

June 13, 1939.

W. D. BAYLEY

2,161,791

WINDOW ASSEMBLY

Filed June 3, 1935

3 Sheets-Sheet 1

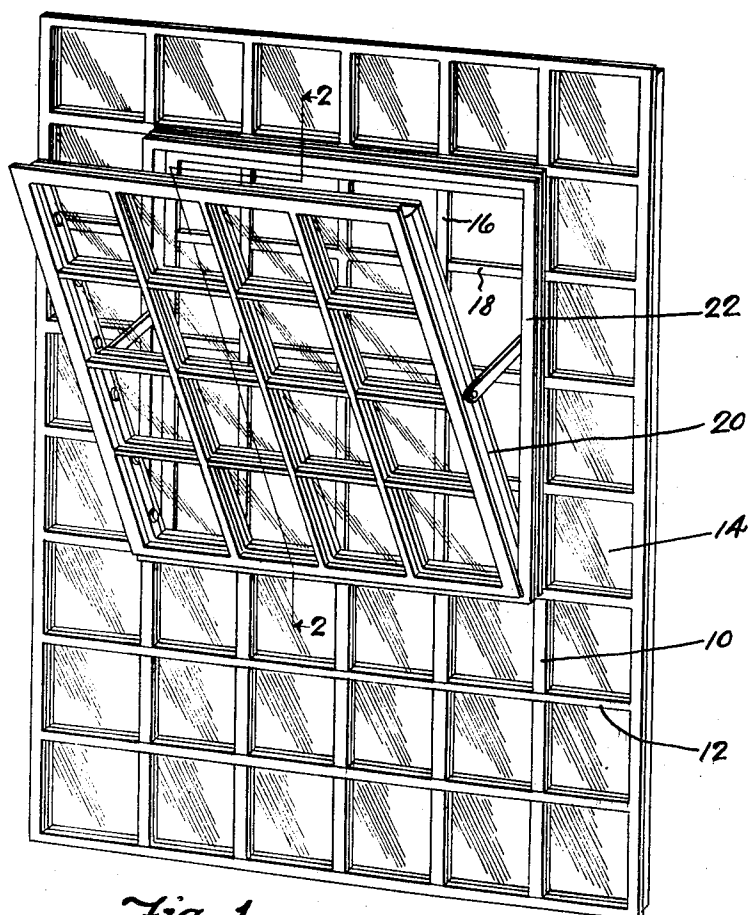


Fig. 1

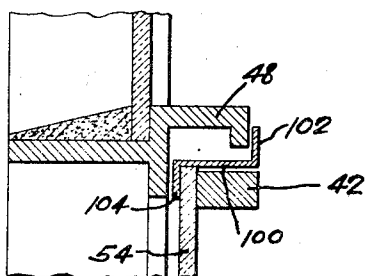


Fig. 5

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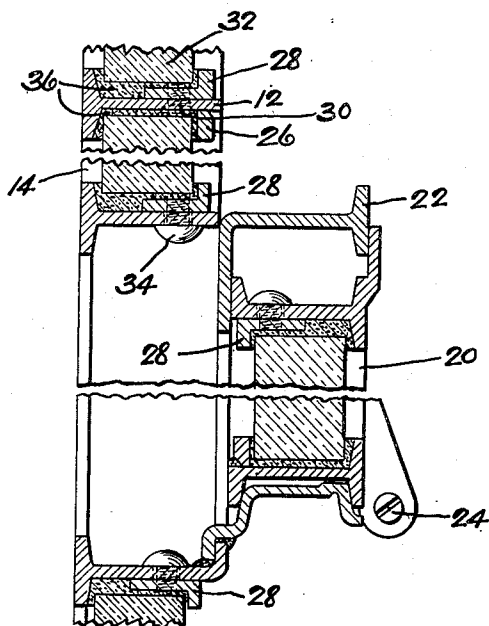


Fig. 2

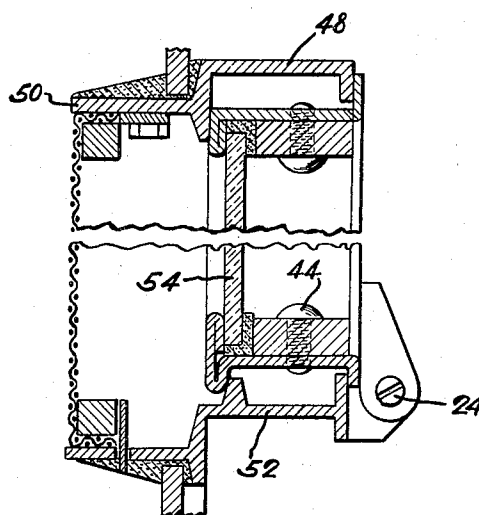


Fig. 3

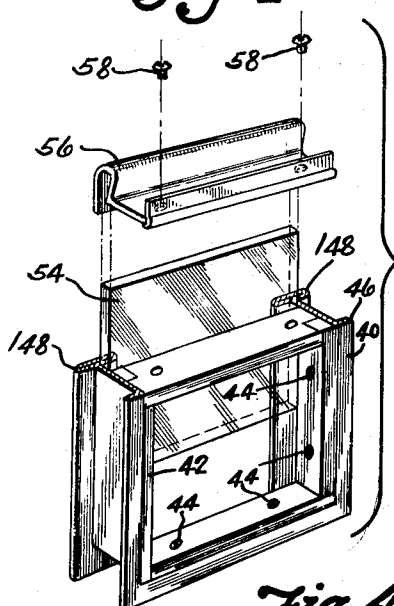


Fig. 4

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3 Sheets-Sheet 3

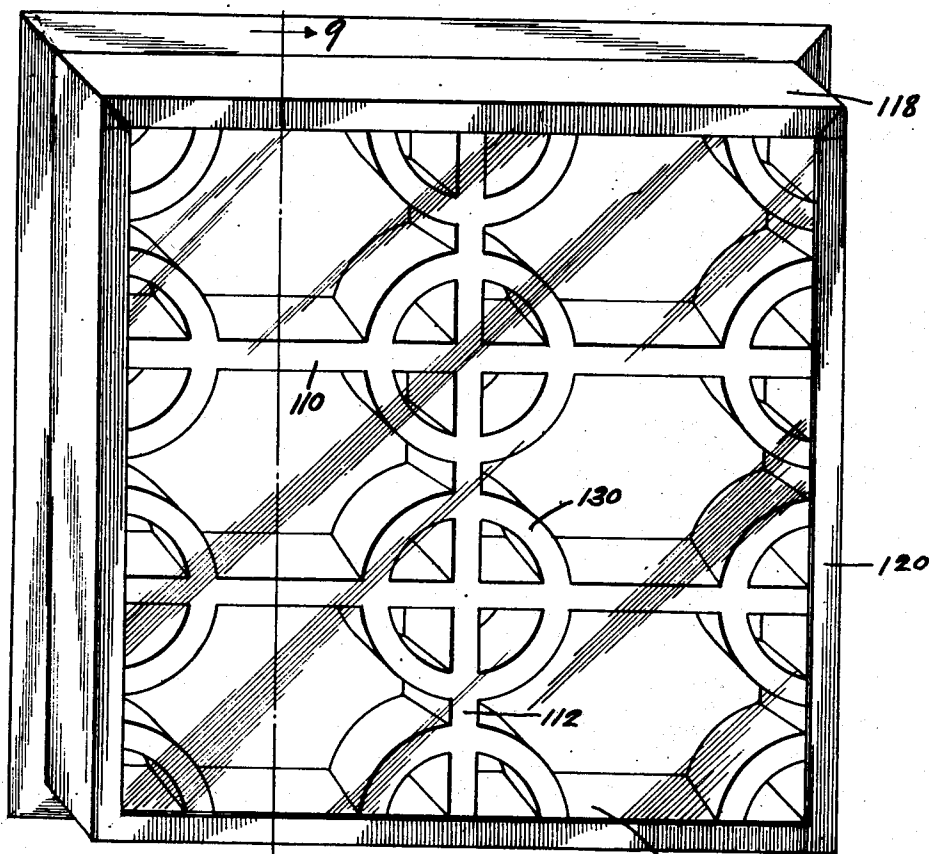


Fig. 6

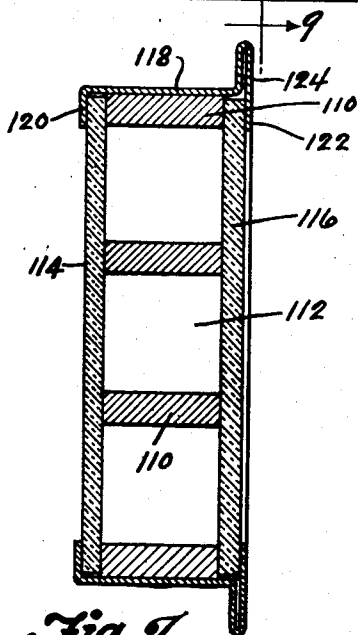


Fig. 7

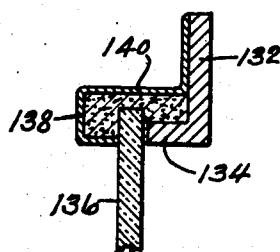


Fig. 8

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UNITED STATES PATENT OFFICE

2,161,791

WINDOW ASSEMBLY

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Application June 3, 1935, Serial No. 24,653

12 Claims. (Cl. 189-64)

This invention relates to a window assembly and more particularly to the method and means for mounting the glazing.

This application is a continuation in part of my application Serial No. 711,883, filed February 19, 1934 for Bay window detention construction now Patent No. 2,020,495 granted November 12, 1935.

An object of this invention is to provide an economical structure, easily constructed at a low cost, that is efficient and dependable.

Another object of this invention is to glaze the window assembly whereby the several window panes are arranged in interlocked relation.

Another object of this invention is to provide a method of assembly whereby the adjoining spaces are glazed successively in interlocked relation.

Another object of this invention is to provide a closure for the ventilating area wherein the same may be easily glazed by a simple removal of parts.

Another object of this invention is to provide a closure for a penal institution, having glazing upon opposite sides of detention bars artistically arranged.

With the above primary and other incidental objects in view, as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described and set forth in the claims.

Referring to the drawings, Fig. 1 discloses a perspective view of a window assembly incorporating the preferred modification.

Fig. 2 is a fragmentary sectional view taken substantially on the section lines 2-2 of Fig. 1.

Fig. 3 is a sectional view of a modification of the closure assembly.

Fig. 4 is an exploded view of the disclosure in Fig. 3.

Fig. 5 shows a fragmentary sectional view of a modification of a closure similar to that shown in Figs. 3 and 4.

Figs. 6 and 7 disclose perspective and cross sectional views respectively of another modification.

Fig. 8 shows a fragmentary sectional view of another modification.

For sentry boxes and the like it is quite desirable to use bulletproof glass, that is glass that will not fracture when hit by an ordinary bullet. In the use of bulletproof glass it is desirable to eliminate the increased dimensions of the parts

used in supporting the glass, that is, increased dimensions of the muntin bars. Without increasing the dimensions it is practically impossible to secure the bullet proof glass in position by putty as the space available for supporting the putty is inadequate. In the preferred modification a new type of seat for the glass has been used wherein the panes are seated in channels formed intermediate a flange of the muntin bar and a member attached to the web thereof. The channel along one edge of the glass is preferably fixed whereas the channel along the opposite edge has one flange thereof removably mounted to facilitate glazing. The removable flange is preferably held in position by screws, the heads of which may project into the channel of the adjacent window pane so that it is practically impossible to remove the window panes except in the order in which they were inserted.

Like parts are indicated by similar characters of reference throughout the several views.

The window assembly includes a plurality of vertical muntin bars 10, transversely arranged with respect to the horizontal muntin bars 12, dividing the window into a plurality of spaces 14, some of which are glazed leaving a ventilating area. In sentry boxes and the like no detention bars are required across the ventilating area. However, in case the window assembly is used in connection with the confinement of inmates, vertical detention bars 16, intersecting the horizontal detention bars 18, extend across the more vulnerable portion of the window, that is across the ventilating area. The detention bars 16 and 18 may be arranged in aligned relation with respect to the bars 10 and 12 or may be offset so as to more adequately protect the more vulnerable area. The closure 20, when in closed position, cooperates with a frame 22 to close the ventilating area. This closure 20 is preferably hinged as at 24 to the frame 22 so as to swing inwardly, as best seen in Fig. 1.

Each of the muntin bars 12 which are preferably T-shaped, is provided with a flange 26 suitably welded near the end of the web of the T-shaped bar 12 to form a channel. Instead of a T-shaped bar any suitable rolled bar or section may be used. On the opposite side of the web an L-shaped retaining member 28, held in position with a flat headed screw 30, secures the bullet proof glass 32 in position. The glass 32 is embedded in putty or other suitable binding material 36 placed in the channels intermediate the flanges of the T-shaped bar and members 26 and

28 respectively to properly seal the glass in position.

As may best be seen by referring to the top of Fig. 2, the spaces above the closure are preferably 5 glazed from the top toward the closure so that the screw 38 may be inserted through the vacant channel underlying the web 12. The spaces bounding the ventilating area above the closure are last glazed, the screws 34 being seated in the 10 opening of the ventilating area. The spaces below the ventilating area are preferably glazed from the bottom up toward the closure. Thus it may be seen that the fixed channels above the closure underlie the web and the fixed channels 15 below the closure overlie the web.

The window panes in the closure 20 may also be secured in position in the manner very similar to that shown in connection with the spaces 14, with the exception that the member 28 is inserted from the outside of the closure assembly whereas in the glazed spaces 14 member 28 is inserted from the inside of the fixed portion of the window.

Figs. 3 and 4 disclose another modification wherein the window pane for the closure is 25 mounted in a channel one side of which is removable to permit glazing of the closure. In this modification a frame 40, preferably made from pressed metal, is substantially U-shaped and carries a plurality of rectangular jambs 42 30 suitably held in position by screws 44 as shown. Welding the parts together is preferable in some types of structure. The jambs are preferably notched in the ends so as to interlock each other, as best seen by referring to the exploded view 35 in Fig. 4. The frame 40 is provided with a flange 46 that abutts the extension 48 integral with the muntin bar 50 bounding the ventilating area. The opposite side of the frame 40 is preferably folded or crimped at 148 so as to 40 provide a pair of oppositely disposed flanges, one of which, as may best be seen in Fig. 3, contacts the flange 52 and the other cooperating with the jamb 42 to form a channel in which the glazing 54 is seated.

As may best be seen by referring to Fig. 4, 45 after the glazing has been inserted a removable member 56 having a cross sectional area quite similar to the cross sectional area of member 40, is attached to the upper jamb 42 to hold the glazing in position. Jamb 42 provides 50 strength for the closure. It is cheap in production. The size of member 42 may be selected to suit the strength requirements of the window. Hinges, latches, etc. can easily be welded to jamb 55 42. Suitable screws 58 hold member 56 in position. Putty binding material or suitable felt may be inserted in the channels to rigidly hold the glazing 54 in position and to seal the same.

In case a window pane is broken in the closure, member 56 is first removed, the old glazing 54 removed, and a new pane inserted, after which member 56 may again be placed in position.

Referring to the modification disclosed in Fig. 5, instead of member 56 having a cross sectional 65 area similar to the cross sectional area of member 40, member 100 is provided with an upwardly extending flange 102 contacting with member 48 and a downwardly extending flange 104 cooperating with the jamb 42 to form a 70 channel in which the glazing 54 is mounted.

In Figs. 6 and 7 another modification has been shown of a closure having a plurality of transversely arranged detention bars 110 and 112 75 forming a frame located intermediate the glaz-

ing 114 and 116, held in position by retaining members 118. Member 118 is preferably made from suitable sheet metal formed into shape having a projecting flange 120, embracing the glazing 114 and another flange 122 embracing the 5 closure 116. The flange 122 preferably extends from the upwardly flared flange 124. Member 118 is preferably removably mounted along one side, similar to that disclosed in Fig. 4. As may 10 best be seen in Fig. 6, any suitable design may be associated with the transversely arranged detention bars 110 and 112. In the particular modification shown, arcuate members 130 extend from one bar to another so as to create a design artistic in appearance, tending to camouflage the 15 detention bars. The glazing being disposed on opposite sides of the detention bars serves to protect the detention bars from unauthorized mutilation and in addition thereto, provides a structure that is easily cleaned and cheaply and 20 easily constructed. It is never necessary to clean the irregular surfaces of the detention bars if the glazing properly seals the closure. Referring to Fig. 8, member 132 may be a muntin bar or it may be a portion of the closure frame 25 which is angle-shaped and provided with a flange 134 abutting the glazing 136. The glazing seated in the putty 138 is held in position by a member 140 carried by member 132. The position of the glazing is determined by the magnitude of the 30 flange 134.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but 35 which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute, the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means 40 and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims. 45

Having thus described my invention I claim:

1. A closure assembly for use in an opening of a structure used as a detention institution, including a frame, a sheet metal glazing support 55 mounted upon said frame, said sheet metal glazing support having an inwardly extending flange along one side and a fold upon the opposite side terminating in a flange projecting inwardly, glazing mounted upon opposite sides of the frame 60 held in position by said inwardly projecting flanges, the fold being adapted to contact the structure bounding the opening for the closure.

2. In a detention window assembly having a portion thereof glazed and another portion unglazed for ventilating area, mullion bars bounding the ventilating area, a closure for the ventilating area supported upon said mullion bars, said closure including a frame, sheet metal glazing supports mounted on the frame, said sheet 70 metal glazing supports having an inwardly projecting flange adapted to engage the glazing on one side of the frame and terminating in a folded portion upon the opposite side of the frame 75

adapted to engage the mullion bars when in closed position.

3. A closure for a ventilating area of a window opening, including a frame member, a sheet metal member having a portion thereof attached to the frame member and provided with an inwardly extending flange, and glazing mounted adjacent the frame and retained in fixed relation therewith by said inwardly extending flange abutting the side of the glazing opposite the side adjacent the frame.

4. A closure for a ventilating area in a window opening, including a frame member, a sheet metal member having a portion thereof attached to the frame member and provided with an inwardly extending frame, said sheet metal member cooperating with the frame member to form a channel space between portions thereof and glazing parallel to a portion of said frame and said sheet metal member.

5. A closure assembly for a ventilating area of a window having a frame, said closure assembly including a frame movably mounted, glazing mounted in the frame, detention bars carried by the frame extending across the same independently of the glazing, and means for limiting the movement of the frame to prevent escape of a human body between the frame and the ventilating area of the window.

6. A closure assembly for a ventilating area of a window, including a frame mounted along the edges of the ventilating area and a double glazed closure movably mounted in the frame, said movable closure having a frame member substantially T-shaped in cross section, the stem thereof terminating in an inwardly directed flange, one pane of glazing abutting the inwardly directed flange and the other pane abutting the arm of the T-shaped member.

7. A doubly glazed movably mounted closure for a ventilating area of a window including a frame having members substantially T-shaped in cross sectional area, each of said members terminating in an inwardly projecting flange extending from the stem of the T, one pane of glazing being seated against said flange, the other pane being seated against the arms of the T-shaped members.

8. A double glazed movably mounted closure for the ventilating area of a closure including a frame having members along the sides thereof of substantially T-shaped cross sectional area, the stems of which terminate in a flange projecting inwardly, one pane of glazing abutting the inwardly projecting flange and the other pane abut-

ting the arms of the T's and means for securing the T-shaped members in position, at least one of which is removably mounted to permit glazing of the closure when removed.

9. A doubly glazed movably mounted closure assembly for controlling the ventilating area of a window assembly, said closure having a frame including sheet metal members formed into a substantially T-shaped cross sectional area, having a portion of the stem of the T diverted inwardly whereby one pane of glazing abuts the inwardly diverted portion and the other pane abuts one arm of the T, the other arm of the T abutting the window when the closure is in closed position.

10. A closure assembly movably mounted for use in closing a ventilating area of a window having a frame bounding the ventilating area, said closure assembly including a frame of sheet metal having an inwardly directed flange abutting the glazing, said flange abutting the glazing constituting a rigid abutment against the frame of the ventilating area when the closure is in closed position; said sheet metal frame having an outwardly projecting flange adapted to form a flexible contact with the ventilating frame, whereby the closure has a rigid contact and a yieldable contact with the frame bounding the ventilating area when the closure is in closed position.

11. A glazed closure assembly movably mounted for use in closing a ventilating area of a window having a frame bounding at least a portion of this area, said closure assembly having a sheet metal frame pivotally attached along one side to the frame bounding the ventilating area, said sheet metal frame having a pair of flanges projecting from the pivoted side of the frame, one of the flanges projecting for flexible engagement with the frame, the other projecting inwardly for abutment against the side of the glazing.

12. A closure assembly for a ventilating area of a window having a fixed frame bounding the ventilating area, said closure assembly including a rigid frame member and a flexible sheet metal member fixedly attached to the rigid frame member, said sheet metal member having a median portion projecting into the ventilating area substantially perpendicular to the plane thereof, and a pair of flanges one of which projects outwardly from said portion and the other inwardly, one of said flanges being rigidly disposed with respect to said rigid frame, the other being flexibly disposed.

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