

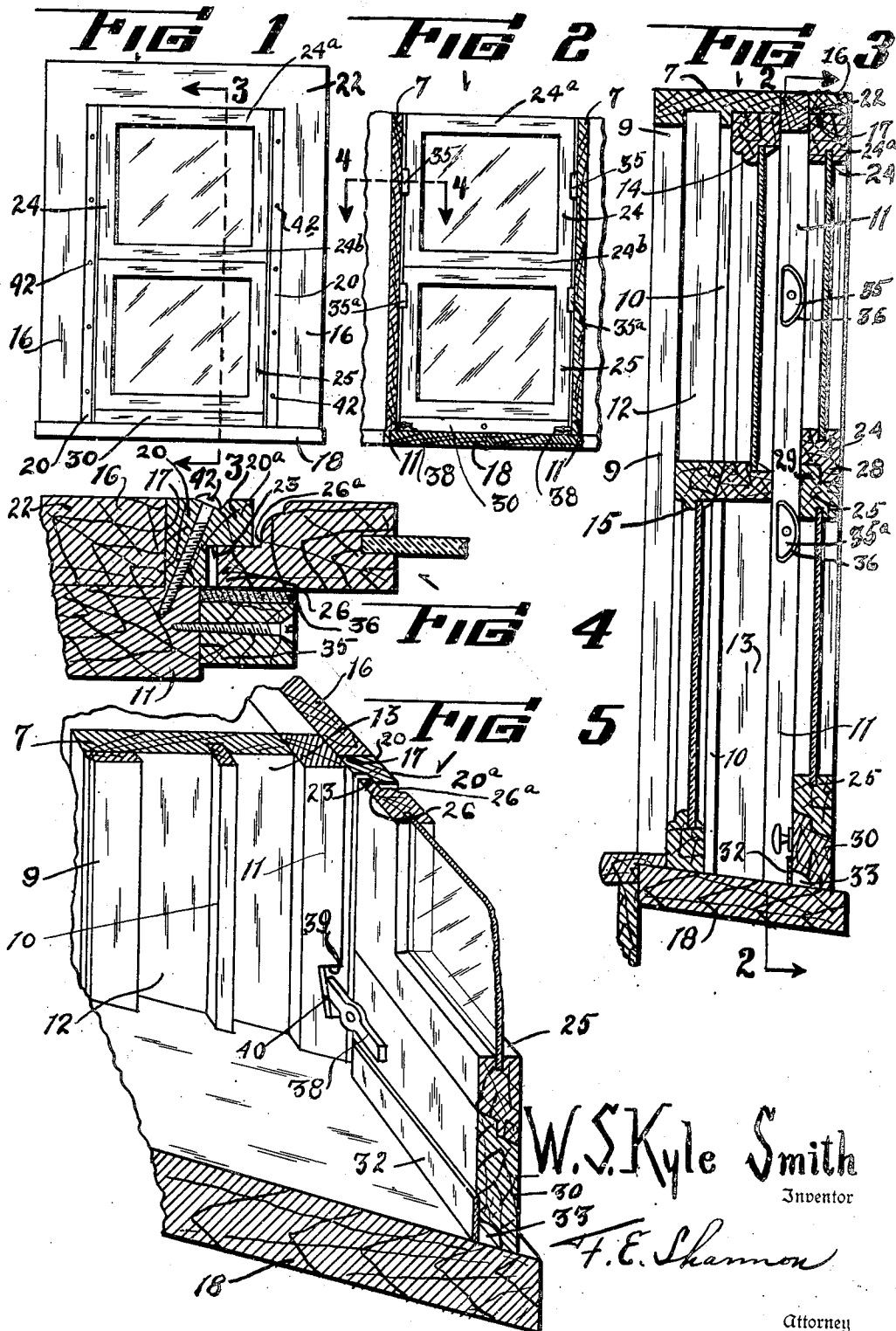
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THERMALLY INSULATED WINDOW

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THERMALLY INSULATED WINDOW

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3 Claims. (Cl. 20—55)

This invention relates to improvements in windows and has particular reference to windows thermally insulated by air enclosed within the space between sets of glazed sashes.

Objects of the invention are to provide simple, efficient members which can be economically manufactured and quickly and conveniently applied to an ordinary window frame to form a rearwardly presented seat for mounting insulating sash therein from the inner side of the window; to provide conveniently operable means for detachably securing said sash in position whereby the same can be quickly removed for cleaning or interchangeable use with sash carrying a screen; and to provide simple, economical means for holding said sash in forced contact with said seat.

Further objects are to provide adapter strips which can be suitably secured in the blind seat of a window frame to form a supplemental window mounting in which the sash can be detachably secured without supplying a supplemental frame, and in which adapter strips of different widths can be employed to mount stock sash in frames having openings varying considerably in width, and to provide a removable ventilating panel at the bottom of the window for holding the supplemental sash in a sealed position in said frame.

The above and additional objects and advantages are attained by the novel construction hereinafter described with reference to the accompanying drawing in which there is shown an illustrative embodiment of the invention, it being understood that the invention is not confined to the exact form shown and that changes and modifications may be made which come within the scope of the claims hereunto appended.

In the drawings:

Figure 1 is an outside elevational view of a window equipped with auxiliary sash constructed in accordance with this invention.

Figure 2 is a sectional view somewhat diagrammatic in character taken as indicated by the line 2—2 of Figure 3.

Figure 3 is a vertical sectional view taken as indicated by the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view taken as indicated by the line 4—4 of Figure 2.

Figure 5 is a fragmentary perspective view partly in section showing enlarged details of my improved construction.

In the drawing there is illustrated an ordinary window frame having jamb members 7, inner stops 9, parting strips 10 and blind stops 11, forming the grooves 12 and 13 in which the original sash 14 and 15 are mounted. The numeral 16 denotes the outside casing which is secured to the blind stop 11 in the ordinary manner to provide the blind seat 17 which extends around the lateral and upper sides of the frame. The numeral

18 denotes a sill which is of ordinary construction.

To form an inwardly presented seat for supplemental sashes, I first supply the adapter strips 20 which are secured in the blind seat 17 by the screws 42 or other suitable means to extend along each lateral side of the frame. The strips 20 can be cut on the job and extend between the upper casing 22 and the sill 18. Each strip 20 is wider than the blind seat and projects laterally inward beyond the inward lateral edge of the blind stop 11. The rear face of each strip 20 is cut away along the inner lateral side thereof to provide a flange 20a which projects from the inner lateral edge thereof to form a rearwardly presented seat 23 for the supplemental sash 24 and 25.

The upper rail 24a of the upper sash 24 is square and completely fills the blind seat 17 along the upper side of the frame. The lateral stiles of the sash 24 are offset outwardly along the outer lateral edges thereof to form the lips 26 which are received in the seats 23 with the sash disposed in the same plane with the strips 20. The offset lateral edges of said sash are thus provided with forwardly presented seats 26a complementary with the seats 23. The lower rail 24b of the sash 24 is cut away on the rear side thereof along the lower edge thereof, to provide a lip 28 which extends between the strips 20 and depends from the outer portion of the rail. The lower sash 25 is provided with like stiles having like lateral edges and lips 26 received in the seat 23.

The lips 26 on the sashes 24 and 25 are relatively wide permitting the use of sashes varying in width. The inner lateral wall of the seats 26a are molded to improve the exterior appearance of the window particularly when a relatively narrow sash is mounted therein.

The upper edge of the upper rail of the sash 25 is provided on the rear side thereof with a lip 29 which projects upwardly from the upper edge thereof and overlaps the lip 28 to form a rabbet joint between the sashes 24 and 25. The lower rail of the sash 25 is disposed in spaced relation above sill 18 and the lower edge thereof is offset rearwardly at an upward inclination to fit the complementary upper edge of the relatively narrow panel 30 which fills the space between the lower rail of the lower sash 25 and the sill 18.

The panel 30 is provided on the lateral ends thereof with lips (not shown) similar to lips 26 which are likewise received in the seat 23. The lower edge of the panel 30 is cut away along the rear side thereof as shown in Figure 5, to form a relatively thin lower portion which can be more quickly and easily planed or otherwise fitted to the sill 18, and which will prevent binding so that it can be more conveniently inserted or removed. A strip of felt 32 or other suitable flexible material is secured to the rear face

of the lower portion of the panel 30 and depends downwardly therefrom with the lower edge thereof in forced contact with the sill 18. This forms a tight joint having an air space 33 which will prevent entrance of water by capillary attraction.

Numerals 35 denotes arcuate blocks having rounded forward faces covered with a layer of felt 36 or other compressible or displaceable material. One of the blocks 35 is secured to the blind strip 11 at each side of the window to bear against the intermediate portion of the adjacent stile of the sash 24 and hold the sash in forced contact with the seat 17.

A similar block 35a is secured to the blind stop 11 at each lateral side of the frame to bear against the upper portion of the adjacent stile of the sash 25 when the same is in an upward position in said frame. The lower blocks 35a are positioned a sufficient distance above the sill 18 to permit the sashes 24 and 25 to be entered in or removed from the offset seats 23.

The panel 30 is provided on the inner face thereof adjacent to each end thereof with a turn button 38 which may be operated to enter one end thereof in the adjacent notch 39 in the lateral face of the blind stop 11. The rear face of the notch 39 is inclined downwardly and forwardly and is preferably provided with a facing strip 40 composed of metal or other suitable material against which the end portion of the button 38 may be moved downwardly to force the panel forwardly and cause the inclined upper edges of the panel to engage the complemental lower face of the sash 25 and force the sash 25 upwardly in forced contact with the sash 24. This movement also forces the upper sash upwardly in forced contact with the blind seat 17 at the top of the frame and securely locks the panel in position.

To install the improved construction herein described, the blocks 35 are secured to the blind stops 11 as shown in the drawing. The strips 20 are fitted in the blind seats 17 as above described and are secured therein by the screws 42 or any suitable means. The lower sash 15 is then raised and the sash 24 is entered in the offset 23 and is moved upwardly to the upper part of the frame. The sash 25 is then likewise entered in the seat 23 and moved upwardly in contact with the upper sash. The panel 30 is then entered in the seat 23 to fill the space between the lower sash 25 and the sill 18 and the buttons 38 are operated to force the panel 30 forwardly and lock the sashes 24 and 25 and the panel 30 in position.

The blocks 35 may be in the form of springs, stops or other suitable members and may be adjustably secured to the stops 11 or adjacent structure to bear against the sashes 24 and 25 with sufficient force to maintain the same in position when the panel 30 is removed for the purpose of ventilation.

Having thus illustrated my invention and described the same in detail what I claim as new and desire to secure by Letters Patent is:

1. In combination with a window frame having blind stops providing an outwardly presented blind seat, separate adapter strips secured in said blind seat along only the opposite side edges of

the frame, said adapter strips being provided on the inner edge portions thereof with interiorly presented offset seats; an upper sash, a lower sash and a ventilating panel mounted in said offset seats to completely fill the window opening; means for releasably securing the stiles of the upper and lower sashes against said off-set seats; said ventilating panel being detachably secured in the lower portion of said frame to hold the upper and lower sashes in position in the frame to close the opening thereof, said panel being provided with an offset upper edge disposed at a downward inclination to engage a complemental surface on the lower edge of said lower sash whereby the ventilating panel is movable interiorly to permit the sashes to be moved downwardly along said off-set seats.

2. In an auxiliary closure construction for a sashed window frame having blind stops and an outer casing forming an outwardly presented blind seat; separate adapter strips secured in said blind seat along opposite sides of the frame, said strips being substantially wider than said blind stops to extend inwardly of the frame opening, and said strips being provided on said inwardly extending portions thereof with interiorly presented offset seats; an upper and lower sash and a ventilating panel each provided with exteriorly presented offset seats to be mounted in superimposed relation in the offset seats of said adapter strips to completely fill the frame opening; means secured to the blind stops for releasably retaining said upper and lower sashes of said adapter strips in forced contact with the offset seats, said panel being positioned at the bottom of said frame, said ventilator panel being provided with an offset upper edge disposed at a downward and outward inclination to engage complemental surfaces on the lower edge of said lower sash, and means operable from the interior side of the frame to force said ventilator panel exteriorly to and secure the same in the offset seats of the adapter strips.

3. In an auxiliary closure construction for a sashed window frame having blind stops and outer casings forming an exteriorly presented blind seat; separate adapter strips secured in the blind seat along opposite sides of the frame to extend from the head casing to the sill of said frame, said adapter strips being substantially wider than the blind stops and being provided on the inner edge portions thereof with interiorly presented offset seats; the stiles of said sashes having exteriorly presented side edges complemental with the offset seats of said strips, members secured to the blind stops to bear against the stiles of the upper and lower sashes, said sashes being adapted to be successively entered in said offset seats below said members and moved upwardly to position the upper rail of the upper sash in the blind seat at the top of the frame; the lower edge of the lower sash offset inwardly at an upward inclination, and a panel having outwardly offset ends entered in the seat on said strips and having an upper edge offset outwardly at a downward inclination and cam means operable from the inner side of said panel for forcing the same outwardly and wedge the sashes upwardly in weather-tight contact.

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