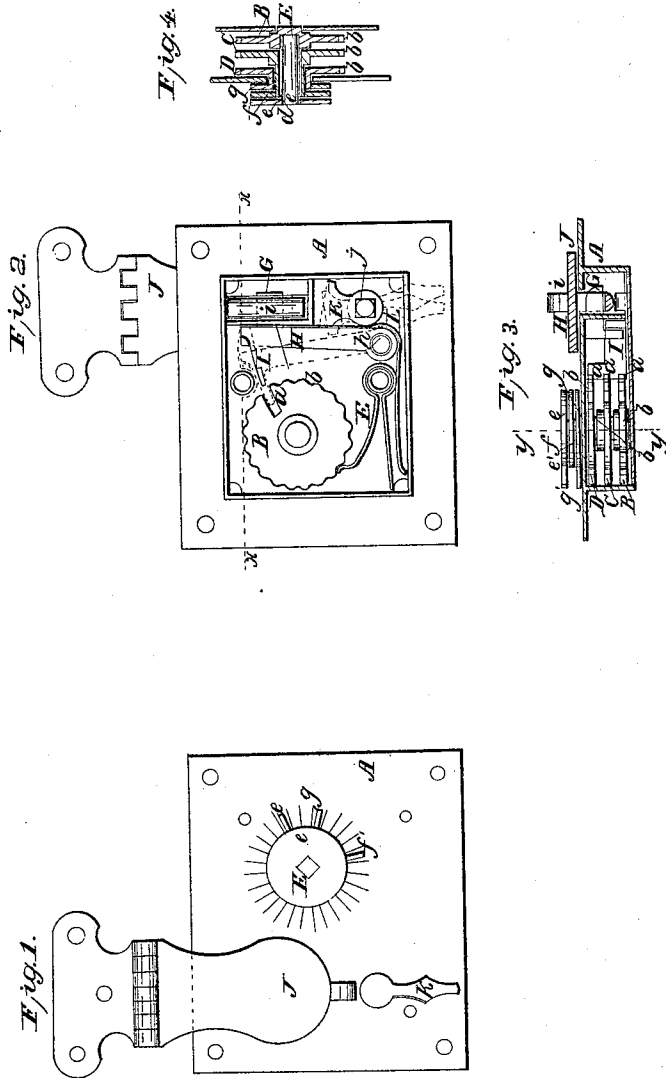


*H. W. Kahlke,
Permutation Padlock.*

N^o 42,778.

Patented May 17, 1864.



*Witnesses:
Jas P Hall
Geo. W Reed*

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UNITED STATES PATENT OFFICE.

HENRY W. KAHLKE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. 42,778, dated May 17, 1864.

To all whom it may concern:

Be it known that I, HENRY W. KAHLKE, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Lock; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an external view of my invention; Fig. 2, an internal view of the same, looking from the rear side; Fig. 3, a horizontal section of the same, taken in the line *x x*, Fig. 2; Fig. 4, a vertical section of a portion of the same, taken in the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved lock of that class which is unlocked without the application of a key, and is more particularly designed for chests, desks, &c., although it may be applied to other articles and be arranged as a padlock.

The object of the invention is to obtain a lock of the kind specified, of simple construction, which may be economically manufactured, and be capable of being opened in the dark equally as well as in the light.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the case of the lock, which may be of rectangular or other proper form, and having within it a series of rotating tumblers, B C D, three (more or less) being used. These tumblers are each provided with a radial slot, *a*, and they all have serrated or notched edges *b*, as shown clearly in Fig. 2. These tumblers are all placed on one and the same shaft, E, as shown in Fig. 4. The innermost tumbler, B, is attached directly to the shaft E and turns with the latter. The central one, C, is upon a sleeve, *c*, which is fitted loosely on the shaft E, and the front or foremost one, D, is on a sleeve, *d*, which is fitted loosely on the sleeve *c*. The shaft E projects through the front plate of the lock-case A, and has a circular disk, *e*, upon it, which is provided with a projection, *e'*. The sleeve *c* of the tumbler C also projects through the front plate of the case, and has a circular disk, *f*, upon it provided with a projection, *f'*, and the sleeve *d* of the tumbler D projects through

the front plate, and has a disk, *g*, upon it provided with a projection, *g'*. By this arrangement it will be seen that by turning the disks *e f g*, the thumb-nail being pressed against the projections *e' f' g'* for the purpose, the tumblers B C D may be turned and each separately from the others.

Each tumbler has a spring, F, bearing against it, and these springs perform a double function, one being to prevent the tumblers from casually turning and the other to serve as a "click" to denote the movement of the tumblers as they are turned.

G represents the bolt, which is at the upper part of a radius-bar, H, which works on a pin, *h*. This bar H is provided with an arm, I, which, when the lock is unlocked, passes into the slots *a* of the tumblers. The bolt G, when the lock is in a locked state, is in the eye *i* of the hasp J, and holds the eye in the lock.

From the above description it will be seen that in order to unlock the lock the bar H must be moved in the direction of arrow 1, in order to shove the bolt G out of the eye *i* of the hasp. In order to admit of this, the slots *a* of the tumblers B C D must all be moved in line with each other in order that they may receive the arm I and allow the bar H to be moved. The bar H is moved by means of a lever, K, which bears against it and is upon a shaft, *j*, which passes through the front plate of the lock case, and has an arm or lever, *k*, on its outer end. The bar H has a spring, L, connected to it, which has a tendency to keep the bolt G in the eye *i* of the hasp J.

The proper movement of the tumblers B C D is determined by the click of the springs F, as the latter make a noise as they enter by their elasticity each notch in the edges of the tumblers, and when the lock is locked the operator turns the tumblers and notes the number of clicks he turns each disk *e f g* either to the right or left, and in order to adjust the tumblers so that the slots *a* may be brought in line, the disks are turned back the same number of clicks that they were turned after the lock was locked; hence it will be seen that the lock may be unlocked equally as well in the dark as in the light, and the position of the tumblers may be varied each time the lock is locked.

The arrangement is extremely simple and

efficient. The lock may be economically constructed and difficult to unlock illegitimately.

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

The tumblers B C D, three, more or less, provided each with a serrated or notched edge and a radial slot, *a*, and placed on the shaft E, in connection with the springs or clicks F,

the radius-bar H, provided with the bolt G and arm I, and the lever K, placed on the shaft *j*, having the arm or lever *k* at its front end, all arranged substantially as and for the purpose specified.

HENRY W. KAHLKE.

Witnesses:

J. W. COOMBS,
GEO. W. REED.