(No Model.)

T. ROBERTSON.

WINDOW LOCK.

No. 570,503. Patented Nov. 3, 1896.

Fig. 1.

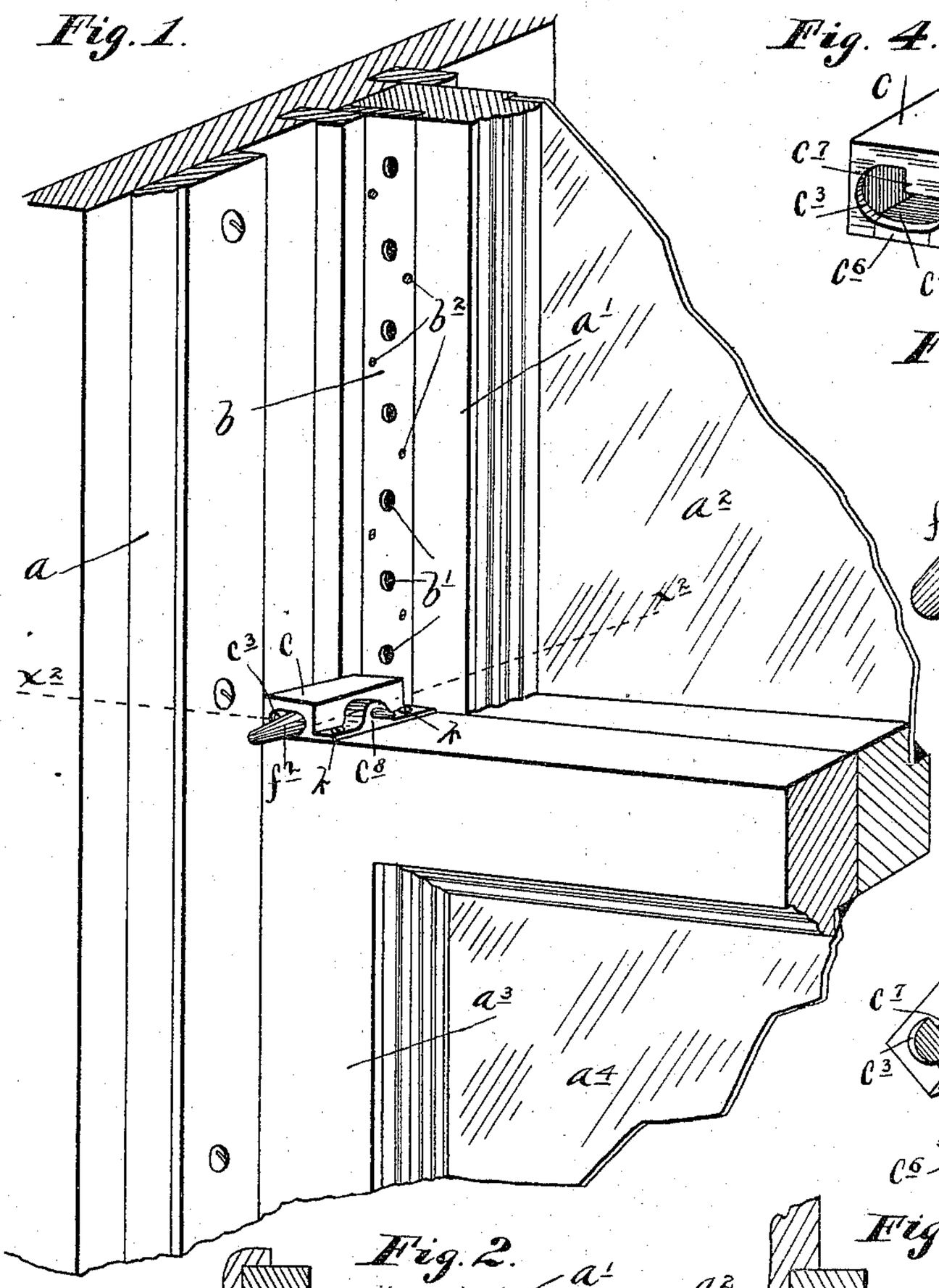


Fig. 4.

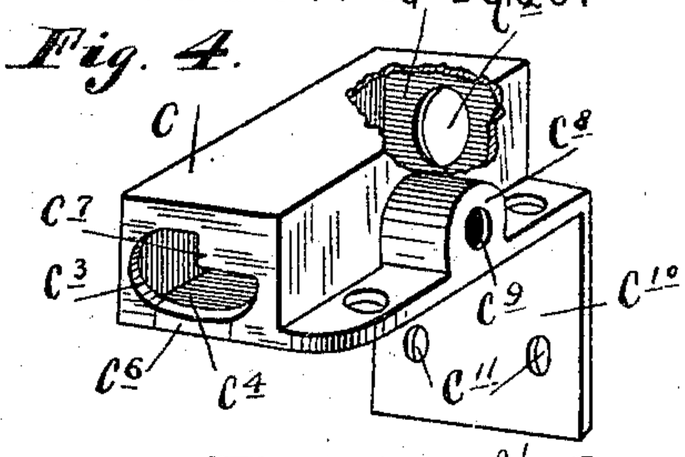


Fig. 5.

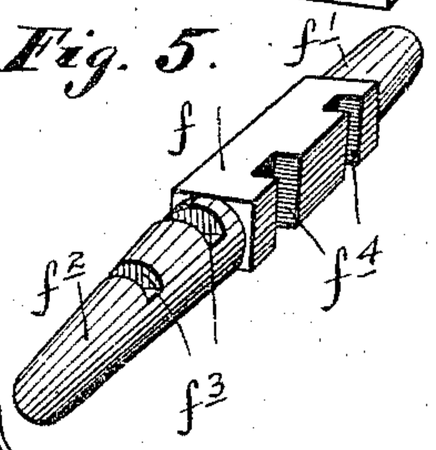


Fig. 6.

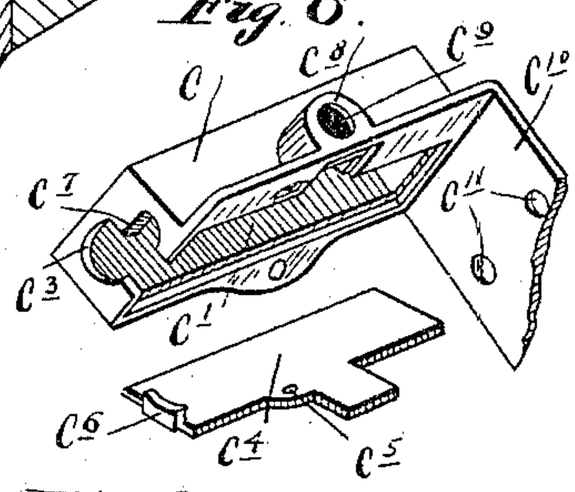


Fig. 2.

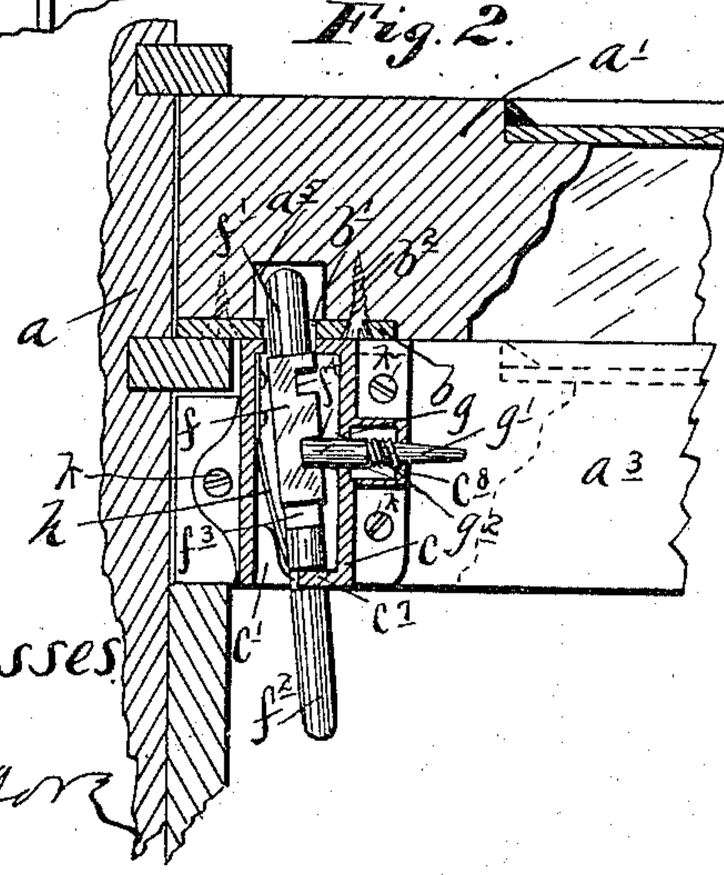
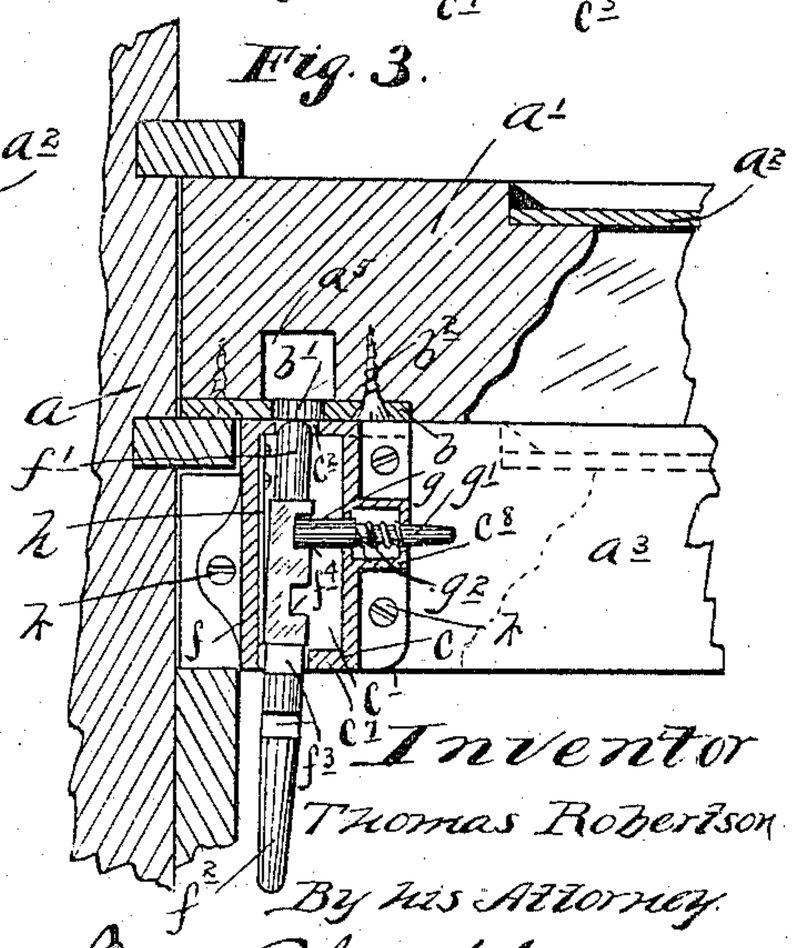


Fig. 3.



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UNITED STATES PATENT OFFICE.

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WINDOW-LOCK.

SPECIFICATION forming part of Letters Patent No. 570,503, dated November 3, 1896.

Application filed May 25, 1896. Serial No. 593,003. (No model.)

To all whom it may concern:

Be it known that I, THOMAS ROBERTSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Window-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.

My invention has for its object to provide an improved window lock or catch; and to this end my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The preferred form of my invention is illustrated in the accompanying drawings, wherein, like letters referring to like parts throughout the several views—

Figure 1 is a view in perspective, showing a portion of a window with my improved lock or catch secured in working position to one member of the window-sash and coöperating with the other. Fig. 2 is a horizontal section taken substantially on the line X^2 X^2 of Fig. 1, the parts of the lock being shown in their locking positions. Fig. 3 is also a horizontal section taken on the line X^2 X^2 of Fig. 1, parts of the lock being shown in their unlocking positions. Fig. 4 is a perspective view of the lock-case removed from the window-sash, some parts of the same being broken away. Fig. 5 is a perspective view of the locking bolt or plunger removed from the lock-case; and Fig. 6 is a perspective view of the lock-case, looking at the bottom of the same, the removable bottom piece of the same being shown as removed from working position and some parts of said case being broken away.

Referring to the parts of the window, *a* indicates the window-frame, *a'* the upper window-sash, provided with a glass pane a^2, and a^3 the lower window-sash, provided with a glass pane a^4, all of the ordinary construction. As shown, the inner face of one of the vertical sides of the upper sash *a'* is provided with a vertically-disposed perforated bar or strip *b b'*, secured in place by means of screws b^2. This strip *b b'* is preferably formed of iron or other suitable metal, and the sash *a'* is recessed or cut away back of each perforation *b'* of the bar *b*, as shown at a^5, so as to permit the introduction of a locking-bolt, as will later appear.

The lock or catch is, as shown, secured to and carried by the lower sash a^3. This lock comprises, in its preferred form, as follows: The lock-case *c* is in the form of a shell-like casting, provided with a hollowed interior *c'*, which is closed at its outer end except for a perforation or plunger-seat c^2; is closed at its inner end except for a laterally-elongated perforation or plunger seat c^3, and is normally closed at its bottom by means of a removable bottom plate c^4, which is held in place by a small screw c^5, passed therethrough and screwed into said case *c*. At one end the removable bottom plate c^4 is provided with an upturned flange c^6, which, when said plate c^4 is placed in working position, fills in the gap formed at the bottom of the plunger-seat c^3 and serves to complete the same. It will be noted that the inner end of the case *c* is provided with a flange c^7, which extends into the seat c^3. This flange portion c^7, as will later appear, coöperates with suitable notches cut in the locking bolt or plunger and serves as a fixed detent for holding said plunger either in its locking or unlocking position. The case *c* is also provided with a laterally-extended seat portion c^8, which is perforated at its outer end, as shown at c^9.

f indicates the locking bolt or plunger, the central portion of which is shown as square in cross-section, while its outer and inner ends, respectively, are rounded and reduced, as shown at *f'* and f^2, so as to adapt the same to work, respectively, in the end seats c^2 and c^3 of the case *c*. This lock-plunger *f* is placed in working position in the case *c*, while the bottom plate c^4 is removed by first placing the reduced end *f'* through the seat c^2 and then moving the reduced end f^2 vertically into the seat c^3. After this has been accomplished the bottom plate c^4 should be placed in working position, after which the plunger cannot be removed endwise from the case on account of the increased size of its central portion.

The upper portion of the inner reduced end f^2 of the locking-plunger is provided with a pair of notches f^3, which are adapted to be engaged by the detent c^7 on the inner end of the lock-case. These notches f^3 are located

at such distances from each other that when one of said notches is engaged with said detent c^7 the locking-plunger will be held in its locking position, while when the other of said notches is thus engaged said plunger will thereby be held in its unlocking position. The plunger f is also provided with another pair of notches f^4, cut vertically in the central portion of the same on the side which lies nearest to the laterally-extended seat portion c^8 of the case. These notches f^4 are spaced apart a distance corresponding to the spacing of the notches f^3.

$g\ g'$ indicate a sliding detent or retaining device, the inner end g of which is adapted for engagement with either one of the notches f^4 of the plunger f and the stem portion of which works outward through the seat c^9 of said extension c^8. This detent $g\ g'$ is held under a yielding strain, which tends to hold the end portion g in engagement with one of said notches f^4 by means of a spring g^2, coiled on the stem g' and compressed between the end portion g and the end flange of the extension c^8. The locking-plunger f is yieldingly held toward the right, with one of the notches f^3 in engagement with the detent c^7, by means of a flat spring h, secured at one end to the interior of the case c and bearing with its free end against the left side of said plunger f.

As shown, the case c is provided with an angular downturned flange c^{10}, which, as well as the base-flanges of said case c, are provided with suitable screw-holes c^{11}.

When the lock just described is properly secured to the lower sash a^3, the downturned-flange portion c^{10} of the case should be set into the side of the sash, with the base of the case resting on the top of the sash and so positioned that when the sash are moved with respect to each other the end f' of the locking-plunger f will be moved in line with the perforations b' of the strip b. The lock-case may be thus held in position by means of screws k.

The operation and use of the device is substantially as follows: Normally the parts will stand as shown in Figs. 1 and 2, with the projecting end f' of the locking-plunger in the lowermost perforation b' of the strip b and both sash locked together and held closed. In order to move the locking-plunger f into its unlocking position, that is, with its reduced end f' withdrawn from the perforation b' of the strip b, it is first necessary to move the inner end f^2 of said plunger toward the left, so as to disengage the notch f^3 from the detent c^7, as shown in Fig. 3; but this is not sufficient to release the locking-plunger so that the same may be withdrawn from its locking position, for, as will also be noted by reference to said Fig. 3, the spring-held detent $g\ g'$, under the action of the spring g^2, will move with the plunger f in its lateral movement and keep its engagement with the notch f^4. However, by taking hold of the stem g' with the other hand and thereby withdrawing the end g from the engaged notch f^4, while at the same time holding the inner end in the lock-plunger toward the left, as described, the said locking-plunger may be freely moved into its unlocking position and there held by the said detent c^7 and spring-held detent $g\ g'$, which are then engaged, respectively, with the members of the notches f^3 and f^4, which are nearest to the outer or locking end f' of said plunger. It will thus be seen that it requires the use of both hands at one time in order to operate the lock. This is a very important feature, as it renders it practically impossible to operate the lock from the outside of the window, even though the window is left partially open.

In virtue of the fact that the lock or catch is mounted on and carried by one member of the window-sash and made to engage with the other member of the same it is possible to open the window either from the top or from the bottom and still lock the sash together. This makes it possible to open the window for the purpose of ventilation, and as long as the window is not opened sufficiently to permit a person to enter therethrough this may be done with as much safety as if the window-sash were locked in their closed position. This manner of applying a lock to the window-sash I consider, broadly, new and desire to claim the same, regardless of the form of lock which may be employed. The generic features of my lock are, however, well adapted for application for the purposes of locking the sash in various other ways. For instance, the lock might be secured to the window-frame and made to engage the window-sash, or vice versa. More than this, the principles of my lock may be employed in connection with screens, doors, and various similar devices. It will also be understood that various alterations in the details of construction above described may be made without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A lock comprising a locking piece or bolt, and two or more independent retaining devices, for holding said locking-piece in its locking position, requiring simultaneous disengagement from said locking-piece, to permit the unlocking movement thereof, substantially as described.

2. A lock comprising a locking piece or bolt, and two or more independent retaining devices, for holding said locking-piece in its locking position, requiring simultaneous disengagement from said locking-piece, to permit the unlocking movement thereof, and springs tending to render both of said retaining devices, operative, substantially as described.

3. A lock comprising a lock-case, a locking-bolt mounted in said case, for both longitudinal and lateral movements, a fixed catch on said case, with which a coöperating catch

on said bolt is engageable and disengageable, by lateral movement of said bolt, and an independently-releasable spring-held retaining device adapted to keep engagement with said bolt under its lateral movement, substantially as described.

4. A lock comprising a lock-case, a locking-bolt, mounted in said case for both longitudinal and lateral movements, and provided with two pairs of notches, a fixed catch on said case, with which one pair of said notches is engageable, by lateral movement of said bolt, and an independently-releasable spring-held retaining device coöperating with the other of said pair of notches and adapted to keep engagement with the engaged notch under the lateral movement of said bolt, substantially as and for the purpose set forth.

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

THOMAS ROBERTSON.

Witnesses:

JAS. F. WILLIAMSON,

C. F. KILGORE.