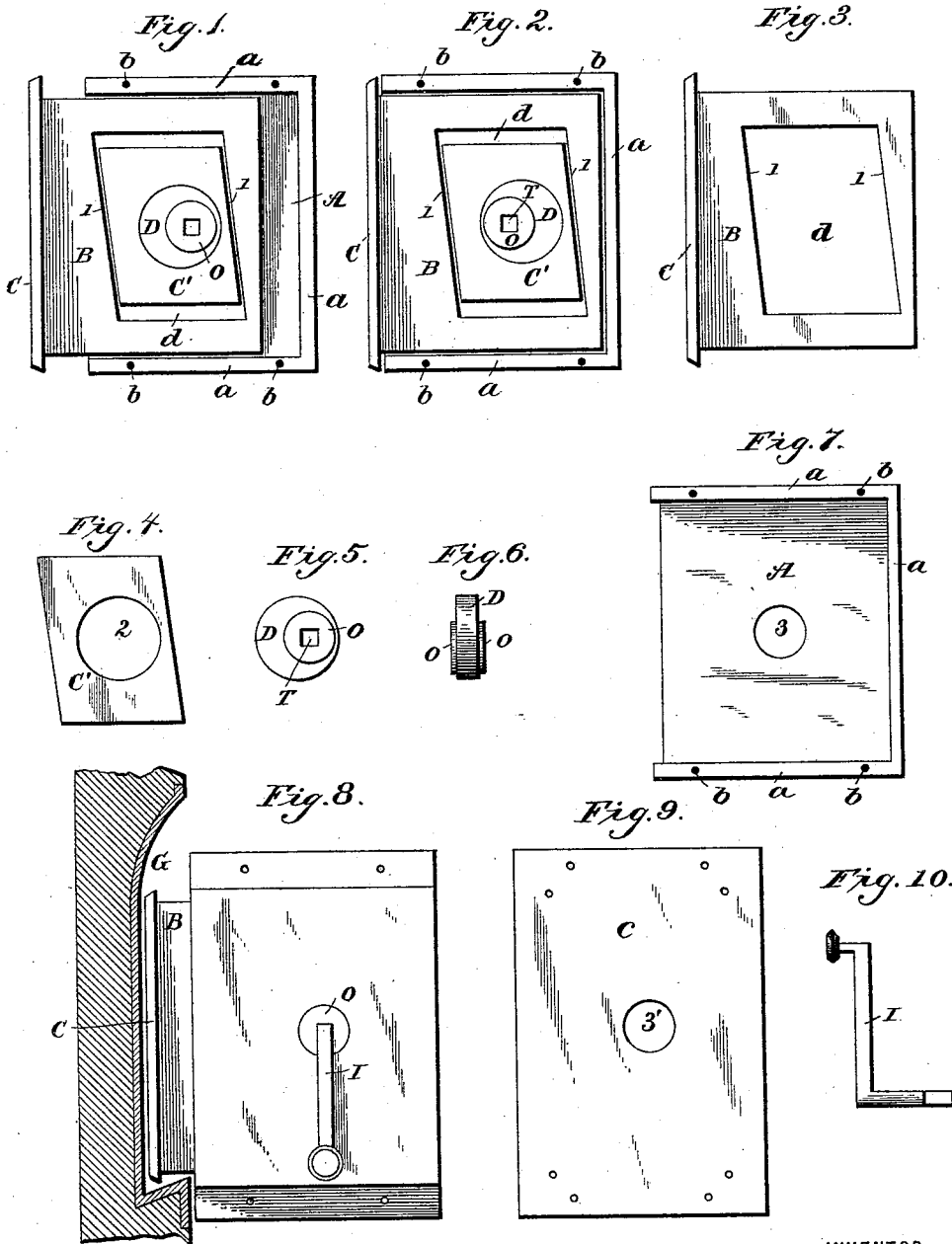


(No Model.)

W. C. SMITH.  
LOCK.

No. 454,077.

Patented June 16, 1891.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM C. SMITH, OF WARSAW, MISSOURI.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 454,077, dated June 16, 1891.

Application filed December 24, 1889. Serial No. 334,899. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM C. SMITH, a citizen of the United States, residing at Warsaw, in the county of Benton and State of Missouri, have invented certain new and useful Improvements in Locks, of which I do hereby declare the following to be a full, clear, and exact specification.

This invention relates to certain new and useful improvements in locks; and it consists substantially in such features of arrangement, construction, and combinations of parts as will hereinafter be more particularly described and claimed.

The object of the invention is to provide a simple, cheap, and effective device or lock, such as are used on drawers, wardrobes, book-cases, &c.; but as herein represented the same is shown in connection with the sash and frame of a window for the purpose of locking the former into place.

A further object of the invention is to provide an improved locking device which shall be positive in action, and one which can readily be operated with ease and certainty by the operator, all as will more fully hereinafter appear, when taken in connection with the accompanying drawings, in which—

Figure 1 is a view taken from one side of my improved lock with cover-plate removed, the same showing the bolt moved to its outward limit and representing the position of the operative parts when the bolt is in this position. Fig. 2 is a side view of the lock with the top or covering plate removed, the same indicating the bolt as being withdrawn inwardly, and also indicating position of operative parts after said bolt has been so operated. Fig. 3 is a side view of the sliding bolt, the same more clearly indicating the construction thereof. Fig. 4 is a side view of the movable cam-plate which slides or moves in the slot or opening formed in the sliding bolt. Fig. 5 is a side view of the cam which actuates the sliding or movable plate which works in the slot or opening of the sliding bolt. Fig. 6 is an edge view of said cam, more clearly indicating its trunnions, which rest in openings formed in the sides of the lock-casing. Fig. 7 is a view in detail of the casing in which the several operative parts of the lock are contained or held. Fig. 8 is a side

view, with the sash in section, of my improved lock, representing its application to window-sashes for the purpose of locking the sash in position. Figs. 9 and 10 are views in detail of certain parts to be referred to hereinafter.

In carrying my invention into effect I provide a suitable casing, consisting of a square or rectangular plate A, on three edges of which are turned up or formed suitable flanges *a a a*, which serve as guides in which the sliding bolt B moves or works, said flanges also being provided with suitable screw-openings *b*, to receive the screws which secure the top plate or cover C of the lock in place.

The sliding bolt B, which works in the casing, has its outer end formed with a foot *c*, designed to enter the recess formed to receive the bolt into interlocking connection—for instance, as shown at G, Fig. 8—said foot being preferably of a thickness equal to the thickness of the lock-casing, so that when used as a simple pressure-lock a greater frictional surface will be had to come against the surface against which it contacts. The said sliding bolt B is formed with an opening *d*, the sides *l l* of which are beveled or inclined, as shown, and substantially parallel to each other, thus giving a diagonal pitch to said opening, due to which the throw of the bolt is effected through the medium of the operating-cam hereinafter referred to.

C represents a movable plate, which is of the same shape or form as the opening *d* of the bolt, excepting that the said plate is of somewhat less height than said opening, so as to permit of the same describing the proper movement when actuated by the operating-cam. Said plate is provided with an opening 2, formed slightly nearest its right-hand edge, so as to obtain the proper throw thereof with corresponding effect on the bolt.

D represents the operating cam or eccentric, the same fitting snugly and perfectly within the opening 2, and having bearings or trunnions O O, which are received into openings 3 and 3', (see Figs. 7 and 8,) formed in the two sides of the casing for their reception, as shown. An opening T is formed in one of the trunnions of the operating-case for the reception of the crank-spindle of the crank I'.

In referring to the construction herein fur-

nished I desire to state that when using the device as a simple wardrobe or desk lock the foot on the outer end of the sliding bolt may be dispensed with, since the bolt will operate just as well without it. In instances where the device is used as a lock for window-sashes it is the intention to form recesses or sockets G at extreme points of the sash-frame, into which the bolt is to be received for holding the sash in permanent or positive position; but in order to enable the sash to be held at points intermediate of such sockets by simple pressure against the frame I provide the end of the bolt with the shoe, so as to gain more frictional contact thereof for the purpose named.

The operation is as follows: When it is desired to throw the bolt outward to effect a locking of the sash, door, or the like, the crank I (such as shown in Figs. 8 and 10) is turned toward the sash firmly until the foot of the bolt is shot into the socket or "keeper," which is effected by the broader side of the cam or eccentric moving against the edge of the movable plate C', thereby bringing the parts to the positions indicated at Fig. 1. To effect an unlocking it is simply necessary to bring the crank to a vertical position and operate in a reverse direction.

It will be understood that the form of some

of the parts described could be slightly changed—as, for instance, to adapt the cam to receive a knob or key, so as to be operated thereby instead of the crank herein shown.

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

1. In a lock of the character described, the locking-bolt B, having the shoe *c* and formed with the opening *d*, the sides *l l* of which are beveled or inclined and substantially parallel to each other, in combination with plate C', fitting in said opening and corresponding thereto in form, and a cam or eccentric for operating to throw and withdraw said bolt through the action of said plate, substantially as described.

2. In a lock of the character described, the combination, with a suitable casing, the locking-bolt working therein and being formed with the opening *d*, of the plate C', fitting within said opening *d*, the same itself having an opening 2, and an operating-cam fitting in said opening 2 and formed on each side with trunnions or bearings which are received into the sides of the casing, substantially as set forth.

WILLIAM C. SMITH.

Witnesses:

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N. B. PETTS.