

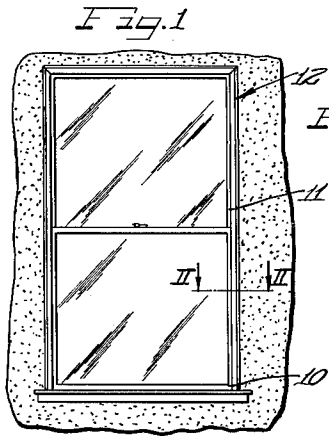
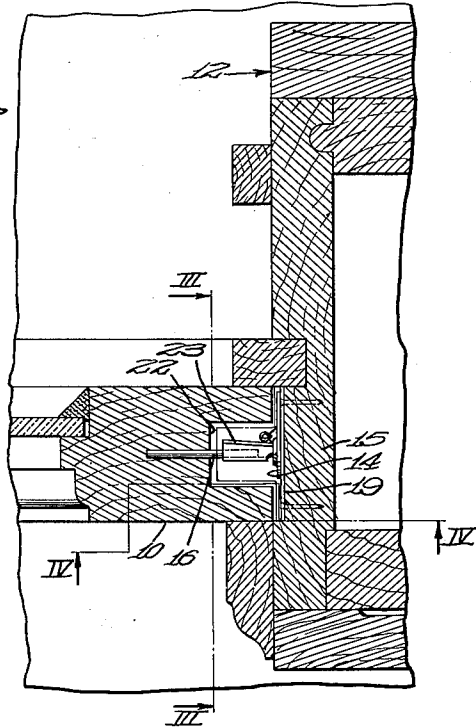
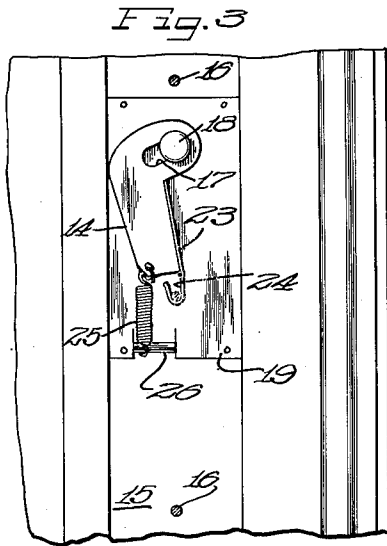
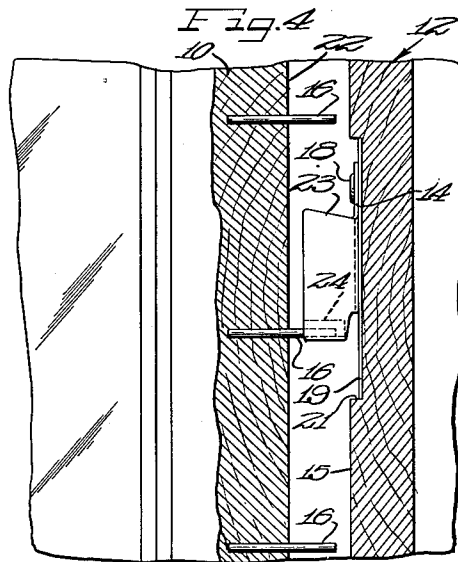
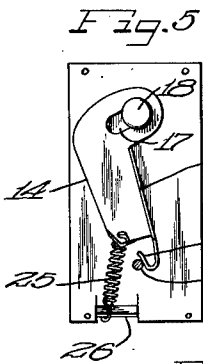
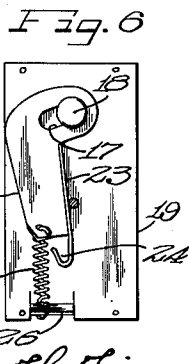
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AUTOMATIC SASH CATCH

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AUTOMATIC SASH CATCH

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This invention relates to improvements in sash catches and more particularly relates to an automatic sash catch adapted to permit free raising and lowering of an unweighted window and to hold the window in the desired raised position.

A principal object of my invention is to provide a novel simplified and efficient form of sash catch permitting free raising and lowering of an unweighted window and automatically holding the window in various desired open positions.

A more specific object of my invention is to provide a simplified form of sash catch utilizing an eccentrically pivoted latching member arranged to pass by but be in position to engage any one of a plurality of holding members upon raising of a window and automatically movable out of engaging position with respect to the holding members during lowering of the window.

In carrying out my invention, I provide a latching member having a latch or catch at its lower end and I mount this member either in the window sash or window jamb for pivotal movement about a horizontal axis eccentric of said latch and for slidable movement along its pivotal axis toward and from a vertical center line extending through said latch.

I also provide a plurality of holding members in either the window sash or window jamb, depending upon which member the latch is mounted, to be engaged by and to hold the window in the desired open position, and I provide a vertically extending cam on this latching member arranged to be engaged by the holding pins on one of its sides during raising of the window to slidably move the latching member in position to permit the holding member to freely pass thereby but in position to be engaged by the latch when the hand is removed from the window, and to be engaged on its opposite side during lowering of the window, to permit the pins to freely pass thereby out of the way of the latch or catch. I further provide a yieldable member to hold the cam in engagement with the pins during raising and lowering of the window.

These and other objects of my invention will appear from time to time as the following specification proceeds and with reference to the accompanying drawing, in which

Figure 1 is an elevational view of a window;

Figure 2 is a horizontal sectional view taken substantially along the line II-II of Figure 1 and showing a latching device constructed in accordance with my invention incorporated within the window frame and sash;

Figure 3 is a fragmentary transverse sectional

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view taken substantially along line III-III of Figure 2 and showing the latching device in position to hold the window open;

Figure 4 is a fragmentary longitudinal sectional view taken substantially along line IV-IV of Figure 2;

Figure 5 is a detail end view of the latching device, showing it in one position during raising of the window; and

Figure 6 is a view somewhat similar to Figure 5, showing the holding pin riding down the side of the cam opposite from the latch during lowering of the window.

As shown on the drawings:

In Figure 1 of the drawings I have shown a well known form of window consisting of a lower sash 10 and an upper sash 11, mounted in a window frame indicated generally by reference numeral 12. A latching device constructed in accordance with my invention is shown in Figure 2 as being incorporated in the window sash and frame out of sight, and may be in both the upper and lower sash, the window showing being a free running type, not requiring window weights.

As shown on Figures 2, 3 and 4 of the drawing, the catch consists generally of a pivoted and slidably movable latching member 14, mounted in a jamb 15 of the window to engage one of a plurality of vertically spaced holding members, herein shown as being pins 16, mounted in the sash of the window. While the latching member is herein shown as being mounted in the window jamb, it should be understood that by a reverse of parts said latching member could be mounted on the sash and the pins could be mounted on the jamb, without departing from the spirit of my invention.

As shown in Figure 3, the latching member 14 is of an inverted substantially L-shaped formation and has a slot 17 extending along the base of the L at the upper end of said member. A pivotal pin 18, having a head on its outer end, extends through said slot and is mounted on its inner end in a plate 19, and forms a pivotal and slidable support for said latching member on said plate. Said plate may be mounted in an intermediate position on the window jamb, and is herein shown as being secured to a recessed portion 21 thereof (see Figure 4). The holding members or pins 16 may be mounted in the base of a channel or groove 22 formed in the window sash and may be spaced vertically therealong.

A camming rib 23 is shown as extending within the groove 22 for engagement with any one of the spaced holding pins 16 and as being formed

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integrally with and extending along one side of the latching member 14. As herein shown, said camming rib extends downwardly along said latching member from a point beneath the slot 17 and toward the end of said slot opposite from the pivoted pin 18 when said latching member is in the position shown in Figure 3. Said camming rib is also shown as terminating at its lower end into a latch or hook 24, herein shown as opening upwardly and facing in a direction away from the pin 18.

A tension spring 25 is connected at one of its ends to the lower end of the latching member 14, at the side thereof opposite from the latch 24 and pin 18, to yieldably hold said latching member in the extreme eccentric position shown in Figure 3 and to allow said member to move along said pin, and along the slot 17, during raising of the window. The opposite end of said spring is connected to a lower inwardly turned portion 26 of the plate 19.

It may be seen with reference to Figures 3, 5 and 6 that as the sash is raised the pins 16, 16 projecting from the base of the channel 22 will pass over the bent-up lip of the latch 24 in position to be received thereby and to support and hold the window sash from downward movement when the hand is removed therefrom. As the window sash is being raised and the pins 16, 16 pass by the lip of the latch 24, they will successively engage the side of the camming rib 23 adjacent said latch and slidably move the latching member 24 along the pivot pin 18 to permit said holding pins 16 to pass thereby without interruption. As soon, however, as a holding pin passes beyond the top of the rib 23 the spring 25 will move said latching member 14 in the extreme eccentric position shown in Figure 6.

During lowering of the window, the spring 25 continues to hold the latching member 14 in an extreme eccentric position along the slot 17. When in this position the top of the rib 23 is positioned to one side of the pins 16, 16 in position to allow said pins to slide downwardly along the side of said rib, opposite from the latch 24, as shown in Figure 6, to permit free lowering of the window.

It may further be seen that if it is desired to lower the window from an intermediate position it is simply necessary to raise it to a point where a pin 16 is slightly above the top of the rib 23, at which time the spring 25 will move said rib in position beyond said pin into position to permit said pin to come into engagement with the far side thereof and freely pass by the latch 24.

It may still further be seen that the latch catches of its own accord during raising of the window when the hand is removed therefrom as long as a cooperating holding pin is beneath the top of the rib 23, and that no operating mechanism is required to engage or release the catch.

While I have herein shown and described one form in which my invention may be embodied, it should be understood that I do not wish to be construed as limiting myself to the express form of my invention shown, excepting as expressly limited in the appended claims.

I claim as my invention:

1. In an automatic window catch, a pivoted latching member mounted on one part of the window for cooperation with one of a plurality of holding members mounted on another part of the window, said latching member extending generally vertically and having a latch at the lower

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end thereof and an offset portion at the upper end thereof having a slot extending transversely of said latch, a pivot pin extending through said slot and mounting said latching member for movement about an axis offset from the vertical axis of said latching member and for slidable movement along said slot, a biasing member connected with said latching member and biasing said latching member along said slot into an extreme offset position with respect to the vertical center line of said latch and inclining said latching member with respect to the vertical, and a latch at the lower end of said latching member opening to the side thereof opposite from said offset portion and pivot pin and biased by said biasing member into position to successively engage the holding members on the open side of said latch during raising of the window into position to be held thereby upon slight lowering of the window, and on the opposite side of said latch during lowering of the window to freely pass thereby.

2. In an automatic window catch, a vertically extending latching member, a pivot pin pivotally mounting said latching member on one part of the window for movement about a horizontal axis and for slidable movement along said pin in a direction transverse to the vertical axis of said latching member toward and from said vertical axis, said latching member having a latch adjacent its lower end opening upwardly and to the side thereof opposite from said pin for sequential cooperation with one of a plurality of vertically spaced holding members mounted on another part of the window, a spring biasing said latching member along said pivot pin in an extreme position away from the vertical axis of said latching member, positioning the open side of said latch to pass by the holding members during upward movement of the window and to cooperate with the holding members during slight lowering thereof, and positioning the closed side of said latch to pass by the holding members during lowering movement of the window.

3. An automatic sash catch comprising an elongated latching member a pivot pin pivotally mounting said latching member on one part of a window adjacent one of its ends for movement about a horizontal axis and for slidable movement transversely of the longitudinal axis of said latching member into a position offset from the longitudinal axis of said latching member, said latching member having an upright camming rib extending along one side thereof and having camming surfaces on each side thereof terminating into a latch opening to one side of said rib for cooperation with one of a succession of holding members mounted on another part of the window, and a tension spring connected to said latching member and biasing said latching member in an extreme offset position with respect to its longitudinal axis and inclining said rib and latch into position to engage the holding members on one side of said rib during lowering of the window and to engage and pass along the side of said rib toward which said latch opens, during raising of the window whereby said latch may hold the window from lowering movement upon raising and slight lowering movement thereof.

4. In an automatic sash catch, an elongated vertically extending pivoted latching member mounted on one part of a window frame for successive cooperation with a plurality of holding members mounted on another part of the window

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frame, said latching member having an upper end portion offset from the vertical axis thereof and having a slot extending therealong transversely of the vertical of said latching member and to one side of said axis, a pin extending through said slot and mounting said latching member on one part of the window frame for movement along said slot, a spring connected with the lower end of said latching member and urging said latching member in position along said slot offset from the vertical axis of said latching member, a rib extending downwardly along the side of said latching member on the side thereof adjacent said offset upper end portion and pin and biased by said spring into an inclined position with respect to the window frame, a latch adjacent the lower end of said rib and opening in communication with the opposite side of said rib from said offset portion and pin, said rib forming a camming surface

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and urged into position by said spring to engage the holding members along the side of its face communicating with the open portion of said latch during upward movement of the window and along its opposite face during lowering movement of the window, to accommodate said latch to freely pass by said holding members during lowering movement of the window.

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