No. 823,656. PATENTED JUNE 19, 1906.

D. WILKIE.

SASH LOCK.

APPLICATION FILED MAR. 14, 1905.

3 SHEETS—SHEET 1.

Fig. 1

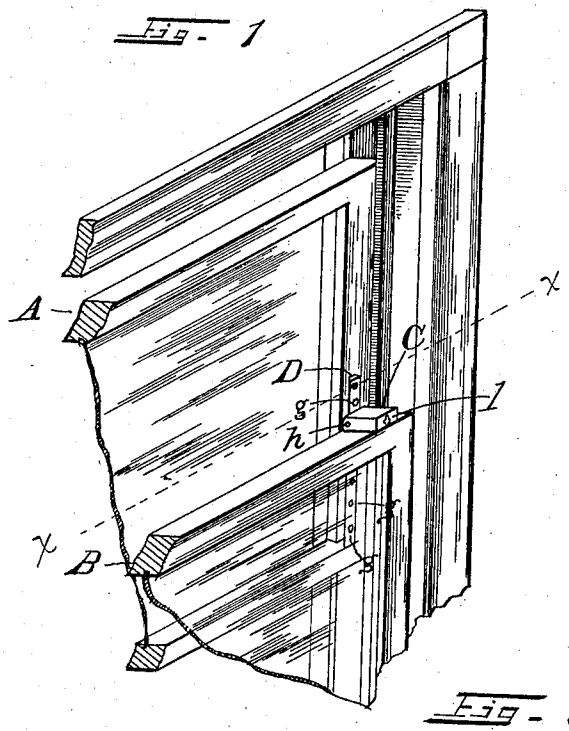


Fig. 2

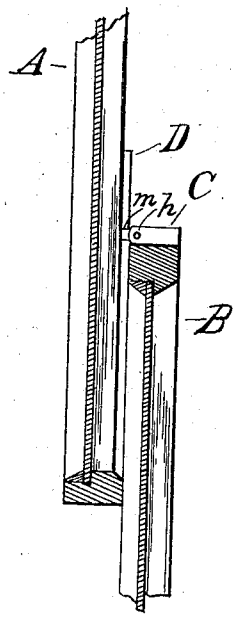


Fig. 3

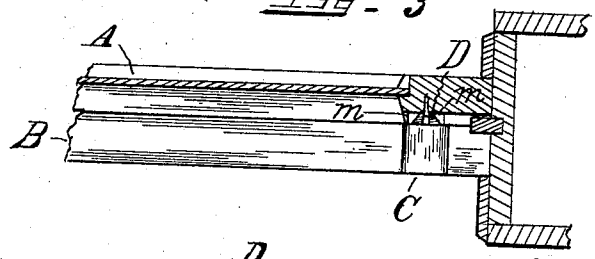


Fig. 4

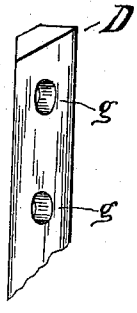
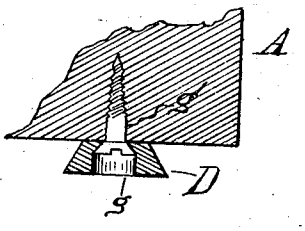


Fig. 5



Witnesses.
C. A. Buck
F. A. Buchner

Inventor.
David Wilkie.
By Victor E. Randall
Atty.

No. 823,656. PATENTED JUNE 19, 1906.

D. WILKIE.

SASH LOCK.

APPLICATION FILED MAR. 14, 1905.

3 SHEETS—SHEET 2.

Fig. 6

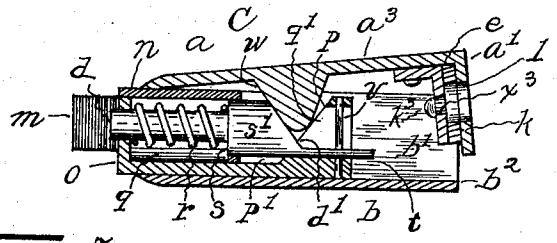


Fig. 7

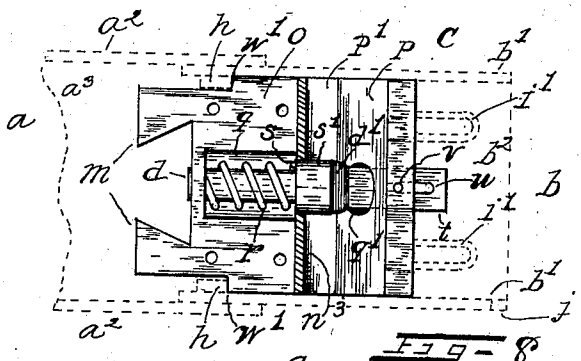


Fig. 8

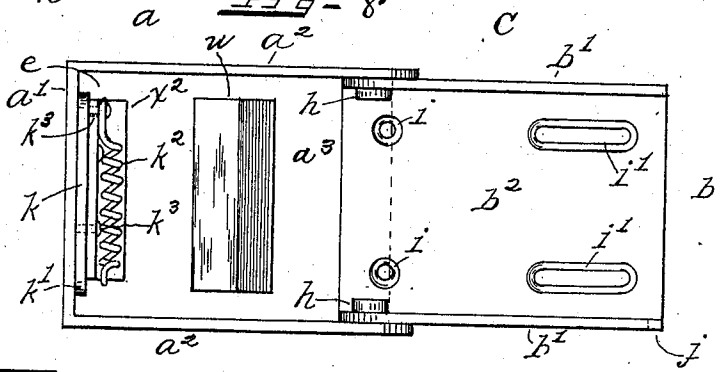


Fig. 9

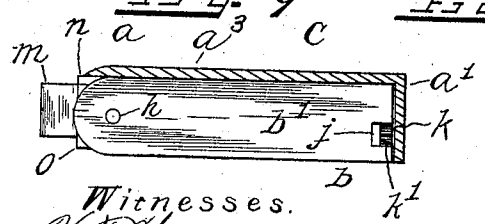
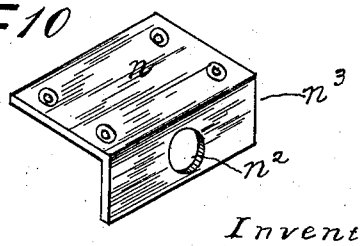


Fig. 10



Witnesses.

A. H. Wingate

F. H. Wingate

Inventor.

David Wilkie.

By Victor C. Randall

Atty.

No. 823,656. PATENTED JUNE 19, 1906.

D. WILKIE.

SASH LOCK.

APPLICATION FILED MAR. 14, 1905.

3 SHEETS—SHEET 3.

Fig. 11

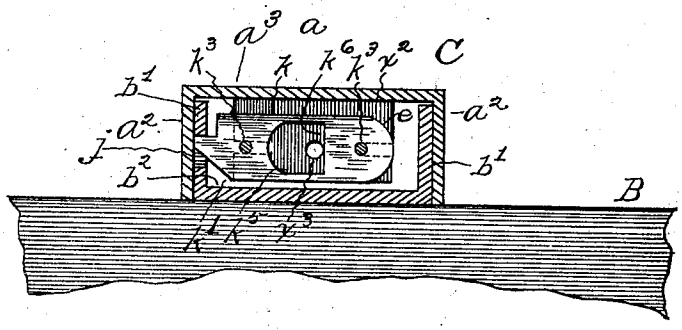


Fig. 15

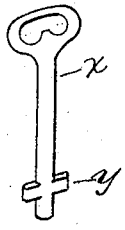


Fig. 12

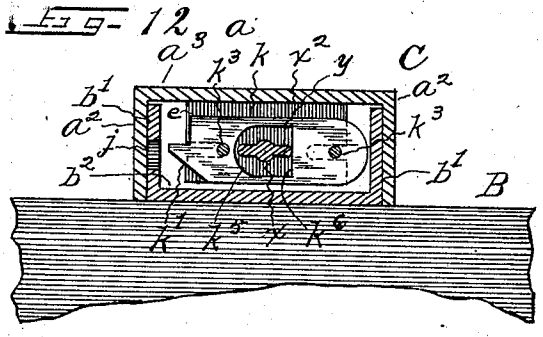


Fig. 13

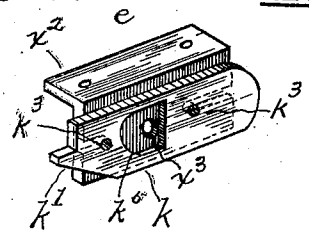
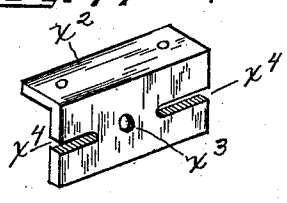


Fig. 14



Witnesses.

R. F. Wingate.

J. A. Wingate.

Inventor

David Wilkie.

By Victor C. Randall

Atty

UNITED STATES PATENT OFFICE.

DAVID WILKIE, OF BATTLE CREEK, MICHIGAN.

SASH-LOCK.

No. 823,656. Specification of Letters Patent. Patented June 19, 1906.

Application filed March 14, 1905. Serial No. 249,979.

To all whom it may concern:

Be it known that I, DAVID WILKIE, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, 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 thereof, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to sash-locks, and, among other things, has for its object to so construct a lock for the purpose whereby a window may be locked in either an elevated or lowered position, so that the same cannot be disturbed or moved from locked position without having been unlocked again by the use of a key designed for the purpose. Of especial importance does this apply to sanitoriums, hospitals, and hotels and, in fact, to any building where absolute security is desired for the windows. Oftentimes in a hospital a certain degree of temperature is desired maintained, in event of which a window is raised or lowered to facilitate the desired result.

My invention contemplates the use of a key, by which means the window cannot be again released until acted upon again by the key to release the sash-lock. Oftentimes a patient will raise a window contrary to the will of the nurse or attendant and become unduly exposed. Again, it has been demonstrated that suicide by jumping from a window at a great elevation could have been prevented by properly securing the same.

My invention contemplates the use of a casing comprising two shells pivotally joined at one end thereof and provided with a sash-locking dog, the casing being provided with a key-locking mechanism for securing the same intact when closed.

The objects and advantages of my invention will hereinafter appear, as set forth in the following specification and specifically pointed out in the appended claims.

In the drawings forming a part of this specification, Figure 1 represents a perspective view of my improved sash-lock as applied to a window. Fig. 2 is a detail side section of window-sash with my sash-lock applied. Fig. 3 is a horizontal section on the line $x\,x$ of Fig. 1. Fig. 4 is a section of the rack-bar. Fig. 5 is a sectional plan view of the rack-bar and sash and shows the method of securing the same by means of a countersunk screw. Fig. 6 is a longitudinal section of the sash-lock released from the rack or bar. Fig. 7 is a plan view of the sash-lock removed from the inclosing casing and represents the bolt-top removed. Fig. 8 represents the inclosing case opened and the sash-lock shown in Fig. 7 removed. It also shows the key-locking mechanism. Fig. 9 represents a longitudinal section and shows the key-locking bolt engaged within a slot of the inner shell in the mode of securing the same together. Fig. 10 is a perspective view of the spring bolt-cover. Fig. 11 is a front end view in cross-section of the sash-lock closed and the key-locking bolt securing the shells intact. Fig. 12 is a view of Fig. 11 with the key-locking bolt reversed to disengage the shells. Fig. 13 is a perspective view of the key-lock mechanism detached from the outer shell of the sash-lock. Fig. 14 is a perspective view of the angle-plate to the key-lock, and Fig. 15 is a perspective view of a key for actuating the key-lock.

Like marks of reference refer to corresponding parts throughout the several views.

In the drawings, A and B represent the window-sash, C the sash-lock, and D the rack or bar to which the dog and bolt of the sash-lock engage for securing a window in a fixed position.

The sash-lock mechanism in the main comprises an outer casing or shell a and an inner casing or shell b, a rack-gripping dog o, having jaws m, a spring-release, rack-locking bolt d, a key-lock e, and the rack-bar D. The rack D comprises a metallic strip wedge-shaped in cross-section, as shown, the narrow side between the angles abutting against the upper sash and secured thereto by means of screws g', countersunk somewhat below the face side thereof within the bottoms of the apertures $g\,g$ therein, the lower end of the rack terminating at the upper edge of the lower rail of the sash and placed closely to the inner edge of the sash, as shown. The casing comprises the parts a and b, the part a having the top a^2, one closed end a', against which the key-locking mechanism e is secured from the inside, and the sides a^2, having rounded rear extremities through which rivets $h\,h$ pass and pivot the inner shell b thereto. The inner shell b is an open-ended rectangular channel and has its sides b' rounded at one end,

through which the aforesaid rivets pass. Within the bottom b^2 of this shell apertures i and i' are provided for securing the same to the upper edge of the lower sash B, the apertures i' being elongated, so that when fitting the shell b to the sash in relation to the rack D on the opposite sash the same can be placed and located exact before driving the remaining screws to a seat. This shell to one side at the rear end is provided with a slot j, into which the key-bolt k of the key-lock e is made to engage, the outer shell having a hole l, through which a key x may be introduced to turn the bolt k in said lock. (See Figs. 1, 6, 9, 11, and 12.)

Within the inner shell the sash-locking mechanism is placed. This mechanism comprises a dog o and a plunger-bolt d. The dog o has at one end thereof two beveled jaws m, the bevel of the jaws being coincident with and adapted to engage the locking-bar D when in a working position, hereinafter set forth. The jaws m are of a thickness approximately the depth of the shells a and b minus the thickness of a cap-piece n. Toward the rear of the dog o its material is cut away and forms a groove p' transverse thereof, its rearward extremity terminating in an upwardly and rearwardly beveled lug or rib p. Transverse of this rib a hole q' bisects the same, and within the main body portion of the dog o and alined therewith a groove q is formed. Within this groove the body s' of the plunger-bolt d slides, and at its opposite end a hole is formed between the jaws m, through which the forward end of the plunger-bolt d works. This bolt is formed with a stem about which a coil-spring r is placed, the latter of which operates within the groove q between the shoulder s of the bolt and the opposite end of the groove, as shown. Near the rear extremity the bolt is beveled at d' downward and rearward and terminates in a semicircular shank t, through which a longitudinal slot u is made for the reception of a retaining-pin v. The terminating shank t passes through the hole q' of the rib p.

Occupying a position within the shell a and extending crosswise thereof a tapering rib w is provided. This rib is so located that when the two shells a and b are swung together, as shown in Fig. 6, the rib w will occupy a position between the bevel d' of the bolt d and the beveled side of the rib p, a means whereby when the aforesaid shells are completely closed the plunger-bolt d will be forced outward and the dog o, having the jaws m, inward, a means whereby said jaws will draw against and grip the bevel sides of the rack d and draw the window-sash together, while the plunger-bolt d will be forced within an aperture g thereof, preventing vertical movement of the window-sash. The bevel of the rib w is of such pitch where it engages the bevel of the transverse rib p that but a slight inward movement is imparted to the dog o, having the jaws m, when the casing a is closed over the casing b. The dog o, having the sloping rib p, is made to fit snugly within the inner shell b, so as to slide freely therein, the cap member n being secured to the upper side of the dog by screws or other means, the shoulder portion s' of this bolt passing through a hole n^2 in the depending flange n^3 of the cap-piece n, as shown in Fig. 7. At either side of the jaws m and extending backward of the rivets h a portion of the metal is cut away and leaves shoulders w'. The object of these shoulders is to prevent the dog o from sliding from the casing, the aforesaid shoulders abutting rivets h when in a normal position.

In the key-locking mechanism a right-angular flange-plate x^2 is secured by rivets or other means to the forward inner and upper end of the outer shell a. A downwardly-depending flange of this plate is provided with a key-socket x^3 and two oppositely-alined slots x^4, through which guide-pins k^3 of the plunger-bolt k are adapted to work, a coil-spring k^2, Fig. 8, being secured at one end to one end of the flange-plate x^2, the opposite end of the spring engaging one of the guide-pins k^3 to actuate the plunger-bolt k. The plunger-bolt has a central hole k^5, provided with one vertical side k^6 opposite the extremity having the bevel k'. The vertical side of this hole is in close proximity to the alined key-socket x^3 and the keyhole l of the outer shell a, and when the bit y of the key x is turned, as in Fig. 12, the same causes the plunger-bolt k to disengage the inner shell b and unlock the casing. In closing the shell a, to which the key-lock e is secured over the shell b, the bevel k' of the key-bolt k strikes the upper edge of the shell b and throws said bolt backward, and when the shells are in a closed position, as shown in Figs. 1, 2, 9, 11, and 12, the recoil of a spring k^2 throws the bolt into a locked position with the inner shell b by engaging a slot j thereof and prevents the casing from unclosing until released by means of a key.

The operation of my improved sash-lock will in the main have been apparent from the foregoing description. The rack-bar having been secured to the upper sash, as set forth, the shell b, together with the locking-jaws m, is fitted to the sash B, the aforesaid jaws being placed astride of said bar D, whereby the shell b is located preparatory to being screwed in place. The parts having been thus located, to secure a window in a position other than closed would be to unlock the key-lock e raise the shell a, whereby the plunger-bolt d and the jaws m will retract from the rack D, thence elevate or lower a window the remaining distance, as may be desired, and again depress the shell a, where-

by the lug *w* will force the plunger-bolt *d* outward and the jaws *m* inward and again lock the casing by means of a key, it being understood that the plunger-bolt *d* is to be so located as to engage one of the apertures *g* within the rack D.

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

1. A sash-lock comprising a casing having an inner shell with a bottom and two sides, and an outer shell having a top, two sides and an end, the latter adapted to inclose the former, the two being pivotally hinged at the rear end sides, the inner of said shells adapted to be screwed to the top of a lower window-sash, a rack having apertures in its face side thereof, screwed near the lower end of an upper sash, a plunger-bolt operative within said casing adapted to engage the apertures within said rack, means for causing said plunger-bolt to engage said rack when said casing is closed, and a lock to secure said casing when closed, substantially as, and for the purpose set forth.

2. A sash-lock comprising a casing having an inner shell with a bottom and two sides, and an outer shell having a top, two sides and an end, the latter adapted to inclose the former, the two being pivotally hinged at the rear end sides, the inner of said shells being screwed to the top of a lower window-sash, a rack having apertures screwed near the lower end of an upper sash, a dog having jaws slidably adapted to engage said rack operative from within said inner shell, a plunger-bolt operative within said dog adapted to engage in the apertures within said rack, means for causing said dog and plunger-bolt to engage said rack when said casing is closed, and a lock to secure said casing when closed, substantially as, and for the purpose set forth.

3. A sash-lock comprising a casing having an inner shell with a bottom and two sides, and an outer shell having a top, two sides and an end, the latter adapted to inclose the former, the two being pivotally hinged at the rear end sides, the inner of said shells being adapted to be secured to the top of a lower window-sash, a rack having apertures screwed near the lower end of an upper sash, a dog having jaws slidably adapted to engage said rack operative from within said inner shell, a plunger-bolt operative within said dog adapted to engage said apertures, said plunger-bolt having a beveled shoulder, and said dog having an inwardly-beveled shoulder, means on said outer shell to engage the beveled surfaces of said plunger-bolt and dog, when closed, to cause said dog and plunger-bolt to engage said rack, and a lock to secure said casing when closed, substantially as, and for the purpose set forth.

4. A sash-lock comprising a casing having an inner shell with a bottom and two sides, and an outer shell having a top, two sides and an end, the latter adapted to inclose the former, the two being pivotally hinged at the rear end sides, the inner of said shells being adapted to be secured to the top of a lower window-sash, a wedge-shaped rack having apertures secured to the upper sash near the bottom thereof, a dog having double jaws and an inwardly-beveled rear extremity slidably adapted to engage said rack, a plunger-bolt having a rearwardly-beveled extremity operative within said dog between the jaws thereof adapted to engage in said apertures, a tapering rib operative from the outer shell adapted to contact with the beveled extremities of said dog and plunger-bolt when the casing is closed and cause said dog and plunger-bolt to engage said rack, means to retract said plunger-bolt, and a lock secured within the outer casing adapted to engage with the inner casing to secure the same when closed, substantially as, and for the purpose set forth.

5. A sash-lock comprising a casing having an inner shell with a bottom with two sides, and an outer shell having a top, two sides and an end, the latter adapted to inclose the former, the two being pivotally hinged at the rear end sides, the inner of said shells being secured to the top of a lower window-sash, a wedge-shaped rack having apertures therein and adapted to be secured to an upper sash near the bottom thereof, a dog having double jaws and an inwardly-beveled rear extremity slidably adapted to engage said rack, a plunger-bolt having a rearwardly-beveled rear extremity operative within said dog between the jaws thereof adapted to engage in said apertures, a tapering rib operative from said outer shell adapted to engage between the bevels of said plunger-bolt and dog when said casing is closed, to cause said dog and plunger-bolt to engage said rack, means for retracting said plunger-bolt, means for limiting the travel of said dog, and a lock to retain said casing when closed, substantially as, and for the purpose set forth.

6. A sash-lock comprising a casing having an inner shell with a bottom and two sides, and an outer shell having a top, two sides and an end, the latter adapted to inclose the former, the two being pivotally hinged at the rear end sides, the inner of said shells being adapted to be secured to the top of a lower window-sash, a wedge-shaped rack, having apertures screwed to the upper sash, terminating at the bottom thereof, a dog having jaws slidably adapted to engage said rack, a plunger-bolt operative within said dog between the jaws thereof adapted to engage said apertures, said plunger-bolt having a rearward beveled extremity, said dog having a rib beveled toward the bevel of said plunger-bolt, a tapering rib operative from said outer casing adapted to engage between the bevel of said plunger-bolt and said dog, re-

spectively, when said casing is closed to cause the dog and plunger-bolt to engage said rack, means for retracting said plunger-bolt, the body of said dog slidably adapted to operate within the inner casing, the pivots of said hinges projecting inwardly, shoulders formed on said dog adapted to abut against said pivots to limit its movement outward, and a lock within the outer end of the outer casing adapted to engage with the inner casing to secure the same when closed, substantially as, and for the purpose set forth and described.

DAVID WILKIE.

Witnesses:
H. F. WINGATE,
F. H. WINGATE.