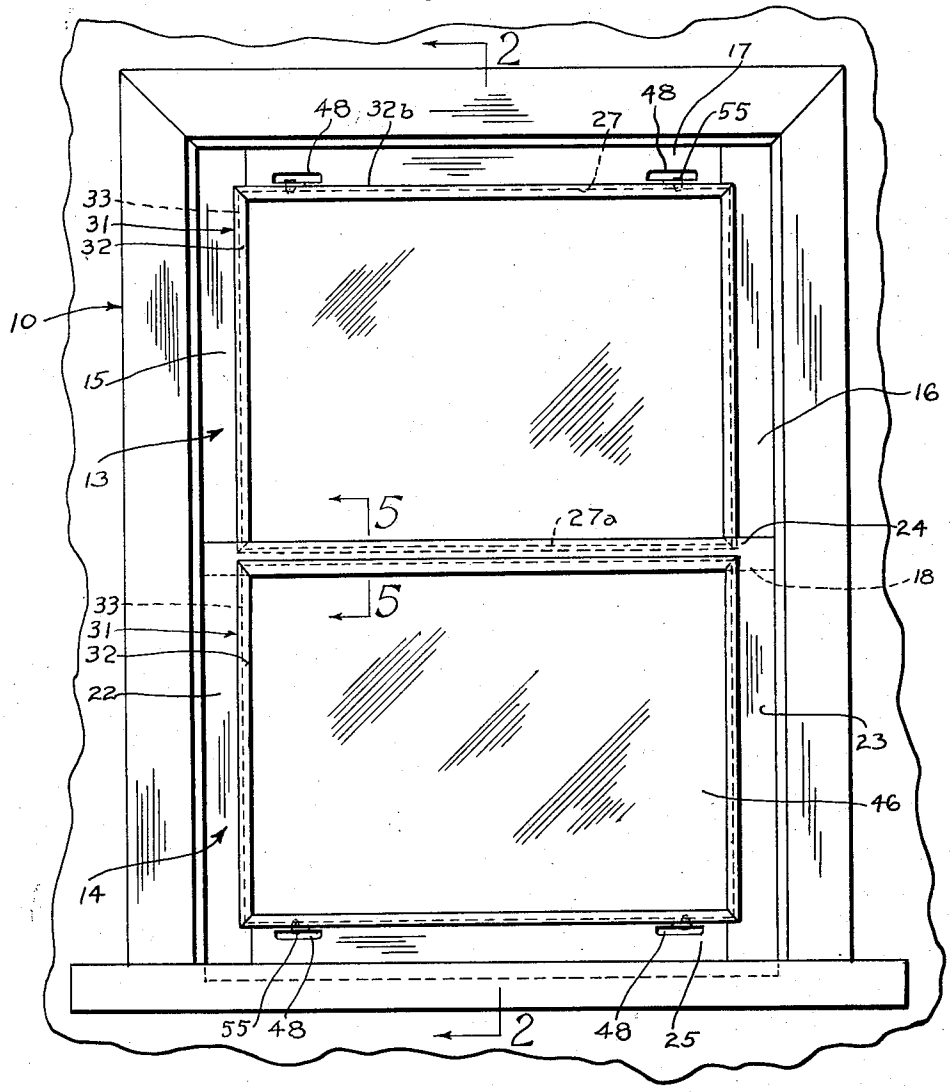
April 28, 1959 A. T. KUNKEL 2,883,716

AUXILIARY WINDOW PANEL AND FASTENER THEREFOR

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Fig. 1



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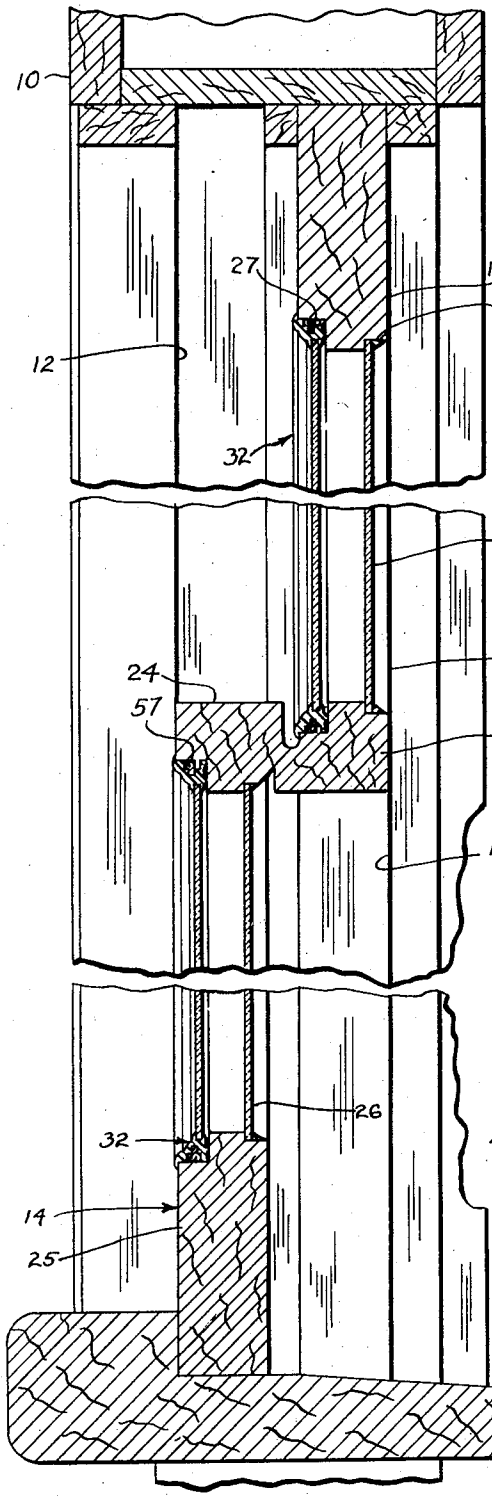


Fig 2

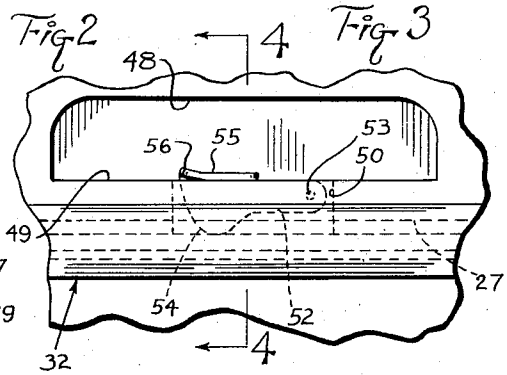


Fig 3

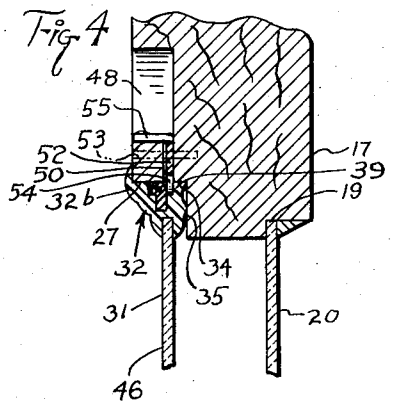


Fig 4

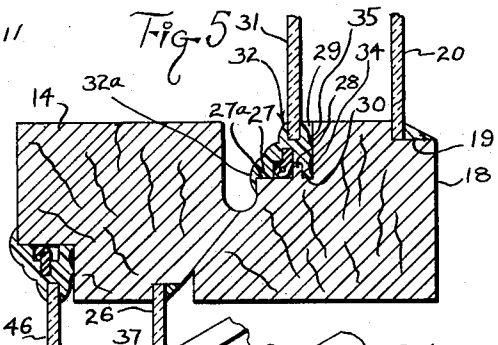


Fig 5

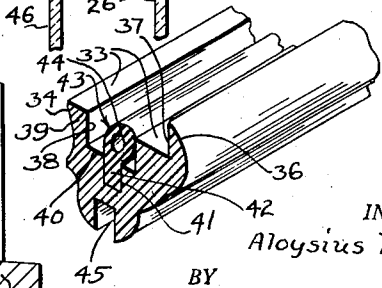


Fig 6

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AUXILIARY WINDOW PANEL AND FASTENER THEREFOR

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Application October 13, 1954, Serial No. 461,955

1 Claim. (Cl. 20—56.1)

This invention relates to windows, and in particular to windows having double-hung sliding sashes.

One object of the invention is to provide a window of the character described wherein the sliding sashes may be of substantially conventional type including the usual panes of glass affixed therein, but wherein each sash is also provided with an auxiliary glass closure panel which obviates the necessity of providing separate storm sash or window, and at the same time does not substantially detract from the general appearance of the window.

Another object of the invention is to provide a window of the character described, wherein the auxiliary closure panels are removably attached to the sashes by improved locking means which is unobtrusive or substantially hidden during normal use of the window.

Another object of the invention is to provide a window of the character described in the last paragraph wherein parts of the sashes utilized in conjunction with the closure panel locking means thereof serve additionally as means to facilitate raising and lowering of the sashes.

Another object of the invention is to provide a window structure as described, wherein is provided improved means for sealing the auxiliary panels in respective seats of the sashes.

Another object of the invention is to provide a window structure of the character described wherein the glass panes of the auxiliary closure panels are adapted to be of the same conventional sizes as the usual affixed glass panes of the sashes.

Other objects of the invention will be manifest from the following brief description and the accompanying drawings.

Of the accompanying drawings:

Figure 1 is a front elevation, partly broken away, of a window embodying the features of the invention, as viewed from the inner side thereof.

Figure 2 is an enlarged vertical cross-section, taken substantially on the line 2—2 of Figure 1.

Figure 3 is a further enlarged fragmentary front view of a portion of the upper sash as viewed in Figure 1, and showing one of the hand-grip recesses thereof.

Figure 4 is a vertical cross-section taken on the same scale, substantially on the line 4—4 of Figure 3.

Figure 5 is a similarly enlarged cross-section taken substantially on the line 5—5 of Figure 1.

Figure 6 is a still further enlarged, fragmentary perspective view of the type of strip material used for the frames of the auxiliary closure panels.

Referring to Figures 1 and 2 of the drawings, the numeral 10 designates a conventional window frame having the usual oppositely disposed pairs of vertical side channels 11 and 12 (see Figure 2), for vertical sliding reception of upper and lower sashes 13 and 14, respectively. Upper sash 13 may be of suitable material, such as wood, including laterally opposite stiles 15 and 16, and top and bottom rails 17 and 18, the stiles and rails being rabbeted at inner edge portions thereof, outwardly of the window to provide a rectangular seat 19 within

which is conventionally affixed a pane of glass 20 of standard dimensions. The lower sash similarly includes the usual stiles 22 and 23, top and bottom rails 24 and 25, and a glass pane 26 affixed to the sash at the outer side thereof, as before.

Referring to the drawings generally, at the inner side of the upper sash said stiles and rails are provided with rabbeted portions defining an inwardly presented rectangular seat 27, the portion 27*a* in the lower rail 18 of which is provided with an elongated rib 28 spaced from an inner wall 29 of the rabbeted portion to define an elongated shallow groove 30.

An auxiliary closure panel 31 may include a rectangular frame 32, of extruded hard plastic or other suitable strip material, formed to have an outwardly presented seat portion 33 around the same for complemental seating in the rectangular seat 27 of the upper sash, with edge portions 34 engaging the wall portions 35 of the sash, and with extensions 36 of the frame strips defining an angularly disposed wall portion 37 (see Figure 6) engaging corresponding edge portions of the sash presented inwardly of the window. The frame strip material may have a relatively wide groove 38 extending inwardly of the seat 33 to define a thin elongated edge portion 39, which in the case of the lower strip portion 32*a* in particular engages in the groove 30 of the lower rail, behind the rib 28, for preventing outward displacement of the frame in connection with locking means to be described later. Extending inwardly of an inner wall 40 of said groove in the frame strip material, may be a narrow coextensive groove 41, in which is tightly received or cemented a flange 42 of sealing strip 43 of rubber or other resilient material, said strip 43 including a hollow or tubular portion 44 adapted yieldingly to be compressed in weather-sealing relation to the rectangular seat 27 of the upper sash. The edges of the frame strip material opposite said seat 33 thereof are shown provided with grooves 45 in which may be received or cemented corresponding edges of a pane of glass 46, of the same conventional size as the glass pane 20.

As best shown in Figures 3 and 4, for facilitating raising and lowering the upper sash 13 in its guides 11, the upper rail 17 may have provided in the inner face of the same laterally spaced finger grip recesses 48, 48. Each recess 48 defines a wall or shoulder 49 spaced from the corresponding seat portion 27, and a narrow slot 50 is provided between said wall and seat portion for reception of a thin, elongated locking plate or latch 52, which is pivoted at one end to the sash, as by means of a suitable pin 53, said plate having an integral rounded extension 54 which protrudes beyond the seat 27 and engages in groove 38 of the corresponding upper strip portion 32*b*, behind the edge portion 39 of the same, and thereby to lock the closure panel in the sash seat 27, in conjunction with the opposite engagement of strip part 39, with locking rib 28 (see Figure 5). For pivoting the latch or plate 52 from and toward said locking engagement, an inward angular extension 55 thereof is normally unobtrusively engaged against the shoulder 49 within the finger grip recess 48, said extension 55 having a slightly turned-up edge 56, at the end opposite the pivot pin 53, to facilitate manual gripping engagement of the same.

The lower sash 14 may be provided with a rabbeted rectangular seat 27, as for the upper sash 18, for seating reception of a panel 32, exactly as before, except that the locking rib 28 is in upper rail 24 and the sash-lifting recesses 48, 48 are in the lower rail 25. The pivoted locking means in the recesses 48 and other parts of the lower closure panel are otherwise the same as before, like parts, therefore, being given like numerals.

In normal use of the improved window the sashes 13

and 14 have the closure panels 32 thereof locked in place, serving as heat or cold insulating sashes, by providing dead air space between the same and the affixed panes of glass 20 or 26. The recesses 48 in the sashes serve a double purpose by providing finger grip means for raising and lowering the sashes in the guide channels 11 and 12 thereof, and also serving as a means for locating the pivoted locking plates 52 in neat and unobtrusive manner.

When it is desired to clean the inside surfaces of the closure panel panes 46 and affixed glass panes 20 and 26, it is only necessary to release each catch 52 in its respective finger grip recess 48, by engaging a finger under portions 55 thereof, and then pivoting the catch 52 away from the shoulder 49, and thereby to disengage the portion 54 of the catch from behind the corresponding portion 39 of the closure panel frame strips. With the catches 52 thus released, each panel 32 may be tilted outwardly of its sash and lifted away from the locking rib 28. Upon completion of the cleaning operation the closure panels may be locked in reseated positions in the sashes in converse manner.

Modifications of the invention may be resorted to without departing from the spirit thereof or the scope of the appended claim.

What is claimed is:

The combination with an auxiliary window panel having a rectangular frame provided with rectangular seat portions and at least one locking shoulder means at an outer edge thereof of a rectangular window sash frame having rectangular seat portions for complementally receiving said seat portions of said panel frame, said sash

frame having at least one recess formed in an outwardly exposed face thereof defining a finger-gripping ledge which is spaced from said locking shoulder means of the auxiliary window panel, said sash frame having a slot extending in a plane of the sash frame from said ledge to the corresponding outer edge of the sash frame, a pivot pin secured in said sash to extend in said slot at right angles to said plane, and a thin plate received flatwise and fully concealed within said slot and pivotable therein on said pin, said plate having a free edge normally engaging behind said locking shoulder means of the auxiliary window panel, thereby to lock the window panel seated on said window sash frame, said plate having a thin extension thereof in a plane substantially at right angles to the plane of the plate and adapted in locked position of the plate to lie flatwise against said ledge and thereby serving as a substantially unobtrusive stop for limiting pivotal of said plate in locked relationship of said free edge of the plate, said plate extension having a portion thereof manually engageable through said at least one recess for pivoting said plate away from said locked relationship of said free edge for detaching said auxiliary panel from said sash frame.

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