Aug. 8, 1939. W. D. BAYLEY 2,168,922

WINDOW ASSEMBLY

Original Filed June 1, 1936 3 Sheets-Sheet 1

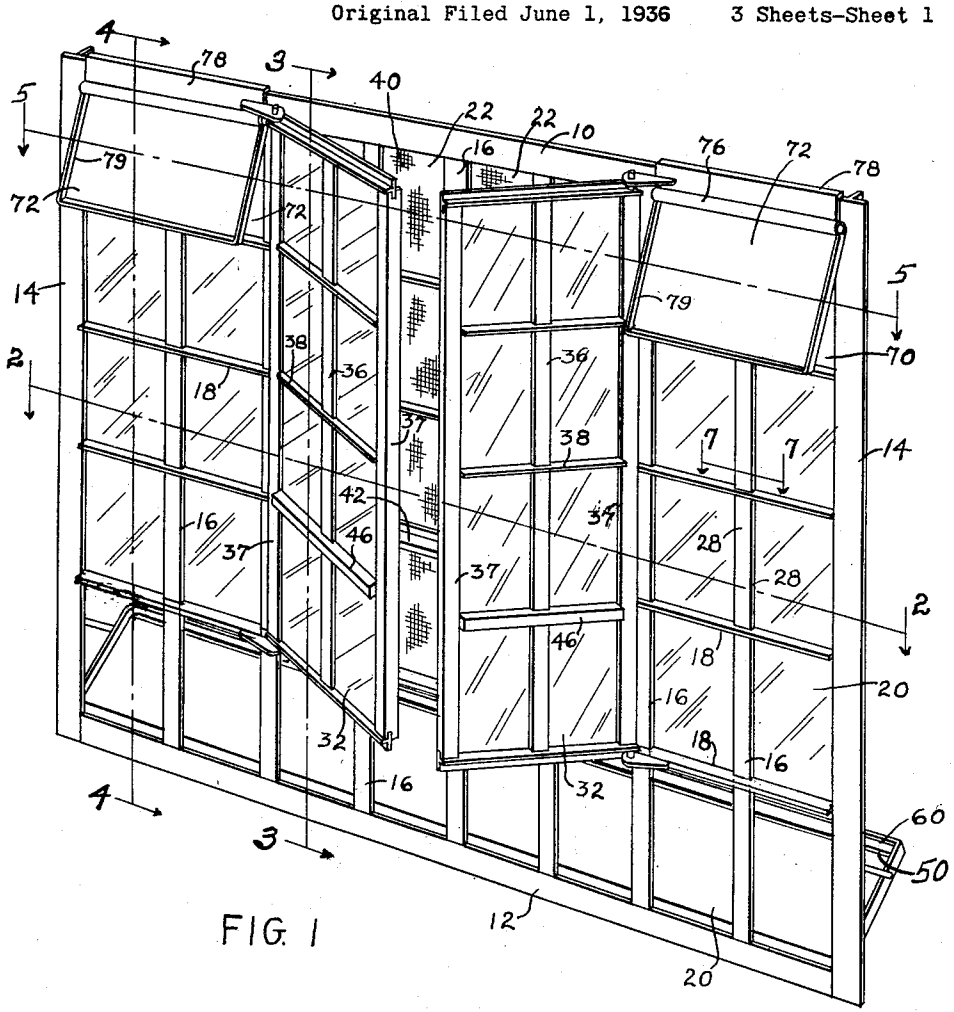


FIG. 1

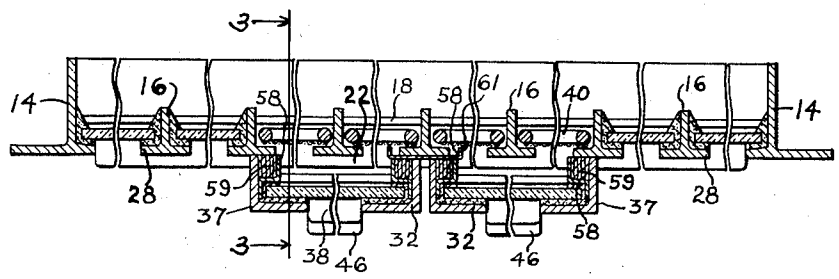


FIG. 2

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Aug. 8, 1939. W. D. BAYLEY 2,168,922

WINDOW ASSEMBLY

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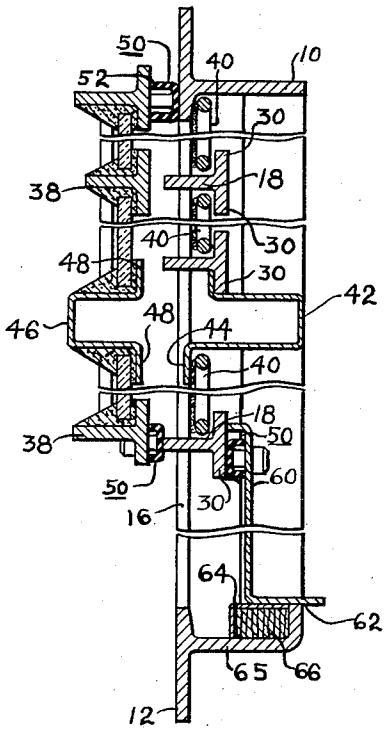


FIG. 3

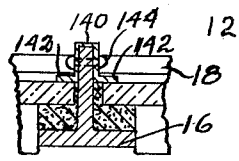


FIG. 15

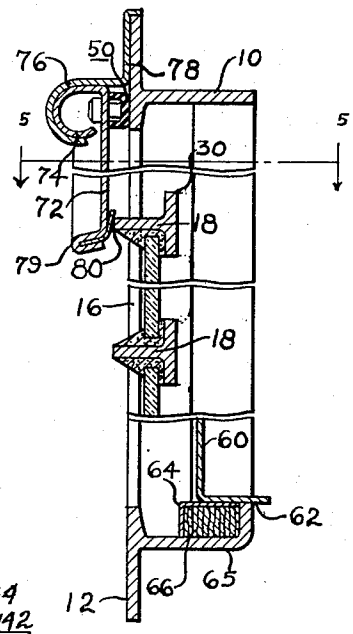


FIG. 4

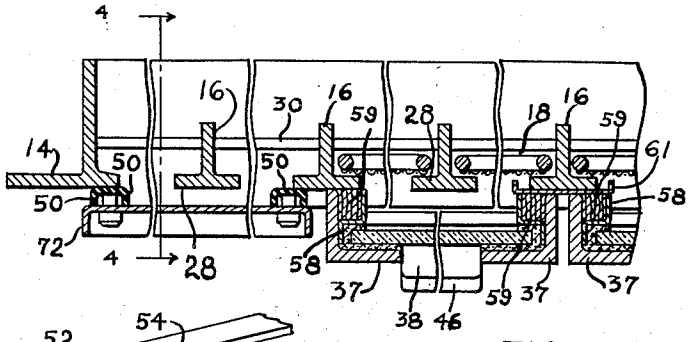


FIG. 5

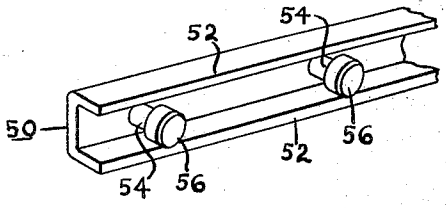


FIG. 6

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WINDOW ASSEMBLY

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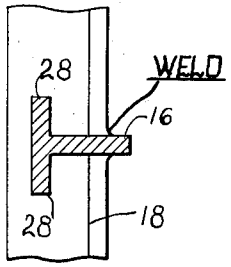


FIG. 7

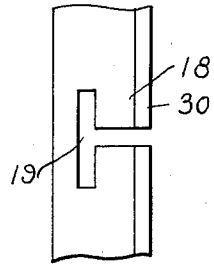


FIG. 8

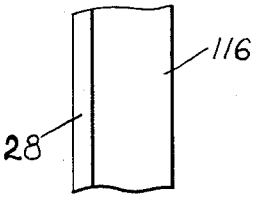


FIG. 9

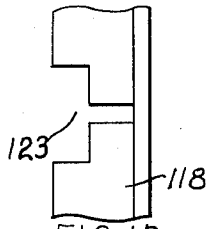


FIG. 12

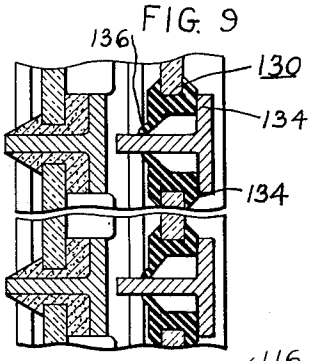


FIG. 13

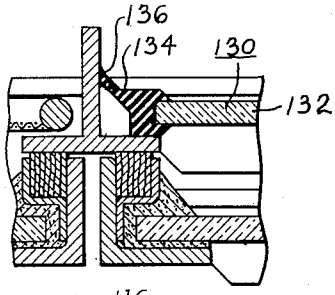


FIG. 14

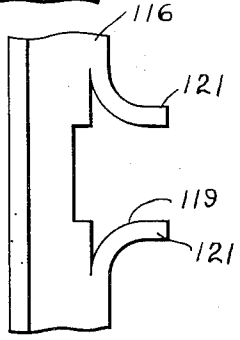


FIG. 11

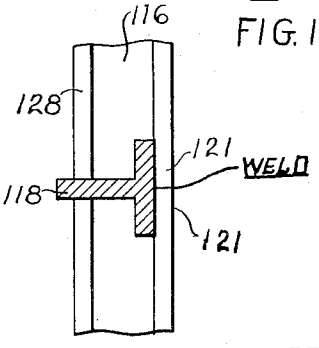


FIG. 10

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UNITED STATES PATENT OFFICE

2,168,922

WINDOW ASSEMBLY

William D. Bayley, Springfield, Ohio

Application June 1, 1936, Serial No. 82,846
Renewed December 27, 1938

22 Claims. (Cl. 189—64)

This invention relates to window assemblies and in more particular to a window assembly adapted to receive the glazing either from the outside or from the inside.

In window assemblies for some types of structures it is preferable to have the glass pane inserted from the inside, so as to have the glass fit snugly in one direction. This is especially the case in commercial windows, such as factories, office buildings and the like, where it is not convenient to insert the glass pane of the window from the outside, and where there is no objection to a rough putty job on two of the bars.

In other installations putty is objectionable on the inside. This is especially the case in residences, apartment houses and exclusive office buildings. In addition to the foregoing, in some types of penal institutions it is desirable to have the putty out of reach of the inmates.

In order to promptly supply the various demands for window structures, the manufacturer is required to keep on hand a great variety of types, including windows adapted to be glazed and puttied from the inside, and other windows adapted to be glazed and puttied from the outside. The former type of window is well adapted to installations where the aesthetic appeal is not important.

Whenever T-bars are used in window structures, all the flanges or heads of the T-bars are usually placed on the same side of the glazing, permitting the webs or stems of the T to project between the edges of the window panes, so as to lie in part on the other side of the glazing. By disposing the flanges of one set of bars on the outside and of the other set of bars on the inside, it is possible to get portions of the bars a greater effective distance from the neutral plane of the entire assembly, thereby increasing the strength. In addition thereto, putty is better supported on both sides and consequently it is possible to ship the windows glazed. As is well known to those skilled in the science of the strength of materials, such window structures offer a far greater resistance to wind pressures from one side than from the other.

An object of this invention is to provide a universal window that may be glazed either from the outside or from the inside.

Another object of this invention is to provide a window that is constructed to be equally strong to wind resistance from either side.

Another object of this invention is to provide a window structure that is cheap, easily manufactured, durable, dependable, efficient, of ample strength and water-tight.

Another object of this invention is to provide a dual closure.

Another object of this invention is to provide a window that may be readily screened.

Another object of this invention is to provide clearance for an operator medially positioned with respect to the closure.

Another object of this invention is to provide interlocking joints for the transversely disposed intersecting muntin bars.

Other objects and advantages reside in the construction of parts, the combination thereof and the mode of operation, as will become more apparent from the following description.

Fig. 1 discloses a perspective outside view of my preferred modification.

Fig. 2 is a sectional view taken substantially on line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken substantially on line 3—3 of Figs. 1 and 2.

Fig. 4 is a vertical sectional view similar to Fig. 3, showing another modification, taken substantially on line 4—4 of Fig. 1 with closures in closed position and on line 4—4 of Fig. 5.

Fig. 5 is a sectional view taken substantially on line 5—5 of Figs. 1 and 4.

Fig. 6 is a fragmentary perspective view of a weather stripping unit.

Fig. 7 is a fragmentary sectional view taken substantially on line 7—7 of Fig. 1.

Fig. 8 shows a horizontal bar with the cutout therein for receiving the vertical bar.

Fig. 9 is a fragmentary side elevation of the vertical bar before assembly with the horizontal bar disclosed in Fig. 8 into the structure shown in Fig. 7.

Fig. 10 is a fragmentary sectional view taken similar to Fig. 7 showing another modification.

Fig. 11 is a fragmentary view of the horizontal bar having the web thereof cut and portions deflected, preparatory to the reception of the vertical bar.

Fig. 12 is a vertical bar cut in readiness for assembly with the bar shown in Fig. 11, resulting in the structure shown in Fig. 10.

Figs. 13 and 14 disclose vertical and horizontal fragmentary sectional views of another adaptation wherein glazing has been mounted in the ventilating area to augment that of the movable closure.

Fig. 15 shows a sectional view of another modification.

Referring to the drawings, the reference char-

acters 10 and 12 indicate the top and sill members of the window frame and the reference character 14 the outside vertical frame members of the window. A plurality of vertical T-shaped muntin bars 16 have their upper ends fixed in the top frame member 10 and the lower ends in the sill member 12. The flanges 28 of the muntin bars 16 are preferably located on the outside of the glazing. A plurality of horizontal muntin bars 18 intersect and interlock the vertical muntin bars 16 so as to divide the window into a plurality of spaces 20, some of which are glazed, leaving others vacant for ventilating area. The flanges 30 of the muntin bars 18 are located on the inside of the glazing. This arrangement permits the use of glass panes inserted from the outside, so as to present a neat appearance to the window from the exterior, the putty being applied from the outside. In other windows, the glass panes may be inserted from the inside. In such installations the window may be puttied from the inside of the building, thereby facilitating the glazing of the fixed spaces. The window permits the glazer to stand on the inside of the building and reach the outside through the ventilating area to putty the fixed glazing.

This window assembly is so constructed that differential air pressures between the outside and the inside of the building are absorbed by one set of bars when the pressure is higher on the inside than on the outside and by the other set of bars when the pressure is higher on the outside than on the inside. This arrangement results in a universal window that may be carried in stock whether the glazing is to be inserted from the inside or the outside. It also results in a window wherein the resistance to differential pressures or applied forces is approximately the same whether the force is applied from the outside of the window or from the inside of the window.

The intersection of the bars 16 and 18 is preferably so constructed that the bars may be readily assembled with the minimum amount of labor and time, the finished assembly resulting in a satisfactory finished product.

Referring to Fig. 8, the muntin bar 18 is provided with a cutout T-shaped portion designated by the reference character 19 that is of such a proportion as to properly receive the muntin bar 16. After the bars are assembled, the ends of the flanges 30 are suitably welded so that the opening 19 does not materially weaken the bar 18. In this modification the vertical bar 16 has not been severed in any manner and therefore it has its original strength. In the modification disclosed in Figs. 10, 11 and 12 the horizontal muntin bar 116 has the web severed at 119, the outer lips 121 of the web being deflected outwardly so as to receive the complementary bar 118 having the web cut away, as shown at 123, to receive the flange 128 of the bar 116. After the bar 118 has been inserted into the seat provided therefor in bar 116, the lips 121 are straightened so as to present an uninterrupted surface along the inside of the window. The ends of the lips 121 are preferably welded together.

The ventilating spaces 22 which have been shown along the center of the window assembly disclosed in Fig. 2, are provided with a pair of outwardly swinging closures 32. These closures are formed from vertical muntin bars 36, supported in a frame including the angle bars 37. The muntin bars 36 and the angle bars 37 are provided with flanges on the outside of the glazing. The closure 32 also includes horizontal muntin bars 38, having the flanges on the inside of the glazing, so as to harmonize with the remainder of the window structure. Whenever the window assembly is used as a detention window, the vertical and horizontal muntin bars 16 and 18 extend continuously across the ventilating area. The muntin bars functioning as detention bars across the ventilating area may be offset so as to permit the closures 32 to be coplanar with the main body portion of the window, or the detention bars across the ventilating area may be aligned with the muntin bars across the fixed spaces, in which event the closures 32 are offset from the plane of the main window portion, as clearly shown in Fig. 3.

Individual screens 40 may be used to prevent the escape of bodies through the ventilating areas 22. Due to the outside flanges 28 and the inside flanges 30, the individual screens 40 may be seated in the pockets formed by these flanges. For some types of installations the screen units 40 may be loosely inserted and in others they may be attached in any suitable manner.

Whenever the ventilating area of a window is screened and the screen is located between the closure and the inside of the window, the operator presents a problem. In some installations the operators have been mounted in the sill of the window; but this is objectionable in that the operator engages an extreme end of the closure. In the modification disclosed herein a U-shaped channel 42 extending across the ventilating area has been substituted for one of the T-bars 18. This U-shaped channel 42 has a flange 44 that provides a suitable seat for the screen frame 40 located adjacent thereto. The closures 32 have been provided with channels 46, substantially U-shaped; but disposed in opposite directions and directly opposite the U-shaped channel 42. The channels 46 have been provided with glass abutting flanges 48. The channels 42 and 46 cooperate to provide a suitable passage and encasement for the operator of the casement windows, which operator has not been shown, as this will form the subject matter of a separate application for Letters Patent.

In metallic windows a close and tight fit between the frame bounding the ventilating area and the closure frame presents a problem. Various attempts have been made to solve this problem, some of which are rather expensive and therefore prohibitive for general use. In the modification disclosed herein a resilient weather stripping member 50, which has a substantially T-shaped cross sectional area, is mounted intermediate the outer flanges of the outside top and bottom muntin bars of the closure 32 and the frame of the window. Members 50 are preferably made from some resilient material, such as live rubber, which is flexible. The outside flanges 52 are adapted to abut the outside flanges of the closure and the head of the T abutts the fixed flanges bounding the ventilating area. A plurality of stems 54 equally spaced along the body of member 50, are provided with enlarged heads 56, as best seen in Fig. 6, adapted to be projected or inserted in suitable holes in the flanges of the closure, the enlarged heads preventing the removal, or the dropping out of the insulating strip 58. Whenever the life of the rubber deteriorates, new insulating strips 58 may be substituted for the worn members. Instead of the insulating strips 58 being carried by the closure, such strips

may be attached to the fixed frame bounding the ventilating area equally as well.

The vertical angle bars 37 support housing members 58 enclosing the weather stripping members 59 adapted to form a water and air-tight union between the angle bars 37 and the vertical muntin bars 16 bounding the ventilating area. As the flanges of the center muntin bar extending along the common inside edge of the closures 32 may not be sufficiently wide to accommodate the felt or pliable weather stripping members 59, a suitable sheet metal cap 61 may be fixedly attached to the flanges of this vertical muntin bar. Member 61 provides a suitable seat for the felt weather stripping members 59. It is to be noted that the contour of the outside of the muntin bars bounding the ventilating area is irregular in that the webs of the horizontal muntin bars project beyond the flanges of the vertical muntin bars.

For some installations it may be desirable to have a ventilating area extend partially across or entirely across the bottom of the window and closed by a closure angularly disposed when in open position, so as to project the air upwardly into the room. In Fig. 1 such a closure of metal has been shown by reference character 60. This closure is pivoted at 62 to the sill of the window and is provided with an angular member 64 adapted to abut against the web 65 of the sill member 12. This angular member 64 houses a felt or other suitable weather stripping member 66. The sides, the top and the bottom of the closure for the ventilating area of the window may be provided with insulating members 50, much the same as those disclosed and described in connection with the closure 32.

As may best be seen by referring to Figs. 1, 4 and 5, ventilating areas 70, disposed at the top of the window one on each side of the closures 32, are closed by sheet metal closures 72. The upper portion of member 72 is provided with a bead 74 encircled by a bead 76 of member 78 fixedly attached to the frame member 10. The sides and bottom of the sheet metal closure 72 may be provided with outwardly projecting flanges 79, the one extending along the bottom sloping so as to provide a watershed. The top and sides of the closure 72 may be provided with resilient weather stripping members 50 adapted to engage the flanges of members 10, 14 and 16. These weather stripping members 50 may be fixedly attached to the flanges of the fixed portion of the window.

An inwardly projecting edge 80 may resiliently engage the outer edge of the web of the muntin bar 18. This edge or lip 80 may be integral with the sheet metal closure 72 or it may constitute a suitable resilient member inserted into the bight of the fold constituting the flange 79, as best seen in Fig. 4. Member 80 may be of sheet metal, fibrous material or rubber, depending upon the requirements and the materials available.

The screen frames 40 or the window panes as the case may be, are inserted by advancing one edge over the near flange and toward the web until the opposite edge clears the opposite flange. The screen frame or the window pane is dimensioned to permit such insertion.

In some climates and certain types of installations it may be desirable to provide double glazing for the window. That being the case, it may at times be desirable to substitute for the screens 40, window sections 130, which include a pane of glass 132 provided with a resilient frame 134 made of rubber or other suitable flexible material. The rubber frame 134 may be provided with a lip 136 adapted to engage the sides of the stems or webs of the T-bars 16 or 18 bounding the vacant spaces of the ventilating area. These window sections are preferably removably mounted, so that as the weather moderates and it is desirable to have more ventilation, the window sections 130 may be removed and the screen sections 40 substituted therefor.

In the modification disclosed in Fig. 15 a glass retaining member 140 provided with oppositely disposed flanges 142 is inserted over the edge of the web of the muntin bar 16 and held in position by suitable screws or retaining members 144. This glass retaining member 140 is preferably used on the interior of the window where it is desirable to have the minimum amount of putty exposed on the interior of the building. Although it has been shown and used with the vertical muntin bar, it might also be used in connection with similar horizontal muntin bars.

Although the preferred modifications of the device have been described, it will be understood that within the purview of this invention various changes may be made in the form, details, proportion and arrangement of parts which generally stated consist in a device capable of carrying out the objects set forth, in the novel parts, combination of parts and mode of operation, as disclosed and defined in the appended claims.

Having thus described my invention, I claim:

1. In a window assembly which may be glazed from either side, the combination of a set of muntin bars having flanges on the inside of the glazing presenting a flat surface on the interior of the window, said muntin bars having outwardly projecting webs terminating in spaced relation with the outside surface of the glazing, with a second set of muntin bars intersecting the first set of bars, said second set of muntin bars having flanges mounted on the outside of the glazing, said flanges presenting substantially a flat surface on the outside of the window, the muntin bars of the second set having inwardly projecting webs terminating in spaced relation with respect to the inner surface of the window whereby the window panes may be inserted from either side.

2. In a window assembly a set of muntin bars having all flanges disposed on the inside of the glazing, said flanges presenting a smooth inner surface, each of said muntin bars having a web extending outwardly and terminating in spaced relation with respect to the outer surface of the window, and a second set of muntin bars having all flanges disposed on the outside of the window, said flanges presenting an outer smooth surface, the muntin bars of said second set having inwardly projecting webs disposed in spaced relation with respect to the inner surface of the glazing whereby the window panes may be inserted from either side.

3. In a window assembly wherein the window panes may be inserted from either side, the combination including a set of horizontal muntin bars having flanges on the inside of the glazing presenting a smooth inner surface and having webs projecting in spaced relation from the outer surface of the glazing, and a set of vertical muntin bars having flanges disposed on the outside of the glazing, said flanges presenting a smooth outer surface, said second set of bars having webs terminating in spaced relation from the inner surface of the window, the bars of the

second set interlocking the bars of the first set, the webs of each set of bars extending beyond the flanges of the other set so as to extend farther away from the neutral plane than the distance from the neutral plane to the extremity of the flanges.

4. In a window assembly a set of horizontal muntin bars having the flanges disposed on one side of the glazing and webs projecting between the edges of the glazing on the other side thereof, a second set of transversely disposed muntin bars interlocking said first set of bars but having the flanges on the opposite side of the glazing from the flanges of the first set and webs projecting intermediate the glazing, the webs of one set projecting beyond the flanges of the other set, said muntin bars dividing the window into a plurality of spaces some of which are glazed leaving a space vacant for ventilating area, said ventilating area being bounded by muntin bars the webs projecting beyond the flanges presenting an irregular surface around the ventilating area, a closure for the ventilating area, and means disposed intermediate the closure and the muntin bars bounding the ventilating area for compensating for the variations in the irregularities of the muntin bars bounding the ventilating area.

5. In a window assembly a plurality of transversely disposed muntin bars dividing the window into a plurality of spaces some of which are glazed leaving a space vacant for ventilating area, the surface on at least one side of the muntin bars being irregular so that the muntin bars bounding the ventilating area present an irregular surface, a movable closure for the ventilating area, and means disposed intermediate the closure and the muntin bars bounding the ventilating area for compensating for the irregularities in the contour of the muntin bars.

6. In a window assembly for use with a window having a ventilating area, the combination including a frame bounding the ventilating area, a movable closure mounted in the ventilating area, said movable closure including a frame having an inwardly projecting flange, one side of which has a plurality of aligned openings, and a weather stripping member disposed intermediate the two frames for sealing the ventilating area when the closure therefor is in closed position, said weather stripping member having a plurality of elongated projections extending through said openings and terminating in enlarged portions for holding the member in position.

7. In a window assembly having a ventilating area, the combination including a frame member bounding the ventilating area, a metallic closure member movably mounted in the ventilating area, one of said members having a plurality of aligned holes therein and a flange extending parallel to the holes abutting the other member when the closure is in closed position, and a weather stripping member disposed intermediate said members and extending along the flange for sealing the ventilating area when the closure member is in closed position, said weather stripping member having a plurality of elongated projections extending through said openings for supporting said weather stripping member in fixed relation with respect thereto, said weather stripping member being removably supported in said openings.

8. In a window assembly having a ventilating area, a frame member bounding the ventilating area, a sheet metal closure movably mounted upon the frame member for closing the ventilating area, said frame member having an inwardly projecting flange abutting the frame, and resilient means disposed intermediate the frame member and the sheet metal closure, said resilient means being supported upon and attached to the sheet metal closure.

9. In a window assembly adapted to be glazed from either side, the combination including a plurality of vertical parallel muntin bars having flanges on one side of the glazing and a plurality of horizontal muntin bars having flanges on the other side of the glazing, said muntin bars dividing the window into a plurality of spaces some of which are glazed leaving a group of spaces vacant for a ventilation area, a closure for said ventilation area, said closure including a plurality of vertical muntin bars having the flanges on one side of the glazing and a plurality of horizontal muntin bars having the flanges on the opposite side of the glazing.

10. In a window assembly the combination of a plurality of parallel muntin bars having outwardly disposed glazing rabbets with a plurality of parallel muntin bars transversely disposed with respect to said first plurality, said second plurality having inwardly disposed glazing rabbets whereby the window may be glazed from either side.

11. In a window assembly adapted to be glazed from either side, the combination of a set of vertical muntin bars having flanges disposed on one side of the glazing and webs extending between the edges of the glass panes, with a set of horizontal muntin bars having flanges disposed on the opposite side of the glazing, said second set of muntin bars having webs extending between the edges of the glass panes and directed in the opposite direction of the webs of the first set of muntin bars.

12. In a window assembly a plurality of horizontal parallel T-shaped muntin bars having the flanges thereof disposed on one side of the glazing, means for supporting the vertical edges of the glazing, said means including stems projecting between the glazing and merging into shoulders integral therewith, said shoulders overlying the side of the vertical edge of the glazing opposite the flanges of the T-shaped bars so as to support opposite sides of the glazing against the flanges of the T-shaped bars and the remaining sides of the glazing by said shoulders oppositely disposed with respect to the flanges.

13. In a window assembly a frame surrounding a ventilating area, said frame having inwardly projecting flanges along three sides thereof, a closure unit for the ventilating area pivotally mounted along the fourth side of the frame, said closure unit supporting a resilient member disposed along three sides thereof and adapted to contact the inwardly projecting flanges of the frame when the closure is in closed position, means for limiting the movement of the closure to prevent excessive compression of said resilient member, and a resilient member disposed along the fourth side of the closure, said resilient member being adapted to be compressed intermediate the frame surrounding the ventilating area and the edge of the closure unit.

14. In a window assembly wherein the glass panes may be inserted from either side, the combination of a set of T-shaped muntin bars arranged in parallel relation with a set of transversely disposed T-shaped muntin bars, the flanges of the first set being disposed on the in-

side of the glazing and the flanges of the second set being disposed on the outside of the glazing, the stems of the muntin bars projecting intermediate the edges of adjacent window panes, the stems of each set being notched to receive the flanges of the opposite set so that the flanges of the T-shaped muntin bars are uninterrupted thereby, offering substantially equal resistance to differential pressures from either side.

15. In a window assembly wherein the glass panes may be inserted from either side, the combination of a set of T-shaped muntin bars having the flanges thereof disposed on the inside of the glazing with a complementary set of T-shaped muntin bars transversely arranged with respect to the first muntin bars, said complementary set having the flanges disposed on the outside of the glazing with the webs thereof projecting inwardly, the webs of each set of bars being notched to receive the flanges of the opposite set, the notches permitting the interlocking of the bars with the webs of one set projecting beyond the flanges of the other set.

16. In a window assembly the combination of a frame bounding a ventilating area and a movably mounted closure for the ventilating area, said closure having outwardly projecting flanges disposed in a plane substantially parallel to the glazing of the closure, each of said flanges having aligned spaced holes therein, a resilient weather stripping member mounted intermediate the flanges and portions of the frame to seal the ventilating area when the closure is in closed position, said resilient member having a plurality of aligned projections provided with enlarged heads, said projections extending through said apertures to hold the resilient member in position, and means for limiting the compression of said resilient weather stripping member.

17. In a window assembly a frame bounding a ventilating area, said frame including a sill portion and inwardly projecting flanges along the side and top portions thereof, a movably mounted closure hingedly attached to the sill for closing the ventilating area, said closure including a plurality of aligned holes in each of the sides thereof and along the top portion, a resilient weather stripping member disposed intermediate the side portion and the top portion of the closure adapted to abut the inwardly projecting flanges of the frame to seal the ventilating area when the closure is in closed position, said resilient member including a plurality of elongated members projecting through said aligned openings and having enlarged heads adapted to hold the resilient member in position, and means for limiting the compression of said resilient weather stripping member.

18. In a glazed window assembly a set of T-shaped muntin bars having the webs thereof projecting outwardly from the flanges, a second set of transversely disposed T-shaped muntin bars having the webs thereof projecting inwardly from the flanges, the first set of muntin bars intersecting the second set of muntin bars so as to divide the window into a plurality of spaces some of which are glazed leaving a group of spaces vacant for ventilation, a movably mounted closure for the vacant spaces, and screens having frames supported by the muntin bars, said frames being located on the outside of the flanges of the first set and on the inside of the flanges of the second set so as to prevent the free passage of bodies through the vacant spaces.

19. In a glazed window assembly, a set of T-shaped muntin bars having the webs thereof projecting outwardly from the flanges, a second set of transversely disposed T-shaped muntin bars having the webs thereof projecting inwardly from the flanges, the first set of muntin bars intersecting the second set of muntin bars so as to divide the window into a plurality of spaces some of which are glazed leaving a group of spaces vacant for ventilation, a movably mounted closure for the vacant spaces, said movably mounted closure having surfaces arranged in contacting relation with respect to the flanges of one set of bars, and additional closures supported by the muntin bars, said additional closures being located on the outside of the flanges of one set of bars and on the inside of the flanges of the other set of bars so as to close the vacant spaces.

20. In a window of the character described, a series of duo-functional transversely disposed bars dividing the window into a multiple of spaces, said bars functioning as detention bars and also as supports for the window glass, some of the spaces being glazed, other left vacant to form a ventilating area, the bars bounding the ventilating area presenting irregular contact surfaces, and an adjustable closure for said ventilating area, said closure having contacting surfaces adapted for engagement with the irregular contact surfaces of the muntin bars bounding the ventilating area.

21. A detention window including transversely disposed muntin bars dividing the window into a plurality of spaces some of which are glazed leaving a group of spaces vacant as a ventilating area, the continuations of the bars extending across the ventilating area functioning as detention bars, the muntin bars of opposite sides of the ventilating area differing in contour from the muntin bars extending across the ends of the ventilating area, and an adjustable closure for the ventilating area, said closure being adapted to contact the muntin bars extending along the sides and adapted to contact the differently contoured muntin bars extending across the ends of the ventilating area.

22. In a window assembly of the character described having a ventilating area bounded by a frame which presents like surfaces on opposite sides of the ventilating area, the portions of the frame extending across the ends of the ventilating area being differently contoured from those extending along the sides thereof, and a pair of closure units for the ventilating area, one of said closure units being adapted to be seated between the frame members bounding the sides of the ventilating area, the second closure unit being movably mounted and provided with contacting surfaces adapted to engage the frame extending along the sides of the ventilating area and also adapted to engage the differently contoured frame portions extending across the ends of the ventilating area.

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