B. F. KELLY.

Permutation Padlock.

No. 211,239. Patented Jan. 7, 1879.

Fig. 1.

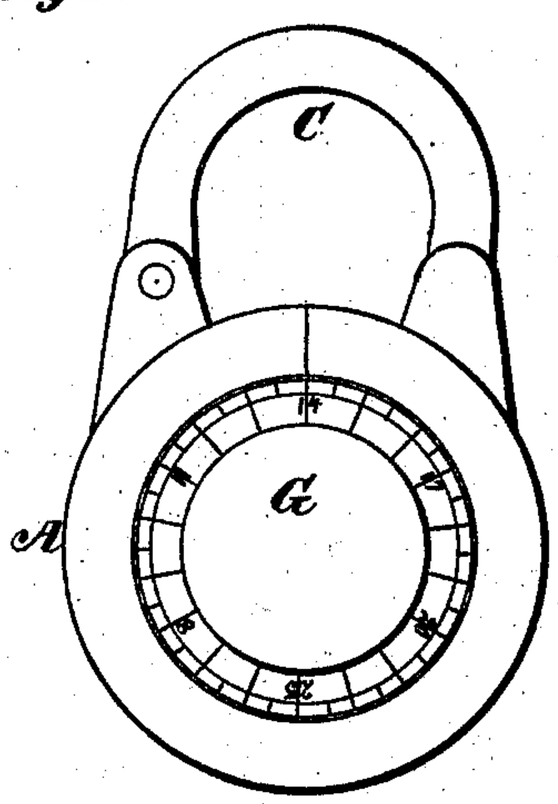


Fig. 2.

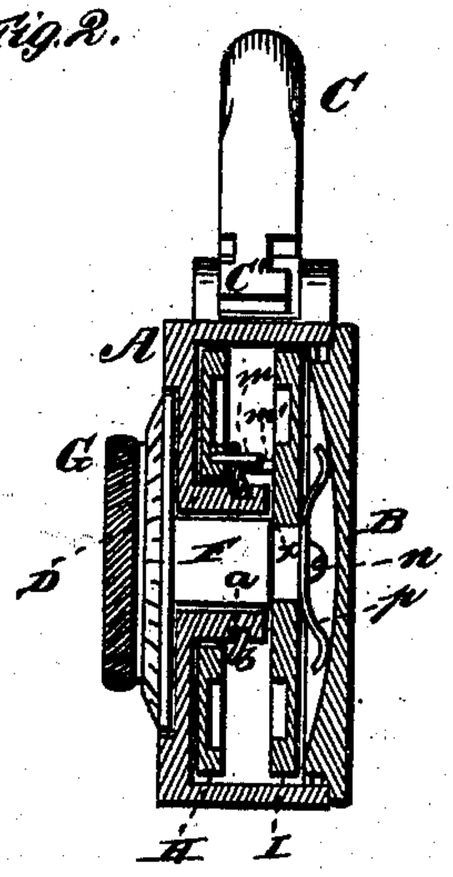


Fig. 3.

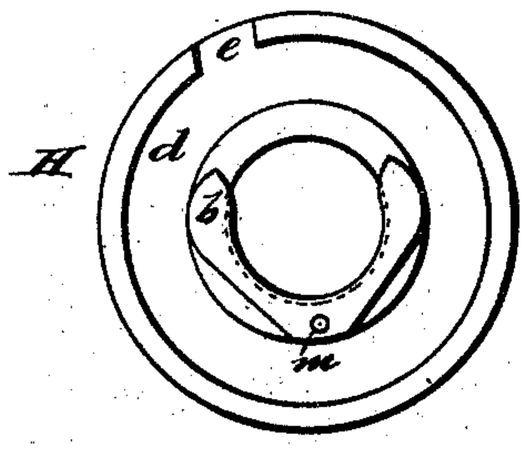


Fig. 4.

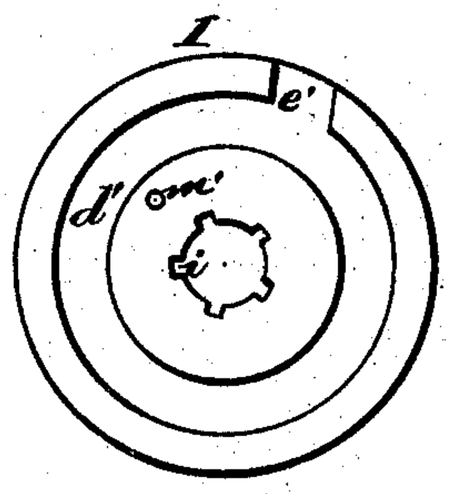
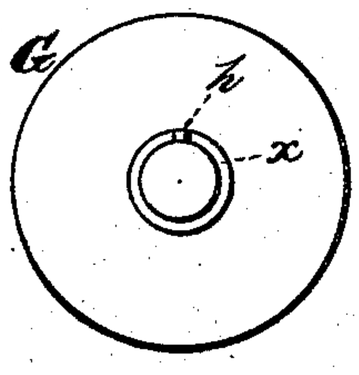


Fig. 5.



WITNESSES

Robert Everett

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BENJAMIN F. KELLY, OF SHELOCTA, PENNSYLVANIA.

IMPROVEMENT IN PERMUTATION-PADLOCKS.

Specification forming part of Letters Patent No. **211,239,** dated January 7, 1879; application filed August 3, 1878.

To all whom it may concern:

Be it known that I, BENJAMIN F. KELLY, of Shelocta, in the county of Indiana and State of Pennsylvania, have invented a new and valuable Improvement in Padlocks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a face of my lock. Fig. 2 is a vertical central sectional view of the same; and Figs. 3, 4, and 5 are detail views.

The nature of my invention consists in the construction and arrangement of mechanism for a combination-lock to be used in a padlock or other lock, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates my invention as applied to a padlock.

A represents the case of the padlock, with the back B secured thereto in any suitable manner after the tumblers have been placed in position. From the top of the case extend ears, between which the shackle *c* is pivoted, the free end thereof entering a suitable opening in the case, as shown, and formed with a T-shaped head, *c'*.

From the center of the front of the lock-case extends a hollow hub, D, through which is passed a spindle, F, said spindle having upon its front end a disk, G, fitting in a recess in the front of the case and graduated around its circumference.

Around the hub D, inside of the casing A, is placed a circular tumbler, H, which is held against the inside of the front of the case by means of a spring, *b*, fastened to the tumbler, and partially surrounding the hub D in a groove, *a*, thereon. The rear face of the tumbler H is formed with an annular recess, *d*, and through the rim is a passage, *e*, into said recess.

The spindle F projects a short distance beyond the inner end of the hub, and is formed with a circumferential shoulder, as shown at *x*. Upon this is placed a second tumbler, I, which rests upon said shoulder *x* and the end of the hub. From the side of the spindle F, at the inner end, projects a pin, *h*, which is to enter any one of a series of notches, *i*, made in the eye of the tumbler I, so that said tumbler will be turned by the turning of the disk G at the front.

The front face of the tumbler I is formed with an annular recess, *d'*, and passage *e'*, leading from the same through the edge of the tumbler. The tumblers H I are provided on their adjacent faces with pins *m m'*, respectively, so arranged as to come in contact with each other by the turning of one tumbler. The tumbler I is held down in place by a washer, *p*, and screw *n*, as shown.

By turning the disk G twice around until a certain predetermined number on the disk gets even with a mark on the face of the lock, the tumbler I will be turned with it, and, by means of the pins *m' m*, set the tumbler H so that the passage *e* therein will coincide with the entrance for the shackle. By now turning the disk G in the opposite direction to a certain other predetermined number, the tumbler I will be set to have its passage *e'* coinciding with the entrance for the shackle. The shackle can now be closed, and its head C' will enter the annular recesses or grooves *d d'*, and a slight turn of the disk G will lock the same. The lock is unlocked in the same manner.

To change the combination it is only necessary to loosen the tumbler I and turn it so that the pin *h* on the spindle will enter another of the notches *i* in said tumbler.

This invention is equally applicable to other kinds of locks as well as to padlocks.

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

The combination of the tumblers H and I, constructed with recesses *d d'*, passages *e e'*, and pins *m m'*, and the graduated disk G, with spindle F, having lug *h*, and a series of notches, *i*, in the eye of the tumbler I, substantially as and for the purpose herein set forth.

In testimony that I claim the above I have hereunto subscribed by name in the presence of two witnesses.

BENJAMIN FRANKLIN KELLY.

Witnesses:

JOHN R. ROBERTS,

D. ANSLEY.