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VENTILATING WINDOW

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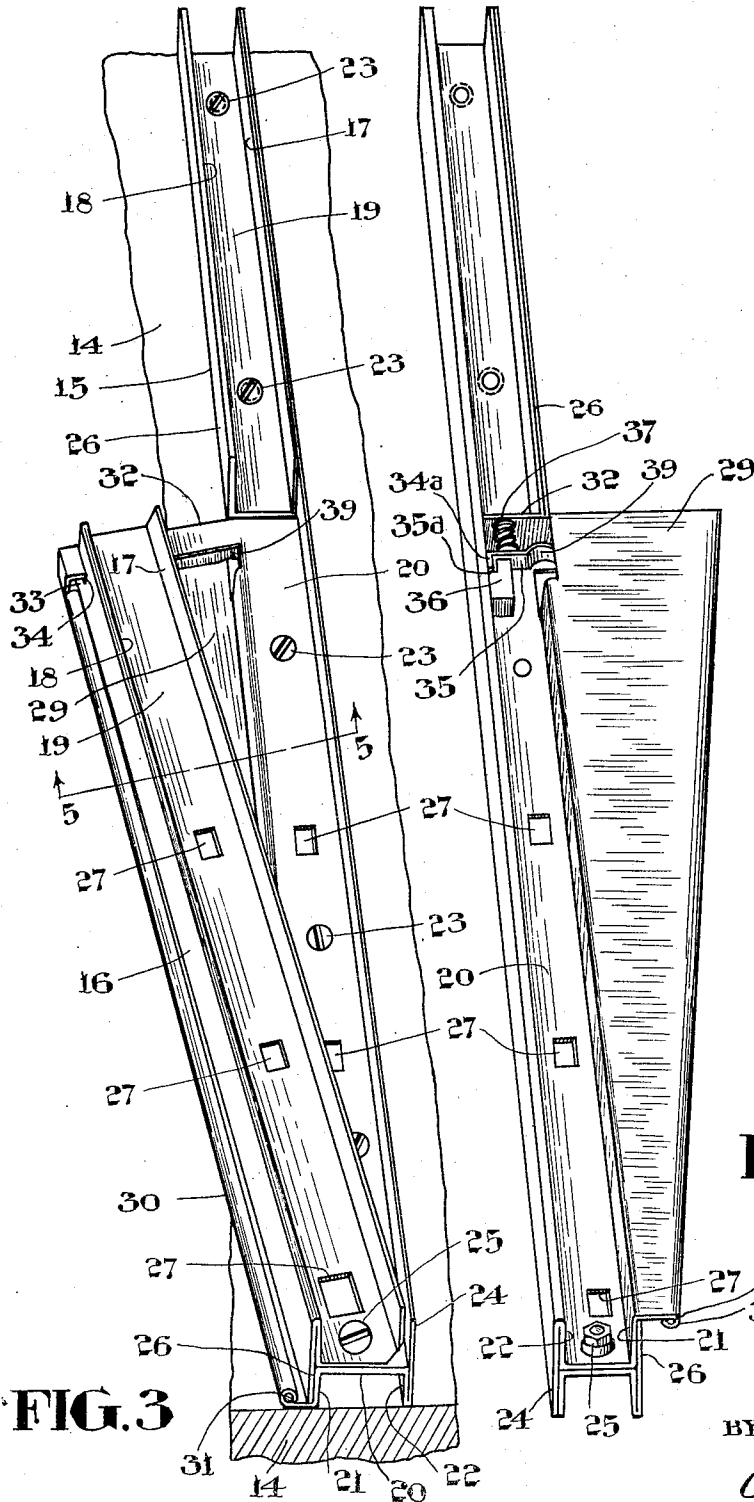


FIG. 4

FIG. 3

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VENTILATING WINDOW

Application filed January 9, 1931. Serial No. 507,635.

This invention relates to windows and the object is to provide an improved window sash assembly of the character disclosed in my co-pending applications Serial No. 455,851, filed May 26, 1930 and Serial No. 458,509, filed May 31, 1930.

In these prior applications I have disclosed a sash assembly including a lower sash mounted to slide in vertical channel guides attached to the opposing jambs of the window frame. The lower sections of the guides are mounted to swing to an angular position out of alignment with the upper section in order to facilitate removal or reglazing of the lower sash. One of the advantages of this arrangement, in addition to providing for removal and reglazing of the lower sash, is that the lower sash may be supported in an angular position so that a ventilating opening is provided between the upper edge of the lower sash and the adjacent lower edge of the upper sash. There is, however, a disadvantage incident to the use of this arrangement for ventilating purposes in that moisture and air is permitted to pass directly through the lower portion of the window frame between the window jambs and the adjacent lower guide sections and this is not altogether desirable either from a weatherproofing or a ventilating standpoint.

In order to correct this defect, the present invention contemplates the provision of wing plates attached to the window jambs and adapted to fit closely against the lower guide sections to prevent the leakage of air or moisture between these sections and the window jambs when the sections are swung to an inclined position for ventilating purposes. These wing plates are also utilized to limit the angular movement of the lower guide sections with reference to the upper guide sections and, consequently, take the place of the stop members previously employed for this purpose. The wing plates are also equipped with friction shoes engageable with the lower guide sections to hold the latter in various positions of angular adjustment.

Proceeding now to a more detailed discussion of the invention, reference will be had to the accompanying drawings, wherein

Figure 1 is a perspective view of a window assembly equipped with sash guides constructed in accordance with this invention.

Figure 2 is a view similar to Figure 1 but showing the parts in a different position.

Figure 3 is an enlarged perspective view of the complete sash guide as it appears when looking toward the sash engaging side.

Figure 4 is a view similar to Figure 3 but looking toward the opposite side of the guide.

Figure 5 is a transverse sectional view along the line 5-5 of Figure 3.

Figure 6 is a fragmentary perspective view of a detail.

Referring more particularly to the drawings, 11 designates a window frame equipped with a stationary upper sash 12 and a sliding lower sash 13. The side edges of the lower sash are arranged to slide in vertical channel guides attached to the window jambs 14 and extending the full height of the window frame. Each guide comprises a stationary upper section 15 and a pivotally mounted lower section 16. Both sections are formed from a single strip of metal bent to provide spaced sash engaging flanges 17 and 18 connected by an intervening web 19. The web 19 of section 15 is rigidly secured to the web 20 of a channel shaped base strip including side flanges 21 and 22. The web 20 of the base strip is spaced from the window jamb 14 by the flanges 21 and 22 and is secured in place by the screws 23. The base strip is also provided with an additional flange 24 which is preferably formed as an integral continuation of the flange 22 and is arranged to project beyond the web 20 in the opposite direction, i. e., away from the jamb 14. At its lower end the web 19 of the sash guide section 16 is secured by a pivot 25 to the web 20 of the base strip, whereby said section 16 is mounted to swing into and out of alignment with the upper complementary section 15. When the guide sections 15 and 16 are aligned the flange 24 of the base strip serves as a weatherproofing element preventing leakage of air or moisture between the web of the base strip and the engaging webs of the sections 15 and 16. The guide sections 15 and 16 are also pref-

erably provided with weatherproofing flanges 26 formed as reverse continuations of the sash engaging flanges 18 and arranged to overlap the flange 21 of the base plate. As shown to advantage in Figs. 3 and 4 the web 20 of each base strip and the engaging web 19 of the pivotally mounted guide sections 16 are provided with complementary openings 27 to receive the bolt or detent (not shown) carried by one of the sash locks appearing at 28 in Fig. 1.

When the complementary sections 15 and 16 of each guide are aligned they form a channel guide for the sash 13 which extends from the bottom to the top of the window frame 11 so that the said sash 13 has the usual range of sliding movement. When the sash 13 is positioned between the lower sections 16 and the latter are swung to the position shown in Figs. 1 and 3, a ventilating opening is provided for the admission of outside air which is deflected upwardly in a desired manner by the inclination of the sash. When the sash 13 is in this position it is desirable that all of the incoming air be directed over the upper edge of the sash and that no air or moisture be permitted to leak upwardly between the opposing surfaces of the window jamb 14 and the guide section 16. This is provided for in the present instance by wing plates 29 arranged to fit closely against the outer side surface of the guide sections 16 during swinging movement of the latter to the position shown in Fig. 3. The wing plates are shown as formed integral with the flanges 21 of the base strip, but it will be manifest that these plates may be attached to the base strip or to the window jambs 14 in various ways to serve the purpose for which they are provided. The wing plates are preferably made of gradually decreasing width from the upper to the lower ends in order to save metal since the manner of pivoting the guide sections 16 does not require the lower portions of the wing plates to be of the same width as the upper portions. The free longitudinal edges of the wing plates are preferably rolled as indicated at 30 and provided with suitable stiffening or reinforcing rods 31. These rolled edges 30 serve as stops engageable with the guide sections 16 when said sections are swung to the position shown in Figs. 1 and 3.

A casing 32, open at the bottom, is provided at the upper edge of each wing plate 29. The flange 26 of each guide section 16 terminates, at its upper end, in a guide lug 33 which is spaced from the web 19 to provide an intervening guide slot 34 receiving the inner side wall of the casing 32. The lug 33 extends upwardly within the bottom portion of the casing 32 and is formed with a rounded upper end 33a bearing against a spring pressed friction shoe 35. This shoe consists of a flat metal strip having its outer end rest-

ing loosely on the upper extremity of the rolled edge 30 and its inner end resting loosely on a block 36 attached to the flange 22. A plurality of coil springs 37 are interposed between the strip 35 and the top wall of the casing 32 and serve to press the strip downwardly against the rounded terminal of the lug 33. Longitudinal movement of the strip 35 in the casing 32 is prevented by bending the inner end of the strip downwardly as at 34a to engage in a slot 35a between the block 36 and the flange 22. Adjacent the block 36 the strip 35 is bowed upwardly to provide a depression 39 in which the rounded upper end of the lug 33 is firmly held when the guide section 16 is aligned with the guide section 15.

The pressure of the strips 35 on the lugs 33 is sufficient to hold the guide sections 16 and the sash 13 in various positions of angular adjustment and thereby enables the effective width of the ventilating or air flow passage to be regulated as desired.

The continuous pressure exerted by the springs 37 on the lug 33 also serves to prevent rattling of the guide sections 16 in any position to which said sections are moved with reference to the upper guide section 15.

In addition to providing for efficient ventilation, the arrangement described in the foregoing permits the sash 13 to be easily and quickly removed when the guide sections 16 are positioned as shown in Fig. 1. Moreover, reglazing of the sash 13 may be conveniently accomplished (by raising the sash in the guide section 16) when the latter are positioned as shown in Fig. 1 if the top rail 12a of the sash is projected a sufficient distance above the guide sections to permit convenient removal of the angle straps 13a and the top sash rail 13b these parts appearing in Figs. 1 and 2 and being of the same construction as disclosed in my co-pending application Serial No. 458,509.

For reglazing purposes, the sash is held in its elevated position by engaging the detents (not shown) of the locks 28 in certain of the detent receiving openings 27 provided along the length of the guide sections 16. After the reglazing operation the rail 19 is again fastened in position and the sash 13 lowered to the bottom of the guide sections 16 so that said sections may be returned to aligned position with reference to the guide sections 15.

Having thus described my invention, what I claim is:

1. A ventilating window comprising a frame equipped with upper and lower sashes, channel guides secured to the side portions of the frame and receiving the side edges of the lower sash, said guides comprising stationary upper sections and pivotally mounted lower sections, said lower sections being swingable into and out of alignment with said upper sections, wing plates arranged at opposite sides of the lower sections and adapted to engage

with said sections when the latter are swung to an inclined position out of alignment with the upper sections, said wing plates serving as weatherproofing elements between the side portions of the lower frame and said lower sections when the latter are in said inclined position.

2. A ventilating window comprising a window frame equipped with upper and lower sashes, channel guides secured to the sides of the window frame and receiving the side edges of the lower sash, each channel guide comprising a stationary upper section and a pivotally mounted lower section, said lower section being swingable laterally with reference to said upper section to dispose the lower sash in an inclined position whereby a ventilating opening is formed between the upper edges of the lower sash and the lower edges of the upper sash, wing plates arranged to be engaged by the lower section when swung out of alignment with the upper section, said wing plates serving as weatherproofing elements between the sides of the window frame and said lower section and being equipped with stops engageable with said lower sections to limit the movement of the lower sections when said sections are swung to a sash inclining position.

3. A ventilating window comprising a window frame equipped with upper and lower sashes, vertically extending channel guides secured to the sides of the window frame and receiving the side edges of the lower sash, each channel guide comprising a stationary upper section and a pivotally mounted lower section, said lower sections being movable about the pivot connections to an inclined position out of alignment with the upper sections whereby the lower sash is disposable at an inclination with a reference to the upper sash to form a ventilating opening between the upper edge of the lower sash and the lower edge of the upper sash, wing plates arranged to engage the lower guide sections and to form weatherproofing elements between said sections and the sides of the window frame when said sections are disposed in their inclined position with reference to the upper guide sections, and friction shoes carried by the wing plates and engageable with the upper ends of the lower guide sections to hold the sections in various positions of angular adjustment with reference to the upper guide sections.

4. A window sash guide comprising a base strip adapted to be secured to one side of a window frame to extend vertically from the bottom to the top of said frame, a channel guide secured to said base strip, said guide comprising an upper stationary section and a lower section having its lower end pivoted to the base strip in a manner permitting said lower section to be swung to an inclined position out of alignment with the upper sec-

tion, and a wing plate extending laterally from the base strip and adapted to bear against the lower guide section when the latter is swung out of alignment with the upper guide section.

5. A ventilating window comprising a pair of vertically extending channel guides secured to opposite sides of the window frame and receiving the side edges of a vertically slidable window sash, each of said guides comprising upper and lower normally aligned sections, the lower section being swingable out of alignment with the upper section to assume a vertically inclined position and wing plates arranged to serve as weatherproofing elements between the side portions of the window frame and said lower guide sections when the latter are in said inclined position, said wing plates also serving to support the lower guide sections in their last mentioned position.

In witness whereof, I have hereunto set my hand.

HAROLD V. TAYLOR.

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