2 Sheets—Sheet 1.

J. H. KINSMAN.

Indicator-Lock.

No. 210,540. Patented Dec. 3, 1878.

Fig. 1.

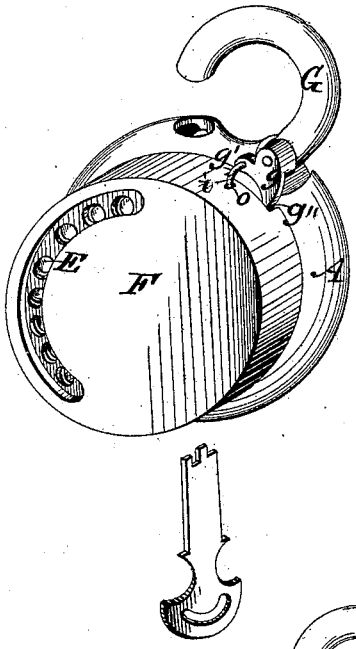
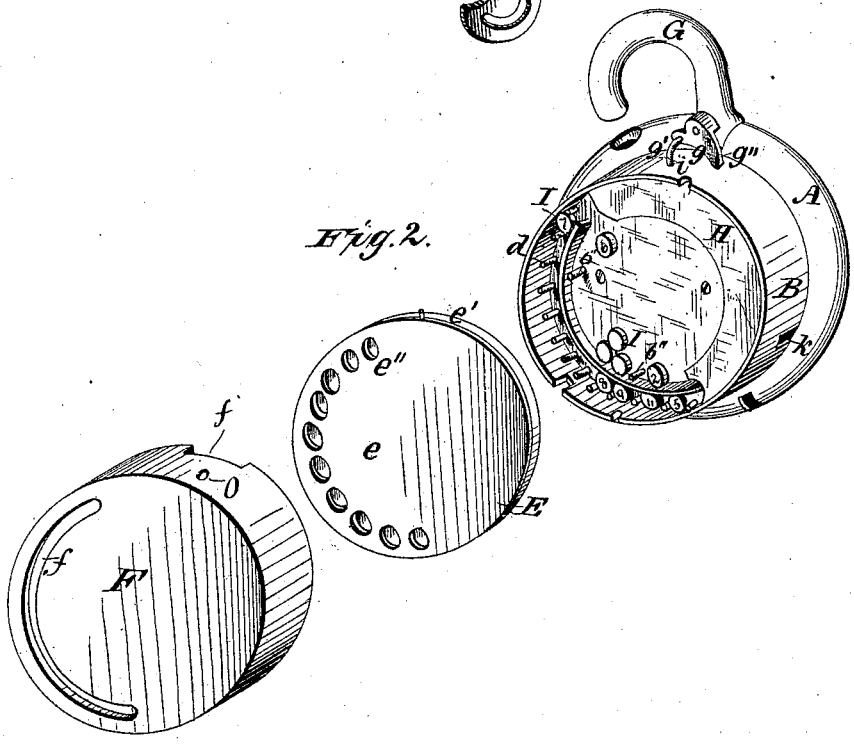


Fig. 2.



WITNESSES

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J. E. Carpenter.

INVENTOR

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By his Attorney L. Deane

2 Sheets—Sheet 2.

J. H. KINSMAN.
Indicator-Lock.

No. 210,540. Patented Dec. 3, 1878.

Fig. 3.

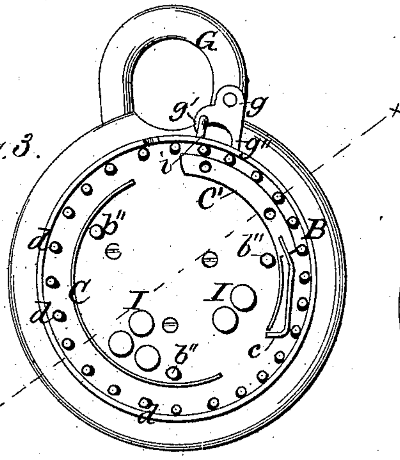


Fig. 5.

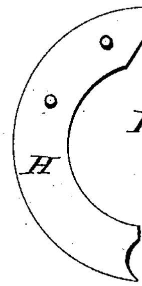


Fig. 6

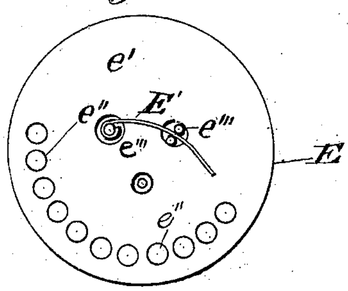
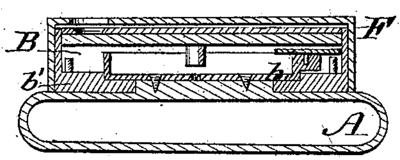


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN H. KINSMAN, OF SALEM, MASSACHUSETTS.

IMPROVEMENT IN INDICATOR-LOCKS.

Specification forming part of Letters Patent No. **210,540**, dated December 3, 1878; application filed August 23, 1878.

To all whom it may concern:

Be it known that I, JOHN H. KINSMAN, of Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Indicator-Locks, of which the following is a specification:

Figure 1 is a perspective view of a lock having my present invention attached or affixed to it. Fig. 2 is a perspective view of the lock, the cap, and cover, the two latter detached. Fig. 3 is a plan view of the lock shown in Fig. 1, the cover and cap removed. Fig. 4 is a central section of the lock in Fig. 1 on line *x x* of Fig. 3. Fig. 5 is a detail of the shield. Fig. 6 is a plan view of the under side of the cover.

My invention relates to that class of devices used for indicating any attempt to open a box, case, car, or anything which has been locked or secured by the lock, more particularly to that species of said class in which any attempt at opening the thing or place to which the said lock is attached causes a series of numbers, letters, or designs to be changed in the relative position which they bore to each other before said attempt was made, and still more particularly to that variety of said species in which the figures, letters, or designs are combined arbitrarily or by chance, and cannot be predetermined by the person who forms it.

The general purpose and design of my said invention are the same as that of my Patent No. 162,663; but I have in this substituted disks for cubes, and otherwise adapted the principle of said patent to make it not only more applicable to padlocks, but of such a character that it can be easily applied to door-locks.

My invention consists, essentially, of a movable case and a chamber and a series of disks, which disks, by the moving of the case, are carried into the chamber during the process of unlocking the lock, and are returned into the case during the process of locking it. The combination they form is visible through one or several apertures in the face of the case.

In the accompanying drawings, A denotes any ordinary padlock having its key-hole in the lower edge. To one face of the lock the indicator-case B is so secured or attached as to allow it to be moved or revolved over or upon said face. One way of doing this is shown in detail in Fig. 4, where the bottom plate, *b*, of the chamber is fixed to the outside face of the lock, and the inner edge of the annulus *b'* is fitted to engage under the outer edge of *b*, the main portion of the ring *b'* being outside of said plate. The outer wall of the case B is fastened at its base to the outer edge of the annulus *b'*; but I do not limit myself to any such details of construction now shown.

Upon the bottom plate, *b*, of the chamber is fixed the strip C, a little inside of the outer wall of case B, and concentric therewith, to serve as a guide for or to mark the path of the indicating-disks.

Near the outside wall, and entirely around the bottom of the case B, are placed, at suitable distances from each other, the posts *d*, which serve to keep the indicating-disks apart from each other. Projecting over the case B upon the side opposite to strip C, and fixed to plate *b*, is a wall, C', the inner face of which is generally in about the same circle with C. It is so wide that the posts *d* move snugly past its outer face in the revolutions of the case. At its lower end is a spring, *c*, the bent end of which, pressing behind any one of the posts *d*, will prevent the case being revolved from right to left, while in the contrary motion the posts readily slide, in turn, under the end of said spring. This spring may or not be a part of C'. Between the lower ends of C and C', as the lock is held in use, is a considerable space to afford a gate or escape for the disks I into the pathway between C and the outer wall of B, while at the top is a narrower space, to serve as an outlet for the disks from that path into the large central chamber within C and C'. In this space or chamber are any suitable number of posts or standards, *b''*, (three now being shown,) which, in the operation of the lock, prevent any clogging of the disks, and insure a constant change of their positions.

The cover E is made of an outer sheet of metal, *e*, and a lining of glass, *e'*. This cover is intended to fit snugly within the upper edge of case B. In the metal *e* are a number of apertures, *e''*, to show the disks I, which, in using my invention, pass under this cover. The glass and metal plates of E are secured to each other by means of piece E', held by

the posts e''', which pass from e through the glass e' near the middle. This piece E′ (preferably a spring) is also designed to act in conjunction with the posts b'' to prevent any clogging of the indicating-disks I when the lock is used; also, as above suggested, to prevent any fixed or calculable sequence in the movements of said disks.

The cap F is intended to fit upon and over case B and cover E snugly and tightly, and has a curved slot, f, in the top, which, in proper position, will give sight of the apertures e'' in the cover. In its edge are notches f', which give space for the movements of the arms g' and g'' on the projection g of the heel of shackle G. On said heel is also a bent piece or hook, i, the uses and functions of which, in the locking or unlocking, will be more fully explained in setting out the operation of the different parts of the lock.

The crescent shield H, which rests upon the wall C′, is designed to fit under and close the slot f when the cover is moved, so that the slot comes over that part of the case.

In the edge of the revolving case B is a notch or hole, k, into which the arm g'' of the shackle-heel drops in operating the lock; also, in the outer wall of F is a slot or hole, o, designed to take the bent piece or hook i of the shackle-heel.

To operate this device, press the key into the lock. This allows the shackle to open so far that the two little projections at its heel are thrown just clear of the cover, which can now be lifted off, and the cylinder or case is free to revolve. The shackle is not thrown open far enough to allow of the passage of the staple to which it may be hung, being held by the large projection on the heel, which impinges on the revolving cylinder. Hold the lock in a perpendicular direction and turn the cylinder or case B to the right until all the disks have disappeared, when the large projection will be opposite the large aperture in the cylinder or case B, and the shackle can be thrown fully open.

To close the lock, press down the shackle with the finger till the projection is clear of the opening; then, holding the lock in a perpendicular position, continue to turn the cylinder or case B to the right until the holes on the plate have been filled with numbers, when the small aperture in the cylinder will be found beneath the small projection on the heel of the shackle. The cover may then be slipped on, either with the open or closed part over the figures, and the shackle may be closed, one small projection entering into the cylinder or case B and the other into the cap, retaining each in position until the lock is again unlocked. If the cylinder turns with difficulty, press down the shackle a little with the finger.

While I have mentioned or described disks as the movable pieces or parts inside, it is evident that I may use instead cubes, balls, triangles, or any suitable device, which may be properly marked, or indicated, or colored, to accomplish the same objects or ends.

If preferred, the numbers, letters, or designs on the disks or triangles may be replaced by colors.

In general the number employed should exceed the numbers which are used at any one time in combination, because the number of changes is thus generally increased, and if the number of disks, balls, or triangles is considerable, the reproduction of any given combination becomes practically impossible.

It is evident that this invention can be applied upon door-locks or padlocks by merely making such changes as would be obvious to a skilled mechanic.

The numbers or combinations used cannot be tampered with, nor can they be changed or altered by any rule or calculation, and thus practical security is afforded against all improper interference with the lock.

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

1. The combination, with a lock, of the cover E, rotating case B, the fixed interior chamber containing disks adapted to form different combinations, and provided with strip C and wall C′, substantially as and for the purposes set forth.

2. The combination of the rotating case B with cover E and strip C, pins d, wall C′, and spring-stop c, substantially as and for the purposes set forth.

3. The combination of cover E, having spring-piece E′ on its under face, with post b'' and case B, substantially as and for the purposes set forth.

4. The combination of the rotating case B, supplied with disks, as set forth, shield H, cover E, provided with apertures e'', and cap F, having slot f, substantially as and for the purposes set forth.

5. In combination with a rotating case, B, the lock-shackle, provided with stud g, having arms or projections g' g'', whereby said arms or projections impinge upon and also enter into said case, and prevent its movement and the opening of the lock, or, being released therefrom, will allow its movement and the opening of the lock, substantially as and for the purposes set forth.

6. In an indicator-lock, the combination of movable cap F, having hole or slot o, with shackle G, having arm g, provided with projection i, substantially as and for the purposes set forth.

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

JOHN H. KINSMAN.

Witnesses:
E. W. CLIFF,
E. GRIFFITH.