(Model.)

J. W. SAXON.

PERMUTATION LOCK.

No. 269,120. Patented Dec. 12, 1882.

Fig. 4.

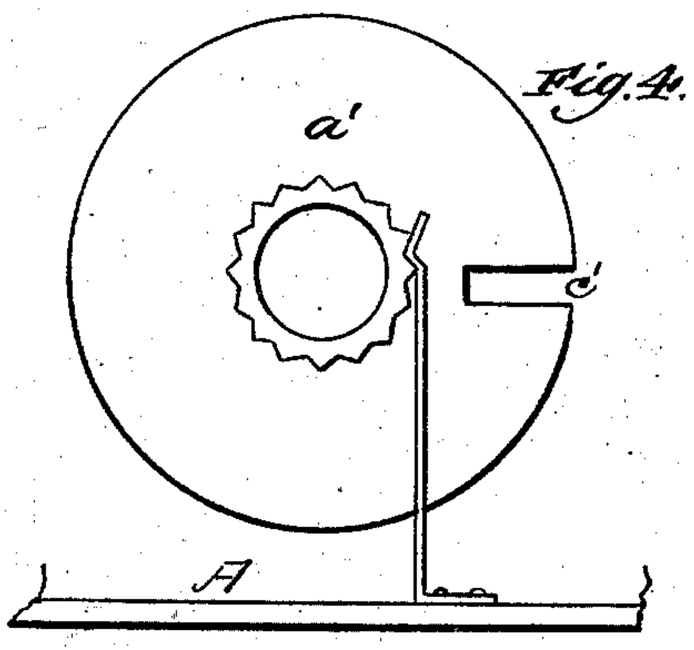


Fig. 1.

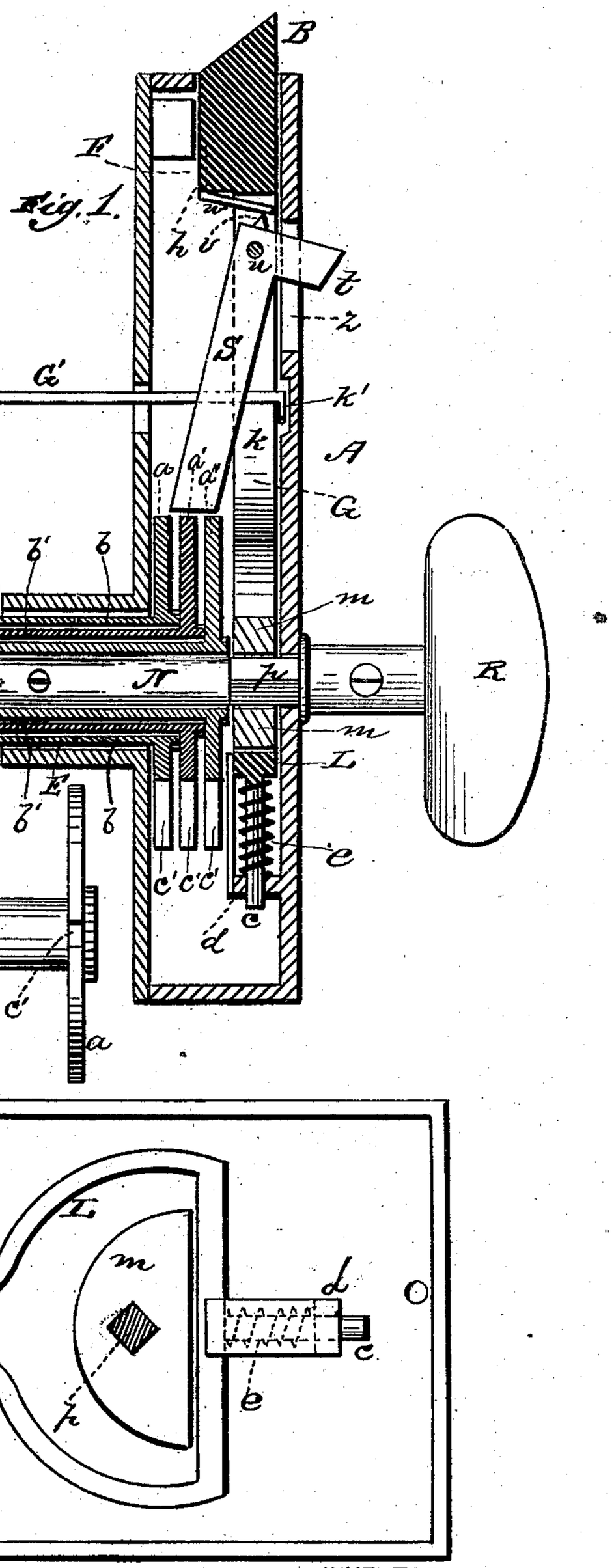


Fig. 3.

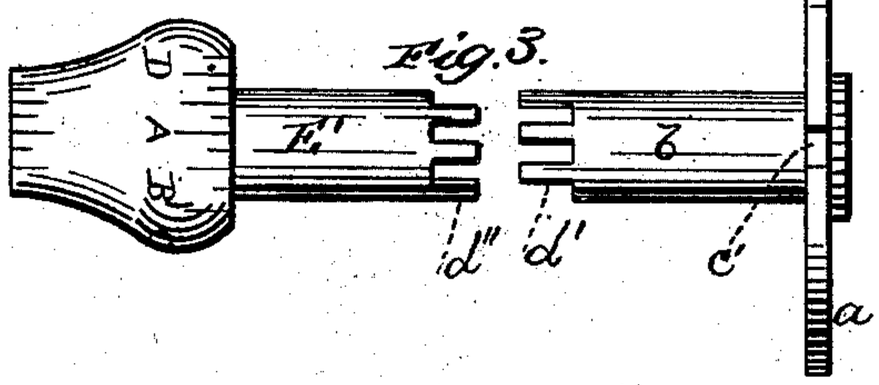
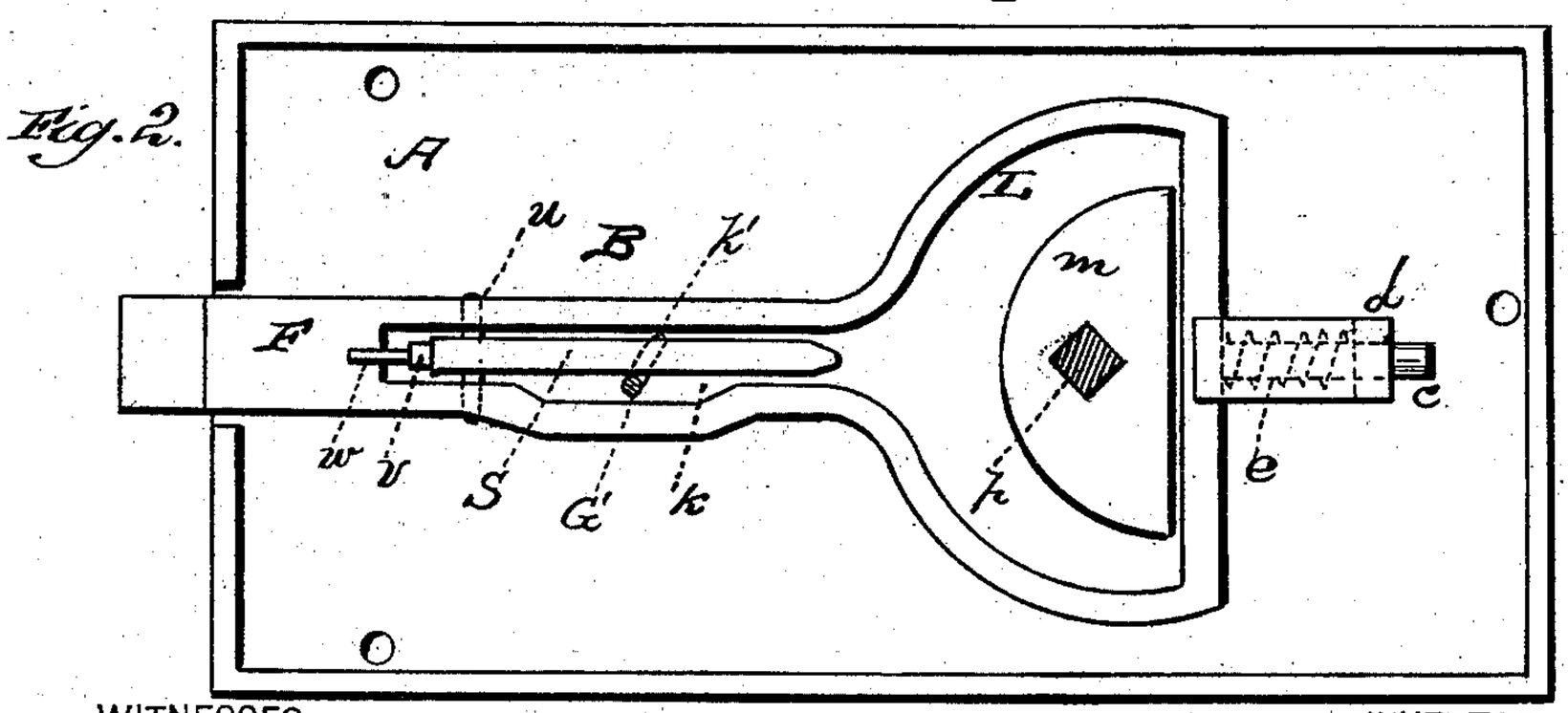


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES W. SAXON, OF GAINESVILLE, TEXAS.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 269,120, dated December 12, 1882.

Application filed July 25, 1882. (Model.)

To all whom it may concern:

Be it known that I, JAMES W. SAXON, a citizen of the United States, and a resident of Gainesville, in the county of Cooke and State of Texas, have invented a new and valuable Improvement in Door and Drawer 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 drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a horizontal sectional view of my lock. Fig. 2 is a face view with face-plate and part of the mechanism removed. Fig. 3 is a detail view, and Fig. 4 is also a detail view.

This invention has relation to combination-locks for doors or for the drawers of cases; and it consists in the construction and novel arrangement of the slotted bolt, follower and follower-shaft, the elongated bolt-stop pivoted in the slot of the bolt, the radially-slotted disks having concentric stems on the follower-shaft, and the lettered or figured and graduated stem-caps engaging the respective stems by means of circular series of teeth.

The invention also consists in the combination, with the parts hereinbefore referred to, of the key-trip, whereby the bolt-stop can be set from the outside, all as hereinafter set forth.

In the accompanying drawings, the letter A designates a parallel-side lock-case, in which the slide-bolt B is seated in suitable bearings. On an extension, *c*, of the bolt, which passes through a bearing, *d*, is arranged a spring, *e*, whereby the bolt is constantly kept in the forward position except when purposely retracted. The head F of the bolt is of greater thickness than its shank portion G in rear of the shoulder *h* of the head, and from said shoulder to the rear in the shank is formed the longitudinal slot *k*. The bolt shank or stem G is provided with a flat loop or bearing, L, which is engaged by the follower *m*.

N represents the follower-shaft, having a squared portion, *p*, which extends through a squared aperture in the follower. This follower-shaft is made in two sections, which are separable, and each section is provided at its end with a handle or knob, R.

S indicates the bolt-stop, which is an elongated bar having the thickness of the shank of the bolt for the greater part of its length, and formed at its forward end with a thumb-lug, *t*. The bolt-stop is made of suitable size to be placed in the slot *k* of the bolt, and it is pivoted to the branches thereof, as indicated at *u*. A small projection, *v*, is formed on the end of the bolt-stop, and in the adjacent end of the bolt-slot is arranged a small spring-bearing, *w*, which engages the projection *v*, and serves to hold the bolt-stop in position either in line with the bolt-shank or out of line, its rear end projecting on one side thereof.

The thumb-lug *t* of the bolt-stop is designed to project through a slot, *z*, in the inside wall of the case.

a, *a'*, and *a''* are circular disks, made thin enough to be placed one upon another between the bolt-shank and the case-wall. These disks are provided respectively with the sleeve-stems *b*, *b'*, and *b''*, and are formed with the radial slots *c'* extending from their margins toward said stems, as shown in the drawings.

On the ends of the sleeve-stems are the circular series of teeth *d'*. Sleeve-caps E E' E'', also having circular series of teeth *d''*, engage the ends of the stems *b b' b''*, respectively, forming the outer and exposed sections thereof, said caps and sleeve-stems all being seated on the outer circular portion of the tumbler-shaft and arranged neatly thereon, but so that they can be turned easily and independently. When the outer knob, R, is placed on the end of the shaft and secured thereto, it serves to hold the disk-stems in position, their sections being respectively engaged by means of the toothed ends hereinbefore described.

On the exposed surfaces of the stem-caps E E' E'' are made the graduated marks and the letters or figures referring thereto, as indicated in the drawings. When the caps and sleeve-stems are connected according to an ascertained combination the slot of each disk is made to correspond in position with that of a mark or line on the cap, known to the holder of the combination; and by turning the caps in such a manner as to bring the special letter or figure thereof in line with a base-mark on the case the slots of the disk can be brought in position to coincide with the rear portion of the slot of the spring-bolt B.

When the bolt-stop is arranged in line with the bolt-shank so that its surface is flush with the surface thereof, the follower-shaft can be worked by the knobs at any time to move the follower and retract the bolt.

In order to lock the bolt, the thumb-lug *t* is pressed sufficiently to throw the bolt-stop out of line with the bolt-shank, so that its end will engage the margins of the disks E E′ E″, and the latter are turned about the follower-shaft to disarrange their slots. The bolt is now locked in engaged position and cannot be retracted until the slots of the disks are brought together and in line with the bolt-slot. This is readily effected by any one knowing the combination on which the lock is set, and then the bolt-stop will slide into the slots of the disks when the knob is turned to draw the bolt back. By means of a key-trip or slide, G′, arranged transversely in bearings in the lock, and having its handle end projecting through the outside wall of the same and its angular inner end *k′* engaging the bolt-stop on the inside, said bolt-stop can be operated from the outside to lock the bolt. This key-trip will not, however, aid any one to replace the bolt-stop in its disengaged position in the slot of the bolt.

The combination on which the lock is set is easily changed. It is only necessary to loosen the knob-sections of the shaft sufficiently to allow the cap-sections of the disk-stems to be separated from the sleeve-sections. Then the latter sections can be set in engagement again with their respective caps, according to the combination desired.

In order to prevent the disks *a a′ a″* from slipping when being operated, each disk is provided with a small toothed or serrated collar or bearing, *v″*, which is engaged by a small friction-spring, *z″*, attached to a fixed part of the case. Each spring *z″* is made with a small projection serving to engage the serrations of the bearing *v″*, and thereby acting to hold the disk in position while the other disks are being moved.

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

1. The combination-lock consisting of a slotted bolt, follower and follower-shaft, an elongated bolt-stop pivoted in the slot of the bolt, radially-slotted disks having concentric sleeve-stems on the follower-shaft, and lettered or figured and graduated stem-caps engaging the respective stems by means of circular series of teeth, substantially as specified.

2. The combination, with the radially-slotted disks having concentric sleeve-stems and the follower-shaft on which they are seated, of the slotted bolt, the bolt-stop pivoted in the slot of the bolt, the follower, graduated stem-caps, and the transverse key trip or slide, substantially as specified.

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

JAMES W. SAXON.

Witnesses:
ALONZO E. DODSON,
BENONI J. APPERSON.