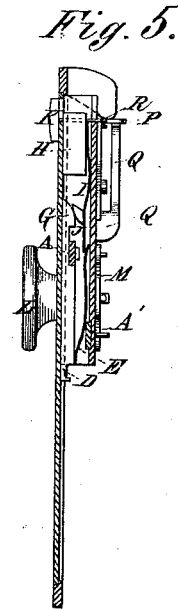
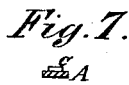
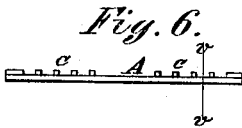
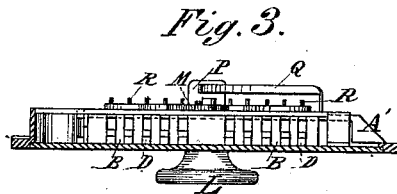
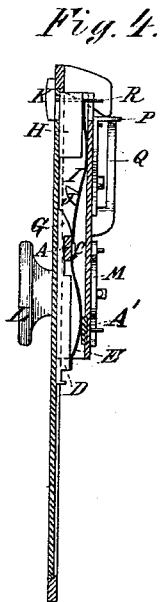
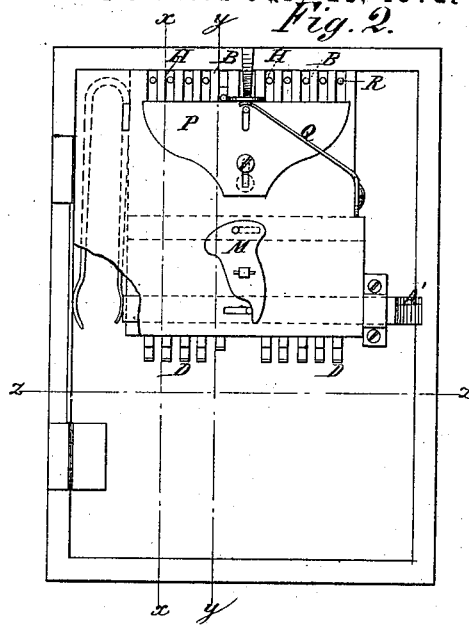
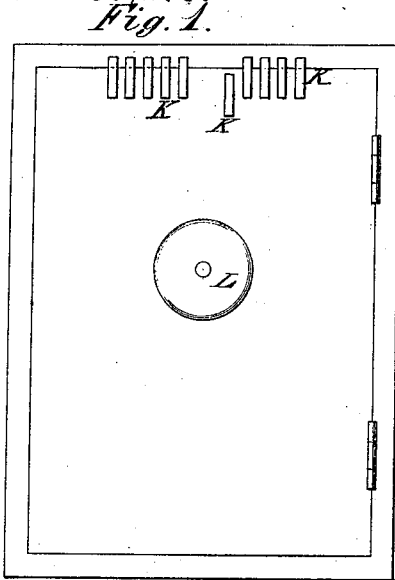


I. D. SIBLEY.
COMBINATION LOCKS.

No. 180,278.

Patented July 25, 1876.



WITNESSES:

H. Rydquist.
John Goethals

INVENTOR:

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BY *Wm. L. ...*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ISAAC D. SIBLEY, OF HUNTSVILLE, ALABAMA.

IMPROVEMENT IN COMBINATION-LOCKS.

Specification forming part of Letters Patent No. **180,278**, dated July 25, 1876; application filed June 12, 1876.

To all whom it may concern:

Be it known that I, ISAAC D. SIBLEY, of Huntsville, in the county of Madison and State of Alabama, have invented a new and Improved Lock, of which the following is a specification:

My invention relates to combination-locks; and it consists of two systems of bars and springs, arranged one on each side of the guard-bolt to slide toward and from it, and being so contrived that the bars of one side being adjusted against the bolt lock it, and in that position are unlocked by sliding up the bars of the other side, but when not in that position the bolt is locked by sliding up those which unlock them in such position, the arrangement being a simple and cheap contrivance to make, and very efficient in use.

Figure 1 is a front elevation of my improved lock. Fig. 2 is an inside elevation. Fig. 3 is a section on line *z z*, Fig. 2. Fig. 4 is a section on line *x x*. Fig. 5 is a section on line *y y*. Fig. 6 is a side elevation of the guard-bolt; and Fig. 7 is a transverse section of the bolt on line *v v*.

Similar letters of reference indicate corresponding parts.

A is the guard-bolt, which slides forward and backward in the case, is guided by the partitions B, and has lugs C on one side. D represents a series of sliding bars, arranged between the partitions B on one side—say, the lower side—of the guard, each having a spring, E, which, when the bar is shoved toward the guard, enters at its end between two of the lugs C and locks it, and the bars extend under the guard A, and have an inclined or cam-shaped end, G. H represents the sliding bars between the partitions B on the other side of the bolt, which have a spring, I, cam J, and a knob, K, the latter being outside of the front plate, for working them by. L is the knob, and M a dog on the spindle for throwing the bolt. When the bars D and H are shifted away from the guard-bolt it is free to be moved forward and backward for locking

and unlocking the bolt A; but when one or more are shifted toward it the springs E pass between the lugs C and lock it fast. To disconnect the springs, the sliding bars H, corresponding to those slides D which are shoved up to the bolt, are pushed toward it, when their springs I pass under the springs E, and the cams J slide up the inclines G and lift springs E out of the notches between the lugs C, and thus release the guard-bolt; but in case a bar, H, is shoved up to the bolt A when its fellow-bar D is shoved away, the spring I, not being raised by cam I and incline G, will pass between the lugs C and lock the guard-bolt; so that it must be known what springs E are to be lifted, or, in other words, what bars D are against the guard-bolt A, to unlock it.

The combination is changed by changing the bars D, which is done by sliding them as desired when the lock is open. When guard-bolt A is released, the dog M is made to throw the locking-bolt A' by turning the knob L. P is a slide inside of the lock, which is pushed down by the pins R of the upper sliding bars when they are pressed down to unlock the guard-bolt. It is employed to return the bars H immediately after the door is opened, so that the combination cannot be understood by the positions of the knobs K. The spring Q pushes the slide up.

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

One or more sliding bars, D, having a spring, E, and incline G, arranged on one side of the guard-bolt A, having projections C, in combination with one or more knob-slides, H, having a spring, I, and a cam, J, and being arranged on the opposite side of the bolt A, substantially as specified.

ISAAC D. SIBLEY.

Witnesses:

A. G. OTTO,
LOUIS KAUFMAN.