

(No Model.)

J. A. HASENPFLUG.
SASH LOCK.

2 Sheets—Sheet 1.

No. 528,369.

Patented Oct. 30, 1894.

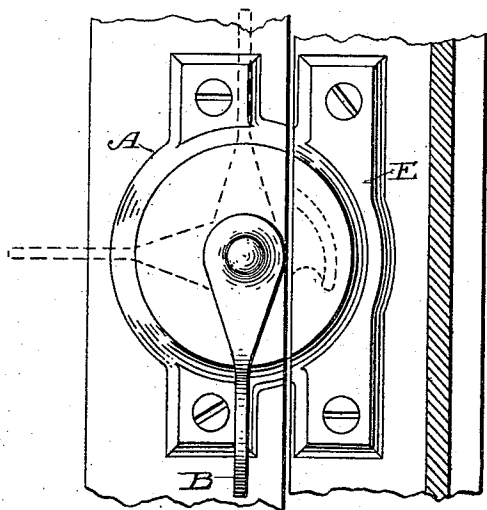


Fig 1

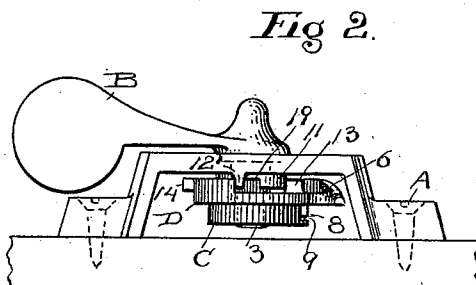


Fig 2.

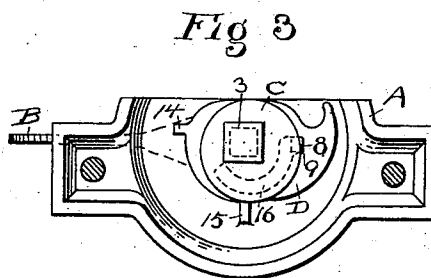


Fig 3

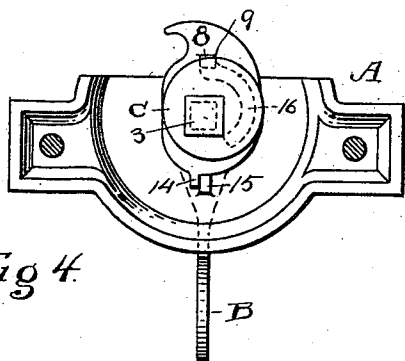


Fig 4

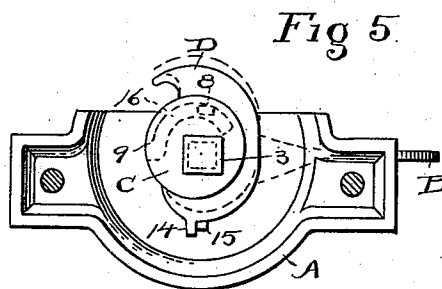


Fig 5

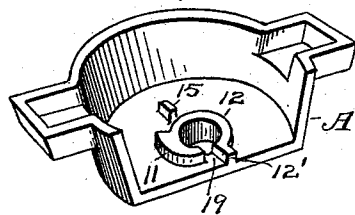


Fig. 11.

Attest

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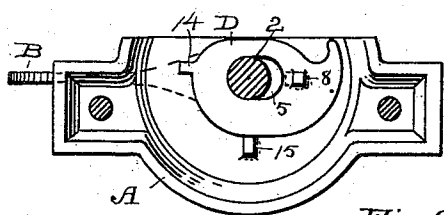


Fig. 6.

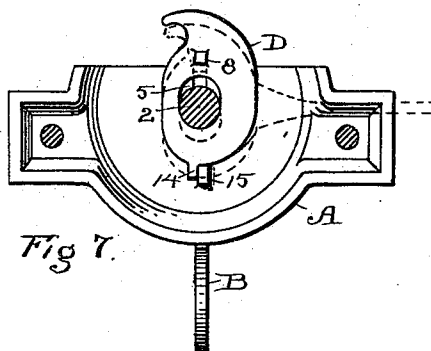


Fig. 7.

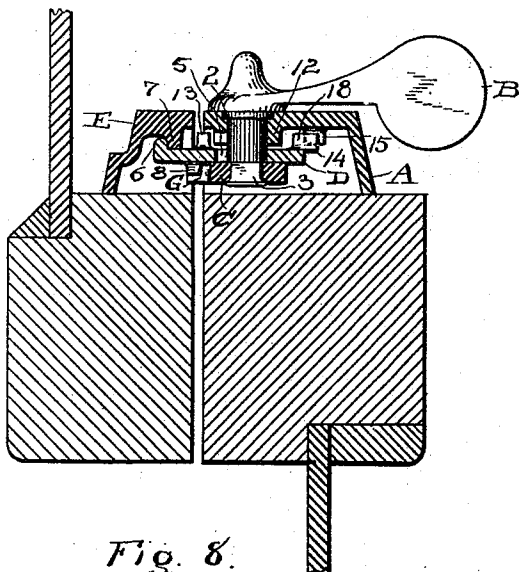


Fig. 8.

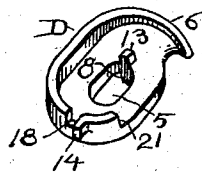


Fig. 9.

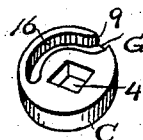


Fig. 10.

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UNITED STATES PATENT OFFICE.

JOHN A. HASENPFLUG, OF CLEVELAND, OHIO, ASSIGNOR TO THE CHAMPION SAFETY LOCK AND NOVELTY COMPANY, OF SAME PLACE.

SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 528,369, dated October 30, 1894.

Application filed December 18, 1893. Serial No. 493,939. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. HASENPFLUG, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Sash-Locks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sash locks of the variety in which the latch or bolt is automatically locked when turned into engaging position with the strike, and is proof against being opened by an instrument inserted between the sashes, substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improved lock with the parts represented as attached to sections of window sashes and as they appear in practical use, the full lines representing the handle in unlocked position and the dotted lines in the semi-locking and locking positions, respectively, as hereinafter fully described. Fig. 2 is a side elevation of the part of the lock which is attached to the lower sash, and viewed from the open side. Fig. 3 is a bottom view of the parts shown in Fig. 2, and in the same relative position as in said figure and in Fig. 1. Fig. 4 is a bottom view of the lock shown in Figs. 2 and 3, and as the parts appear in the semi or half way locking position. Fig. 5 is a view of the same parts in full locking position. Fig. 6 is a bottom view of the lock with the cam removed and showing the position of the parts as they appear in Figs. 2 and 3. Fig. 7 is a view corresponding to Fig. 6, excepting that in this case the parts are in their semi-locking position, the post supporting the cam and bolt being shown in cross section in both these views. Fig. 8 shows the full lock in cross section and a cross section of the sashes to which the parts are affixed and the parts of the lock in the semi-locking position shown in Fig. 7. Fig. 9 is a plan perspective view of the catch or bolt detached from the other parts, and Fig. 10 is a plan perspective view of the cam which belongs on the lower or inner extrem-

ity of the handle post and is constructed to rotate therewith. Fig. 11 is an under perspective view of the lock casing which is attached to the lower sash and carries the operating mechanism.

The operating parts of this lock consist essentially of three distinct members, which co-operate with each other and with the casing on the lower sash to effect the locking of the sash in a simple and efficient manner.

The casing A which is attached to the lower sash, as seen in Fig. 11, is the same in general outline as is now well-known to the art, and its novel features are those which are shown on its inner and underside and adapted to co-operate with the moving parts of the lock.

The handle B has a central post —2— integral therewith and circular in cross section, except at its lower extremity —3—, where it is made square or angular so as to fit the corresponding hole —4— through the center of the cam C, which is rigidly attached to the lower end of said post, as clearly seen in Fig. 8.

Above the cam C is the latch or bolt D which has an oblong central opening —5—, and adapted to the circular part of the post.

The handle B and cam C turn together, and the several parts are so constructed that when locking is to occur and the handle is turned for that purpose, the bolt or catch D will first be turned into the semi-locking position, seen in Figs. 4 and 7, and then as the handle is moved to position as in Fig. 5, it will be drawn directly back without swinging farther around, as shown in full lines Fig. 5.

Now, it will be observed that the latch or bolt D, besides being constructed to engage and lock on the strike E on the upper sash, is provided with a gradually deepening flange or rib —6—, and when this rib engages the projection —7— on the strike, as seen in Fig. 8, and the lever B is then turned around in the position shown in Fig. 5, the sashes will be leveled and drawn closely together. The first or semi-locking position, or that which is shown in Figs. 4 and 7, is obtained by moving the parts from the position of rest, as seen in Figs. 1, 2, 3 and 6. This represents the full swing or rotation of the latch and levels the

sashes with one another. In this first movement we have the cam C and the latch or bolt D engaged so as to rotate together by catching the lug —8— on the bottom of the bolt, Fig. 9, in the open outer extremity —9— of the cam groove on the top of the cam C. This engagement is caused by a cam —11— at one side of the hub —12—, Fig. 11, on the inside of the casing A, and a projection —13— on the top of the bolt and at the front of the oblong hole through the center thereof. This keeps the bolt out till the half way place is reached, and then the cam —11— is passed and the rotation of the bolt ceases. In other words, the cam —11— causes the cam and bolt to be locked together always up to the half way point and back, and in this part of the work they move together as if they were one; but, reaching the half way place the lug —13— leaves the cam and interlocking of cam and bolt ceases.

When the cam and bolt reach the semi or half way place, as seen in Fig. 7, the lug —14— on the heel of the bolt strikes the downwardly projecting lug —15— on the casing A, and the lug —13— strikes the projection —12'— at the front of the casing, and the further rotation of the bolt is arrested. This having occurred, and the handle being further rotated to the opposite extreme, as in dotted lines Fig. 7, the cam turning with the handle engages lug —8— on the bottom of the bolt D and causes it to travel back in the cam groove —16—, or about as shown from dotted to full lines Fig. 5. In this operation the lug —15— on the bottom of the casing A is forced into the notch —18— at the heel of the bolt by the side of projection —14—, and the projection —13— on the top of the bolt is at the same time forced into the notch —19— on the inside of the casing A at the side of lug —12'—. The backward movement of the bolt in this operation is in straight lines, and serves both to lock the bolt itself and to draw the sashes together. It now is made impossible for any one to open the bolt from the outside by introducing an instrument between the sashes, because the bolt is really locked in two places against rotation, and can only be released by turning the handle.

In opening the lock the exact reverse of the foregoing operation occurs and with the same steps; that is, the bolt is first brought to the half way place, as in Figs. 4 and 7, in which it has not yet been rotated but is simply carried out from its locked position on casing A and unlocked therefrom. Then as the lug —8— on the bottom thereof is brought into the mouth G of the cam groove by this movement, a further rotation back of the handle will bring lug —13— into engagement with cam —11— on case A and thus cause

cam and bolt to lock together at —8— and —9— and rotate to full open position, as in Figs. 1 and 6. In this latter position the shoulder —21— on the bolt strikes the projection —12'— on its rear and stops the further rotation of the parts, the limit of backward movement being seen in Fig. 1.

Having thus described my invention, what I claim is—

1. In a sash lock, the casing for the inner sash, the central handled rotating post, the cam plate fixed rigidly on the lower end of the said post, and a locking bolt on said post between the cam plate and the said casing, said locking bolt being engaged and rotated by said cam, arrested by the casing, and then moved longitudinally by the cam, whereby the bolt is locked, substantially as set forth.

2. A sash lock having a shell or casing constructed to be fastened to the lower sash and provided with projections about its hub on its inside, in combination with a handled post in the said casing, a plate having a cam groove in its upper side fixed to said post, and a locking bolt between the casing and said plate having a lug engaging in said groove and constructed on its top with projections to engage the projections on said casing, substantially as set forth.

3. The inclosing casing having a central opening and a cam and projections inside about said opening, a handled post in said opening, a locking bolt with an oblong hole through which the said post passes and provided with a projection at the front of said opening to engage the cam on the casing and a projection on its bottom, and a plate with an eccentric groove fixed to the said post and engaging the projections on the bottom of the said bolt, substantially as set forth.

4. In a sash lock, the casing having lugs on its inside about its center, and a cam between said lugs, the handled post extending down into said casing and the strike for the opposite sash, in combination with the locking bolt on said post provided with a rib of increasing depth about its outside and projections to engage the projection and cams on the casing, and a cam plate fixed on said post beneath the locking bolt and constructed to engage therewith and force the bolt into engagement with the strike and the lugs on the inside of the casing, substantially as set forth.

Witness my hand to the foregoing specification this 7th day of December, 1893.

JOHN A. HASENPFLUG.

Witnesses:

H. T. FISHER,

GEORGIA SCHAEFFER.