

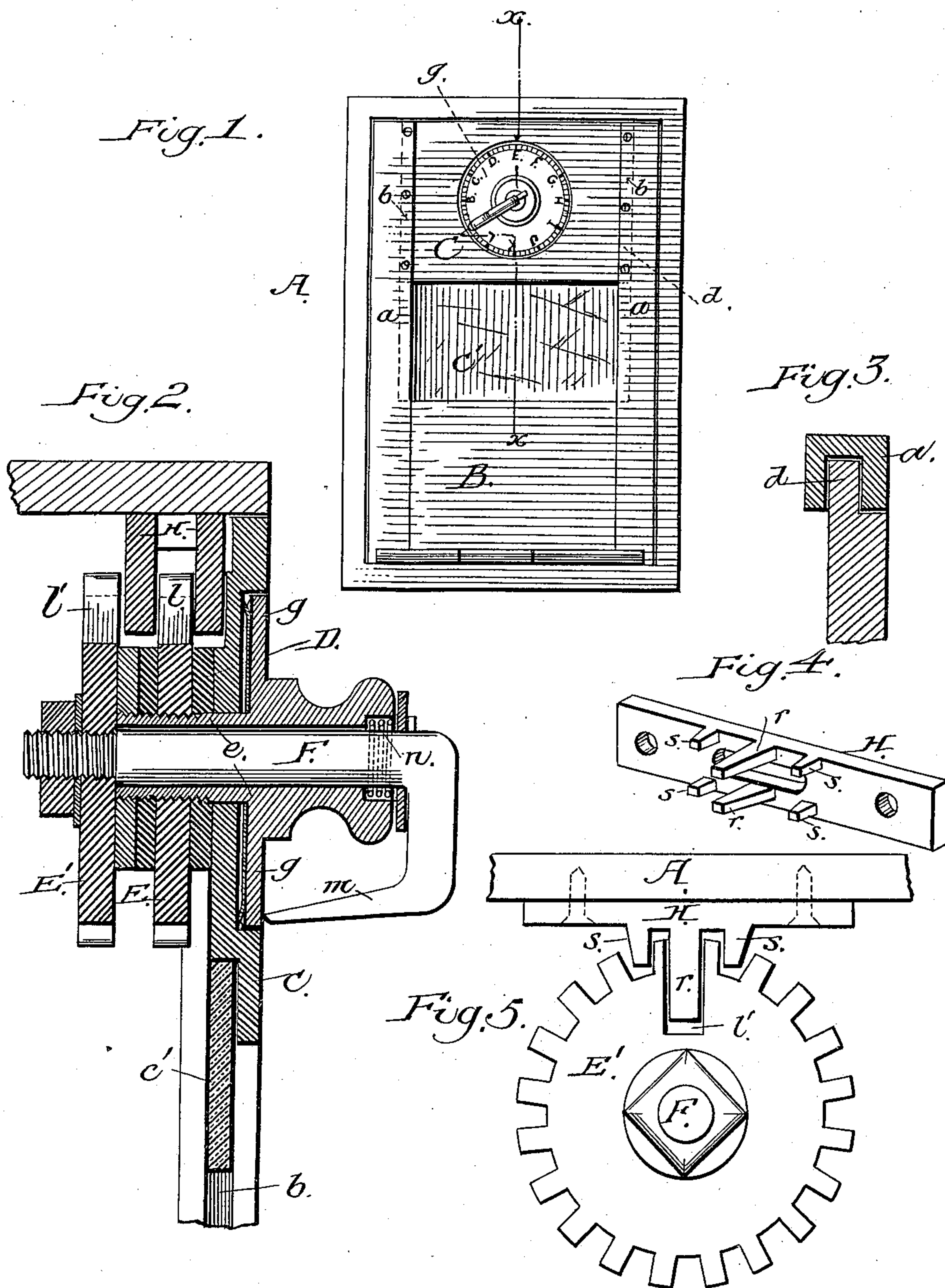
(No Model.)

J. H. & T. D. MORRIS.

PERMUTATION LOCK.

No. 344,977.

Patented July 6, 1886.



Witnesses
J. W. Fowler
H. B. Applewhite,

Inventor
John H. Morris
Thos. D. Morris
By their Attorneys
A. H. Evans & Co.

UNITED STATES PATENT OFFICE.

JOHN H. MORRIS AND THOMAS D. MORRIS, OF SEWARD, NEBRASKA.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 344,977, dated July 6, 1886.

Application filed May 10, 1886. Serial No. 201,701. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. MORRIS and THOMAS D. MORRIS, citizens of the United States, residing at Seward, in the county of Seward and State of Nebraska, have invented certain new and useful Improvements in Permutation-Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a front elevation of a box or cabinet with our improved lock attachment. Fig. 2 is a sectional view on the line *xx* of Fig. 1. Figs. 3, 4, and 5 represent details of construction.

Our invention relates to locks especially applicable to post-office boxes, although successfully employed wherever a combination-lock is needed; and our invention consists in the construction and combination of devices, which we will hereinafter describe and claim.

To enable others skilled in the art to make and use our invention, we will proceed to describe the manner in which we have carried it out.

In the said drawings, A represents a box or cabinet of any suitable dimensions and design; and B represents the door for the same, to which the lock is attached. The side frames, *a*, of the door B are provided with grooves *b*, (see Figs. 2 and 3,) in which removable plates or panels *c c'* are inserted. The plate C is the face-plate, to which the lock D is secured, and is provided with flanges *d*, which engage the grooves and permit the ready insertion and removal of said plate. After the plate *c'*, which is designed to be of glass, has been inserted, the second plate, C, forming a portion of the lock, is slipped into position, and held by screws or other securing devices, thereby firmly securing the glass *c'*, but permitting its ready removal when desired.

As before stated, the lock D is secured to the face-plate C, and it consists, essentially, of a hollow thimble or cylinder, *e*, having formed integral therewith a dial-plate, *g*, upon the surface of which suitable characters are made to form the combinations. The dial *g* has a seat in a countersink formed in the face of the plate C, and between the dial and panel a flat spring-plate may be introduced to create the

necessary friction for preventing the dial from being too easily turned and to hold it when turned to a designated character or point.

The thimble or cylinder *e* extends through the plate C, and has rigidly secured to its inner end, by nuts and washers, a toothed disk, E, having a slotted portion, *l*, as shown in Fig. 2. A bolt or cylinder, F, having a threaded inner end, and an indicator, *m*, formed on its outer end, extends through the hollow thimble, and has securely fastened to its inner threaded end a toothed disk, E', having a slot, *l'*, corresponding with the slot formed in the disk E. A spring, *n*, is coiled around the head of the bolt, and is designed to create the friction necessary for the successful working of the indicator and notched disk E'. From this description it is manifest the bolt F and disk E' may be turned without affecting the position of the dial. For instance, the thimble or cylinder *e*, carrying the dial and disk E, is turned until the letter E on said dial registers with a point or mark on the plate C. The bolt or cylinder F, having the other disk, E', and indicator secured to it, is now turned until the said indicator registers with the letter A on the dial. In this position (when the combination is composed of the letters E A) it will be found the slotted portions of the disks are in alignment and register with the catch on the box or cabinet, and the door is readily opened.

In conjunction with the lock as before described we employ a catch of peculiar construction, which we will now describe. A plate, H, secured to the inside of the cabinet A, is provided with a series of lugs, *r s*, the former being considerably longer than the latter. The object of these several projections is that we are enabled to defeat the efforts of others to determine the combination, as the short pins are designed to come into contact with the teeth on the disks, and thereby prevent the dial from turning, while the long lugs *r*, by striking against the disks E and E', prevent the door from being opened until the correct combination has been ascertained. When the latter object has been gained, it will be found the long lugs *r* are in alignment with the slotted portions *l l'* in the disks, and therefore do not interfere with the opening of the door.

The disks EE' are separated from each other, so that the short lugs pass between the disks, and the space between the upper and lower series of lugs being greater than the thickness of the disks we are enabled to secure a slight play of the door, thereby materially assisting in defeating the finding of the combination. When the disks have been turned until the slotted portions of the same align themselves with the long projections *r*, the door is readily opened.

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

1. The combination, with a box or cabinet, of a door having a removably-secured plate, a lock secured to said plate and consisting of a hollow thimble or cylinder having a dial formed integral therewith, a toothed disk having a slot, a bolt or pin having an indicator formed on its outer end, a toothed slotted disk

secured to said bolt, the nuts and washers, and a catch on the inside of the cabinet having a double series of projecting lugs, with which the disks engage, substantially as herein described.

2. The combination, with a lock having slotted disks with teeth formed thereon, of a catch consisting of a plate having a double series of lugs, *r* and *s*, of different lengths projecting therefrom, the shorter lugs *s* engaging the teeth on the disks, while the longer lugs are adapted to engage the disks and slots formed in said disks, substantially as and for the purpose set forth.

JOHN H. MORRIS.
THOMAS D. MORRIS.

Witnesses:

W. T. OLMSTEAD,
R. P. ANDERSON,
EUGENE METZ.