June 17, 1930. J. A. FRASER 1,764,014

LATCH

Filed July 22, 1925

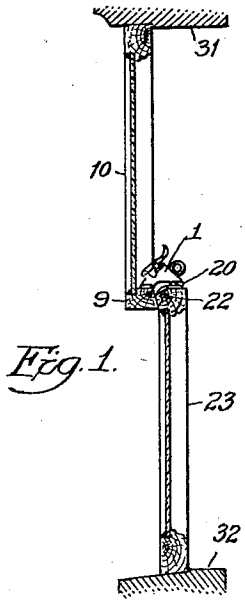

Fig. 1.

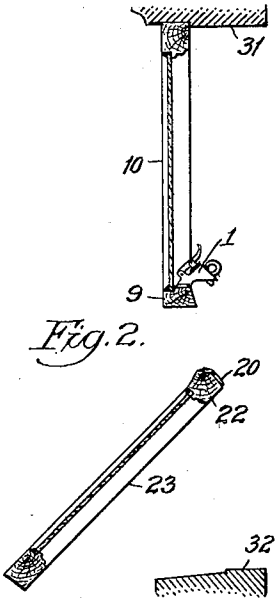

Fig. 2.

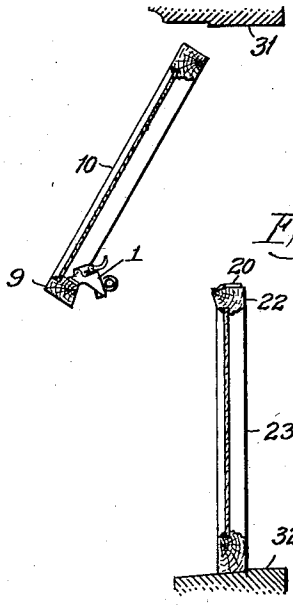

Fig. 3.

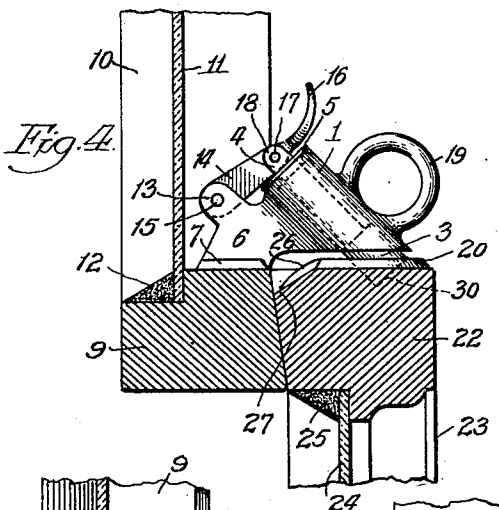

Fig. 4.

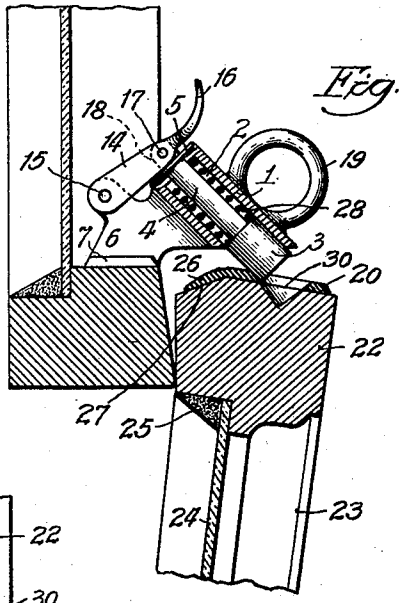

Fig. 5.

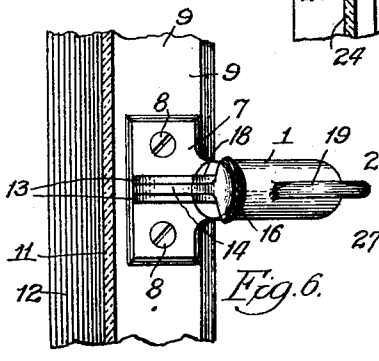

Fig. 6.

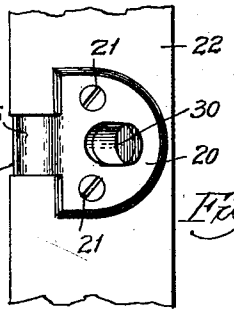

Fig. 7.

Inventor:
J. A. Fraser,
by Wallace R. Lane.
Atty.

Patented June 17, 1930 1,764,014

UNITED STATES PATENT OFFICE

JOHN ALEXANDER FRASER, OF BERKELEY, CALIFORNIA, ASSIGNOR TO THE KAWNEER COMPANY, OF NILES, MICHIGAN, A CORPORATION OF MICHIGAN

LATCH

Application filed July 22, 1925. Serial No. 45,186.

The present invention relates to latches, and more particularly those used in connection with window sashes.

Among the objects of the invention is to provide a novel fastener or latch for double hung awning type of window sashes which will properly operate with the sashes without breaking the sash rails.

This latch is designed to be used with a locking pin preferably disposed at an angle so that the upper sash cannot be opened without first operating the locking pin by withdrawing it, yet having the keeper, preferably connected with a lower sash, so cooperating with the locking pin that the sash may be opened without the opening of the upper sash and on the other hand the lower sash may be brought into closed and locked position without the moving of the upper sash.

The invention also comprehends novel features whereby the upper sash may be brought into closed and locked position by merely drawing upon the sash, the keeper being so designed that the locking pin will cooperate therewith for permitting such movement and come into locking position automatically with the lower sash when the lower sash is in closed position.

Other objects, advantages and capabilities are comprehended by the invention as will later appear and are inherently possessed by the invention.

Referring to the drawing, Figure 1 is a vertical sectional view through a window showing the fasteners in closed position and the latch in locked condition.

Figure 2 is a similar view showing the lower sash in open position.

Figure 3 is a similar view showing the upper sash in open position and the lower sash in closed position.

Figure 4 is a fragmentary sectional view of adjoining sashes and sash rails and a view in side elevation of the latch in locked position.

Figure 5 is a similar view showing the latch in section and with the lower sash partly in open position.

Figure 6 is a top plan view of the supporting part of the latch and a fragment of the rail of the upper sash.

And, Figure 7 is a top plan view of the keeper plate and a fragment of the sash rail of the lower sash.

Referring now more in detail to the drawings, the embodiment selected to illustrate the invention is shown as comprising a bar or pin supporting body 1 having a cylindrical recess or guideway 2 in which is slidably supported a locking bar having a head 3 and a shank 4 adapted to slide through an opening provided in the rear end 5 of the bar socket. The body is provided with a web portion 6 having a base plate 7 suitably secured by means of screws 8 to the sash rail 9 of an upper sash 10 which is usually provided with a pane 11 held in place by suitable weather strips or putty 12 as clearly shown in the drawings. The portion 6 may be provided with a pair of ears 13 to which is pivotally connected a latch 14 by means of a pivot pin 15, the latch being provided at its free end with a fingerpiece 16 and intermediately its ends with a pivot pin 17 to which is pivotally connected the rear end 18 of the shank 4. Upon the body portion 1 may also be rigidly secured or formed integral therewith a finger ring 19.

Cooperating with the head 3 of the bolt is a keeper 20 suitably secured in any manner as by means of screws 21 to a sash rail 22 of the lower sash 23, the latter having a pane 24 and suitable weather strips or putty 25 as clearly shown in the drawings. At one end of the keeper is provided a striking portion 26 disposed at an inclination and in a depressed portion 27 of the sash rail 22. Between the head 3 and the rear end 5 is located a coil or helical spring 28 adapted to normally project the head 3 from the guideway and into a recess 30 formed in the keeper 20 and in the upper part of the rail 22.

The window may be located, as is usual, between a lintel 31 and a sill 32, and it is to be understood that suitable operating mechanism for the opening of this window may be provided as is usual with this type of window. The showing of this operating mechanism and the jambs of the windows have not been shown for the sake of clarity.

In this type of window the upper and lower sashes are swung outwardly in the position shown in Figures 2 and 3. The invention comprehends the provision of a particular latch with this type of window and sashes. It is so designed that the head 3 will set in the recess 30 and prevent the outward movement of the upper sash unless the operator raises the lever 14 by means of the finger piece 16 and retracts the bolt and head 3. When this is done the upper sash is free to open.

On the other hand by reason of the inclined disposition of the locking bar or bolt and the recess 30, it will be apparent, from the showing in the drawings, that the lower sash may be opened without the upper sash being opened, the tipping of the lower sash and the plate 20 will automatically cause the recess 30 to be withdrawn from the head 3. Conversely, the lower sash may be returned to closed position and the recess 30 will be moved into engagement with the head 3 automatically without the opening of the upper sash. It will be understood that the lower sash is normally locked with lower members as is usually the case in order that no part of the window may be opened, when it is desired that the whole window be maintained locked.

When the lower sash is closed and the upper sash has been opened, the latter may be brought into closed and locked position by the operator drawing upon the finger ring 19 and drawing with sufficient force so that the head 3 will ride upon the inclined striking portion 26 and ride thereover into the recess 30 when the head 3 will slide into the recess and automatically lock the upper sash to the lower sash.

While I have herein described and upon the drawings shown a preferred embodiment of the invention, it is to be understood that the latter is not limited thereto but that it comprehends other constructions, arrangements of parts and details without departing from the spirit thereof.

Having thus disclosed my invention, I claim:

1. A locking device for swinging sashes, comprising a socketed keeper for the lower sash and a bar for the upper sash, said bar being capable of extending into the socket of the keeper when the sashes are in closed position, said bar and keeper being arranged that the keeper will move away from or toward the bar for unlocking or locking when the lower sash is opened or closed while the upper sash remains in closed position.

2. A locking device for swinging sashes, comprising a socketed keeper for the lower sash and a bar for the upper sash, said bar being capable of extending into the socket of the keeper when the sashes are in closed position, said bar being at an inclination and having its end extending into said keeper such that as the lower sash is opened and the upper sash remains in closed position, the device becomes unlocked without any stress being imposed upon the sashes.

3. A locking device, comprising a bar support adapted to be secured to a sash and having an inclined bar guide, a bar slidable in said guide, and a keeper adapted to be secured to an adjacent sash and for receiving the bar for holding the former sash locked to the latter sash, said keeper having an inclined socket for receiving said bar and for permitting the opening of the latter sash while the former sash is held in closed position.

4. A locking device, comprising a bar support adapted to be secured to a sash and having an inclined bar guide, a bar slidable in said guide, and a keeper adapted to be secured to an adjacent sash and for receiving the bar for holding the former sash locked to the latter sash, said keeper having an inclined striking portion for causing the bar to move when the former sash is being drawn to closed position.

5. A locking device comprising a bar support and a keeper, said support and keeper having inclined and alined bar socket portions, means for yieldably and normally holding said bar in said socket portions, means for moving said bar in one of said socket portions and from the other of said socket portions for unlocking action, said socket portion in said keeper being at an angle for withdrawal of said keeper socket portion upon a tipping of the keeper relative to the support.

6. A latch for a pair of sashes comprising a slidable locking member mounted on one sash, and a cooperating socketed locking element mounted on the other sash adapted to engage with said member when both sashes are in normal closed position, said member and said element being adapted to permit one sash only to be moved out of normally closed position when both sashes are in normal closed position without the previous unlocking of the latch.

7. A latch for a pair of sashes comprising a slidable element mounted on one sash, and socketed means on the other sash for lockingly engaging said element when both sashes are in closed position, the element, the means and the sashes cooperating to permit one sash only to be moved out of closed position without the element and means having been previously disengaged.

8. A latch for a pair of sashes, comprising a slidable bolt mounted on one sash, and a socket on the other side for lockingly receiving said bolt when both sashes are in closed position, the bolt, the socket and the sashes cooperating to permit one sash only to be moved out of closed position without the

bolt and socket having been previously disengaged.

9. A latch for a pair of sashes comprising a slidable element mounted on one sash, and socketed means on the other sash for lockingly engaging said element when both sashes are in closed position, the element, the means and the sashes cooperating to permit one sash only to be moved out of closed position without the element and means having been previously disengaged, and a second means cooperative with said element to permit either sash to be moved into normal closed and locked position when the other is already in normal closed position.

10. A latch for a pair of sashes comprising a slidable element mounted on one sash, and socketed means on the other sash for lockingly engaging said element when both sashes are in closed position, the element, the means and the sashes cooperating to permit one sash only to be moved out of closed position without the element and means having been previously disengaged, and means for unlocking said latch when both sashes are in closed position.

11. A latch for a pair of sashes, comprising a slidable bolt mounted on one sash, a socket on the other sash for lockingly receiving said bolt when both sashes are in closed position, the bolt, the socket and the sashes cooperating to permit one sash only to be moved out of closed position without the bolt and socket having been previously disengaged, and means for unlocking said latch when both sashes are in closed position.

In witness whereof, I hereunto subscribe my name to this specification.

JOHN ALEXANDER FRASER.