

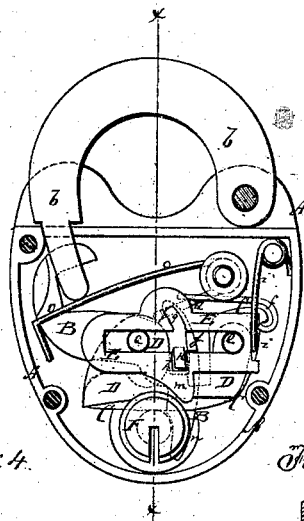
*Mertel & Meyer,*

*Pad-Lock.*

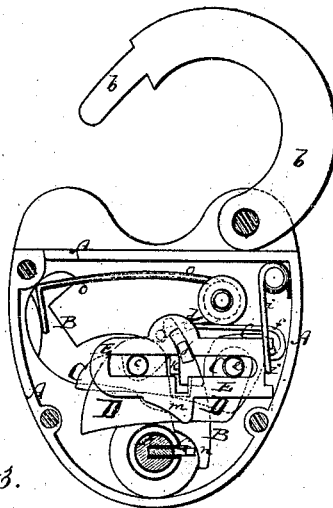
*No. 113,322.*

*Patented Apr. 4. 1871.*

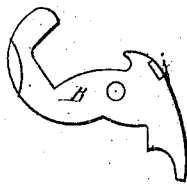
*Fig. 1.*



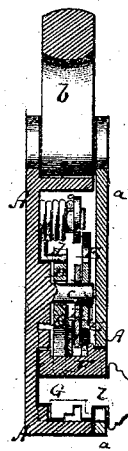
*Fig. 2.*



*Fig. 4.*



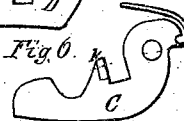
*Fig. 3.*



*Fig. 5.*



*Fig. 6.*



*WITNESSES.*

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# United States Patent Office.

GEORGE MERKEL AND CHARLES H. MEYER, OF NEW YORK, N. Y.

Letters Patent No. 113,322, dated April 4, 1871.

## IMPROVEMENT IN PADLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that we, GEORGE MERKEL and CHARLES H. MEYER, of the city, county, and State of New York, have invented a new and improved Padlock; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figures 1 and 2 represent face views, partly in section, of our improved lock.

Figure 3 is a transverse section of the same taken on the line *x x*, fig. 1.

Figures 4, 5, and 6 are detail views of bolt, plate, and tumbler.

Similar letters of reference indicate corresponding parts.

This invention relates to a new padlock, and has for its object to make the picking of the same more difficult than an ordinary padlock, and also to facilitate the operation of the same by the right key.

Our invention consists in a new way of constructing and combining the swinging bolt, tumbler, and sliding plate in a padlock.

We will now describe our invention, in connection with all that is necessary to a full understanding thereof, and then point it out clearly in the claim.

A in the drawing represents the case or shell of our improved padlock.

*a* is the face-plate of the same.

*b* is the hasp of the lock, pivoted in suitable manner, and locked by a bolt, B.

The bolt B is hook-shaped, and is pivoted to the back of the lock by a pin, *c*.

A spring, *d*, acts on the bolt to swing it through the eye or notch of the hasp for locking the same.

Above the bolt is arranged, within the lock, a tumbler, C, pivoted to the case by a pin, *e*, on which it can swing, and held toward the key by a spring, *f*. One or more tumblers may be employed if desired.

Above the face of the outermost tumbler is placed an immovable plate, D, which is fitted upon both pins *c* and *e* so that it cannot be turned nor moved lengthwise.

E is a slotted plate, placed upon the face of D, so that the pins *c* and *e* fit through its long slot.

It has branches *g* and *h* in said slot, as shown in figs. 1 and 2.

A spring, *i*, acts against one end of the plate E, and tends to hold the same, so that the pin *e* is at the extreme end of the long slot, as in fig. 1.

From the bolt B projects a pin, *j*, into the slotted plate E.

A pin, *k*, projects also from the tumbler, or each tumbler, into said plate E.

F is a post, swiveled in the lock-case between the back and face-plates of the same, and extending, with its upper end, through a hole in the face-plate, as in fig. 3.

The post F has a groove extending from end to end, which, when brought in line with a slot in the face-plate, will constitute an opening large enough for the reception of a flat key, G.

After the key has been properly inserted in the post its narrow portion *l* will be in line with the face-plate, clearing the slot of the same and allowing the key to be turned with the post F.

When locked the bolt enters the hasp, as in fig. 1, and its pin *j* is in the straight slot of the plate E, while the pin *k* of the tumbler is in the lower curved slot *h* of said plate E, all as in fig. 1.

The first action of the key will be to elevate the tumblers so as to raise the pin or pins *k* out of the lower slots, which prevent the sliding of the plate E. The key therefore swings the tumblers on the pivot *e* till their pins *k* are in line with the long slot of E. It next strikes an arm, *m*, of the plate E, and moves the latter longitudinally until the pin *j* of the bolt is in line with the upper branch-slot *g*. The bolt can then be swung by the key, which strikes an arm, *n*, of the same, carrying the pin *j* into the slot *g*, and withdrawing the bolt from the hasp so that the latter can be swung open, as in fig. 2. In this position the parts are held by a spring, *o*, which holds the bolt open. When the hasp is forced in to push the spring *o* clear of the bolt, the parts will all spring back to the position shown in fig. 1, being thus automatically locked.

By means of the swinging bolt, swinging tumbler, and sliding plate, a variety of movements is produced, which makes the opening of the lock, otherwise than by the right key, very difficult, while with the proper key it is an easy matter.

The grooved swivel-post F is a further guarantee for the safety of the lock, as it requires the application of a nearly correct key before it can be turned with any prospect of reaching the tumbler, bolt, and slide.

Having thus described our invention,

We claim as new and desire to secure by Letters Patent—

The combination, within one lock, of the swinging bolt B, tumbler C, and sliding plate E, the bolt and tumbler having projecting pins that pass through slots in the plate E, as set forth.

G. MERKEL.

C. H. MEYER.

Witnesses:

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CHARLES HENKEL.