Jan. 16, 1940. C. E. GRIGSBY 2,187,078

TWIN SASH

Filed March 14, 1939

Fig. 1.

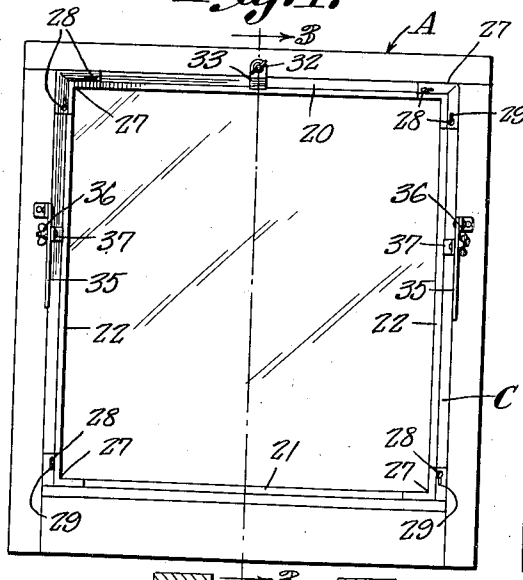


Fig. 2.

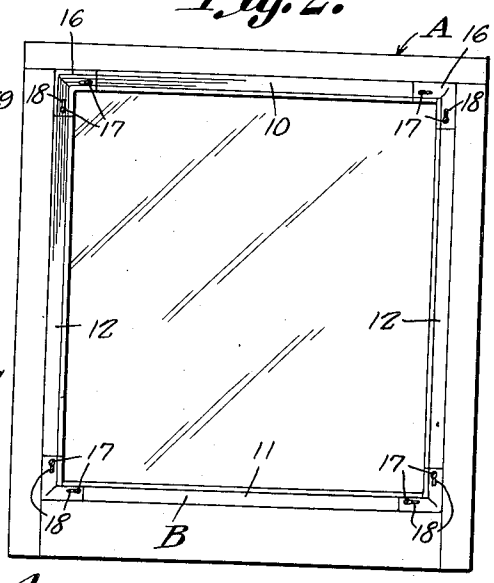


Fig. 3.

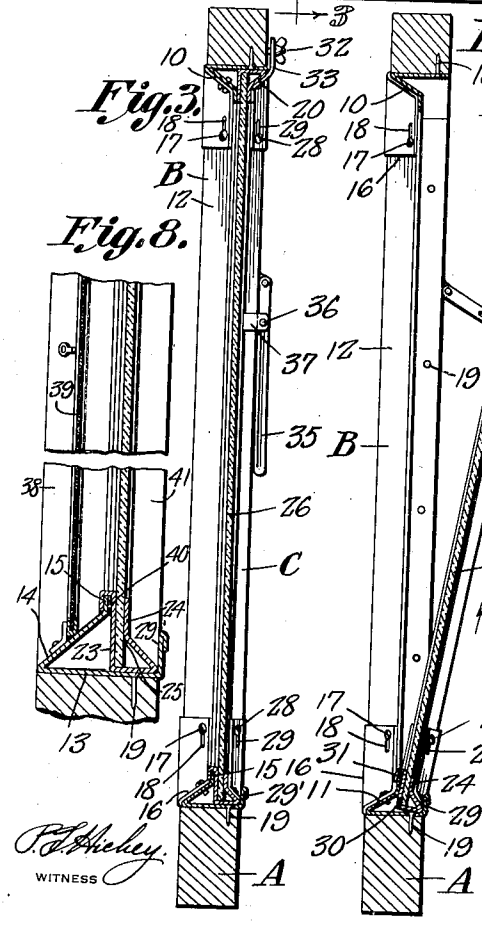


Fig. 4.

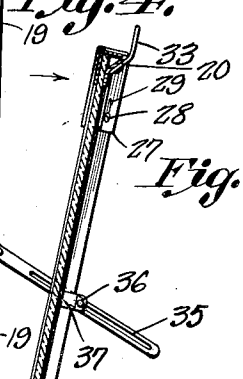


Fig. 5.

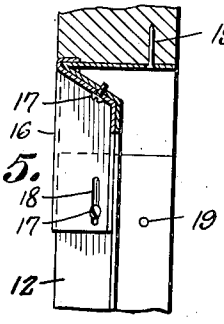


Fig. 8.

Fig. 6.

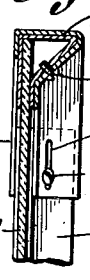
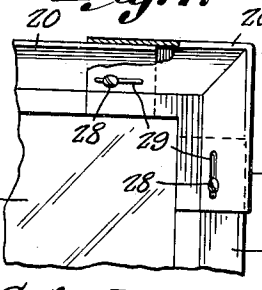


Fig. 7.



Claude E. Grigsby, INVENTOR

BY Victor J. Evans & Co.

ATTORNEY

WITNESS

Patented Jan. 16, 1940 2,187,078

UNITED STATES PATENT OFFICE

2,187,078

TWIN SASH

Claude E. Grigsby, Galesburg, Ill.

Application March 14, 1939, Serial No. 261,821

3 Claims. (Cl. 20—56.1)

The invention relates to a twin sash and more especially to a sash construction for windows or the like.

The primary object of the invention is the provision of a sash of this character, wherein a standard wood sash has arranged therein fixed and movable frames, the movable frame being interfitted with the fixed frame and carries a glass panel or the like susceptible of easy removal, and the movable sash is susceptible of adjustment enabling easy cleaning of the glass, panel or the like.

Another object of the invention is the provision of a sash of this character, wherein the fixed and movable frames are preferably made from sheet metal, the fixed frame being conveniently held within an ordinary wood sash and is susceptible of adjustment for proper fitting thereto while the movable sash carries the glass, panel or the like and is susceptible of adjustment or removal with relation to the fixed frame as well as enabling the glass, panel or the like to be taken therefrom so that a new glass, panel or the like can be substituted, particularly when breakage occurs, the movable sash being also susceptible of adjustment for proper fitting with the fixed frame.

A further object of the invention is the provision of a sash of this character, wherein the fixed and movable frames are susceptible of tight interfitting with each other to avoid leakage of air between when the same are installed for use, the movable sash being swingingly or movably connected to the fixed sash in a novel manner.

A still further object of the invention is the provision of a sash of this character, wherein the construction thereof enables the proper fitting to an ordinary wood sash of a window and when so fitted can be readily handled, both for the cleaning of the glass, panel or the like and repairs to the frame or placement of a glass, panel or the like when one becomes damaged, broken or unfit for use, and is susceptible of being knocked down, thus enabling easy shipment thereof for installation.

A still further object of the invention if the provision of a sash of this character, which is simple in its construction, thoroughly reliable and efficient in operation, strong, durable, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing, which discloses the preferred and modified forms of embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is an elevation of a sash constructed in accordance with the invention looking toward the inside face thereof.

Figure 2 is a view similar to Figure 1 looking toward the outside face of the same.

Figure 3 is an enlarged sectional view taken on the line 3—3 of Figure 1 looking in the direction of the arrows.

Figure 4 is a view similar to Figure 3 showing the movable sash in adjusted position.

Figure 5 is a fragmentary vertical sectional view through the fixed frame of the sash.

Figure 6 is a view similar to Figure 5 taken through the movable frame of the sash.

Figure 7 is a fragmentary elevation of the same partly broken away.

Figure 8 is a fragmentary vertical sectional view similar to Figure 3 showing a slight modification.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, A designates generally a wood frame constituting the ordinary sash for a window and in which is arranged the twin sash constituting the present invention and hereinafter fully described.

The twin sash comprises fixed and movable frames B and C, respectively, each preferably made from sheet metal and interfit with each other. The fixed frame B comprises top, bottom and side rails 10, 11 and 12, respectively. Each of these rails is formed with a flat base flange 13 joined with an outside frontal or rim flange 14 disposed at an angle to the base flange while turned from the latter flange is an abutment lip 15 disposed removed from the innermost side of the fixed frame B for a purpose presently described. These rails 10, 11 and 12 adjustably fit corner angle pieces 16, being telescoped therein and adjustably secured by fasteners 17 passed through slots 18 in said pieces. The base flanges of the rails 10, 11 and 12 are secured within the center opening of the sash A in any suitable manner preferably by fasteners 19, so that in this manner the fixed frame B is held fast in the sash A, being adjusted correspondingly to the opening within the latter for accurate fitting of said frame in the sash.

The movable frame C comprises the top, bottom and side rails 20, 21 and 22, respectively, each

formed with spaced inner and outer flanges 23 and 24, respectively, providing therebetween a seat, channel or groove 25 for a glass, panel or the like 26. The rails 20, 21 and 22 fit corner angle pieces 27, being adjustably telescoped therein and fastened thereto by fasteners 28 passed through slots 29 in said pieces 27. The pieces 16 and 27 are shaped in conformity with the shape of the rails or both the fixed and movable frames B and C. The movable frame carries the glass, panel or the like 26, being seated in the rails and corner pieces thereof. It will be apparent that the glass, panel or the like 26 is readily and easily removable from the movable frame C and is held therein without the use of putty, ordinarily used for the fastening of glass in a window sash, although a suitable sealing medium, such as a packing or the like, can be employed for rendering a weathertight juncture between the glass, panel or the like and the movable frame.

The bottom rail 11 of the fixed frame B next to the innermost face of the sash A when said frame is carried thereby has formed therewith an upstanding ledge 29, which with the flange 14 and its lip 15 effects or provides a seat, channel, groove or the like 30 for the movable frame C while the bottom rail 21 of this frame C is formed with a hook-like tongue 31 adapted for engagement with the lip 15 upstanding from the bottom rail 11 of the fixed frame B. In this manner the movable frame C when fitted within the fixed frame B is interlocked therewith. However, the frame C is susceptible of swinging movement when fitted within the fixed frame B, as illustrated in Figure 3 to the position shown in Figure 4 of the drawing or vice versa. The frame C when fitted within the frame B abuts the lip 15 and to assure a tight joint therebetween the sash A at the top thereof carries an adjustable clamping bolt 32 engageable with a keeper 33 on the top rail 20 of the movable frame C.

Carried on opposite vertical side rails of the sash A at the inner side thereof are swingable hanger arms 34, these being slotted at 35 for adjustably accommodating clamping bolts 36 carried by brackets 37 on the movable frame C and in this manner the said frame C can be held in an adjusted open position with respect to the fixed frame B and in such position enables ventilation of an enclosure.

In Figure 8 of the drawing there is shown a slight modification of the invention wherein the fixed frame 38 has detachably fitted therein a wire mesh screen 39, which may be of any conventional structural make-up and is removable from said frame 38 as the occasion may require.

Interposed between the frames 38 and 41, when fitted one within the other, is a packing 40 to assure a sealing joint for rendering the window sash weatherproof. This packing may be fixed to either frame in any desirable manner and is preferably a felt stripping.

The rails of both frames B and C and the corner angle pieces thereof are preferably made from sheet metal cut and stamped in proper sizes and shapes and it should be apparent from the foregoing that the frames are of knockdown construction, the frame B being fixed in the sash A in any desirable manner, preferably by the fasteners 19. The disposition of the lips on the rails 10, 11 and 12 of the frame B effects a seating space for the movable frame C when the latter is fitted within the said fixed frame and the said fixed frame is carried by the sash A.

The movable frame C is susceptible of opening and closing relation to the fixed frame and also may be separated therefrom with dispatch and when in an open position the glass, panel or the like 26 can be readily cleaned. This glass, panel or the like 26 may be removed from the frame C, particularly when the same becomes damaged, and both frames are susceptible of repairs with dispatch.

What is claimed is:

1. A twin sash comprising an outer frame, an inner movable frame fitting said outer frame, each frame having top, bottom, and side rails respectively, a flat base flange included with each rail, frontal flanges extending from the base flanges and angled inwardly of the said frames, abutment lips on the frontal flanges, angle corner pieces having the top, bottom and side rails adjustably connected thereto, an upstanding ledge on the lowermost base flange of the outer frame and spaced from the frontal flange and lip thereof for effecting a channel receptive to the lowermost base flange of the other frame, and a hook-like tongue extending from the lowermost base flange of the said other frame for interfitting with and disengagement from the abutment lip flange of the frontal flange on the bottom rail of the outer frame.

2. A twin sash comprising an outer frame, an inner movable frame fitting said outer frame, each frame having top, bottom, and side rails respectively, a flat base flange included with each rail, frontal flanges extending from the base flanges and angled inwardly of the said frames, abutment lips on the frontal flanges, angle corner pieces having the top, bottom and side rails adjustably connected thereto, an upstanding ledge on the lowermost base flange of the outer frame and spaced from the frontal flange and lip thereof for effecting a channel receptive to the lowermost base flange of the other frame, a hook-like tongue extending from the lowermost base flange of the said other frame for interfitting with and disengagement from the abutment lip flange of the frontal flange on the bottom rail of the outer frame, and a keeper on the uppermost rail of the said other frame for the fastening of both frames interfitted with each other.

3. A twin sash comprising an outer frame, an inner movable frame fitting said outer frame, each frame having top, bottom, and side rails respectively, a flat base flange included with each rail, frontal flanges extending from the base flanges and angled inwardly of the said frames, abutment lips on the frontal flanges, angle corner pieces having the top, bottom and side rails adjustably connected thereto, an upstanding ledge on the lowermost base flange of the outer frame and spaced from the frontal flange and lip thereof for effecting a channel receptive to the lowermost base flange of the other frame, a hook-like tongue extending from the lowermost base flange of the said other frame for interfitting with and disengagement from the abutment lip flange of the frontal flange on the bottom rail of the outer frame, and a transparent panel.

CLAUDE E. GRIGSBY.