolt. The manner of constructing the movable tumbler-case, as well
70 as that of the tumblers themselves, may be varied materially without departing from the general principle involved. To this end I have shown various modifications, the preferable construction being represented in Figs.
75 1 to 3, inclusive, which will first be described.

Within the case *a* is arranged a recess or case *b*, into which is loosely formed or inserted a tumbler-supporting case *c*. The latter is preferably arranged to slide longitudinally in
80 a line at right angles to the axis of the latch-bolt *d*, which is secured in the lock-case in the usual way, being provided with a spiral spring *e* upon the stem thereof for the purpose of holding it in a normal position. Pivoted
85 upon a lug formed within the case *a* is an elbow-lever *f*, Fig. 2, one arm of which is in engagement with a stud *g*, while the other is in engagement with a vertical arm *h*, which is rigidly secured to the stem of the latch-
90 bolt. The longitudinal movement, therefore, of the tumbler-case *c* away from its normal position, as shown in Figs. 2 and 3, which is intended to be accomplished by pushing upon the key *i*, serves to actuate the lever *f* and
95 in turn to retract the bolt *d*; but it is obvious that the tumbler-case *c* should be locked in position by such instrumentalities as can only be released by means of the proper key.
100 This may be accomplished by means of suitable tumblers, which may be varied indefinitely in form and position.

In Figs. 2 and 3 the tumblers *j*, which are made from flat pieces of metal, are represented as being pivoted at *k* within the movable case *c*. The tumblers *j* are provided with arms *l m*, which are adapted to project into openings, as shown, in the opposite sides of the ward-case, so as to normally engage with one or the other of shoulders *n o* upon the lock-case adjacent to the case *c*. Independent springs *j'*, attached to the tumblers, respectively, as shown, and engaging with the side of the tumbler-case, serve to retain the tumblers in a locking position, as shown in Fig. 2. The distance between the outer ends of the prongs or arms *l m* is equal to the width of the case *c*, so that when said arms register or are even with the outer edges of the case the latter is free to slide in its bearing; but in case any one of said tumblers projects beyond the edge of the case upon either side the case is thereby locked in position and cannot be moved until each tumbler is brought into alinement, which may be accomplished by means of the key *i*, having the proper projections and indentations upon its end, substantially as shown in Fig. 4. The main body *i* of the key is made wider than the keyhole of the tumbler-case, and one or more shoulders *i'* is formed thereon, which is adapted to abut against the case *c* when the key is inserted a sufficient distance to release the tumblers. This being accomplished, a continued movement of the key serves to move the sliding case *c* and through the lever *f* to release or withdraw the latch-bolt *d*.

An escutcheon *p'*, having a screw-thread thereon and a suitable keyhole, may be adjustably secured to the lock-case, provision being made for varying thicknesses of doors. In Figs. 5, 6, and 7 I have shown a modification of said invention in which the movable tumbler-case is inserted in the ordinary escutcheon-cylinder, and tumblers *q r*, one set being in the ward-case and the other in the cylinder, are arranged to lock the tumbler-case in a similar manner to those used in the ordinary pin-tumbler lock. Springs *s* serve to press the wards or pins *r* into the openings in the tumbler-case *c* when the key is removed. The key employed is similar to that heretofore used in the pin-tumbler locks, except that it is provided with the shoulder *i*, with which to actuate the tumbler-case when the tumblers are released, as indicated in Fig. 6.

In the figures last described the tumblers are arranged vertically; but in Fig. 9 I have provided similar tumblers which are arranged horizontally, while a series of flat tumblers

j are pivotally mounted in the tumbler-case for the purpose of coacting therewith.

In Fig. 8 the cylinder is shown wholly within the case *a*. In Figs. 5 to 12, inclusive, a slide *t* is shown, which is secured loosely in suitable bearings and arranged to engage with the lever *f*. The movement of the slide *t* is in turn transmitted to the latch-bolt through the arm *h*.

In Figs. 10, 11, and 12 the tumbler-case *c* is represented as being cylindrical, a spline *u* being inserted to prevent its rotation, while it is free to be moved longitudinally. The tumblers *j* are pivoted upon an axis which is parallel to that of the case and are made long enough to extend into a longitudinal recess formed in the inclosing cylinder and to engage with notches *v w*, Fig. 10, according as they are raised above or permitted to fall below a given height. When the key is inserted and all are thereby brought into proper alinement, the case *c* may be moved longitudinally.

Having thus described my invention, I claim—

1. In a lock, the combination of a pivoted lever, said lever having one arm in operative connection with a lock-bolt, a longitudinally sliding tumbler-support in operative connection with the other arm of said lever and a series of tumblers arranged to lock said tumbler-support in a normal position, substantially as described.

2. In a lock, a movable non-revoluble tumbler support or case, adapted to be actuated by the longitudinal movement of a key, a series of tumblers mounted therein for locking the same in a normal position, a spring-actuated lock-bolt and means, such as an elbow-lever, interposed between the tumbler-case and the lock-bolt for forming an intermediate connection between the lock-bolt and key, substantially as and for the purposes specified.

3. The combination with a lock of a detachable escutcheon or cylinder, a longitudinally-sliding tumbler-case fitted therein, tumblers for locking the same in a normal position an elbow-lever pivotally mounted within the cylinder and a spring-actuated bolt in operative connection with said lever, substantially as described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 11th day of March, 1894.

ANGELO JOSLER.

Witnesses:

D. H. FLETCHER,
FLORENCE KING.