F. E. SPARKS.

SASH LOCK.

APPLICATION FILED MAY 8, 1914.

1,126,113. Patented Jan. 26, 1915.

Fig. 1.

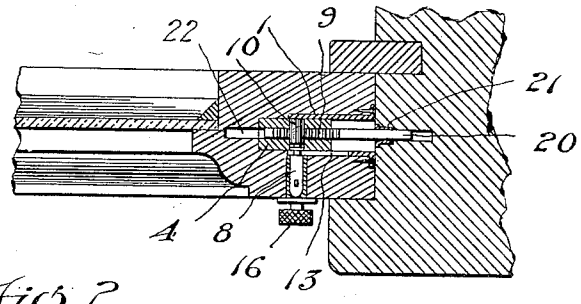


Fig. 2.

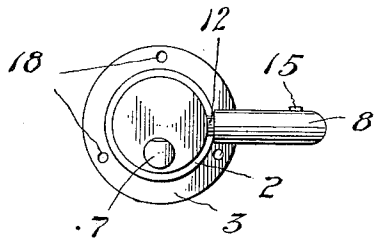


Fig. 3.

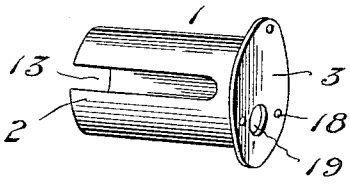
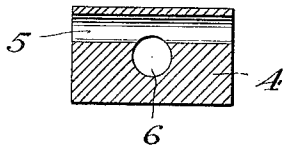


Fig. 6.

Fig. 4.



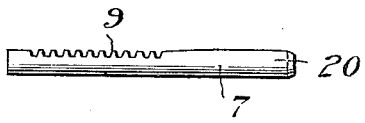
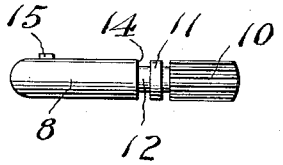
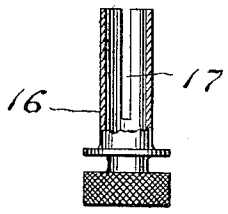


Fig. 5.

Fig. 7.





Witnesses

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SASH-LOCK.

1,126,113. Specification of Letters Patent. Patented Jan. 26, 1915.

Application filed May 8, 1914. Serial No. 837,213.

To all whom it may concern:

Be it known that I, FRED E. SPARKS, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented certain new and useful Improvements in Sash-Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is a sash lock designed to be concealed within the window sash and to be operated by means of a removable key, to lock the sash against movement.

One aim of the invention is to produce a simple, efficient and reliable fastener capable of locking a sash in any desired position, and which can be readily applied and adjusted to sashes of various widths.

Another purpose of the invention is to simplify the parts and cheapen the cost of manufacture, the few parts being readily separated, but when applied to a sash, door or the like, the parts are locked in their adjusted positions against separation.

The invention embodies a casing, within which is adjustably mounted a plunger slide, and within the barrel is mounted a frame-engaging plunger having a rack and adapted to be reciprocated by a pinion stem actuated by a removable key, the pinion stem being locked to the plunger slide and into engagement with the plunger by a reduced portion thereof engaging the walls of an elongated slot in the casing.

The invention comprises certain other structural advantages which will be hereinafter described and pointed out in the appended claims.

One embodiment of the invention is illustrated in the accompanying drawings, in which:

Figure 1 is a sectional view through the device shown applied to a window sash. Fig. 2 is an end view of the device with the actuating key removed. Fig. 3 is a detail view of the casing. Fig. 4 is a longitudinal sectional view of the plunger slide, removed from the casing. Fig. 5 is a detail view, partly in section, of the actuating key. Fig. 6 is a detail view of the plunger. Fig. 7 is a detail view of the pinion stem.

In the embodiment of the invention illustrated in the drawings, the device comprises a casing 1, which may be of any preferred form, but shown as having a cylindrical body 2 and a retaining plate 3 at one end thereof. The body 2 may be open at the end opposite the plate 3 to receive a plunger slide 4 which may be slidably mounted in the casing 1.

The plunger slide 4 is shown provided with a longitudinal opening 5 and a transverse opening 6 registering with the longitudinal opening. This slide member 4 is preferably of less length than the casing, to permit of its being completely housed within the casing 1 if desired, or extended beyond the opened end thereof where a sash is of great width and it is desired to position the actuating devices at greater distances from the window frame.

A plunger 7 is adapted to be reciprocated in the opening 5 by a pinion stem 8, which is mounted within the transverse opening 6.

The plunger 7 is provided with a rack 9 formed thereon and intermediate the ends thereof, the rack terminating before reaching the ends of the plunger and thereby preventing the plunger from being withdrawn from the device when the parts are assembled with the pinion end 10 of stem 8 meshing with the rack 9.

The pinion stem 8, is provided with a suitable pinion 10 formed at or near one end thereof and adjacent the pinion may be formed a stop collar 11 to provide a reduced neck 12 between the collar 11 and the body of the stem 8. This neck 12 is designed to register with a slot 13 formed in the casing 1 to permit the plunger slide 4 and pinion stem 8 to have sliding adjustment in the casing 1, the edge of the casing 1, forming the slot 13 thereof, registering with the neck 12, while the collar 11 and shoulder 14 serve as abutments to the plunger slide 4 during its sliding adjustment with relation to the casing 1. It will be understood that the plunger slide, during the adjustment, carries with it the plunger 7 and stem 8. The cooperation of the slot walls 13 with the neck 12 permits of rotative movement of the pinion stem 8, while the collar 11 and shoulder 14 of the stem 8 prevents longitudinal displacement of the stem 8 and pinion 10 with relation to the casing 1 and rack-plunger 7, thereby locking the parts in their adjusted relation when the casing is secured in position. The plunger slide 4 is, therefore, separable from the casing 1, when the casing is removable from a fixture. The piston stem 8 is provided also with suitable means, such as a rib 15, to be engaged by an actuating

key, such as 16, the rib 15 engaging suitable means on the key, such as the slot 17, to cause the piston stem 8 to move in unison with the key, and at the same time permit the key 16 to be entirely removed from the fixed portion of the sash lock.

It will be understood that the end 3 of the casing 1 may be provided with any suitable means to secure the device to a sash or door, such as the screw holes 18 and that this end 3 may be provided with an aperture, such as 19, for the passage of the locking end 20 of the plunger 7.

The frame of the window or door is provided with suitable recesses for the reception of the locking end 20 of the plunger 7, and these recesses may be provided with suitable ferrules 21 to receive the ends 20 and prevent wear on the frame material.

The device is shown comprising but five parts, the casing 1, the plunger slide 4, the plunger rack 7, the pinion stem 8, and the actuating key 16, all of which may be readily separated from each other or assembled, but when the device is affixed to a structure the parts, except the key 16, are so interlocked that they cannot all be separated until the whole device is removed from the structure.

In applying the lock to a door or window, one or more recesses may be made for the retaining or keeper ferrules 21. A hole is bored to receive the part 2 of the casing and another hole is bored, at substantially right angles to the casing hole, to receive the pinion stem and its key 16, the latter hole being positioned at a convenient point to operate the key. If the frame is deep, and it is necessary to bore the key hole at a comparatively great distance from the end 3 of the casing, then the plunger slide may be moved or adjusted to extend a suitable distance beyond the open end of the casing 1, the slot 13 permitting a wide range of adjustments and at the same time locking the stem 8 against withdrawal.

Assuming the holes to have been bored for the casing 1 and key 6, and, if desired, an extension hole 22 to permit rearward movement of the plunger 7, the device is applied to a window as follows: The plunger 7 is inserted into the longitudinal hole 5 of plunger slide 4, with the rack 9 registering with opening 6; the plunger slide 4 and plunger 7 are now inserted in the end opening for the casing 1; the pinion stem 8 is then inserted in the transverse opening of the sash with its pinion entering the opening 6 of the slide 4 to engage the teeth of the rack 9; the casing 1 is then positioned in the casing opening in the sash with the slot 13 in alinement with the stem 8, the casing walls at slot 13 registering with the neck 12 of stem 8, the shoulder 14 and collar 11 preventing longitudinal movement of the stem 8. The casing may be secured in position by attaching devices passed through the apertures 18. As the rack 9 terminates before reaching either end of the plunger, the plunger 7 is also locked against withdrawal from the device as long as the stem 8 is in operative position. The transverse hole for the stem 8 in the sash may be of sufficient diameter to permit of the insertion of the slide of the key 16, thereby permitting the stem 8 and other fixed parts of the device to be concealed in the sash, when the key 16 is removed from the stem 8.

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

1. A sash fastener comprising a casing, a plunger slide, a rack plunger, a pinion stem to engage said rack plunger and slide, each said parts being readily separable from each other, and means on said pinion stem to engage the casing whereby all of said parts may be locked against removal when the fastener is secured to a fixture.

2. A sash fastener comprising a casing, a plunger slide adjustably mounted therein, a rack plunger carried by the plunger slide, and a pinion stem adapted to reciprocate said rack plunger and to be adjustably locked to the casing and plunger slide.

3. A sash fastener comprising a casing, a plunger slide adjustably mounted therein, a rack plunger, a pinion-stem adapted to engage said rack plunger and to limit the reciprocating movement thereof, and a removable key to rotate said pinion stem.

4. A sash fastener comprising a casing having a slot, a plunger slide movable within said casing, a rack plunger carried by the plunger slide and adapted to extend beyond the casing, a pinion stem to reciprocate said rack plunger, said pinion stem being provided with a reduced neck adapted to register with the slot of the casing, and a shoulder and collar adjacent said neck to limit the longitudinal movement of the pinion stem, and means to rotate said pinion stem.

5. A sash fastener comprising a casing, a plunger slide adjustably mounted therein, a plunger carried by the plunger slide, means to reciprocate said plunger, said plunger reciprocating means being locked in position by the casing when the parts are assembled, and a key to operate said plunger reciprocating means.

In testimony whereof, I affix my signature, in presence of two witnesses.

FRED E. SPARKS.

Witnesses:
J. F. H. MOTHERSHEAD,
J. W. MICHAEL, Jr.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."