Oct. 7, 1941. D. L. CROSS 2,258,318

WINDOW ACCESSORY

Filed April 23, 1940 2 Sheets-Sheet 1

Fig. 1

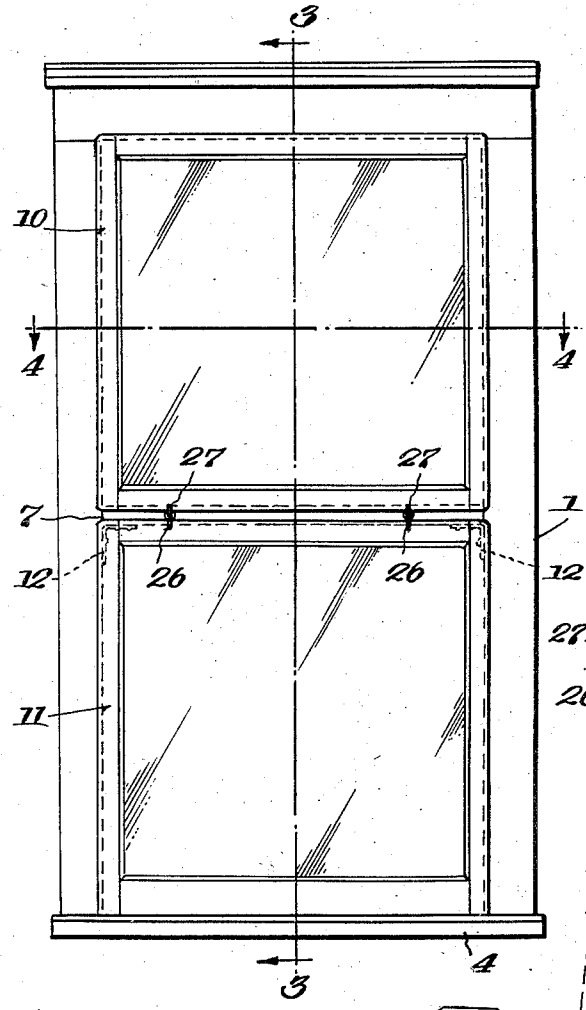


Fig. 2

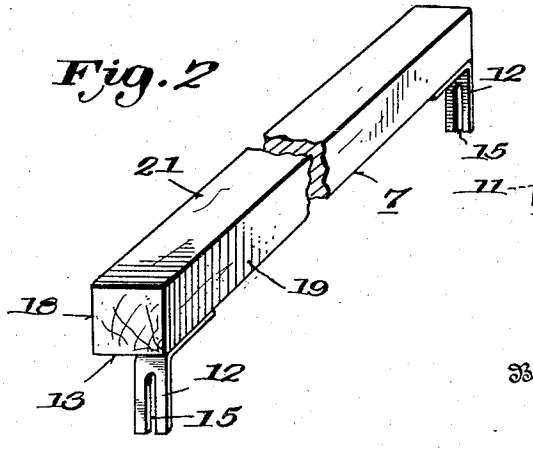
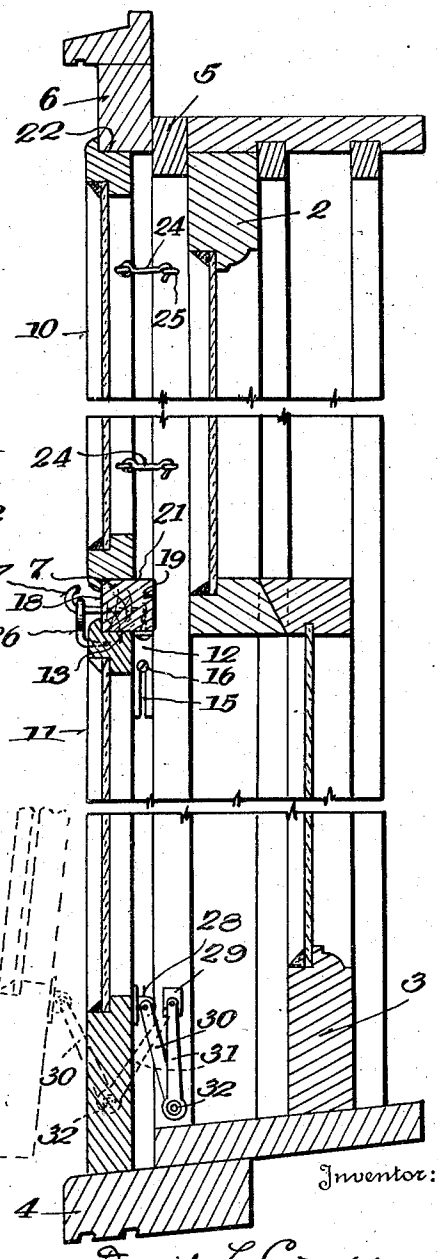


Fig. 3



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Fig. 4

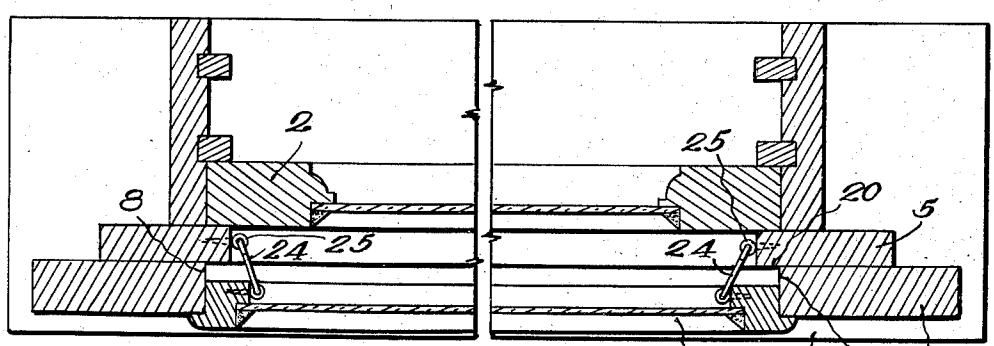
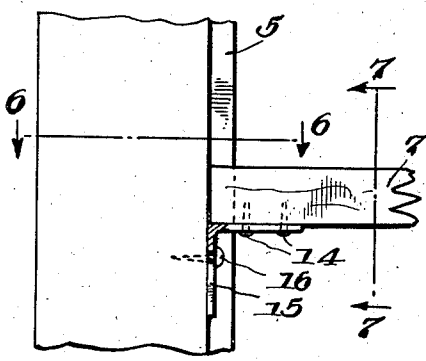


Fig. 5

Fig. 7



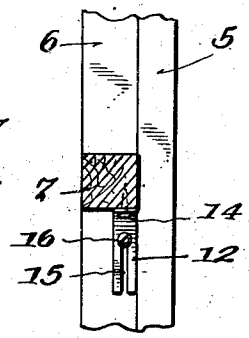
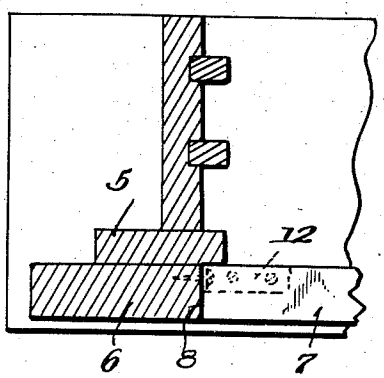
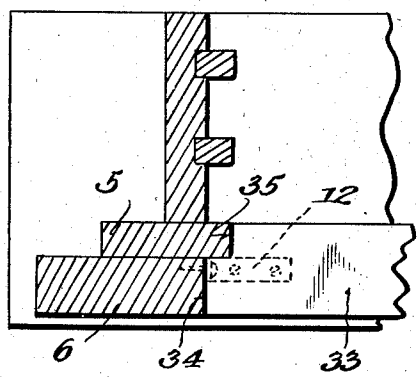


Fig. 8

Fig. 6





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Patented Oct. 7, 1941

2,258,318

UNITED STATES PATENT OFFICE

2,258,318

WINDOW ACCESSORY

David L. Cross, West Orange, N. J.

Application April 23, 1940, Serial No. 331,249

8 Claims. (Cl. 20—55)

This invention relates to storm windows and means for mounting panels in window frames for various protective purposes.

An object of the present invention is to provide a storm window which is inexpensive, and easily and quickly installed in a window frame from the interior of a building.

A further object is to provide an article that is readily affixed to a window frame and that makes possible the elimination of auxiliary frames for mounting screened and glazed panels interchangeably.

The invention is illustrated by way of example in the accompanying drawings in which—

Figure 1 is a front elevation of a standard type of window frame equipped with a storm window of the present invention;

Figure 2 is a perspective view of an article employed for mounting glazed or screened panels in a window frame;

Figure 3 is a vertical section (slightly enlarged with respect to Figure 1) on line 3—3 of the frame shown in Fig. 1;

Figure 4 is a horizontal section on line 4—4 of Figure 1 in the direction of the arrows;

Figure 5 is a front view, partly in section, of a fragment of a frame equipped with the article shown in Figure 2;

Figure 6 is a sectional view of the fragment shown in Figure 5 on line 6—6 in the direction of the arrows;

Figure 7 is a sectional view of the fragment shown in Figure 5 on line 7—7 in the direction of the arrows; and

Figure 8 is a sectional view of a fragment showing a modified form of the article illustrated in Figure 2, in position in a window frame.

Referring to the drawings, the numeral 1 designates a window frame having upper and lower sashes 2 and 3 respectively, a sill 4, a blind stop 5, and outer casing 6.

A bar 7, which comprises an essential article of the present invention, is provided for placement in a window frame at a level between the top thereof and the sill. In the type of window frame shown in the drawings for purposes of illustration, the bar 7 extends horizontally to opposite sides of the frame 1, preferably between the inner faces 8 and 9 of the sides of the outer casing 6. Upper and lower openings are thereby provided in which to seat interchangeably screened, glazed or solid panels. Glazed panels 10 and 11 are shown in place in the upper and lower openings respectively. Other panels may be inserted in a similar fashion.

The bar 7, the length of which may be adjusted in accordance with the width of the window, is preferably vertically adjustable, and detachably engages the sides of the frame 1. One means for rendering the bar 7 adjustable and detachable is shown in Figure 2. A right angle bracket 12 is fastened adjacent either end of the bar 7. One arm of each bracket 12 extends inwardly from an end of the bar and serves to fasten the bracket to the under side 13 of the bar by means of screws 14. The other arm projects downwardly at right angles to the side 13 of the bar 7 and the outer surface of the projecting arm of the bracket is preferably in line with the end to which the bracket is attached. The projecting arm of each bracket 12 is provided with a slot 15 extending a substantial distance upwardly from the free end of the projecting arm. To place the bar 7 in position on a window frame, screws 16 are placed on either side of a frame at approximately the desired level. The screws 16 are each provided with a head larger in diameter than the width of the slot 15. The slot is drawn over the head of the screw and when the bar 7 reaches the desired level the screw 16 may be tightened to clamp the bracket 12 in fixed position. If the end of the slot 15 is brought to rest on the screw 16 the latter need not necessarily be tightened.

In the type of window shown, namely, one provided with an outer casing 6, and a blind stop 5 extending inwardly beyond the inner surfaces 8 and 9 of the outer casing, the bar 7 may be rectangular in cross section and of such cross sectional dimensions that its front face 18 may be flush with the front face of the outer casing 6, and the rear face 19 of the bar may abut the exposed front face 20 of the blind stop 5. The brackets 12, in this instance, are preferably narrower than the side 13 to which they are attached. By positioning the brackets 12 back from the front face 18 of the bar 7 and so that the rear edges of the arms of the brackets are in a plane coinciding with the plane of the side 19, interference with the insertion of the panel 11 is avoided. Thus, also, the brackets 12 coact with the blind stop 5 of the frame 1 by preventing pivoting on the screw 16 and thereby maintaining the top and bottom surfaces 21 and 13 respectively, rigidly in horizontal position, and the front face 18 in a vertical plane with the front face of the outer casing 6.

The upper panel 10 is preferably rabbeted at its top, bottom and sides, and abuts the front face of the outer casing 6 and extends into the frame,

and engages the inner faces 8 and 9 of the sides of the frame 1, the lower face 22 of the top of the frame, and the upper face 21 of the bar 7. The lower panel 11 is preferably rabbeted at its top and sides for abutting the front face of the outer casing 6 and the front face 18 of the bar 7, and extends into the frame and engages the inner faces of the sides 8 and 9 of the frame 1 and the lower face 13 of the bar 7. The bottom of the panel 11 seats on the sill 4.

Means are carried by the upper panel 10 for latching it to the sides of the window frame 1. Hooks 24 and eyes 25 for instance may be provided at either side edge of the panel 10 for this purpose. Means are provided for maintaining the lower panel 11 in open or closed position with respect to the window frame.

One manner of rendering the lower panel adjustable is shown by way of example in Figure 3. The panel 11 has at its upper end two or more screw eyes 26 each of which detachably engages a hook 27 projecting outwardly from the front face 18 of the bar 7. Means such as an extensible element, one end of which is attached to the lower end of the panel 11 at 28 and the other end to the side of the frame 1 at 29, serves to hold the panel 11 adjustably in open or closed position. The links 30 and 31 of the extensible element may frictionally engage each other at a joint 32 so that the panel 11 is held thereby in the position desired, the hooks 27 each serving as a fulcrum.

A window is readily equipped with the above-described means for protection against storms and for insulation purposes. The bar 7 and the glazed panels 10 and 11 are easily placed in position from the inside of a window. After the bar 7 is placed at the proper level to accommodate the panels, the panel 10 is latched into position and the panel 11 carrying the links 30 and 31 of the extensible element, is hung on the hooks 27. Then the free end of the extensible element 31 is attached at 29 to the side of the frame 1.

Either the upper or lower panels 10 or 11 or both may be replaced by screened panels in warm weather, or by solid panels as black-outs.

If desired, an adjustable bar may be used which is wider than the bar 7 in the type of window shown. In Figure 8, a bar 33, attached to the frame in the same manner as bar 7, has its ends cut to abut the inner surfaces 34 and 35 of the outer casing 6 and the blind stop 5 respectively. The bar 33 permits clearance by the upper sash of the window.

The use of the removable adjustable bar considerably reduces the cost of screen and storm sash installations. The bar makes possible the broad adaptation of the present invention to windows which, as is well known, vary greatly in style, size and shape. It does away with cumbersome or heavy frames which are apt to become swollen and require extensive trimming. There is less obstruction to light and vision. Furthermore interchange of panels is conveniently executed.

The use of the adjustable bar also makes possible the installation of glass inserts at small additional cost in cases where windows have previously been fitted with full length screens. The installation of the bar and the glass inserts, as hereinbefore indicated, is readily effected from the inside of a window.

What is claimed is:

1. In combination with a conventional window frame provided with stops and sliding sashes, a bar extending horizontally to opposite sides of the frame at a level between the top of the frame and the sill providing upper and lower openings in which to seat interchangeably screened panels and glazed panels, means for detachably supporting the ends of the bar on the said sides of the frame, and removable panels seated in said openings.

2. Storm and screen sash means comprising an upper panel and a lower panel, and a bar having means for removably attaching its ends to the sides of a conventional sash window frame, the said panels having a flange at their edges for overlapping the bar and the casing of the window frame.

3. Storm and screen sash means comprising an upper panel and a lower panel, and a bar for attachment to the sides of a conventional sash window frame in a horizontal position, the said bar being of sufficient thickness to be flush with the outer surface of the casing of the window frame and to be braced against the stop of the window frame, and the said panels having a flange at their edges for overlapping the bar and the casing of the window frame.

4. In combination with a conventional window frame provided with stops and sliding sashes, a bar extending horizontally to opposite sides of the frame at a level between the top of the frame and the sill providing upper and lower openings in which to seat interchangeably screened panels and glazed panels, bracket means attached to each end of the bar and to the sides of the frame, each of said bracket means having a vertical slot for engaging the outer end of headed means positioned on the opposite sides of the frame and an edge of the brackets being positioned against the stop of the window frame to prevent rotation of the bar, and removable panels seated in said openings.

5. In combination with a conventional sash window frame, storm and screen sash means comprising an upper panel and a lower panel, and a bar attached to the sides of the window frame in a horizontal position, the said bar having its outer face flush with the outer surface of the casing of the window frame, and the said panels having a flange at their edges overlapping the bar and the casing of the window frame.

6. In combination with a conventional window frame provided with stops and sliding sashes, a bar having means at its ends for removably and non-rotatably attaching it in horizontal position to opposite sides of the conventional sash window frame, and having a front face positioned in the frame intermediate the top and bottom of the frame opening and flush with the outer face of the frame, the said bar having upper and lower surfaces for seating juxtaposed edges of upper and lower panels, and the said bar attaching means being free from interference with the panels upon insertion or removal thereof, and positioned to maintain the front face of the bar in the plane of the outer surface of the casing of the frame.

7. In combination with a conventional window frame provided with stops and sliding sashes, a bar extending horizontally to opposite sides of the frame at a level between the top of the frame and the sill providing upper and lower openings in which to seat interchangeably screened panels and glazed panels, means for

detachably supporting and for vertically adjusting the position of the ends of the bar on the said sides of the frame, and removable panels seated in said openings.

8. In combination with a window frame provided with stops and sliding sashes, a bar extending horizontally to opposite sides of the frame flush with the front face of the frame, means adjacent the ends of the bar for detachably engaging the said sides of the frame and for vertically adjusting the position of the bar at a level between the top of the frame and the sill to provide upper and lower openings in the frame, an upper panel rabbeted at its top, bottom and sides for abutting the front face of the frame and of the bar and extending into the frame and engaging the inner faces of the sides of the frame, the lower face of the top of the frame and the upper face of the bar when the said bar is in adjusted position; a lower panel seated at its lower end on the sill and rabbeted at its top and sides for abutting the front face of the frame and of the bar and extending into the frame and engaging the inner faces of the sides of the frame and the lower face of the bar when the said bar is in adjusted position, means for maintaining the lower panel in open or closed position with respect to the window frame and means at the upper end of the lower panel for detachably engaging the said bar.

DAVID L. CROSS.