

W. R. YOUNG.
Combination Pad-Lock.

No. 197,582.

Patented Nov. 27, 1877.

Fig. 1

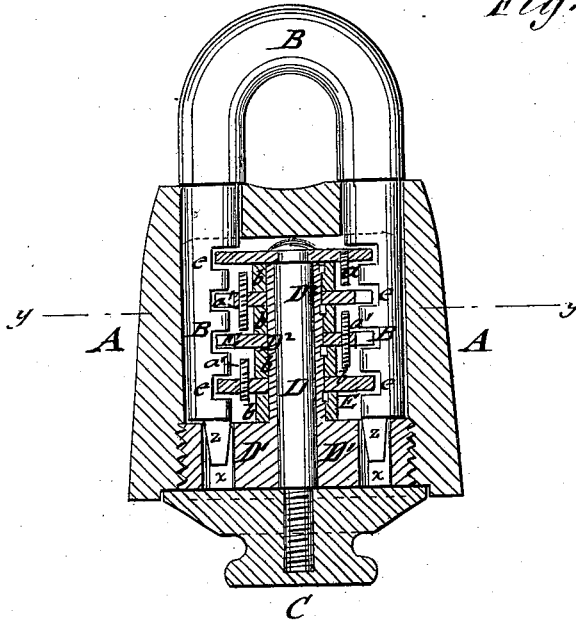


Fig. 2

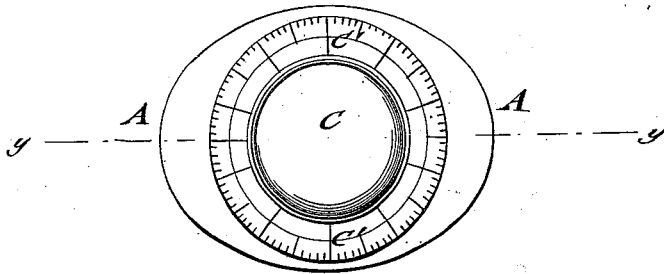
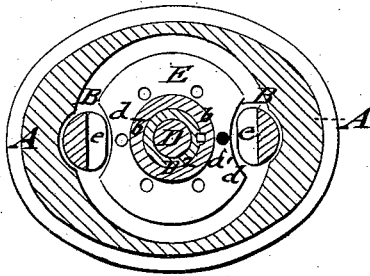


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM R. YOUNG, OF HEALDSBURG, CALIFORNIA.

IMPROVEMENT IN COMBINATION-PADLOCKS.

Specification forming part of Letters Patent No. **197,582**, dated November 27, 1877; application filed June 25, 1877.

To all whom it may concern:

Be it known that I, WILLIAM R. YOUNG, of Healdsburg, in the county of Sonoma and State of California, have invented a new and Improved Combination-Padlock; of which the following is a specification:

In the accompanying drawings, Figure 1 represents a vertical longitudinal section of my improved combination-padlock; Fig. 2, a bottom view; and Fig. 3, a horizontal section of the same on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention is an improvement in the class of keyless or permutation padlocks; and it consists in providing the screw-threaded plate which closes the open end of the padlock-case with recesses or holes to receive the reduced ends of the U-shaped staple or shackle, for the purpose of preventing access to the tumblers or interior locking mechanism. The said plate, being screwed in, renders the case of the padlock stronger, and more capable of resisting attempts to break it open by force, than the cases of those padlocks whose detachable end plates are secured by headed screws or equivalent devices.

By reference to the drawing, A represents the case of the padlock; B, the detachable staple that is fitted into guide-sockets of the lock-case, and C the operating-knob, with graduated face C', upon which the numbers from 0 to 100 are marked. The face C' of the knob turns in a circular guide-recess of the lock-case A, thus preventing the introduction of wedges or powder to pry or blow off the knob.

The knob is secured on the end of the tumbler-bolt D, which passes through the circular end plate D¹ of the padlock-case, and through the tubular post D², which is formed in one piece with said end plate. The latter is made thick to give it the required strength, and is screwed into the case A. It is also provided with notches or recesses *x x*, located on opposite sides of the center, which receive the reduced ends *z z* of the staple or shackle B.

The latter thus prevents the end plate D¹ being screwed out of the case A when the tumblers are set to lock the shackle B in the case, and hence access cannot be had to the interior of the case until the tumblers have

been set in the proper position for releasing the shackle.

For screwing in the bottom plate, the staple is inserted from the outside into the holes and then used as a wrench.

The center post D is extended up into the case, being surrounded by a guide extension or sleeve, D², of the bottom plate. A fixed tumbler, E, at the inner end of the center post D, engages, by a projecting pin, *a*, the pin *a'* of a second tumbler, E, which engages, by a similar pin, that is extended back of the tumbler, a pin, *a'*, of a third tumbler, E, and so on, according to the number of tumblers E arranged in the padlock.

All the tumblers E, with the exception of the first, that is attached to the center post, turn on the sleeve D² of the bottom plate of the padlock. The tumblers E are made in the same manner as the revolving tumblers in combination-locks—namely, of ring shape, with a number of screw-holes, as shown in Fig. 4, for changing the pins *a a'*, and admitting thereby a great variety of combinations to which the locks may be set. Between the tumblers are intermediate washers *b*, which are slipped down on the sleeve D², and secured rigidly thereon by tongues, key, or otherwise, locking into corresponding notches of the washers. The tumblers E are arranged with notches *d* at diametrically opposite points of their circumference, which notches, however, should not be made alike, but of different size—as, for instance, a broad notch at one side and a narrow one at the other side, or one notch might be square, the other semicircular, the inner edges of the staple being formed to correspond therewith—so that the same can only be withdrawn when all the notches of one size register with the corresponding side of the staple.

The inner edges of the staple B are provided with as many recesses *e* as there are tumblers E, the intermediate lugs projecting between the tumblers, and preventing the taking out of the staple unless all the notches of the tumblers coincide with each other and with the lugs of the staple. After the tumbler-pins are set to a certain combination in the holes of the tumblers they are placed in position on the guide-sleeve of the center post, and the bot-

tom plate screwed into the lock-case, and the center post and its tumbler then put in, and the knob finally rigidly attached to the end of the center post, after which the padlock is ready for use, the staple being readily withdrawn when all the tumblers are set according to the combination selected, so that the notches register with the lugs of the staple and admit the withdrawing of the latter. The padlock obtains thereby all the advantages of a combination-lock, being opened or closed in analogous manner, without requiring a key, and furnishing no opening at any part for the introduction of tools or powder, so as to tamper with or explode the same.

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

In combination with the case A of the padlock, the end plate D¹, having the recesses *x x*, and screw-threaded on its circular edge, the notched shackle or staple B, having the end projections *z z*, and the tumbler and bolt D, all arranged as shown and described.

WILLIAM ROBERT YOUNG.

Witnesses:

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