March 14, 1944. C. G. KILKIS 2,344,357

AUXILIARY WINDOW CONSTRUCTION

Filed Dec. 1, 1941

Fig. 2

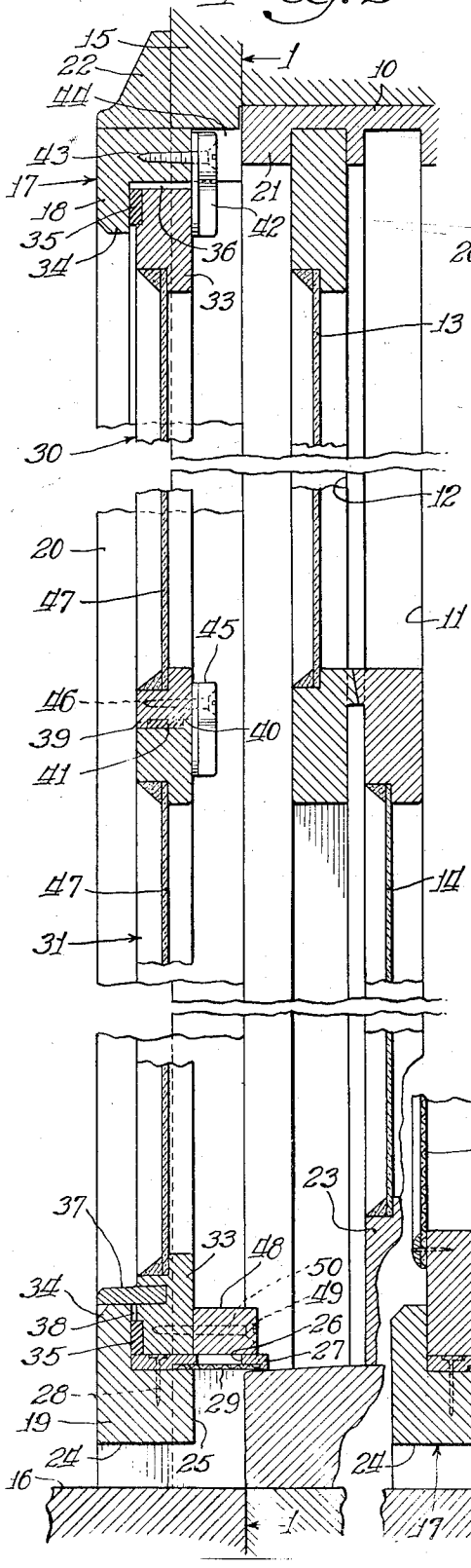


Fig. 1

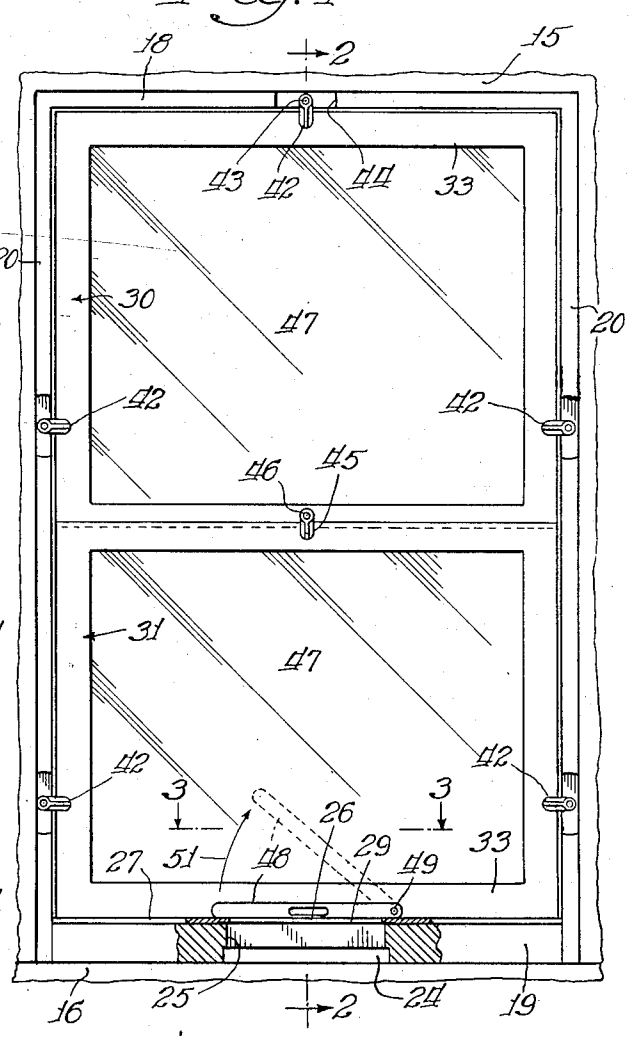
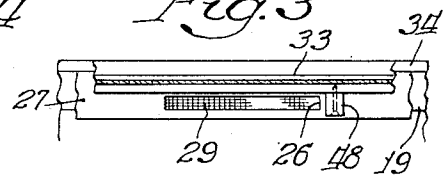


Fig. 4

Fig. 3



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AUXILIARY WINDOW CONSTRUCTION

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2 Claims. (Cl. 160—128)

This invention relates to improvements in auxiliary window construction more particularly of the class wherein an auxiliary frame is provided, exteriorly of a conventional window, into which frame other window sashes may be inserted from the inside of the building such sashes selectively comprising glass inserts to provide storm protection or screen inserts to provide protection against insects, or one of each, if desired.

I am aware that auxiliary frames have been provided heretofore, for substantially permanent installation, against the exterior face of conventional window frame constructions. However, such auxiliary constructions have proven inefficient, complicated, and unsightly, despite a persistent demand for some type of practical construction embodying a combination screen and storm frame whereby sash inserts of comparatively small dimensions, capable of easy storing and handling, and insertable from within a building may be used.

Among other objects, my invention aims to provide an auxiliary frame and sash insert construction which is markedly simple and efficient in construction and operation, and which at the same time does not detract from the appearance of the window.

The invention will be understood by reference to an exemplary construction shown in the accompanying drawing, in which—

Figure 1 is an elevation of the interior of the auxiliary window frame with storm sash inserts therein, and being a section taken on the line 1—1 of Fig. 2 somewhat reduced showing a movable closure in closed position, in full lines, and in open position in broken lines;

Figure 2 is an enlarged cross-section taken on the line 2—2 of Fig. 1, and showing also, somewhat diagrammatically, the conventional window of the building;

Figure 3 is a fragmentary plan view taken on the line 3—3 of Fig. 1 but with the movable closure in open position; and

Figure 4 is a fragmentary cross-section otherwise similar to Fig. 2 but showing a screen sash insert employed with the auxiliary frame, with which screen insert a movable closure is not necessary.

Referring in details to the drawing, it may be remarked that in one conventional form of window construction, the main window frame 10 is well known, having the usual channels 11 and 12 for the usual lower pane 14 and upper pane 13 of the window respectively. Overhanging the frame 10 may be a brick coping 15 and at the bottom of the frame the usual stone sill 16 may be employed.

In accordance with the present invention, I have shown applied to the exterior of this conventional window frame construction, my improved auxiliary frame 17 which is rectangular to conform to the size and shape of the window opening on the exterior of the building, and which may have a top piece 18, a bottom piece 19, and side runners 20, suitably secured together at the corners of the frame.

As here shown, the frame 17 is snugly received into the window opening to abut marginal stop 21 of the main frame 10 at the top and sides of the window and the body of the main frame 10 itself at the bottom of the window, thus resting, for example, on the stone sill. For appearance and also the deflection of moisture from the window, the auxiliary frame may include a coping piece 22, sloped for this purpose.

It will be understood that the frame 17 may be a permanent or at least semi-permanent appurtenance of the building, and thus remain in place the year around, while either with or without the sash inserts presently described, the auxiliary frame here shown, for reasons next particularly pointed out, being such as to present a minimum of interference with the normal use and sightliness of the window.

More particularly in accordance with the present invention and to accomplish the purposes just referred to, the bottom piece 19 of my improved auxiliary frame, as will be observed from the drawing, is advantageously of substantially less height than has heretofore been employed in auxiliary frames of this class, and it terminates substantially below the bottom piece 23 of the conventional lower sash for the pane 14 of the main window. This is made possible, for one reason, because I have here shown a ventilation slot 24 admitted into the extreme lower exterior edge of the bottom piece 19 of the auxiliary frame rather than into an intermediate portion of the frame, thus eliminating the necessity for a portion of the bottom piece 19 to extend below the slot.

The slot 24, in this instance, is shown angular as at 25 and communicating with an opening 26 in the interior margin of the auxiliary frame. As here shown, the opening 26 may be advantageously formed in a sill-plate 27 extending along the lower margin of the frame between side runners 20 and which may be permanently fastened to the frame bottom piece 19, as by nails or the like 28, to slightly overlap the conven-

tional window frame 10. Let into the lower surface of the sill-plate 27, I have shown a foraminous partial closure for the opening 26 which may be a wire mesh 29 fine enough to prevent the ingress of insects but at the same time permitting drainage of water or other moisture therethrough, either as a result of rain or snow finding its way into the space between the auxiliary window frame and the main window, or as a result of washing of the window or window sill.

It will be observed that thus far I have described my improved auxiliary window construction as it is comprised without the employment therein of the insert sashes 30 or 31 shown in Figs. 1 to 3 of the drawing, or the insert sash 32 shown in Fig. 4 of the drawing, and as it may be during, say, intermediate weeks of the spring or autumn when no inserts next described may be necessary. With the approach of the colder weather of winter, however, it becomes customary and desirable to provide for additional protection against storm and cold, and to prevent undue heat losses through the main window panes, and at this time insert sashes 30 and 31 may be advantageously employed.

The insert sash 30 is shown as the upper auxiliary sash and the insert sash 31 as the lower auxiliary sash. These being of relatively small dimensions, that is, each substantially half of the size of the auxiliary frame 17 itself, may be easily stored and handled and inserted into the auxiliary frame 17 from the inside of the building, making it unnecessary to expose the person to the outside weather or to the hazards of step-ladder climbing or the like.

In order to simplify the construction of these insert sashes 30 and 31, I have shown them comprised principally of simple rectangular frame members 33 which may be lappingly abutted against the rectangular flange part 34 of the auxiliary frame 17. By this construction, the weather stripping 35 may be carried by the outer margin of the sash frames 33 to abut the flange 34, thus making it unnecessary for the sashes to fit tightly at their edges and providing a tolerance space 36 at these edges to allow for swelling or shrinking of the sashes themselves or for settling of the building with consequent perhaps slight distortion of the permanent auxiliary frame 17. To act as a rain deflector, the lower sash 31 may carry a deflector piece 37 let into the sash frame member 33 at the bottom of the sash 31 upon the exterior side thereof and adapted to overlie the auxiliary frame flange 34 to close the space 38 between the frame and the sash at this point.

As will be readily seen from the drawing, the insert sashes 30 and 31 may be provided, at the parting line between them, with short mating flanges 39 on the upper sash 30, and 40 on the lower sash 31, the flange 39 of the upper sash being outermost of the window, and the flange 40 of the lower sash being innermost thereof. By spacing these flanges apart laterally as best shown in Fig. 2, weather stripping 41, desirably carried by the upper sash 30, may be disposed between the sashes. Also, by making these mating flanges 39 and 40 relatively short as shown, the upper sash 30, when desired to be removed, may be readily swung a short distance inwardly at its top to permit the flange 39 and the weather stripping 41 of the upper sash to be lifted over the flange 40 of the lower sash, whereupon the upper sash may be dropped downwardly between the auxiliary window frame and the main window, and withdrawn through the space normally occupied by the lower main window frame 14, which at this time may be raised in the usual manner. Also, thereupon the lower sash 31 may be removed similarly.

To retain the sash inserts in position as described, turn-buttons or the like may be provided, for example, as at 42 on the inner face of the auxiliary frame 17 and rotatable as on fastener screws 43. Both to prevent interference of these turn-buttons with the stop 21 of the main window frame and to suit the reduced thickness of the insert sashes, recesses 44 in the inner edge of the auxiliary frame 17 may be cut for the turn-buttons. A similar turn-button 45 may be provided on the upper insert sash 30 and fastened as by screw 46 thereto adjacent the parting line between the insert sashes 30 and 31 and adapted to be turned to secure the sashes together at this point.

It will of course be understood that the insert sashes 30 and 31 just described, as storm sash may carry the usual glass panes 47 for this purpose, and in order to substantially completely close the ventilation opening 26 in the auxiliary frame when desired, the lower insert sash 31 is here shown carrying a closure 48, in this instance in the nature of a wood flap pivoted at one end as by the pivot screw 49 to the lower insert sash frame piece 33 by the screw 50 and swingable toward and away from the opening, as shown by the arrow 51.

Since the closure 48 is shown pivoted so that in one position it is flush with the lower edge of the frame piece 33, and just to one side of the opening 26, the closure in closed position, as shown in full lines in the drawing, lies snugly over the opening 26, resting on the sill-plate 27. By making the screw 50 retain the closure frictionally tightly but pivotally in this position, the opening 26 is substantially and entirely closed against the entrance of any appreciable cold air, for example, into the space between the auxiliary window frame and the main window. When it is desired to admit air from the outside into the building, however, the main window pane 14 may of course be first raised, and thereupon the closure 48 may be swung upwardly on its pivot 49, as shown in dotted lines in Fig. 2, where it will be maintained by friction with the screw 50 until desired to be again closed.

In the summer months when flies and mosquitoes are numerous, instead of the sashes 30 and 31 with the glass panes 47 therein, insert sashes such as shown at 32, Fig. 4, may be employed, without any change being necessary in the auxiliary frame 17, the insert sashes 32 having the usual screen covering 52, which takes the place of the glass pane 47. At this time no closure is necessary for the opening 26, since air is admitted freely into the space between the auxiliary frame 17 and the main window frame 10 through the screens 52, and at the same time if rain enter therebetween it may readily run down through the opening 26 and out through the slot 24, which, being admitted into the extreme lower edge of the auxiliary frame 17, provides efficient drainage means.

So constructed and arranged, I have provided an improved auxiliary window construction in which the insert sashes are set back from the farthest exterior of the auxiliary frame accomplishing the purposes both of providing an enhanced weather-tight construction and also of improving the appearance of the window from

the exterior of the building, it being recognized that set-backs of building parts add interest to the eye of the beholder and break the monotony of plane surfaces which have been so often characteristic of storm windows in the past. Furthermore, the insert sashes may be easily removed through the lower main window opening without necessitating the lowering of the upper main window, which is frequently objectionable due, for example, to the increasing use of Venetian blinds or other interior decorative elements.

Such changes may be made as fall within the scope of the following claims without departing from the invention.

Having described my invention, I claim:

1. In a window construction of the class described embodying an auxiliary frame surrounding a window exterior and a plurality of removable interchangeable window inserts for said frame one being a summer insert carrying screen and another a winter insert carrying glass, that improvement therein wherein the frame has a combined ventilation and drainage slot provided in its extreme lower exterior edge and communicating with an opening in the interior of the frame offset from the inserts, a foraminous closure for said opening fixed in said frame, and a pivoted flap closure for said opening adapted to selectively cover or uncover said opening while permitting ready interchangeability of the inserts.

2. In a window construction of the class described embodying an auxiliary frame surrounding a window exterior and a plurality of removable interchangeable window inserts for said frame one being a summer insert carrying screen and another a winter insert carrying glass, that improvement therein wherein the frame has an outlet slot in its lower exterior margin and communicating with an opening in the interior margin of the frame, a foraminous closure for said opening fixed in said frame, and a non-foraminous closure for said opening carried by the said winter window insert and movable adjacent the frame to cover or uncover said opening when said winter insert is positioned at the slotted end of the frame, whereby the non-foraminous closure may be removable with the winter insert.

CHESTER G. KILKIS.