

No. 697,837.

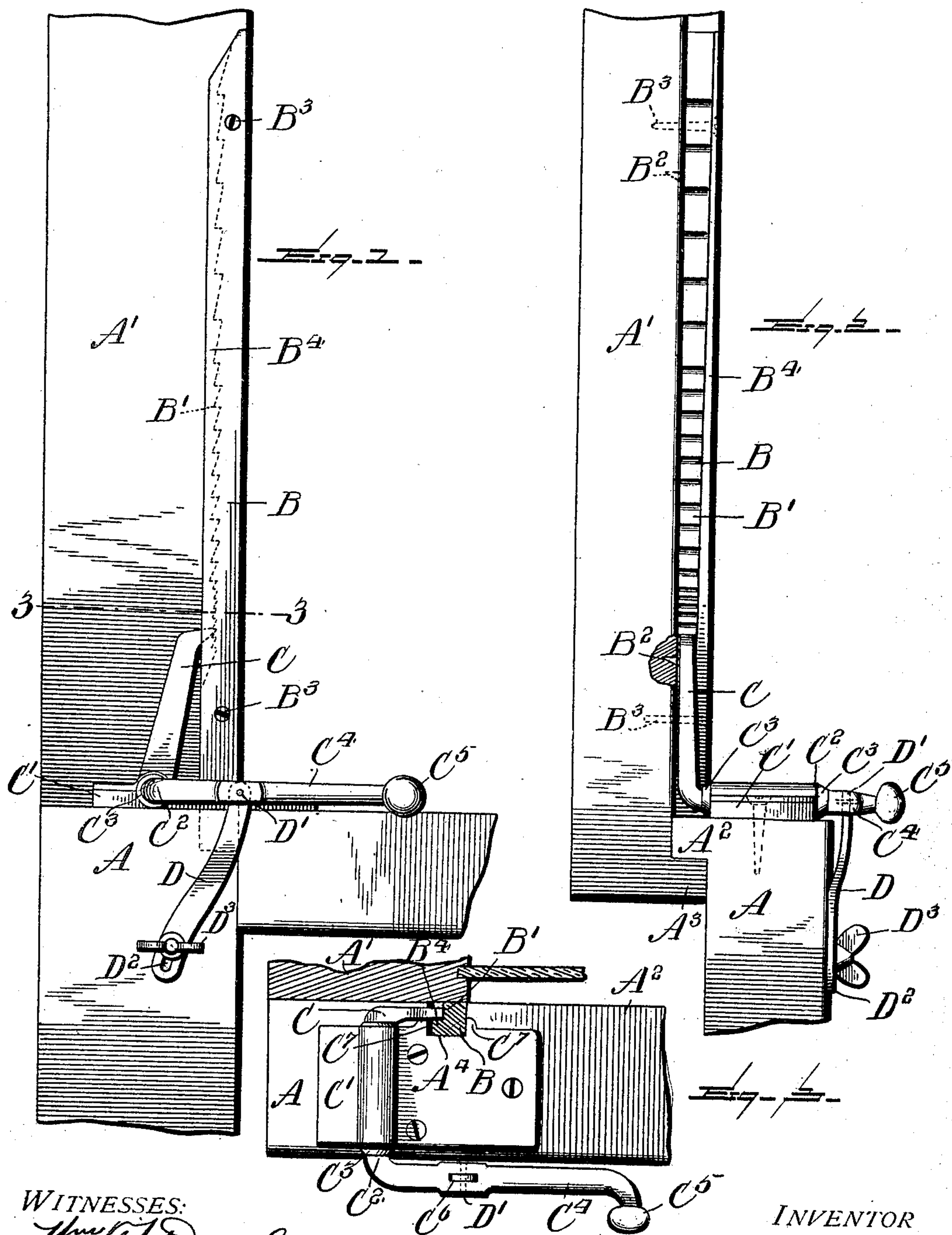
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H. H. GOUCHER.

SASH LOCK.

(Application filed Nov. 25, 1901.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENDERSON H. GOUCHER, OF BUTLER, PENNSYLVANIA.

SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 697,837, dated April 15, 1902.

Application filed November 25, 1901. Serial No. 83,585. (No model.)

To all whom it may concern:

Be it known that I, HENDERSON H. GOUCHER, a citizen of the United States, residing at Butler, in the county of Butler, State of Pennsylvania, have invented certain new and useful Improvements in Sash-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to window-sash locks, and particularly to a device for securing the upper and lower sashes together in different relative positions.

The invention has for an object to provide an improved form of locking dog or pawl pivotally mounted upon one sash and adapted to engage a ratchet upon the other sash, said dog being operated solely by gravity to engage the successive teeth of the ratchet in the downward movement of the lower sash.

Another object of the invention is to provide a check device for limiting the movement of the dog and retaining the same in either of its positions when found desirable.

A further object is to provide a downwardly-tapering lip upon the ratchet adapted to engage a side of the dog, and thus draw the sashes together as they reach the opposite extremes of their closing movement.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is a side elevation of an upper and lower sash closed and the dog on the lower sash in locking relation with the ratchet carried by the upper sash. Fig. 2 is an end view of the parts shown in Fig. 1; and Fig. 3 is a section on line 3 3 of Fig. 1, showing the upper rail of the lower sash.

Like letters of reference refer to like parts throughout the several figures of the drawings.

The invention as shown is applied to an ordinary window-sash and is totally independent of the frame within which the sashes are contained.

In the drawings the letter A designates the lower sash of a window and the letter A' the upper sash. The lower sash is provided with a lip A², adapted when the sashes are closed to lie over a corresponding lip A³, the lip A²

being provided with a notch A⁴, adapted to receive a ratchet B of any preferred construction carried by the upper sash. Upon the top rail of the lower sash a dog or pawl C is pivotally mounted in any desired manner—for instance, by means of a boxing C', formed in two parts and secured to the upper face of the lower sash in the ordinary manner. This dog C is provided with a journaling-shaft C², disposed within the boxing C', and at opposite ends of this boxing with collars C³ to prevent lateral movement of the shaft within its bearing. Extending laterally from the shaft C² a handle portion C⁴ is directed toward the center of the sash, and, if desired, may be provided with a weighted knob C⁵ for insuring the positive operation of the dog by gravity. It will be obvious that if this handle C⁴ be raised the dog will be withdrawn from engagement with the ratchet B, and when the parts are in the position shown in Fig. 1 the dog will ride downward upon the ratchet-teeth, locking the sashes together in the downward movement of one thereof.

For the purpose of limiting the movement of the dog C and for securing the same in or out of engagement with the ratchet B a check D is provided and pivoted at its upper end D' within to a slot C⁶, formed in the handle C⁴, and at its lower end D² provided with a slot, through which a securing-screw, as shown at D³, may pass and enter the frame of the lower sash. Under ordinary conditions the lower end of the check D is free to move upon this screw; but when the parts are to be secured against movement the screw is then tightened to clamp the check D against the sash. It will be noted that the upper end D' is deflected outwardly from the sash in order to bring it into alinement with the handle C⁴, as shown in Fig. 2.

The ratchet B herein shown is provided with a series of teeth B', which are graduated in length from the upper end downwardly, so as to secure a locking-face for a very slight extent of movement at the lower end of the ratchet. This ratchet may be formed in any desired manner, but as herein shown is provided with studs B², adapted to enter the material of the stile of the upper sash, and any other securing means desired may be used—for instance, screws B³. At the outer edge of

the ratchet a tapering lip B⁴, is provided, which increases in width from the upper end downwardly, as shown in Fig. 2, which lip extends beyond the face of the teeth and bears against the side of the dog C, so as to draw the sashes toward each other in the downward movement of the dog over the ratchet-teeth. This ratchet is secured to the face of the stile and projects into the groove A⁴, so that the movement of the lower sash is thereby guided. In order to insure this guiding action, the upper plate C' of the boxing is provided with lugs C⁷, which lie on opposite sides of the notches C⁴ and are adapted to bear against the parallel edges of the lip B⁴, disposed within the notch.

In the operation of the invention it will be seen that the lowering of the lower sash will automatically adjust the dog upon the ratchet, and thus lock the sashes in their adjusted position, which may be fully closed or partially open for ventilation. It will further be noted that the graduated length of teeth permits the locking of the sashes so that they may be retained open for any small distance, and a positive locking can be secured even though a small obstruction should become lodged beneath the lower sash. The tapering lip also acts to prevent the entrance of air beneath the sashes or the rattling thereof by drawing the same together when the sashes reach the extreme of their movement. With this construction of parts it will also be seen that the upper sash when lowered may be raised by first lowering the lower sash and engaging the dog therewith. Then an upward movement of the lower sash will carry the upper sash to its closed position. This is very convenient when the window-frames are of such height that the upper sash are not easy of access, and the construction of weighted dog obviates the necessity of any springs, consequently increases the durability of the device, also embodying a simple and most efficient construction of parts. The check D limits the movement of the dog and handle, so as to stop the dog carried thereby at the proper point after its disengagement from the ratchet. In the upward movement of the lever the end of the slot in the check engages the said screw and applies the force necessary for lifting the lower sash directly on the stile thereof instead of on the cross-bar of the rail, thus forming a handle for lifting the sash, applying the necessary force upon the solid and strong portion thereof. It will also be seen that by clamping the check against the lower sash the dog may be held in its locked position, or, if desirable, may be secured out of engagement with the ratchet.

The dog, shaft, and handle are herein shown as formed integral; but they may be formed of several pieces secured together, and it will be obvious that other changes may be made in the details of construction and configuration of the means for applying the ratchet-and-dog mechanism without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. A sash-lock comprising a ratchet secured to one sash, a dog pivotally mounted upon a parallel sash, a handle for normally holding said dog by gravity in engagement with said ratchet, and a check pivoted to said handle to limit the upward movement thereof; substantially as specified.

2. A sash-lock comprising a ratchet secured to one sash, a dog pivotally mounted upon a parallel sash, a handle for normally holding said dog by gravity in engagement with said ratchet, and a tapering lip adapted to engage said dog at one side of said ratchet for drawing the sashes together.

3. A sash-lock comprising a ratchet secured to one sash, a dog carried by a cooperating sash and provided with a pivoting-shaft and a weighted handle extending laterally therefrom beyond the sash to which it is secured, a boxing for said shaft, collars on said shaft at opposite ends of said boxing, and means for holding said dog in or out of engagement with said ratchet; substantially as specified.

4. A sash-lock comprising a ratchet secured to one sash, a dog provided with pivoting-shaft and a handle extending laterally therefrom, a boxing for said shaft carried by a cooperating sash, collars on said shaft at opposite ends of said boxing, means for normally holding said dog in engagement with said ratchet, a check pivoted at its upper end to said handle and provided with a slotted lower end, and a securing device passing through said slot into said sash; substantially as specified.

5. A sash-lock comprising a dog provided with a pivoting-shaft and a handle extending laterally therefrom beyond the face of the sash to which it is secured, a boxing for said shaft, collars on said shaft at opposite ends of said boxing, a check pivoted at its upper end to said handle and provided with a slotted lower end, a securing device passing through said slot into said sash, and a series of ratchet-teeth carried by a cooperating sash and decreasing in length from the upper end downwardly; substantially as specified.

6. A sash-lock comprising a ratchet secured to one sash and having a series of teeth decreasing in length from the upper end downwardly, a dog provided with a pivoting-shaft and a handle extending laterally therefrom, a boxing for said shaft carried by a cooperating sash, collars on said shaft at opposite ends of said boxing, means for normally holding said dog in engagement with said ratchet, a check pivoted at its upper end to said handle and provided with a slotted lower end, a securing device passing through said slot into said sash, and a tapering lip at one side of said dog and ratchet increasing in width from the upper end downwardly; substantially as specified.

7. A ratchet for a sash-lock comprising a

body having a series of teeth thereon decreasing in length from the upper end downwardly, means for securing said ratchet to a sash and a tapering lip at one side of said teeth increasing in width from the upper end downwardly; substantially as specified.

8. A ratchet for a sash-lock having a series of teeth thereon, a lip at one side of said teeth having parallel vertical walls and increasing in width from the upper end downwardly; substantially as specified.

9. In a sash-lock, the combination with an upper sash, of a ratchet secured to the face of a stile thereon, a lip at one side of said ratchet having a straight outer wall and an inclined inner wall, a lower sash provided with a lip having a notch in which said ratchet-lip travels, and a locking-dog carried by the lower sash and having a handle extended beyond the sash; substantially as specified.

10. In a sash-lock, the combination with an upper sash, of a ratchet having teeth decreasing in width downwardly from the top thereof secured to the face of a stile thereon, a lip

or flange at one edge of said ratchet, a locking-dog carried by the lower sash and having a handle extended beyond the sash, and a bearing-plate for said locking-dog having projecting lugs on opposite sides of said ratchet-lip; substantially as specified.

11. In a sash-lock, the combination with an upper sash, of a ratchet secured to the face of a stile thereon, a lower sash provided with a lip having a notch in which said ratchet travels, a locking-dog carried by the lower sash, and a bearing-plate for said locking-dog having projecting lugs on opposite sides of the notch in said lip; a handle for said dog, a check secured to said handle and means for clamping said check to the sash for retaining the dog in or out of engagement with said ratchet; substantially as specified.

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

HENDERSON H. GOUCHER.

Witnesses:

BERTHA A. GOUCHER,
LAURA DEE GOUCHER.