N. A. YOUNG.

Permutation Padlock.

No. 212,780. Patented Feb. 25, 1879.

Fig. 1

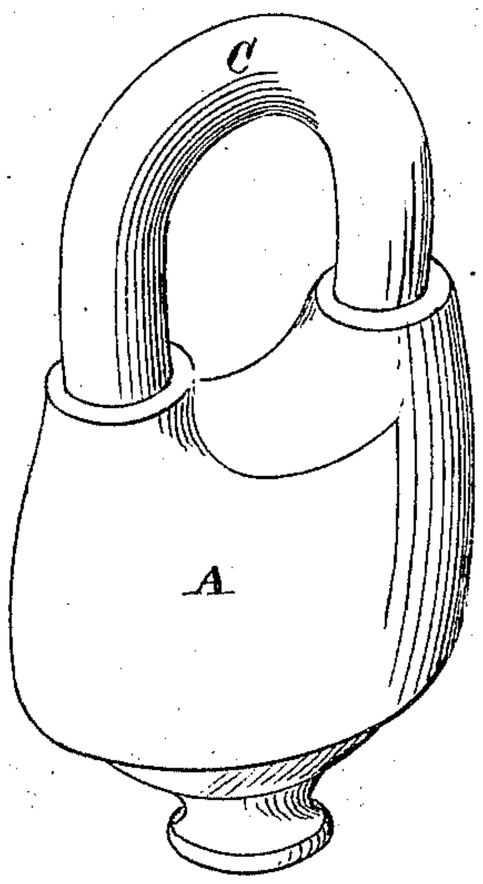


Fig. 2

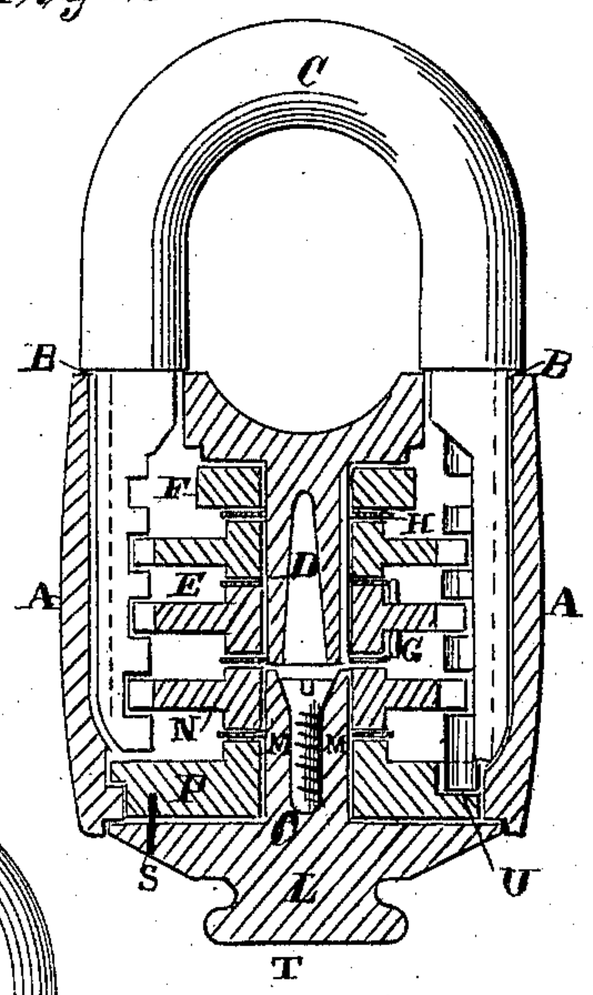


Fig. 5

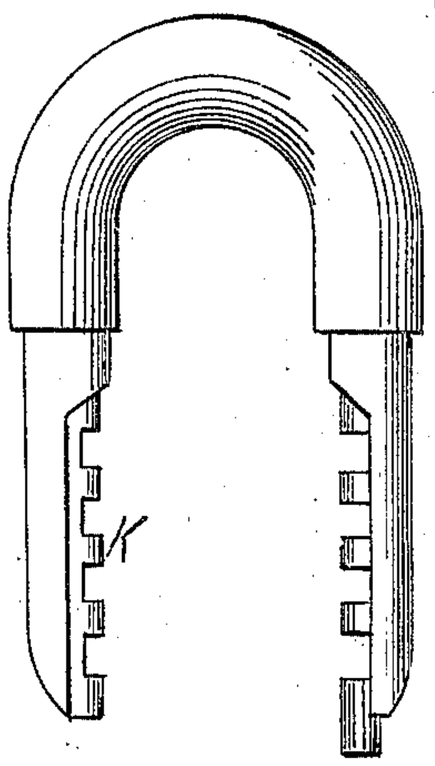


Fig. 6

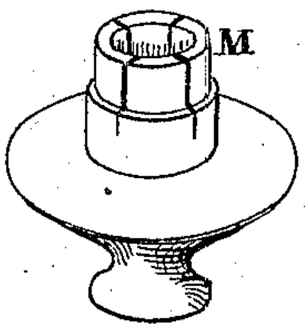


Fig. 3

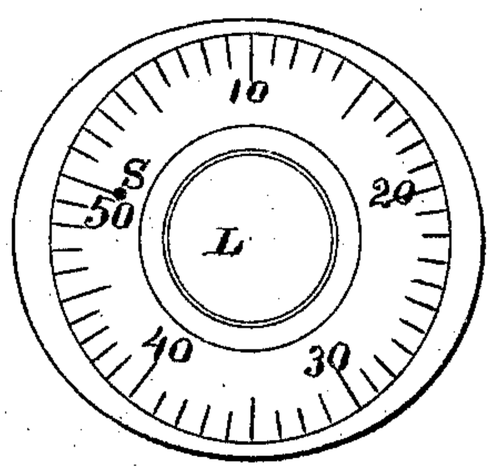


Fig. 4

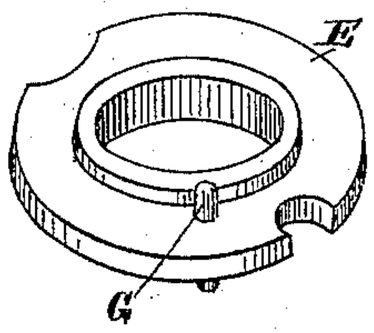


Fig. 7.

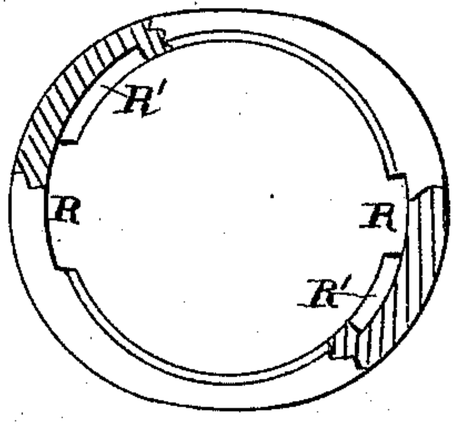
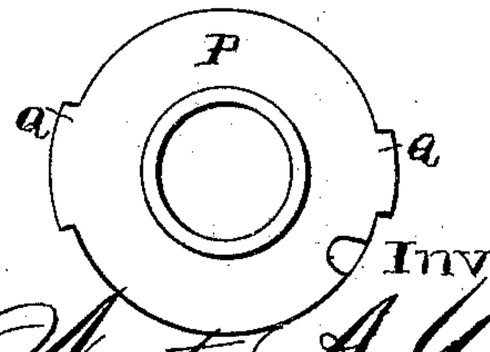


Fig. 8



Witnesses

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UNITED STATES PATENT OFFICE.

NESTOR A. YOUNG, OF HEALDSBURG, CALIFORNIA.

IMPROVEMENT IN PERMUTATION-PADLOCKS.

Specification forming part of Letters Patent No. **212,780**, dated February 25, 1879; application filed December 2, 1878.

To all whom it may concern:

Be it known that I, NESTOR A. YOUNG, of Healdsburg, county of Sonoma, and State of California, have invented an Improvement in Locks; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in that class of locks known as "combination" or "keyless" locks, and it is especially adapted to be used upon what are known as "padlocks."

My invention is an improvement upon a patent which was granted to W. R. Young November 27, 1877; and it consists in a novel construction of an outer case having an internal spindle or stem, which is formed in one piece with the outer case, and serves as a guide and center for all the tumblers but the outer one and driver, from which they are independent. This latter is secured to the closing-plate, which also forms the dial-disk, and the inner flange of this driver fits against and is steadied by the end of the stem upon which the tumblers turn.

The closing-plate is securely locked in place by means of a loose disk, which has lugs upon its edge, so arranged as to be turned in corresponding slots on the inner edge of the case, and when in place it is locked and prevented from removal by means of the bolt or staple when it is in place.

In order to more fully explain my invention, reference is made to the accompanying drawings, in which—

Figure 1 is an external view of my lock. Fig. 2 is a section showing the interior. Fig. 3 is a bottom view. Fig. 4 is a view of one of the tumblers. Fig. 5 is a view of the locking bolt or staple. Fig. 6 is a view of the closing-plate with its slotted stem. Figs. 7 and 8 are detailed views of the locking-plate and bottom of the case.

A is the outer case of my lock, which is made cylindrical, having its base flat, while its top has two raised portions surrounding the openings B upon each side, into which the locking-staple or curved bar C enters. From the center of the top of this case, inside, a stem or spindle, D, projects toward the base. This stem may be hollow or solid, and serves as a center about which the tumblers E turn. As many of these tumblers may be used as desired by employing rings F to fill the spaces. These tumblers consist of a main disk or annulus, having a slightly-raised rim upon each side around the central opening. A pin, G, passes through each tumbler just outside the rim, and these pins act upon each other to adjust each tumbler to its proper position, so as to allow locking or unlocking. Washers H between the tumblers keep them apart in the usual manner.

The edges of these tumblers have a shallow groove, I, upon one side, and a semicircular notch or groove is made in the opposite side, so that when these grooves and notches are in line upon their respective sides the two legs of the bar C may be introduced or removed, these legs having a convex side and a projection, respectively, upon the inside to correspond with the grooves and notches in the tumblers. These legs are cut transversely, as shown at K, so that when in place the tumblers may be turned, and their edges will pass into these cuts or notches, and thus prevent the bar C from being withdrawn. The construction of the bar C with unequal sides and the tumblers with unequal grooves or notches increases the safety of the lock.

The closing and dial disk L has the exterior of its periphery fitted to a shallow depression around the base of the case A, so that it will be flush therewith when in place. A short stem, M, projects inwardly from this disk, and the outer tumbler, N, which is also a driver for the others, is secured to this stem. In order to secure this driver rigidly to the stem M, I split the stem into sections, as shown, and a screw, O, with a tapering or conical head, is fitted into the stem, so that when turned in it will expand the section, and thus hold the driver securely at any point.

By this construction I am enabled to change the combination as much or as often as may be necessary or desirable.

It will be manifest that the stem M can be made many-sided, and the changes in combination accomplished in this manner, and I shall employ this method in some cases.

In order to secure the disk L, so that it may

not be removed, while it is allowed to rotate freely, a loose disk, P, is fitted to turn upon the stem M; or rather, when in place, the stem turns within the disk. This disk is provided with unequally-sized projections Q upon opposite edges, and similarly-shaped slots R allow these projections to enter the case when the parts are put together. Connecting with these slots are two grooves, R′, which extend a short distance around the interior of the case, and when the disk P is turned the projections Q will enter the grooves, and thus lock the disk L and driver in place, so that while rotating freely they cannot be removed. In order to turn this disk P a small hole, S, is made through the dial or closing disk L, and a pin may be introduced through it into a similar hole in the disk P. By turning the knob T the disk P will be rotated to fasten or loosen it. In order to secure this disk so that it cannot be turned when the bar C is in place and the device locked, one of the legs of the bar projects so as to enter a corresponding hole, U, in the plate P.

By this construction I am enabled to provide a lock which is easily opened by one possessed of the combination, but cannot be easily picked. It is so entirely closed that no access can be had to it, and it is strong and compact, being peculiarly fitted for locking mail-pouches, cars, &c.

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

1. The case A, with its open bottom, and having the openings B at the top to receive the locking-bolt, said case having the spindle D formed with it and projecting inwardly from the top to receive and guide the tumblers E independently of the closing and dial disk and driver, substantially as herein described.

2. The case A, with its inwardly-projecting spindle D, upon which the tumblers E turn independently of the closing-disk, in combination with the curved locking-bar C, with its unequally-shaped slotted legs, substantially as and for the purpose herein described.

3. The dial and closing disk L, with its stem M, split as shown, and provided with the conical or tapering screw, in combination with the independent tumbler and driver N, substantially as and for the purpose herein described.

4. The closing-disk L, with its stem M and outer tumbler or driver, N, secured and adjusted as shown, together with the loose disk P, having the projection Q, in combination with the case A, with its slots R and grooves, whereby the dial is locked in place, substantially as herein described.

5. A permutation-padlock consisting of the outer case, A, with the locking-staple C and the closing dial disk L, said dial-disk having the driver N and the locking-disk P mounted upon it, while the tumblers E are supported independently upon the spindle D within the case A, whereby the dial may act upon the tumblers when in place, and be removed without the tumblers, substantially as herein described.

In witness whereof I have hereunto set my hand.

N. A. YOUNG.

Witnesses:
C. H. MADDOX,
GEO. H. STRONG.