

W. H. G. SAVAGE.  
Permutation-Lock.

No. 210,056.

Patented Nov. 19, 1878.

Fig: 1.

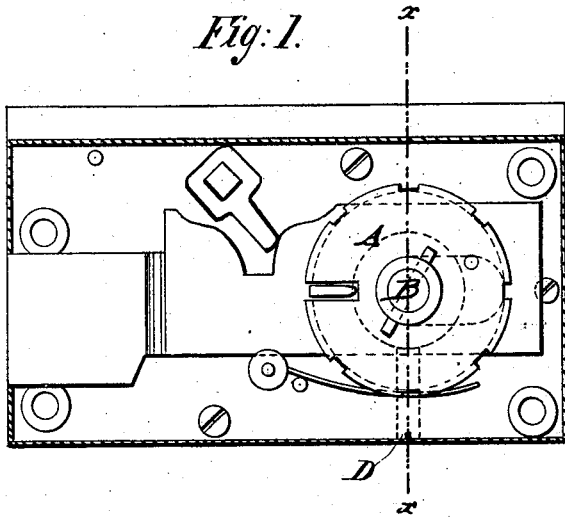


Fig: 2.

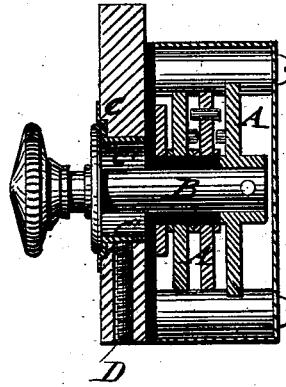
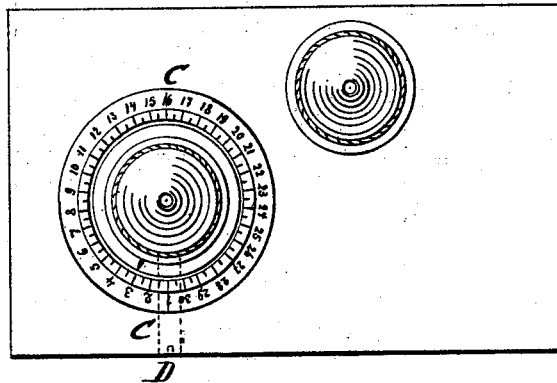


Fig: 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN PERMUTATION-LOCKS.

Specification forming part of Letters Patent No. **210,056**, dated November 19, 1878; application filed September 24, 1878.

*To all whom it may concern:*

Be it known that I, WILLIAM H. G. SAVAGE, of Kingston, in the Province of Ontario and Dominion of Canada, have invented a new and Improved Combination-Lock, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a rear view of my improved combination-lock with covering-plate removed; Fig. 2, a vertical transverse section on line *xx*, Fig. 1; and Fig. 3, a front view of the same.

Similar letters of reference indicate corresponding parts.

The invention consists in applying an axially-adjustable face-plate and clamp-screw to the spindle and tumbler of a lock, the face-plate being provided with a sleeve that turns in a circular recess of the door, and the screw being made to pass through the edge of door up to the sleeve, as hereinafter described.

Referring to the drawings, A represents three or more disk-shaped tumblers of the usual construction, of which the rearmost is keyed to the spindle B, while the front tumblers turn loosely on a fixed sleeve placed around the spindle.

The tumblers are actuated by means of studs or pins attached thereto, the pin of one disk engaging the pin of the disk next adjoining in front, so as to be set according to their combination by the spindle along a graduated circular face-plate, C.

The face-plate C is applied to a sleeve, C', that turns in a circular recess of the door of the safe, and is rigidly secured by a clamp-screw, D, which passes through the edge of the door up to the sleeve.

By loosening the set-screw D the graduated face-plate may be turned either to the right or left, and thereby the combination to which the tumblers have been set changed to any other

combination by adding or deducting the change in the face-plate to the figures of the combination. The new combination thus formed sets all the tumblers at the same time, and changes the combination without opening the lock or changing the position of the pins on the tumblers.

The tumblers are provided with longer recesses for the sliding bolt E, and the rear tumbler also with shorter guard-notches to prevent the feeling for the longer recesses. When the tumblers are set according to the figures of the combination so that their slots are in line, the bolt may be thrown back and the door opened in the customary manner in combination tumbler-locks.

The adjustability of the face-plate in connection with the set-screw furnishes a very simple means of setting the lock to any desired combination and changing the combination to a new one whenever necessary.

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

1. In combination tumbler-locks, a revolving spindle and tumbler, in combination with an axially-adjustable face-plate and a clamping set-screw passing through the edge of the door to a sleeve or collar of the face-plate, substantially as set forth.

2. A face-plate, C, whose sleeve C' turns in a circular recess of the door, and is secured by a clamp-screw that passes through the edge of the door up to the sleeve, as shown and described, so that the set-screw cannot be reached until the safe-door is opened.

WILLIAM HENRY GILES SAVAGE.

Witnesses:

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GEO. MARRIOTT.