

UNITED STATES PATENT OFFICE.

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WINDOW-SASH LOCK.

1,059,727.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, HENRY GRAHAM and CHARLES E. LEPAIGE, respectively a subject of the King of Great Britain and a citizen of the United States, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Window-Sash Locks, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to window sash locks, and the object thereof is to provide an improved device of this class which will permit of the opening and adjusting of the sashes into different positions for ventilation purposes, and which will prevent the opening of the sashes from the outside of the window, and which comprises a casing adapted to be secured to the top cross bar of the bottom sash, and which is provided with two ratchet bolts mounted at right angles to each other and adapted to operate in connection with a rack bar secured to the window frame and another rack bar secured to top sash; a further object being to provide a sash lock of the class specified in which the ratchet bolts are automatically held in operative position or in engagement with the rack bars by a spring the construction and operation of which is such that the sashes are always locked whether open or shut, and when the sashes are both closed they cannot be opened without manipulating the lock, but when the sashes are opened and locked the top sash cannot be lowered without manipulating the lock but may be raised, and the lower sash cannot be moved either up or down without manipulating the lock; and with these and other objects in view the invention consists in a sash lock constructed and operating as hereinafter described and claimed.

The invention is fully disclosed in the following specification of which the accompanying drawing forms a part, in which the separate parts of our invention are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a central transverse sectional view of the bottom part of the top sash of a window, and the top part of the bottom sash and showing one side of the window frame and our improved sash lock in position, part

of the construction being in section;—Fig. 2 a section plan view thereof;—Fig. 3 a partial section on the line 3—3 of Fig. 2, and;—Fig. 4 a detail view showing the rack bar that is secured to the window frame and the sash lock bolt which operates in connection therewith.

In the drawing forming part of this specification we have shown at *a* the top sash of a window provided with the usual bottom cross bar *a*², and at *b* the bottom sash provided with the usual top cross bar *b*², and we have also shown at *c* the casing of our improved sash lock which is secured to the top cross bar *b*² of the bottom sash *b*, and at *d* the rack bar that is secured to the window frame, and at *e* the rack bar that is secured to the top sash, one side of the window frame being also shown at *f*. The casing *c* of the sash lock is rectangular in form, as shown, or approximately so, and mounted therein are two ratchet bolts *g* and *h* which operate at right angles to each other, and the bolt *g* operates in connection with the rack bar *d*, while the bolt *h* operates in connection with the rack bar *e*, and as shown, the teeth of the rack bar *e* are directed downwardly and the nose *h*² of the bolt *h* is beveled upwardly.

The rack bar *d* is provided with two vertically arranged rows of teeth *d*² and *d*³ one of which is beveled upwardly and the other downwardly and the nose *g*² of the bolt *g* is provided with two corresponding teeth *g*³ and *g*⁴ one of which is beveled upwardly and the other downwardly.

Pivoted in the right hand side portion of the casing *c* on a pin *i* is a sleeve *j* having a handle portion *j*² which passes through a slot *k* in the right hand side wall of the casing, and opposite the handle portion *j*² and within said casing, the sleeve *j* is provided with a plate *j*³, which in the form of construction shown, is approximately triangular in shape, and in the front and back corners of this plate are cam slots *j*⁴ and *j*⁵, and the bolt *g* is provided with a pin *g*⁵ movable in the slot *j*⁴, while the bolt *h* is provided with a pin *h*³ movable in the slot *j*⁵, and said bolts *g* and *h* are also provided respectively with longitudinal slots *g*⁶ and *h*⁴ and the casing *c* is provided with pins *g*⁷ and *h*⁵ which operate in said slots.

The casing *c* is provided opposite the pin *i* with a pin *m* on which is wound a strong

spring m^2 having two arms m^3 one of which operates in connection with the bolt g and the other in connection with the bolt h , and the operation of this spring, or the separate arms thereof, is such as to normally hold said bolts in connection with the rack bars d and e at all times. In this position of the parts of the lock the handle j^2 may be forced backwardly, which operation will draw the bolts g and h inwardly or out of engagement with the rack bars, at which time the top sash may be freely lowered and the bottom sash raised if desired, and in this way the sashes may be adjusted into any desired position; but by reason of the double construction of the rack bar d and the double nose of the bolt g , as shown and described, the bottom sash b cannot be lowered at any time without the manipulation of the lock by hand to throw the bolt g out of engagement with the rack bar d , and the top sash may be freely raised at any time but cannot be lowered without the manipulation of the lock by hand; and if both sashes be locked in an open position the upper sash may be moved up and closed without releasing the lock, but the lower sash cannot be moved down or up without releasing the lock but may be moved up.

In Figs. 1 and 2 of the accompanying drawing we have shown at n one of the countersunk balance cords of the lower sash, but it will be understood that the construction of the frame of the window and the sashes thereof form no part of our invention, except as to the details herein shown and described and changes in and modifications of the various parts of our improved sash lock may be made, within the scope of the appended claims, without departing from the spirit of our invention or sacrificing its advantages.

Having fully described our invention what we claim as new and desire to secure by Letters Patent is:—

1. A sash lock comprising a ratchet bar secured to a window frame at one side of the bottom sash, another rack bar secured to

one side of the top sash, and a lock casing secured to the top of the bottom sash and provided with ratchet bolts mounted at right angles to each other and operating in connection with said rack bars; the rack bar that is secured to the window frame being provided with two rows of teeth one of which is beveled upwardly and the other downwardly and the corresponding ratchet bolt being provided with two teeth one of which is beveled upwardly and the other downwardly.

2. A sash lock comprising a ratchet bar secured to a window frame at one side of the bottom sash, another rack bar secured to one side of the top sash, and a lock casing secured to the top of the bottom sash and provided with ratchet bolts mounted at right angles to each other and operating in connection with said rack bars, the rack bar that is secured to the window frame being provided with two rows of teeth one of which is beveled upwardly and the other downwardly and the corresponding ratchet bolt being provided with two teeth one of which is beveled upwardly and the other downwardly, said casing being also provided with tensional devices for holding said bolts in engagement with said rack bars, and whereby said bolts may be thrown out of engagement with said bars by hand.

3. In a sash lock, a rack bar provided with two rows of teeth one of which is beveled upwardly and the other downwardly, and a bolt adapted to operate in connection with said rack bars and provided with two teeth one of which is beveled upwardly and the other downwardly.

In testimony that we claim the foregoing as our invention we have signed our names in presence of the subscribing witnesses this 29th day of June 1912.

HENRY GRAHAM.
CHARLES E. LEPAIGE.

Witnesses:

C. MULREANY,
S. ANDREWS.