G. B. COWLES.
Lock for Drawers.

No. 197,965. Patented Dec. 11, 1877

Fig. 1.

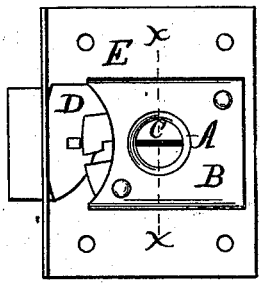


Fig. 4.

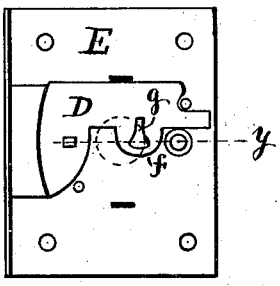


Fig. 3.

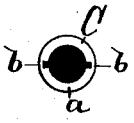


Fig. 2.

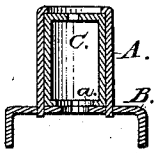
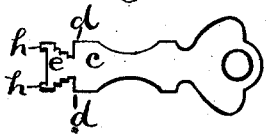


Fig. 5.



Witnesses.
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L. L. Burr

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atty.

UNITED STATES PATENT OFFICE.

GEORGE B. COWLES, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO N. G. MILLER, OF SAME PLACE.

IMPROVEMENT IN LOCKS FOR DRAWERS.

Specification forming part of Letters Patent No. **197,965**, dated December 11, 1877; application filed August 16, 1877.

To all whom it may concern:

Be it known that I, GEORGE B. COWLES, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Locks for Drawers, &c., of which the following is a specification:

My invention consists in the peculiar construction of the inner key-cylinder, and in the peculiar construction of the lock-bolt, as hereinafter described.

In the accompanying drawing, Figure 1 is a front elevation of a lock which embodies my invention. Fig. 2 is a sectional view of parts thereof on line *x x* of Fig. 1. Fig. 3 is an end view of the inner end of the rotating cylinder. Fig. 4 is a view of the bolt and one plate of the lock; and Fig. 5 is a side view of the key.

The key-cylinder A, plate B, and rotating cylinder C are, with the exception of the flange at the inner end of the rotating cylinder, the invention of Elihu L. Perkins, of Bridgeport, Connecticut, and described in an application of even date herewith. Instead of cutting the inner end of the rotating cylinder square off, I turn the metal inward a short distance, thereby forming an inward-projecting flange, *a*, which hooks over the inner walls of said cylinder at said end. On two opposite sides of the cylinder I form slots *b b*, Fig. 3, in this flange, of a width corresponding to the thickness of the key, Fig. 5, and the ends of said slots are flush with the inside of the cylinder C. The body *c* of the key is designed to be of a width corresponding to the inside diameter of the rotating cylinder, and that will readily enter the same. The solid outer end of said cylinder is also slotted to receive and govern the body of the key at that end. When the key is inserted through said outer end, the corners *d d* of the key-body *c* enter the slots *b b* at the flanged inner end of the rotating cylinder, and fill the same, so that the cylinder must rotate with the key. The edges of the key-body, resting against the inner side walls of the hollow rotating cylinder C at both ends, prevent the key from working edgewise out of its axial line, and the slots at both ends of said cylinder prevent the key from working sidewise outside of its axial line, whereby the key is centered at both ends of the cylinder, so that there is no necessity of any axial bearing or guide for the key within the plates of the lock. I therefore construct the plate E the same as in ordinary locks, except that it has no bearing, either male or female, for the key to turn on in a centering capacity. The bolt D is fitted to slide longitudinally on said plate, either with or without tumblers, in any ordinary manner. At one side of the bolt there is a wing or arm, *f*, Fig. 4, which projects, when the lock is in the position represented in the drawing, below the horizontal plane which passes through the axis of the key-cylinder, said plane being indicated by the broken line *y* in Fig. 4. The wing *f* is provided with an inclosed slot, *g*, extending downward to near its lower edge, said slot being enlarged at the bottom and narrow at the top, as shown. If the lock is a tumbler-lock, the two edges of the key-bit *e* are fitted to properly engage the edge of the tumbler or tumblers in a well-known manner. The end of the bit has two small prongs, *h h*, one at each corner, as shown in Fig. 5, and the circle which they describe is represented by the broken circle in Fig. 4. The end of the key between the prongs *h h* has its axial portion cut away, to allow the wing *f* to come between said prongs.

When the key is first inserted in the lock the prongs *h h* are on the line *y*, and the right-hand one, if the bolt is withdrawn, as shown in Fig. 4, enters the enlarged lower portion of the slot *g*. The key is then rotated, carrying the prong *h* in the slot *g* upward, when it soon strikes the left-hand side wall of the slot *g*, and throws the bolt outward into the position shown in Fig. 1. The prong *h* engages with the metal at the lower end of the slot *g*, and stops the key from further rotation, when its flat sides are in a horizontal position, ready to be withdrawn. The reverse movement of the key operates in like manner to throw the bolt inward. The metal in the wing *f*, at the lower end of the slot, also prevents the key from being rotated only in the proper direction to operate the bolt. Only one of the prongs *h* is operative at one time; but two are employed, so that the key will operate the bolt without

taking special pains to insert the key in any particular position.

I claim as my invention—

1. In a flat-key lock, the rotating hollow cylinder C, slotted at its outer end, and having the flange *a* and slots *b b* at its inner end, substantially as described, and for the purpose specified.

2. In a flat-key lock, the bolt D, provided with wing *f* and slot *g*, the same being adapted for operation in connection with the prongs on the end of the key, substantially as described, and for the purpose specified.

GEORGE B. COWLES.

Witnesses:
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