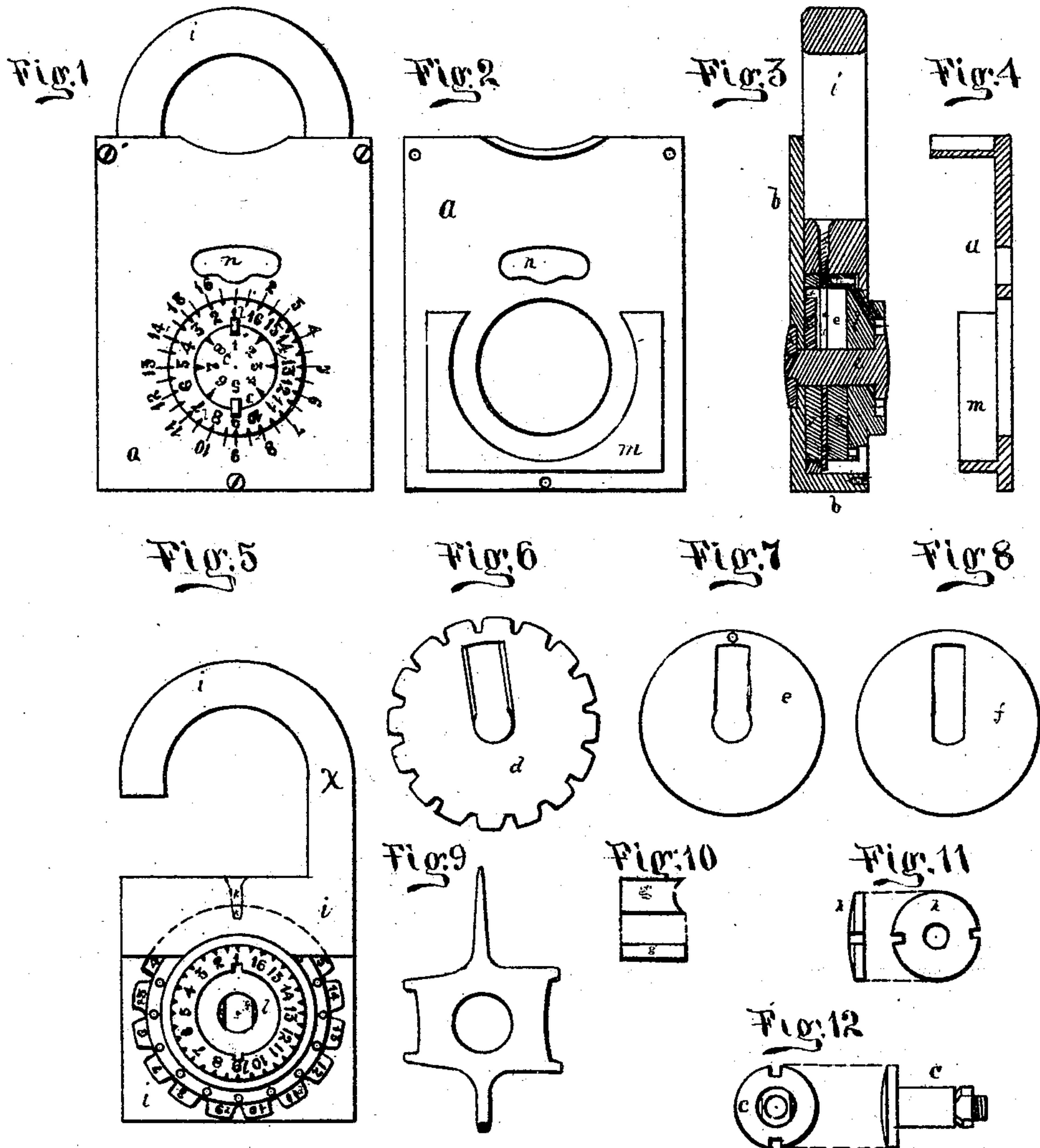


G. K. Farrington,

Permutation Lock.

No. 99,872.

Patented Feb. 15, 1870.



Witnesses

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GEORGE K. FARRINGTON, OF ALCATRAZ ISLAND, CALIFORNIA, ASSIGNOR
TO HIMSELF AND FREDERICK AND VICTOR SCHULZ.

Letters Patent No. 99,872, dated February 15, 1870.

IMPROVEMENT IN COMBINATION PADLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, GEORGE K. FARRINGTON, of Alcatraz Island, in the county of San Francisco, State of California, have invented a new and Improved Combination Padlock; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters marked thereon.

My invention refers to improvements in combination padlocks, and consists of certain details of construction hereinafter described, and has for its object the production of a lock that shall be exceedingly difficult to open by any person except some one knowing the combination of numbers used in locking it, and being at the same time simple enough for those who have the key and know the combination—a strong lock and not easily blown open with powder.

In the drawings—

Figure 1 is a front elevation, showing the face of the padlock.

Figure 2 is an elevation of the lid or front plate *a*, showing the inside of that plate.

Figure 3 is a vertical section through the center of lock.

Figure 4, a vertical section through the center of front plate *a*.

Figure 5 is a front elevation, showing the internal parts of the lock with the front plate *a*, case *b*, and rivet-pin *c* removed.

Figure 6 is a back view of the change-plate *d*.

Figure 7 is an elevation of receiving plate *e*.

Figure 8 is the bolt-wheel *f*.

Figure 9 is the key.

Figure 10, two views of the bolt *g*.

Figure 11, a nut or washer, *h*, for securing the rivet-pin *c*.

Figure 12, the rivet-pin *c*.

To enable others skilled in the art or science to make and use my invention, I will proceed to fully describe its construction and operation.

In figs. 1, 3 and 5 the different parts of the lock shown are in the same relative position. The lower part of the bolt-plate *i* is of the same thickness as the bolt-wheel, and has a circular recess or opening in which the bolt-wheel *f* is placed, resting on the inner surface of the case *b*, and flush with the inner surface of the lower part of the bolt-plate *i*.

In the recess in the upper part of the bolt-wheel *f* the bolt *g* is placed.

Next in front of the bolt-wheel *f* the change-plate *d* is placed. This plate has an opening or passage through which the bolt *g* may pass, and is provided at its circumference with notches that engage the stop or pin *k*, and prevent its turning. This stop or pin *k* may be placed, if preferred, in the case *b* instead of in the bolt-plate *i*.

It is evident that the change-plate can be placed in as many different positions as there are notches in its circumference.

Next in front of the change-plate the receiving plate is placed. This plate has a recess for receiving the bolt *g*, when it passes through the change-plate *d*.

The receiving plate has one hole near its circumference, on a line with the center of the recess, tapped to secure a screw that secures it to the top plate *l*. The top plate *l* is provided with a number of holes for this purpose, as shown in the drawings, and of course can be changed as many times as there are holes in its circumference.

The rivet-pin *c* is squared where it goes through bolt-wheel *f*, and when it is turned causes the bolt-wheel to revolve with it.

The nut or washer *h* secures the pin, and the pin retains every thing in position, and the whole apparatus is inclosed by placing the lid or front plate *a* in its position.

The block or filling *m* is for the purpose of filling up the space that would otherwise be vacant, in order that the lock may not be filled with powder for the purpose of bursting it open.

In larger locks I make a hinge-joint at the point marked *x*, fig. 5, and make the bolt-plate solid up to that point, so that there may be no vacant space in the lock that could be filled with powder.

In the position of the parts shown in figs. 1, 3 and 5 the stop or pin *k* is in notch 1 of the change-plate, and consequently the center line of the passage in that plate comes directly under fig. 1 on the front plate *a*, but if we should shift the change-plate around so that any other number, say number 5, should engage the pin *k*, we would find that the center line of the passage would come directly under number 5 on the front plate *a*.

The screw that connects the top plate *l* to the receiving plate *e* passes through the hole opposite No. 1 in the top plate *l*, and consequently when No. 1 of the top plate coincides with No. 1 of the front plate *a*, the recess in the receiving plate will coincide with the passage in the change-plate No. 1, on the head of the rivet-pin. *c* indicates the center line of the bolt-wheel *f* and the side that contains the bolt *g*, and consequently in the position shown in the drawings, the recess in the bolt-wheel *f*, the passage in the change-plate *d*, and the recess in the receiving plate *e* are in juxtaposition.

Now, it is plain that while the bolt *g* remains in the recess of the bolt-wheel *f* the bolt-plate *i* is locked in its position, but it is evident that if the padlock was turned face downward the bolt *g* would drop through the passage of the change-plate *d* and lodge in the recess of the receiving plate *e*, and if, with the lock still face downward, we should cause the top plate *l*

to make part of a revolution, the bolt *g* would be retained in the receiving plate, and it is also evident that if, by means of the key shown in fig 9, and the notches provided for that purpose in the head of the rivet-pin *c*, we cause the rivet-pin, and consequently the bolt-wheel *f*, to make half a revolution, the recess in that wheel will be brought directly below the rivet-pin *c*, and in that position will allow the bolt-plate *i* to be slid or moved upward, carrying the bolt-wheel with it, and thus open the passage to the hook, or, in other words, the padlock would be unlocked. No matter at what figure the change plate may be set when the bolt was changed to the receiving plate, the rivet with the bolt-wheel must always be brought to this position before the bolt-plate can be raised.

It is plain that the bolt *j* may be retained in either recess by shifting the parts, so that the communication from one recess to the other is closed.

It will be seen, by reference to fig. 6, that the edges of the passage in the change-plate *d* are beveled off on the back side, and the corresponding corners of the bolt *g*, and treated in the same manner, in order that in turning the bolt-wheel *f* the bolt *g* may not catch in the change-plate *d* when the lock is held face down, and thus give notice when the recess and passage are opposite each other.

The hole or opening *n* is for the purpose of gaining admission when the lock is opened to the screw that connects the top plate *l* to the receiving plate *e*, and

also to change-plate *d*. The key, fig. 9, is provided with a screw-driver for turning this screw, and also a point for changing the position of change-plate, that pin *k* may shut in any notch on change-wheel required every time it is desired to change the combination, which may be done every time it is locked by moving change-plate with point on key.

A solid turn-staple, having a hole therein for the introduction of the hook of the lock, and passing through a hasp fitting the turn-staple, is used in connection with this lock, so that the lock can be turned either side up on the fastening.

Having thus described my invention,

What I claim and desire to secure by Letters Patent is—

1. The bolt-plate *i*, provided with a recess for the bolt-wheel, and operated as described, for the purpose set forth.

2. The bolt *g*, bolt-wheel *f*, the change-plate *d*, the receiving plate *e*, the top plate *l*, the rivet-pin *c*, the lid or front plate *a*, the filling *m*, and the case *b*, combined and arranged substantially as described and specified.

In testimony whereof I have hereunto set my hand and seal.

GEO. K. FARRINGTON. [L. s.]

Witnesses:

C. WM. SMITH,
E. N. SUTTER.