No. 866,073. PATENTED SEPT. 17, 1907.

D. G. SAUNDERS, Jr.

SASH LOCK.

APPLICATION FILED OCT. 18, 1906.

Fig. 1

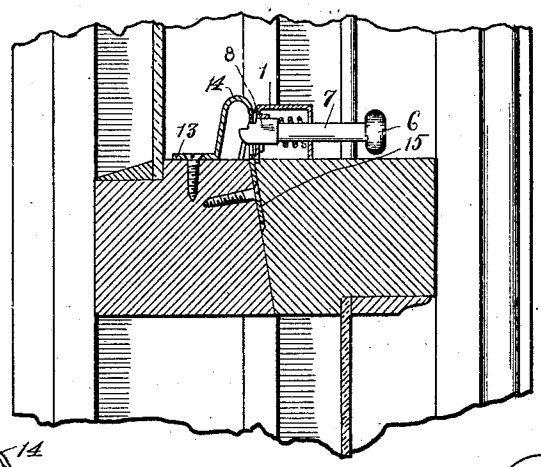


Fig. 3

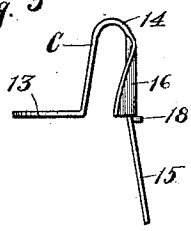


Fig. 6

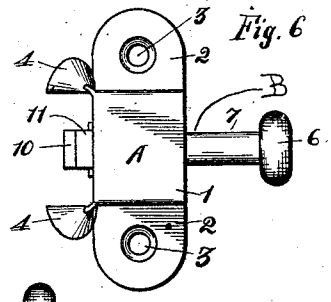


Fig. 2

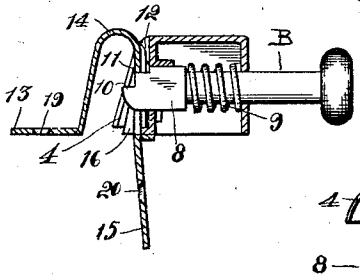


Fig. 4

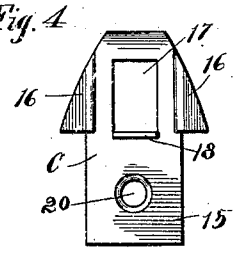


Fig. 7

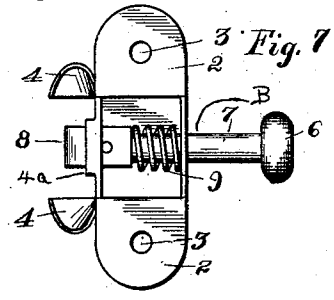


Fig. 5

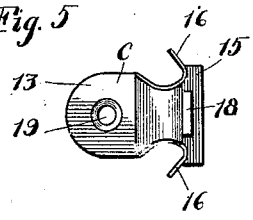
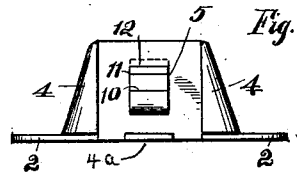


Fig. 8



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DANIEL G. SAUNDERS, JR., OF KANSAS CITY, MISSOURI.

SASH-LOCK.

No. 866,073. Specification of Letters Patent. Patented Sept. 17, 1907.

Application filed October 18, 1906. Serial No. 339,511.

To all whom it may concern:

Be it known that I, DANIEL G. SAUNDERS, Jr., a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Sash-Locks, of which the following is a specification.

My invention is an improved form of sash lock. Its objects are to supply a device which shall embody all the features of perfect automatic action, unusual strength to resist forcible loosening or displacement, security against any tampering with or unfastening from without, automatic adjustment adapting it to meet and remedy any defect in alinement of the sash rails caused by shrinkage, imperfect workmanship, settling of the building, wear from use, or any cause whatever; also any lack of care in pushing the sash fully down, or in removing any slight obstruction which might not be observed, but would prevent the sash going fully down against the window sill.

A further object of my invention is to embody these many desirable features in a device of small size, neat appearance, simple and inexpensive construction, and the maximum of efficiency in use.

I accomplish these several objects by means of the mechanism illustrated in the drawings which accompany and form part of this application, and in which:—

Figure 1, is a vertical sectional view taken through the center of the device, as seen applied to the two window sashes. Fig. 2, is a somewhat enlarged view of the same without showing the sashes. Fig. 3, is an elevation of the catch, or part of the device attached to the upper sash, as seen from either edge. Fig. 4, is an elevation of the catch as seen from the front, or inner side of the window. Fig. 5, is a plan view of the catch as seen from the top. Fig. 6, is a plan view of the lock proper, the part of the device attached to the lower sash. Fig. 7, is a plan view of the same as seen from its under side, and showing the bolt in position. Fig. 8, is an elevation of the rear side of the lock proper, showing the end of the locking bolt.

In the drawings like reference letters and numerals indicate like parts and details of construction throughout the several views, the principal parts of the device being designated by letters while details of construction are pointed out by numerals.

Describing the different parts of the invention, and their functions, A is the lock proper, the part attached to the lower sash, being secured in place by screws which pass downward through the openings, 3, 3, in a vertical position.

C, is the catch, the portion of the device attached to the upper sash, also by screws, but it will be seen that while the screw in the opening, 19, is in a vertical position, the one in the opening, 20, is in a horizontal position, or at right angles to its companion screw. The novel form of the catch which permits this manner of attaching it to the sash rail, is deemed an important feature of the invention as giving great security and strength with minimum weight of material used. To force the catch loose if thus fastened, implies breaking away a considerable portion of the sash rail, while if fastened with the screws in vertical position only, as has been the method in many previous forms of sash locks, it would be held in place only by the wood forming the threads about the screws, and might with light force applied to bottom rail of the lower sash, be pried loose and displaced, allowing the lower sash to be raised, or the window opened. Attached in the way I have devised, it is seen that to loosen the catch would require a force sufficient to crush the sash rail, or break the screw square off, neither of which could be done by ordinary means.

It will be noted that the two parts, A and C, are each formed from a single piece of sheet metal, without riveting or welding, a form which may be given them entirely by die stamping, a fact which materially reduces the cost of production, another important feature of the invention.

The piece, A, has the central box like portion, 1— the flat projecting ends, 2— the screw openings, 3,— the tightening lug housings, 4— the oblong opening, 5, in which the inner end of the locking bolt moves— and also another opening through which the projecting end of the bolt passes. At the central portion of its rear wall the box portion of the piece A, has an outward projecting lug, or ward, 4^a, which overlaps a similar ward, 18, at lower end of the opening, 17, in the catch C, when the parts are in position of locking. By this means I provide a secure guard against the insertion of a knife blade, or other instrument for opening the lock from outside. The tightening lug housings, 4, project rearward and laterally from the inner corners of the box portion, 1, being somewhat in the shape of a hollow half cone, with one of its edges attached at corner of the box, 1, and the other edge sloping to embrace the lugs, 16, of the part, C, and as sash is pushed down to place, these lugs, 16, entering their housings, 4, draw the two parts, A, and C, tightly together, bringing the sash rails in contact to form an air and dust proof joint, and prevent rattling, or the ingress of wind or cold.

The bolt, B, has at its outer projecting end a knob, 6, or may have any other convenient form for taking hold of. As shown in the drawings, it has a round portion, 7, and at its inner end a portion oblong in cross section, though it is obvious that these details might be varied without departing from the scope of the invention. At its inner end it has the steps, or notches, 10, and 12, with the normal locking space, 11, between them. The horizontal base of the notch or step, 10, forms the safety lock allowing the reduced

height of the bolt to enter the opening, 17, in the catch when the lower sash is not pushed fully down, and the horizontal space, 11, between the two steps, 10, and 12, forms the normal locking space when sash is pushed fully down to the sill. The vertical wall of the notch, 12, forms the stop lock, for holding the bolt in unlocked position when that may be desirable, as it will be seen that a slight depression of the extreme outer end of the bolt will carry its inner end upward bringing this step inside the box, where the pressure of the coil spring, 9, will securely hold it. This coil spring, 9, is the actuating power in the automatic operation of the locking process. It encircles the body of the bolt and is compressed by contact with a cross pin, or shoulder, or any suitable means.

The catch, C, attached to upper sash, is formed with a horizontal portion, 13, having in it the screw opening, 19, an inverted U shaped upper portion, in which is the oblong opening, 17, in which the inner end of the bolt enters, and a nearly vertical portion, 15 provided with the opening, 20, through which the horizontal screw passes to secure it to the sash rail. At lower end of the opening, 17, is the projecting lug, 18, to serve as a ward against picking the lock from outside, as has already been explained. The tightening lugs, 16, (see Figs. 3, 4, and 5), project rearward and laterally from the edges or the piece, C, being preferably formed from the same sheet of metal. As seen, these taper upward, and as herein before explained, enter the housings, 4, of the part, A, and by their wedge shape draw the two parts tightly together, as before noted. The vertical portion of the part, C, has the dual function of supplying a stronger method of attaching the catch to the sash rail, as well as forming a guide, or stop lug, by means of which the workman may always place the catch in proper position. This is important, as from the form of the meeting rails in some sashes, a slight variation from its correct position would detract from its locking efficiency, or interfere with its free automatic action.

I do not, in these drawings and specifications, confine myself to the specific construction of any of the parts of the device, as it is apparent that the principle of automatic action in securing similar or equivalent results might be utilized by substantially the same means, though differing in details. What I show, and have described, is the preferable method of producing a sash lock that meets all the requirements of simplicity of construction and use, perfect security, low cost, small size, and neat appearance, the objects of my invention, as recited at the beginning of this specification.

Having thus described the different parts of my invention, the details of their construction, their positions and relation to each other, and pointed out their several function in attaining its objects, what I claim as new, and desire to secure by Letters Patent of the United States is:—

1. In an automatic sash lock, a bolt housing containing a spring actuated bolt, the forward end of said bolt being in the form of steps, or notches, adapting it to enter the recess of the locking plate in two or more positions, substantially as shown and described.

2. An automatically actuated sash lock, composed essentially of three principal parts, the bolt housing, A—the bolt, B—and the catch, C—said part A being formed to embody the central box, 1—the projecting ears, 2—the lug housings, 4—the ward 4^a—and bolt openings, 5. The spring actuated locking bolt, B, having at its inner end two or more notches, or steps; and the catch, C, formed with a horizontal portion, 13—a curved upper portion, 14, and a vertical portion, 15; and also the locking bolt recess, 17; the tightening lugs, 16, projecting from its edges, and the vertical portion, 15, with screw opening, 20, all formed, arranged, and coöperating substantially in the manner, and for the purposes as shown and described.

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

DANIEL G. SAUNDERS, Jr.

Witnesses:
KATHARINE MCNABB,
J. LEE KNIGHT.