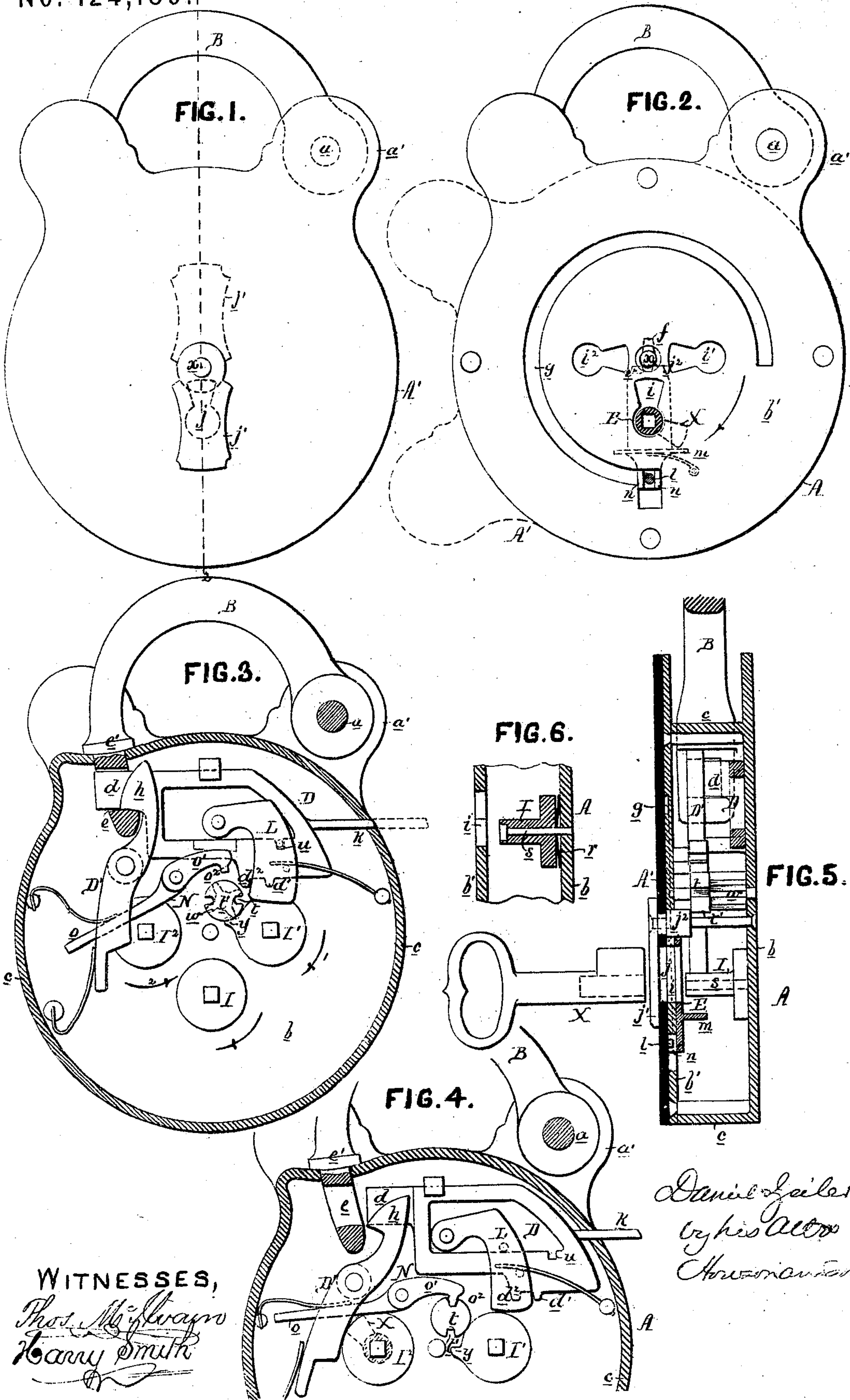


D. ZEILER.

Improvement in Pad Locks.

No. 124,189.

Patented Feb. 27, 1872.



WITNESSES,
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by his Attor
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UNITED STATES PATENT OFFICE.

DANIEL ZEILER, OF SUMNEYTOWN, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND FRANK L. FLUCK, OF SAME PLACE.

IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. 124,189, dated February 27, 1872.

SPECIFICATION.

I, DANIEL ZEILER, of Sumneytown, county of Montgomery, State of Pennsylvania, have invented an Improved Padlock, of which the following is a specification:

Nature and Object of the Invention.

My invention consists of a padlock, too fully described hereafter to need preliminary explanation, which can be readily and securely locked, but can only be unlocked by means of the proper key manipulated in the peculiar manner hereafter explained.

Description of the Accompanying Drawing.

Figure 1 is an exterior view of my improved padlock; Fig. 2, the same with the face-plate removed; Figs. 3 and 4, sectional views showing the parts in different positions; Fig. 5, a sectional view on the line 1 2, Fig. 1; and Fig. 6, a detached sectional view.

General Description.

A is the lock-case, *b* being the back, *c* the side or rim, and *b'* the cap-plate, in which are formed three key-holes, *i*, *i'*, and *i''*. To a pin, *a*, passing through projections *a'* *a'*, is hung a curved arm, B, in the outer end of which is an opening, *e*, and on the arm near the said opening a shoulder, *e'*. A face-plate, A', corresponding in shape to the padlock, is pivoted at its center, *x*, to the cap-plate *b'*. A key-hole, *j*, formed in the face-plate A', is arranged, on turning the latter, to correspond to any one of the key-holes formed in the cap-plate *b'*. Projecting from the under side of the face-plate A' is a pin, *l*, arranged to slide in a groove, *g*, formed in the cap-plate *b'*, on a circle of which the point *x* is the center. The key-hole *j* is provided with a guard, *j'*, on the spindle *j''* of which is a projection, *f*. Adjacent to the key-holes *i* and *j*, on the inner side of the cap-plate *b'* and adapted to guides on the latter, is a sliding-plate, E, in which is an opening corresponding in shape to the said key-holes, and from which, beneath the said opening, extends a projection, *m*. In the upper end of the sliding-plate E is formed a notch, *v*, adapted for the reception of the projection *f* on the guard-spindle *j''*, or the said projection may bear on the flat upper end

of the plate, and on the lower end of the said plate are projections *n n*, which, when the plate is in the position seen in Fig. 2, embrace and retain the pin *l* of the face-plate A', and prevent the latter from turning. Within the case, opposite the key-holes *i* *i'* *i''*, are posts I, I', and I'', formed with disks at their inner ends, the disk of the post I' having on its edge a projection, *y*, for a purpose described hereafter. The posts I turn loosely on spindles *s s s*, but are caused to bear tightly against the head of the latter by means of flat springs *r* interposed between their disks and the back of the case, (see Fig. 6,) so that the said posts will remain in any position to which they are turned. Within the case is a horizontal sliding-bolt, D, having a projection, *d*, at one end adapted to the opening *e* in the curved bar B, and at its opposite end a pin, *k*, projecting through the rim *c* of the case, and having also on its lower edge two lugs, *d'* and *d''*. Adjacent to the bolt D is hung a tumbler, L, a pin on the inner face of which is adapted to a recess, *u*, on the bolt. A supplementary spring-bolt, D', is hung to a pin within the case, its projection *h* being also adapted to the opening in the bar B. To a pin within the case is hung a lever, N, having two arms, *o* and *o'*, the former overlapping the disk of the post I' and being acted upon by a spring, and the latter bearing against a projection of the bolt D and having a lug, O', which, under the circumstances described hereafter, enters one of the two recesses, *t*, in the disk *t'*, secured to a pinion, *w*. When the parts are in the position seen in Figs. 1, 3, and 5, and it is desired to release the arm B, the guard *j'* is turned so as to expose the key-holes *j* and *i* and depress the sliding-plate E; or a key, X, may be introduced into the key-holes and turned on the post I, as a center, in the direction of the arrow, Fig. 2, until it depresses the sliding-plate E by striking the projection *m* on the same. When the key is thus used the guard *j'*, which was at first merely turned to one side of the key-hole, is still further turned to the position seen in dotted lines, Fig. 1, in order that the projection *f* on its spindle may enter the recess in or bear upon the flat top of the sliding plate E and retain the latter in its depressed position. The key is then turned to complete its revolution and

withdrawn. The pin *l* on the face-plate *A'* is released from between the projections *n n* when the sliding plate is thus depressed; consequently the face-plate is free to be turned from the position seen in Fig. 1 to that shown in dotted lines, Fig. 2, in order to bring its key-hole *j* opposite the key-hole *i*¹ in the cap-plate, the pin *l*, while the plate is being turned, sliding in the circular groove *g*. The key *X* is next inserted into the key-holes *j* and *i*¹ and turned in the direction of the arrow 1, Fig. 3, carrying around with it the disk of the post *I*², the said disk as it revolves striking with its projection *y* one of the teeth of the pinion *w* and turning the latter part way round. The key at the same time strikes the tumbler *L* and lifts its pin out of the recess *u* in time to allow the sliding bolt to be partially withdrawn from the opening *e*, when the projection *y* strikes the lug *d*¹ on the same. The key and the disk are again turned and the pinion *w* still further revolved until one of the recesses, *t*, in the disk *t'* is brought opposite the lug *o*² on the spring lever *N*, the tumbler *L* again raised, and the sliding bolt entirely withdrawn from the opening *e* in arm *B* by the projection *y* striking the lug *d*². The key is then withdrawn and the face-plate turned back so as to bring its key-hole *j* opposite the key hole *i*², the key being then again inserted and turned in the direction of the arrow 2, Fig. 3, raising the arm *o* and depressing the arm *o*¹ of the lever *N*. The lug *o*², as the arm *o* is depressed, enters the recess *t'* and allows the arm *o* to be sufficiently raised to permit the key to continue its revolution and strike the lower end of the spring-bolt *D'*, and so withdraw its projection *h* from the opening *e* of the arm *B*, when the latter can be raised clear of the lock *A*. The different parts of the lock are now in the position seen in Fig. 4 to restore them to the position seen in Fig. 3, and so secure the arm *B*, the sliding bolt *D* is pushed in by

means of its pin *k* and retained by its tumbler *L*, and the key *X* withdrawn to allow the projection on the bolt *D'* to spring into the opening *e*. After this the face-plate *A'* and guard *j*¹ are turned to their original positions, Fig. 1, when the parts will be securely locked and all possibility of opening the lock prevented, except by one provided with the proper key and acquainted with the method of operating the same in the several key-holes successively.

Claims.

1. The combination, substantially as described, of the projection *f* on the guard-spindle with the sliding-plate *E*.
2. The face-plate *A* with its pin *l* arranged on the case *A* and operating in combination with the circular groove *g*, as set forth.
3. The sliding-plate *E*, adapted to retain the pin *l*, and arranged to be operated by a key so as to disengage the said pin, substantially as specified.
4. The casing, having a series of key-holes for the passage of a detachable key, in combination with the posts *I*, their disks turning loosely on spindles *s* and the springs *j*, as described.
5. The combination, substantially as described, of the disk *I*¹ and its projection, the pinion *w*, recessed disk *t'*, and spring lever *N*.
6. The combination of the bolt *D*, tumbler *L*, spring-bolt *D'*, spring lever *N*, and the disk *I*¹ with its projection, and disk *t'* with its recess, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL ZEILER.

Witnesses:

D. H. RUDY,
J. W. H. GOTTSALK.