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W. HINCHLIFFE.

SASH LOCK.

APPLICATION FILED DEC. 16, 1905.

Fig. 1.

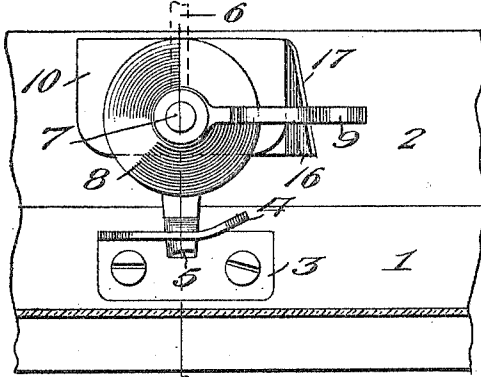


Fig. 2.

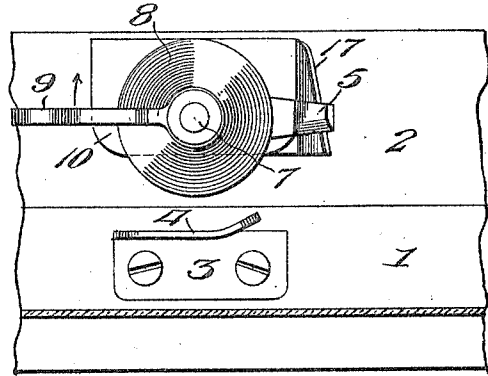


Fig. 3.

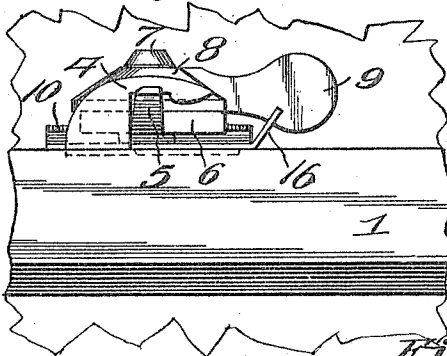


Fig. 4.

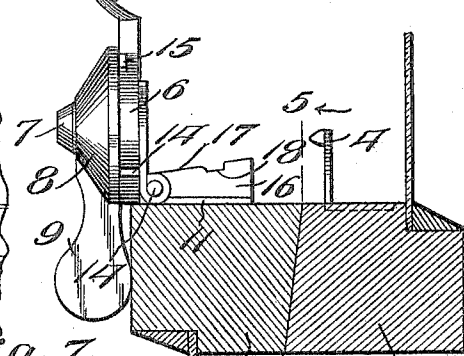


Fig. 5.

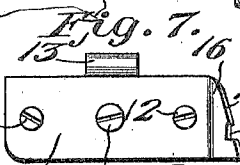
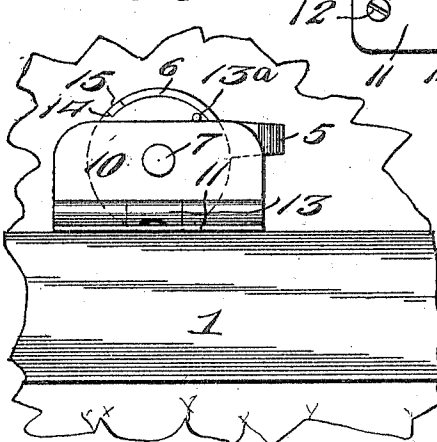
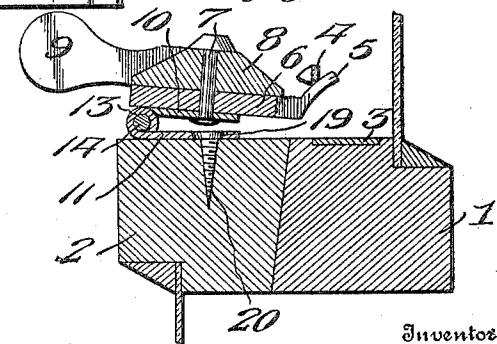


Fig. 6.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## SASH-LOCK.

No. 820,868.

Specification of Letters Patent.

Patented May 15, 1906.

Application filed December 16, 1905. Serial No. 292,028.

*To all whom it may concern:*

Be it known that I, WILLIAM HINCHLIFFE, a citizen of the United States of America, residing at Huntsville, in the county of Madison and State of Alabama, have invented new and useful Improvements in Sash-Locks, of which the following is a specification.

This invention relates to sash-locks of that type comprising a keeper member and a pivoted or swinging latch member or sweep adapted for application to the meeting-rails of sashes and to be engaged by a swinging movement in one direction of the latch member to lock the sashes in closed position.

One object of my invention is to provide a simple, reliable, and inexpensive construction of lock of this character in which novel means are provided for preventing casual disengagement of the interlocking members.

Another object is to provide a construction which will effectually prevent injury to the lock and sash-frame in the event that the latch member on the lower sash is left projected when the sash is open, so that it will strike the keeper member on the upper sash when said lower sash is closed.

Still another object is to provide a construction which will permit of the ready adjustment of the latch member to accommodate irregularities in the relative arrangement of the meeting-rails, so that a proper engagement of the latch member with the keeper member may be obtained.

With the above and other objects in view the invention consists of the novel construction and combination of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of the meeting-rails of sashes equipped with my improved sash-lock, showing the members of the lock in engaging position. Fig. 2 is a similar view showing the latch member retracted. Fig. 3 is a front elevation of the parts as arranged in Fig. 1. Fig. 4 is a transverse section through the meeting-rails, showing the members of the lock in side elevation and with the latch member swung back. Fig. 5 is an outer side elevation taken on line 5 5 of Fig. 4 looking toward the meeting-rail of the lower sash and latch member. Fig. 6 is a vertical section taken on line 6 6 of Fig. 1. Fig. 7 is a plan view of the attaching-plate of the bracket of the latch member.

Referring now more particularly to the

drawings, the numerals 1 and 2 respectively designate the meeting-rails of the upper and lower sashes, the upper sash carrying the keeper member of the lock, which comprises a bracket-plate 3, fastened to the upper surface of the rail 1 and provided with a keeper-hook 4, which may be of the ordinary construction.

The latch member of the lock is mounted upon the upper surface of the rail 2 and is provided with a latch-hook 5 to engage the keeper-hook 4. The hook 5 is carried by a locking head or disk 6, mounted to turn or oscillate upon a pivot bolt or rivet 7. Also mounted to turn upon the bolt or rivet 7 and arranged above the head 6 is an operating head or disk 8, provided with an actuating finger or thumb piece 9, so arranged as to occupy different positions parallel with the rail 2 and on diametrically opposite sides of the bolt or rivet 7 when the hook 5 is in engaging and released positions.

The bolt or rivet 7 passes through both heads 6 and 8 and secures the same to a movable bracket plate or leaf 10, hingedly or pivotally connected with a stationary bracket-plate 11, fastened to the upper surface of the rail 2 in any preferred manner, as by fastening-screws 12. As shown in the present instance, the outer longitudinal edges of the two plates 10 and 11 are formed with knuckles 13 for the passage of a pintle 14, pivotally connecting them in such manner that the heads of the locking member may be swung inwardly toward the upper face of the rail in operative position, as clearly shown in Fig. 6, or outwardly to a vertical position, as shown in Fig. 4.

The locking-head 6 is free to have approximately a quarter-revolution upon the bolt or rivet 7, being limited in movement by a stop-pin 13<sup>a</sup> thereon, adapted to contact at the limits of the range of motion of said head with the free edge of the bracket-plate 10, such extent of motion of the head being sufficient to throw it into and out of operative engagement with the keeper-hook 4. The head 6 is also provided in rear of the pin 13<sup>a</sup> in the direction of projecting movement of said head with a contact-shoulder 14, adapted to be engaged by a contact pin or lug 15 on the locking-head 8, which lug or pin 15 is also adapted to engage the side of the latch-hook 5 nearest the shoulder 14.

The attaching-plate 11 of the supporting or fastening bracket of the latch member of the

lock is provided at one end with a flange 16, extending outwardly at an oblique angle and provided with an inclined or cam edge 17 and a locking notch or recess 18. This flange is disposed in the path of movement of the finger-piece 9 and is adapted to be engaged by the latter when the head 8 is swung to locking position. Said flange 16 is also disposed in the plane of movement of the latch-hook 5, which comes above said flange when the locking member is retracted and is obliquely bent, so as to extend over said flange without coming in contact therewith.

Assuming the locking member to be in the retracted position shown in Fig. 2, in which it clearly appears that the latch-hook 5 lies above the flange 16 and on one side of the bolt or rivet 7, while the finger-piece 9 lies upon the diametrically opposite side of said bolt or rivet, it will be understood that the locking-head 8 is free to be turned by the finger-piece 9 a full quarter-revolution or until it extends straight outward beyond the inner edge of the rail 2 and at right angles to said rail before the lug 15 comes in contact with the shoulder 14. As the finger-piece continues to be moved in the direction of the arrow shown in Fig. 2 motion will be communicated from the head 9, which turns therewith, to the head 6 through the medium of the lug and shoulder to rotate the head until the parts make another complete quarter-revolution, at which time the latch-hook 5 will be fully projected beneath the keeper-hook 4, while the finger-piece 9 will engage the notch 18 in the flange 16 and will thus be locked from casual retrograde movement. It will be understood that as the parts just described swing into locking position the action of the hook 5 in passing under and in contact with the hook 4 will cause the latch member to tilt downward and forward on the hinged portion of the bracket, whereupon the finger-piece 9, which rides up the inclined edge 17 of the flange 16, will be forced down into locking engagement with the notch 18, thus under all ordinary circumstances holding the finger-piece and locking-head from casual disconnection and retrograde movement from shocks, jars, and other disturbances.

If through any cause the finger-piece should be jolted out of engagement with the notch, it will be readily apparent that disconnection of the latch-hook 5 from the keeper-hook 4 would not be liable to ensue, as the locking-head must turn rearwardly a full quarter-revolution before the lug 15 is brought into engagement with the latch-hook, and the movement of said locking-head can be transmitted to the head 6 and latch-hook 5 to swing the latter out of locking engagement with the keeper-hook. When it is desired to disconnect the parts of the latch, pressure is exerted upon the finger-piece 9 to forcibly disconnect it from the notch 18, and said fin-

ger-piece is thus swung rearwardly to turn the locking-head until the shoulder 15 engages the latch-hook 5, when by a further forcible pressure motion will be communicated to the head 6 for a further quarter-revolution of the parts to swing the latch-hook out of engagement with the keeper-hook and restore the parts to the retracted position. (Shown in Fig. 2.) Hence it will be clear that by permitting the operating-head 6 to have a range of movement independent of the locking-head the finger-piece may be jarred out of locking position without throwing strain upon the locking-head and without liability of disconnecting the latch-hook from the keeper-hook, thus materially adding to the efficiency of the lock and providing a structure in which the locking elements cannot under any of the ordinary conditions become casually unfastened.

In the ordinary construction of sash-lock of this type the latch member is journaled upon a stationary bracket-plate which is fastened to the meeting-rail of the lower sash, and thus has only movement in a rotary path in a horizontal plane to connect the latch-hook with and disconnect it from the keeper. In many cases when the lower sash is raised the latch member is carelessly left turned to projected position, so that the latch-hook overlies the keeper-hook, resulting in the event of the lower sash being suddenly closed of the latch-hook forcibly striking against the keeper-hook and causing breakage of one of said hooks or of the forcible loosening or tearing away of the bracket of the latch member from the sash-rail, thus either injuring the parts of the lock or mutilating the rail of the sash. My invention effectually obviates this objection, as if the latch member should stand in projected position when the upper sash by which it was carried was raised and said sash should suddenly be closed the pivotal connection of said latch member with the rail 2 will permit said member to tilt backward when the latch-hook comes into contact with the keeper-hook, as shown in Fig. 4. By this means injury to the parts of the lock under such contingencies will be prevented.

In many instances the upper faces of the meeting-rails of the sashes of a window are thrown out of a level or alining position by warping of the sashes or from other causes, so that the latch-hook of the ordinary form of sash-lock of this character cannot be engaged with the keeper-hook. In order to overcome this objection, I provide the plate 11 with an aperture 19 for the passage of a screw 20, which enters the rail 2 and which may be adjusted to limit the downward movement of the plate 10, thus enabling the latch member of the lock to be adjusted to operate in different substantially horizontal positions to compensate for any variations in the arrangement of the rail 2 with respect to

the rail 1 and to effectually engage the keeper-latch 4 under all conditions of service.

Having thus described the invention, what is claimed as new is—

5 1. In a sash-lock, a latch member comprising an attaching-plate, a supporting-plate hinged to the attaching-plate and carrying a fulcrum-pin, a locking-head pivoted upon the fulcrum-pin and provided with a stop-pin  
10 adapted to contact with the edge of the supporting-plate to limit the movement of the locking-head, the latter also being provided with a latch-hook and a shoulder spaced therefrom, and an operating-head pivoted  
15 upon the fulcrum-pin and provided with a lug movable between said shoulder and latch-hook to transfer movement in opposite directions to the locking-head.

2. In a sash-lock, an attaching-plate provided at one end with an obliquely-disposed

flange having an inclined upper edge provided with a notch, a supporting-plate hinged to said attaching-plate, locking and operating heads coaxially pivoted upon the supporting-plate and provided with interengaging projections, whereby upon turning the operating-head in reverse direction corresponding movement may be imparted to the locking-head, and a finger-piece upon the locking-head adapted to ride upon the inclined edge  
25 of the flange and to seat within the notch thereof when the latch member is in locking position.  
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In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM HINCHLIFFE.

Witnesses:

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