

J. McCASKEY.
COMBINATION-LOCK.

No. 174,273.

Patented Feb. 29, 1876.

Fig. 2.

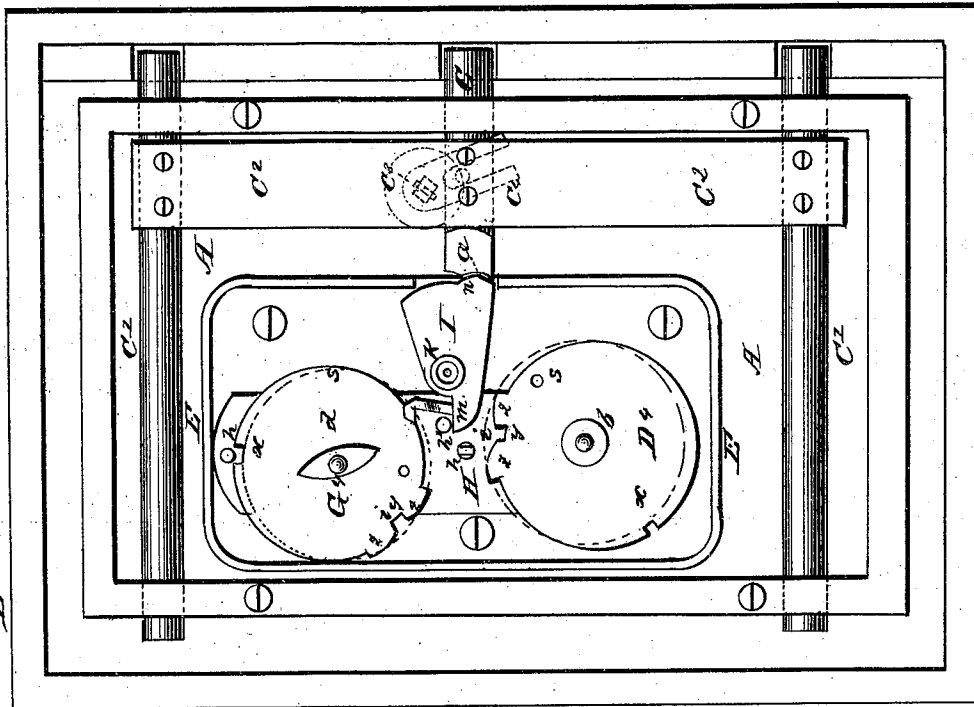
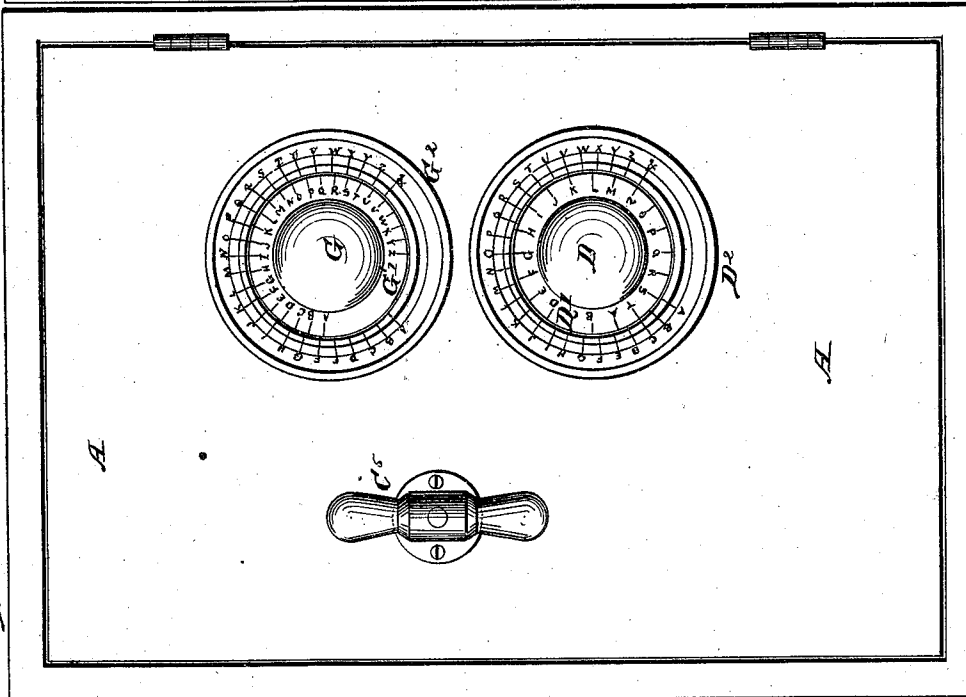


Fig. 1.



WITNESSES:

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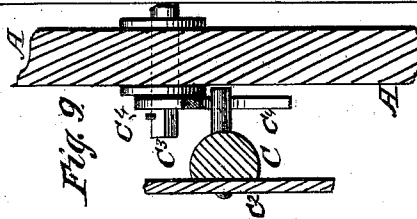


Fig. 9

INVENTOR:

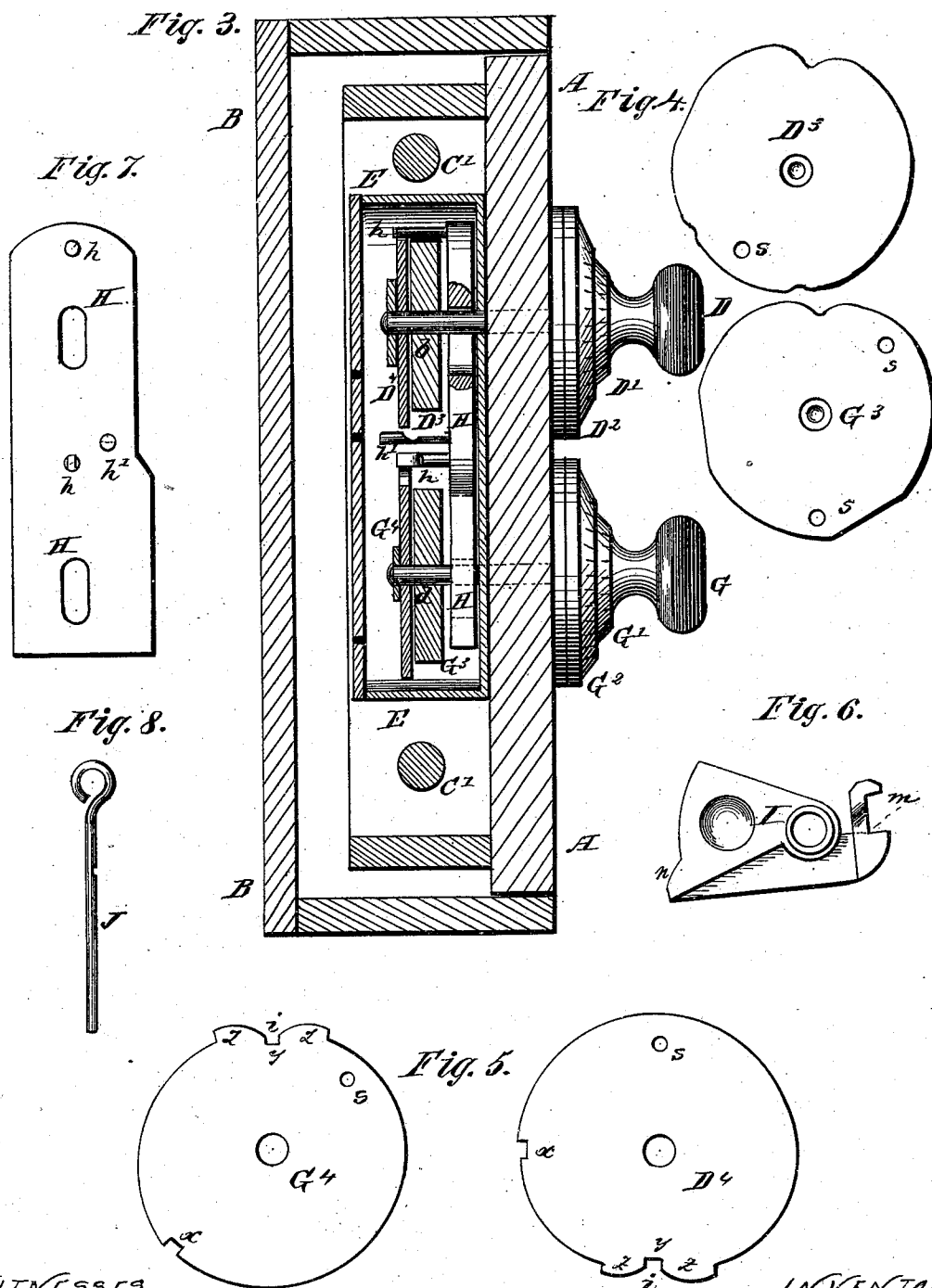
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WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN McCASKEY, OF NEWCASTLE, PENNSYLVANIA.

IMPROVEMENT IN COMBINATION-LOCKS.

Specification forming part of Letters Patent No. **174,273**, dated February 29, 1876; application filed December 8, 1875.

To all whom it may concern:

Be it known that I, JOHN McCASKEY, of Newcastle, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Combination-Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to combination-locks; and it consists in the combination of two sets of dials and tumblers, having notches and inclines, and a latch with projecting arm; also, in the combination of the tumblers, the slide with pins, the latch with arm and inclines, and a headed bolt with a notch, all as herein-after more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a front view. Fig. 2 is a rear view with back plate removed. Fig. 3 is a sectional view; and Figs. 4, 5, 6, 7, 8, and 9 are details of the various working parts of my invention.

A represents the door, and B the door-frame, constructed in any desired manner. The means for holding the door fast are, a center-bolt, C, and top and bottom bolts C¹ C¹, connected by means of a plate or bar, C², and moved out and in by means of an arm, C⁴, operating upon the center-bolt C, and attached to the inner end of a shaft, C³, that passes through the door A, and has a T-shaped handle, C⁵, on its outer end. The inner end of the center-bolt C is provided with a head having a notch, *a*, as shown. E is the lock-case, through which passes two shafts, *d* and *b*, one above the other, and provided on their outer ends, respectively, with knobs G and D. These knobs secure, respectively, upon the shafts, the movable dials G¹ D¹, which work, respectively, within the stationary dials G² D². On the inner ends of the shafts *d* *b* are, respectively, secured disks G³ D³, and to these are secured the tumblers G⁴ D⁴, respectively. These tumblers are cam-shaped, as shown, and each provided with a

shallow notch, *x*, and, in the most depressed part of the cam, with a deeper notch, *y*. From the notch *y*, toward each side, runs an incline, *z*, with a shoulder or offset, *i*, at the end. Between the disks G³ D³ and the front of the lock-case E is placed a vertically-sliding bar, H, which is slotted for the passage of the shafts *b* *d*. From this slide, over each tumbler, projects a pin, *h*; and between the tumblers is still another pin, *h'*, projecting from near the outer edge of the slide. On a stud, *k*, in the lock-box, is pivoted a latch, I, provided at its inner end with a projection, *m*, which extends under the pin *h'*.

The operation of the lock is as follows: To unlock it when locked, place the handle C⁵ of the bolts perpendicularly. Then turn the upper knob until a certain letter on the movable dial G¹ comes opposite N on the stationary dial G², which brings the notch *x* of the upper tumbler G⁴ directly under the upper pin *h*, which drops therein. Now turn the lower knob in the same manner, using the letters G and O, when both the pins *h* will drop into the notches *x* on the tumblers. The handle C⁵ is then turned with its lower end toward the lock, which brings the head of the bolt C with the notch *a* against an incline, *n*, on the outer end of the latch I, causing the same to turn slightly downward and be held stationary, which movement of the latch causes, by means of the arm *m* and pin *h'*, the slide H to raise sufficiently to lift the pins *h* out of the notches *x*, and the slide is held in this position by the binding of the bolt C and latch I. The two knobs are then set again, using the letters P N for the upper, and V O for the lower, dials, which brings the notches *y* of the tumblers G⁴ D⁴ directly below the pins *h* *h'*. Place, now, the handle C⁵ perpendicular again, when the slide H will drop down, lodging the pins *h* in the notches *y*, and, the pin *h'* operating on the arm *m*, will raise the latch I out of the way, so that by again turning the handle C⁵ the bolts will be withdrawn.

To change the combination, the dials are set on the first combination, and a straight key, J, is inserted in a hole in the back of the lock-case, and passes through holes *s* in the tumbler G⁴, disk G³, and into the front of the lock-case. Then turn the knob G to the left (to unscrew

it) until the movable dial G^1 can be turned, when the same may be set to any letter desired, and the knob is then screwed tight again. Then withdraw the key, and proceed in the same manner with the lower dials. Then remove the back cover of the lock-case, and set the tumblers to open the lock, and the letters of the second combination may be observed on the front.

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

1. In a combination-lock, the combination of the two sets of dials $G^1 G^2$ and $D^1 D^2$, tumblers $G^4 D^4$ having notches $x y$ and inclines z , and the slide H with pins $h h$ and h' , and the

latch I and arm m , all constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The combination of the tumblers $G^4 D^4$, slide H with pins $h h$ and h' , latch I with arm m and incline z , and the headed bolt C with notch a , substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN McCASKEY.

Witnesses:

WM. H. STEELE,
JOSEPH McCASKEY.