

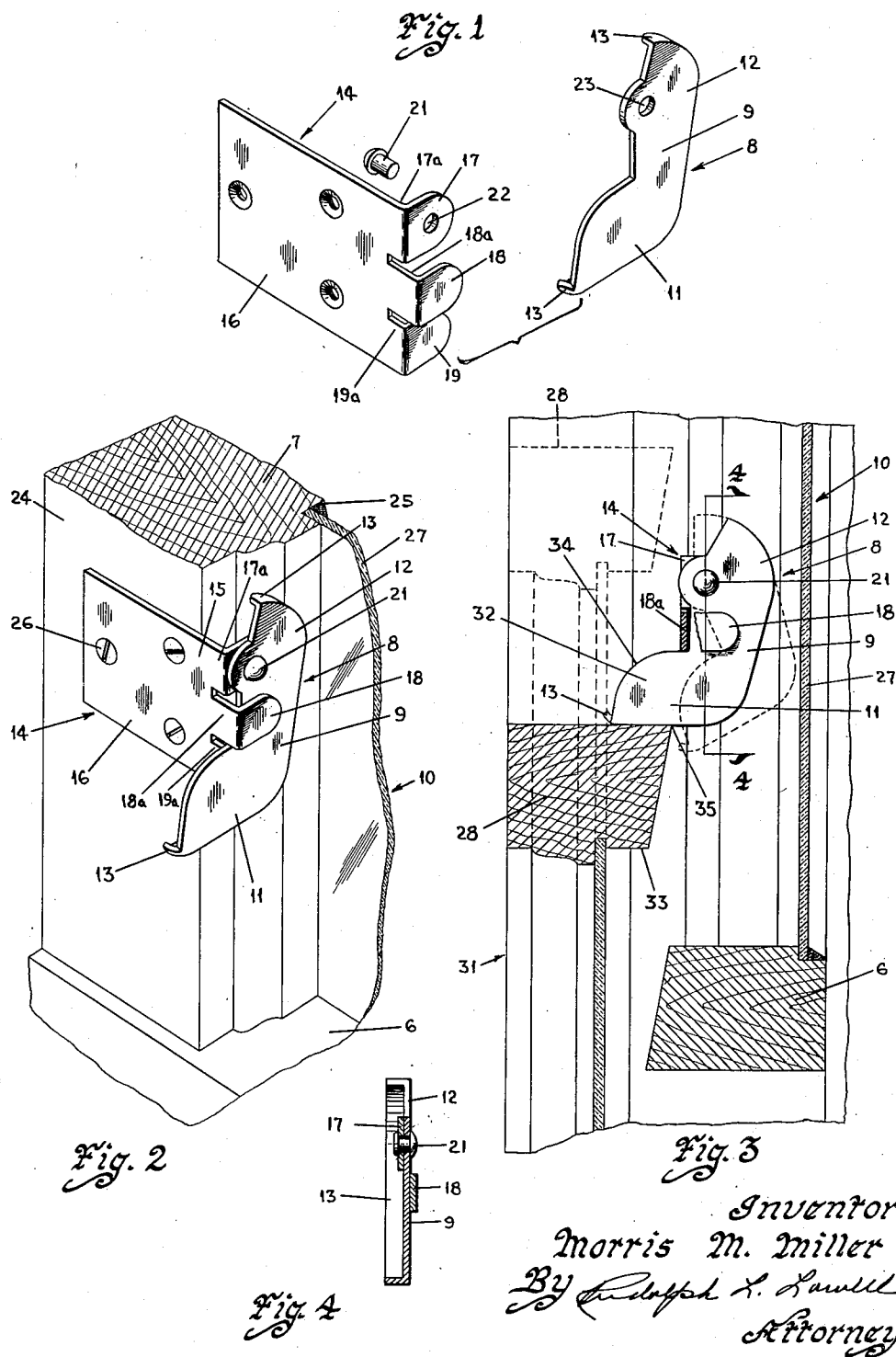
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WINDOW STOP DEVICE

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WINDOW STOP DEVICE

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1 Claim. (Cl. 292—230)

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This invention relates generally to window stop devices and in particular to a device for limiting the opening movement of the sashes of a window.

An object of this invention is to provide an improved window-stop device.

Another object of this invention is to provide a window-stop device for limiting the opening movement of window sashes which, when the sashes are in closed position, is always in a position to engage a sash.

A further object of this invention is to provide a stop device for window sashes which is capable of being manually moved out of the path of movement of a sash to be opened to permit a full opening movement thereof, and automatically returned to a position to limit the opening movement of a sash on movement of the sashes to their closed positions.

Yet another object of this invention is to provide a stop device for window sashes in which a pendent member and a supporting bracket therefor are relatively constructed such that any force applied on the pendent member by a window sash is transmitted to the bracket.

Still a further object of this invention is to provide a stop device for window sashes which is of a compact and simple construction, economical to manufacture, and adapted to be installed on standard-type windows without appreciably defacing the window, or detracting from a neat over-all appearance of the window.

A feature of this invention is found in the provision of a stop device for window sashes in which a bracket support for a pendent member is formed with a series of three vertically spaced lateral projections. The top and bottom projections are in a common plane and the intermediate projection is offset longitudinally from such two projections. The pendent member has its upper end pivotally supported on the top projection and is guidably supported in its swinging or pivotal movement between the two projections and the offset projection. When the pendent member is engaged by a window sash, a portion thereof is engageable with the intermediate projection so that the force applied on the sash to open the same is free of the pendent pivot.

Further objects, features and advantages of this invention will appear from the following description when taken in connection with the accompanying drawings, in which:

Fig. 1 is an exploded perspective view of the window stop device of this invention;

Fig. 2 is a perspective view of the stop device

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shown in assembly relation with the upper sash of a window;

Fig. 3 is a side elevational view of the stop device shown in an engaged position with the lower sash to limit the upward movement thereof; and

Fig. 4 is a sectional detail view taken along the line 4—4 in Fig. 3.

With reference to the drawings, the stop device of this invention is illustrated in Fig. 2 in assembly relation with the upper sash 10 of a usual type window, which sash includes a lower meeting or check rail 6 and an upright side rail or frame member 7.

The stop device comprises a pendent member, designated generally as 8, having a flat body member 9 of a generally L-shape so as to include a horizontal short leg 11 and an upright long leg 12. The outer sides of the legs 11 and 12 are integrally formed with a laterally projected lip or flange 13.

A supporting bracket 14 for the pendent member 8 includes a flat body member 16, of a substantially rectangular shape, integrally formed at one end 15 with a series of three transversely spaced longitudinal extensions 17a, 18a and 19a which terminate in lateral projections 17, 18 and 19, respectively. Since the projections 17, 18 and 19 are in a vertically spaced relation when the bracket 14 is secured to the side frame member 7, the projection 17 will be hereinafter referred to as the upper projection, and the projection 19 as the lower projection. The center projection 18 is offset longitudinally outwardly from the projections 17 and 19, which lie in a common plane. The offset of the projection 18, relative to the projections 17 and 19, is of a distance substantially equal to the thickness of the pendent body member 9. In the assembly of the bracket 14 with the pendent 8, the pendent 8 is arranged between the projections 17 and 19, and the offset projection 18 with its lower leg 11 positioned below the extension 18a. A pivot pin or rivet 21 is then inserted through aligned openings 22 and 23 formed in the projection 17, and adjacent the top end of the upright leg 12, respectively.

In the assembly of the stop device on a window, the bracket 14 is secured to the front surface 24 of the sash frame member 7 at a position above the check rail 6 dependent upon the opening of the window desired, namely, that position at which the opening movement of a sash is to be stopped. The bracket 14 is secured to the frame member 7 by screws or the like 26 such that the end 15 of the body member 16 extends inwardly

of the frame member 7 so as to overlie the sash pane 27.

As a result, the pendent 8 is pivotally supported for pivotal movement in a vertical plane toward and away from the glass pane 27 in the upper sash 10, at a position adjacent to the inner side 25 of the frame member or side rail 7. The bracket 14 and pendent 8 are of a relative construction such that when the pendent 8 is pivotally moved to its rear-most position against the pane 27, as shown in dotted lines in Fig. 3, the pendent is substantially within the confines of the upper sash 10, and out of the path of travel of the check rail 28 for the lower sash 31.

On movement of the pendent 8, by gravity, to its rest position, as shown in Figs. 2 and 3, the forward end 32 of the lower pendent leg 11 is arranged in the path of travel of the lower sash 31 so as to provide for the engagement of the leg 11 with the check rail 28 on upward movement of the lower sash. This projection of the leg 11 within the path of travel of the lower sash is accomplished by virtue of the rivet 21 being inserted through the pendent 8 at a position adjacent to the forward side of the upright leg 12, so as to give an off-balance suspension of the pendent.

In the operation of the stop device assume that the pendent 8 is in its rest position, shown in Figs. 2 and 3, and that the lower sash 31 is in its lowered or closed position. At this rest position the forward end 32 of the leg 11 is in the path of upward movement of the lower sash. Thus, as the lower sash 31 is moved upwardly, the leg 11 is engaged by the meeting rail 28 so as to limit any further upward movement of the lower sash.

The upward force applied on the lower sash 31 is prevented from being transmitted to the pivot pin 21 by the co-acting engagement of the bottom side of the longitudinal extension 18a with the top side of the pendent leg 11. This engagement takes place by virtue of the fact that the openings 22 and 23 for the pivot pin 21 are of a size to loosely receive the pivot pin so as to allow a limited free movement of the pin transversely of said openings. As a result, the pendent 8 is free to move to its rest position, which is determined by the engagement of the front side of the upright leg 12 with the rear side of the longitudinal extension 18a and with the top side of the pendent leg 11 spaced below the extension 18a. However, on engagement of the pendent 8 by the check rail 28, the pendent 8 is moved upwardly to in turn provide for the engagement of its leg 11 with the extension 18a as shown in full lines in Fig. 3. Any upward force applied on the lower sash 31 during its opening movement, or tending to move it beyond its position as limited by the stop device, is thus transmitted entirely to the bracket 14. It is seen, therefore, that the device is positive in its action to limit the upward movement of the lower sash.

On movement of the lower sash 31 downwardly from its engaged or stop position, as shown in Fig. 3, the pendent 8 merely moves downwardly by an amount commensurate with the movement of the pivot pin 21 transversely of the openings 22 and 23.

In order to raise the lower sash 31 to its full limit of upward travel, the pendent 8 is manually moved to its dotted-line position, shown in Fig. 3, so as to be substantially within the confines of the upper sash 10 and entirely out of the path of movement of the lower sash 31. Stated otherwise, the pendent 8 is designed to fit within the

space defined by the distance between the glass pane 27 and the rear upper edge 35 of the check rail 28.

On downward movement of the sash 31, from a fully raised position therefor, the lower rear edge 33 of the check rail 28 initially engages the front top side portion 34 of the pendent leg 11, which portion is of an arcuate shape so as to constitute a cam surface. Thus, on a continued downward movement of the sash 31, the lower edge 33 moves downwardly along the curved cam surface 34 whereby the pendent 8 is pivotally moved in a rearward direction to permit a free downward movement of the sash 31. As soon as the check rail 28 of the lower sash 31 moves out of engagement with the cam 34, the pendent 8, by the action of gravity, is automatically returned to its rest position whereby its lower leg 11 is again within the path of movement of the lower sash.

In the operation of the device to limit the opening movement of the upper sash 10, assume the sashes 10 and 31 to be in their closed positions and the pendent 8 to be in its rest position. On opening movement of the upper sash, the pendent lower leg 11 is moved into engagement with the check rail 28 of the lower sash, whereby further opening movement of the upper sash 10 is limited. To fully open the upper sash 10, the pendent 8 is merely moved to its dotted-line showing in Fig. 3.

From a consideration of the above description, it is seen that the invention provides a window-stop device which is of a simple and compact construction, capable of being easily installed on a standard type window, and efficient and positive in operation to limit the opening movement of either of the window sashes. By virtue of the automatic return of the pendent 8 to its rest or operating position, whenever the sashes are in their closed positions, the device is always ready to limit the opening movement of either. Further, it will be importantly noted that any force applied on either of the two sashes, tending to open them beyond their positions defined by the stop device, is transmitted entirely to the bracket 14 and not on the pin 21 so as to give greater assurance of safety against a sash being forced open, as by burglars, when a sash is left in an open position. This safety is further guaranteed by virtue of the projections 17, 18 and 19 acting as guides to support the pendent 8 against tilting movement tending to pull the pin 21 outwardly from the openings 22 and 23. Further, these three projections guide the pivotal movement of the pendent 8 in a vertical path so that it is always in an upright position for engagement with the check rail 28.

Although the invention has been described with respect to a preferred embodiment thereof, it is to be understood that it is not to be so limited since changes and modifications can be made therein which are within the full intended scope of this invention, as defined by the appended claim.

I claim:

A device for limiting the opening movement of the sashes in a window comprising, a flat pivoted pendent member of a substantially L-shape, a bracket adapted to be secured against the front surface of a side frame member of the upper sash in said window having an end section positioned opposite the glass pane of said upper sash, a series of three lateral projections on said end section extended toward said glass pane and spaced horizontally from said bracket member in

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a spaced relation transversely of said bracket member, with two of said projections being in a common vertical plane, and the third one of said projections being located intermediate said two projections in a vertical plane parallel to and spaced outwardly from said common plane, and a pivot for said pendent member carried in the upper one of said two projections, with said two projections being opposite one side of said pendent member and said third projection opposite the other side of said pendent member to guide the pivotal movement of said pendent member, said pivot being extended through the free end of the long leg of said pendent member so that the short leg of the pendent member is movable to a position below and in contact engagement with the third one of said projections, with

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said pendent member, in a rest position, having the short leg thereof within the path of movement of the lower sash so as to be engaged by the lower sash on raising thereof.

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