

J. T. TAYLOR.

Improvement in Combination-Locks.

No. 131,475.

Patented Sep. 17, 1872.

Fig. 1.

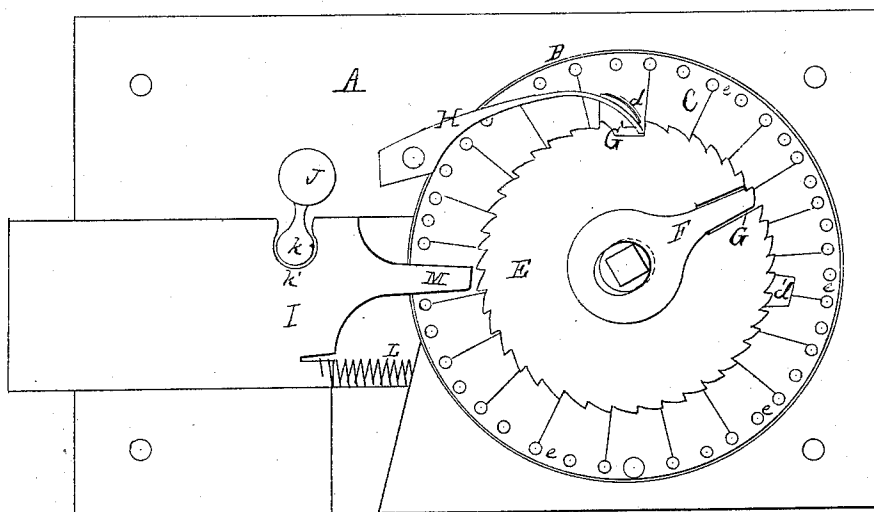


Fig. 2.

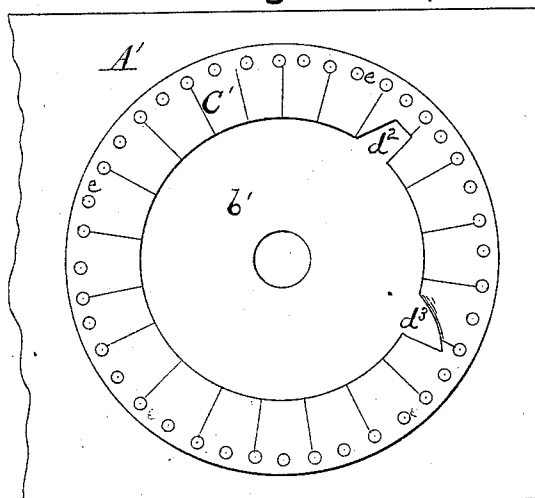


Fig. 3.

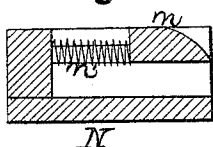
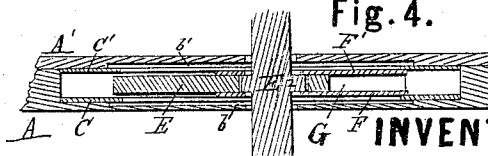


Fig. 4.



WITNESSES.

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JACKSON T. TAYLOR, OF NEWNAN, GEORGIA.

IMPROVEMENT IN COMBINATION LOCKS.

Specification forming part of Letters Patent No. 131,475, dated September 17, 1872.

To all whom it may concern:

Be it known that I, JACKSON T. TAYLOR, of Newnan, in the county of Coweta and State of Georgia, have invented a new and valuable Improvement in Permutation Locks; 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 drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawing are representations of plan views of my permutation lock. Figs. 3 and 4 are sectional details of the same.

This invention has relation to permutation locks; and consists in the construction, novel arrangement, and combination of the following-described devices, to wit: First, a pair of parallel annular disks perforated around their outer edges, notched at certain places on their inner edges, and secured rigidly to the lock-case, but capable of certain adjustment to suit the contingencies of the various combinations. Secondly, the lock-case having recesses, upon the rims of which the said disks rest in such a manner that their inner edges project beyond said rims so as to leave between their inner surfaces and the surface of said cavities slight circular channels. Thirdly, a rotary disk, attached to a shouldered knob-shaft, peculiarly notched and slotted on its periphery, and arranged to rotate between the two stationary disks. Fourthly, a pair of elastic jaws secured to the faces of the rotary disk, on either side of the shoulder of the knob-shaft, projecting over either side of the slot in the disk, wherein a finger on the end of the bolt enters in opening the lock, and so adapted to their functions that, during the opening of the lock, and by certain manipulations of the bolt-shaft, the said jaws may at different periods in the rotation of the disk be respectively pressed outward and into notches in the stationary disks, and so brought behind the remainder of the revolution of the toothed disk is completed; or, in other words, until the slot in said disk coincides with the finger on the end of the bolt, and allows said finger to enter.

Referring to the accompanying drawing, A represents the body and A' the covering-plate

of the lock-case. B represents a circular cavity in the part C A, at the bottom of which is formed another cavity, *b*, of less diameter. A cavity, *b'*, similar to *b*, is formed in the plate A'. C C' represent annular metallic disks secured, respectively, to the case A and plate A', so that their inner edges project over the outer parts of the cavities *b' b*. In the inner edge of each of the disks C C' are cut two notches. *d d'* represent the notches of the disk C, and *d'' d'''* those of the disk C'. Around the outer edge of each disk a row of perforations, *e*, or other indicators, are made. These indicators coincide with the notches in the rotary disk. E indicates said rotary disk constructed with a large central aperture, through which passes the knob-shaft E¹ having a shoulder, E², which fills the central aperture. F F' designate two elastic jaws or tongues secured respectively to the faces of the rotary disk and projecting on either side of a radial slot, G, cut from the periphery of said disk. The knob-shaft fits the lock-case loosely, and when moved laterally causes the shoulder E² to act alternately on the tongues F F' and to spread them apart from each other. The periphery of the disk E is supplied with beveled teeth, upon which acts a spring, H, the click of which may be heard as the disk is rotated. At the distance of about five of said teeth from the slot G a notch, G', occurs, occupying the space of about two teeth. The slot G is about the width of one tooth, and the ends of the tongues beveled to correspond to the form of teeth, as shown in the drawing, so as to allow the disk to pass the spring readily when the tongues come in contact therewith. The end of said spring coincides in position with the notch *d* of the disk C; and hence, when the disk E is so turned that the notch G' receives the end of the spring the two notches coincide. This may be called the starting point in opening the lock. I designates a sliding bolt operated by the shaft J, which is furnished with an arm or lug, K, which enters a recess, K', in the lock. The shaft J is provided with knobs by the turning of which the bolt is moved back. The bolt is moved forward by the force of a spiral spring, L. On the rear end of said bolt is a finger-projection, M, adapted to enter the slot G when the proper manipulation of the lock has taken place, to enable the bolt to be withdrawn.

The operation of the lock is as follows: The

starting point being attained, of which the operator will be sensible from feeling, the disk is turned the distance of three notches or teeth. The knob-shaft is then moved laterally to the left which causes the shoulder thereon to raise the jaw or tongue F into the notch d^2 . The knob-shaft is then turned the distance of three more teeth, (the tongue F moving underneath the projecting edge of the disk C,) and the shaft moved laterally to the right, causing the tongue F' to enter the notch d^1 . The shaft is now turned the distance of sixteen teeth, (both tongues being spread out or apart,) which brings the slot G to the bolt-finger M and allows the bolt to be withdrawn.

According to the above-described manipulation the combination may be termed "3 3 16." Other combinations may be produced by changing the positions of the disks with reference to the starting point, so that the tongues F F' may be caused to enter their appropriate notches at various periods.

The number of holes from the starting point of each stationary disk to the notch designed for the admission of the spring tongue, less the number of teeth from the starting point to the slot G of the rotating disk, indicates the numbers to which the disks are set and the number of teeth from the starting point to the point of opening, less the number of teeth from the starting point to the slot of the rotary disk indicates the number to which the disk is set. The notches in the stationary disks are purposely made of irregular form to prevent the same from being felt for by persons in ignorance of the combination.

When this lock is applied to the door of a room, a catch, such as represented in Fig. 3, should be attached to the door-jamb. This catch consists of the rectangular casing N, having a movable slide, n , in front, constructed with side flanges fitting grooves D in the walls of the casing N. Behind said slide is a spring N', which presses it forward in position to receive behind it the end of the bolt, to which, (both

being beveled,) it yields when struck or pressed upon. This catch is on the inside of the jamb, and is of the peculiar construction described so that a person inside the room may, by pulling back the slide, release the bolt, and thus obviate the necessity of otherwise manipulating the lock according to the complex method required by the combination.

A detachable key may be substituted for the knob-shaft which operates the bolt, and the latter manipulated the same as an ordinary bolt, the combination devices being at rest.

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

1. The improved lock having the rotary disk E, slotted to receive a projection on the end of the bolt, provided with the yielding elastic tongues F F' loosely applied to the shaft having the shoulder part E^2 and adapted to work in connection with the notched disks C C', substantially as specified.

2. The annular disks C C' having the notches $d^1 d^2$ adapted to receive at different periods the tongues F F' of the rotary slotted disk E, and having the notches $d d^3$ to enable said tongues to escape, substantially as specified.

3. In a permutation lock the rotary toothed disk E, and the stationary adjustable disks C C', having perforations or equivalent indicators coinciding with the teeth of the rotary disk, substantially as and for the purpose specified.

4. The bolt I having the finger-projection M, and actuated through the medium of the knob-shaft J and spring L, in combination with the rotary disk E, having the slot G and elastic yielding jaws or tongues F F', substantially as specified.

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

JACKSON T. TAYLOR.

Witnesses:

R. A. JOHNSON,
EDWARD SMITH.