

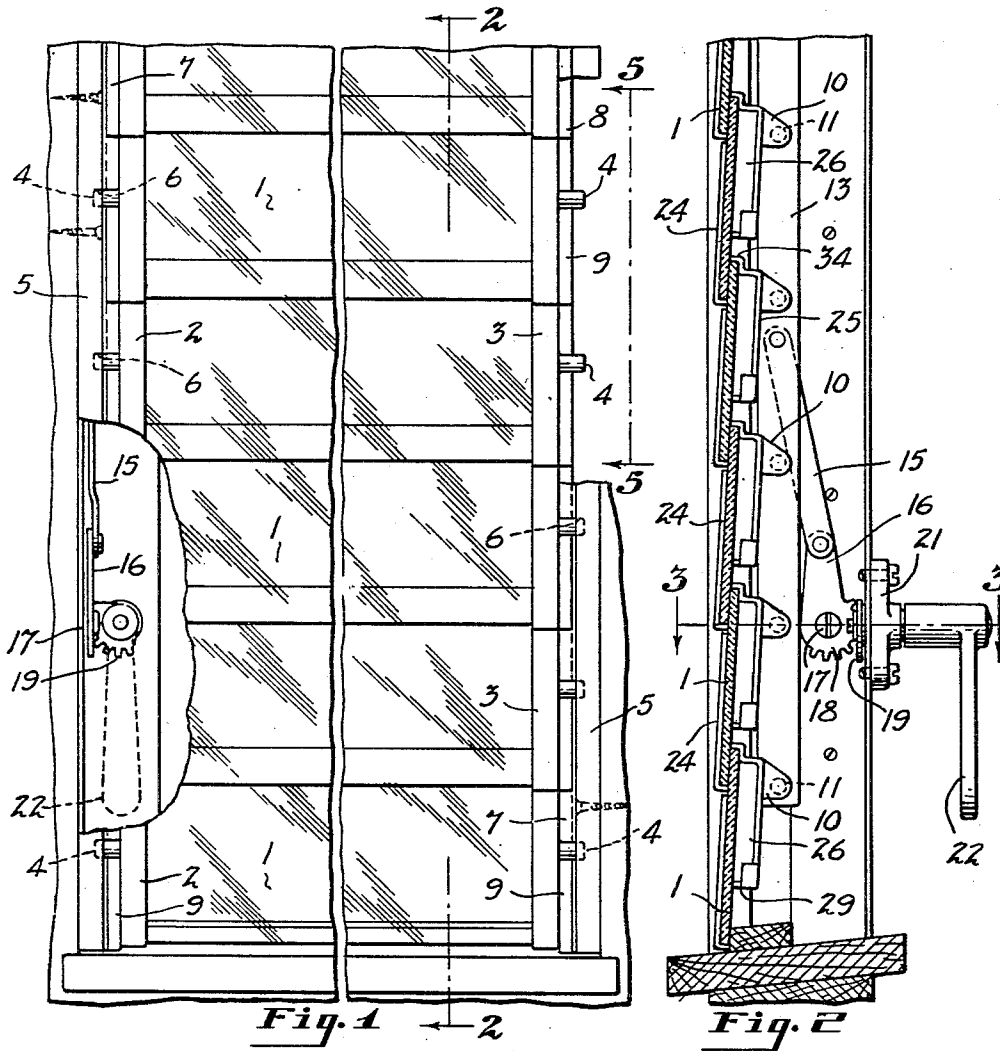
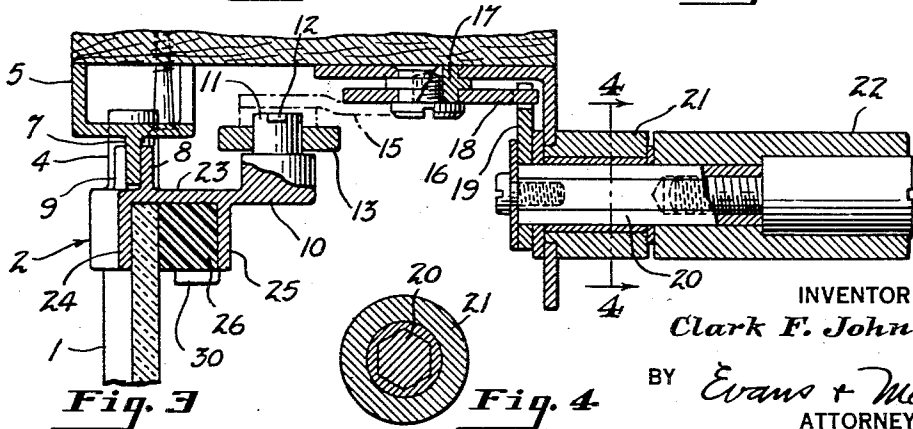
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C. F. JOHNSON
JALOUSIE WINDOW

2,708,295

Filed April 15, 1954

2 Sheets-Sheet 1



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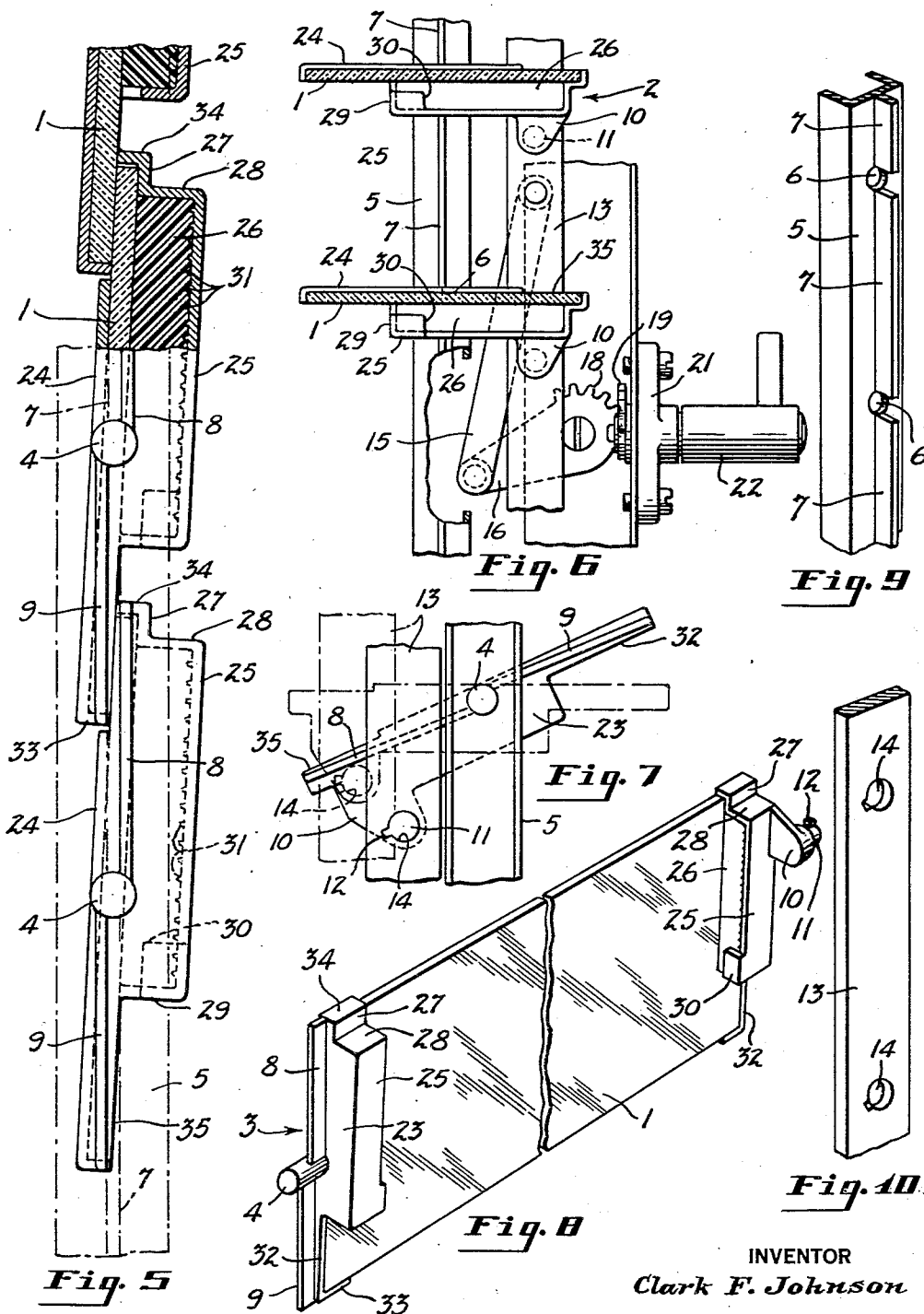
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JALOUSIE WINDOW

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5 Claims. (Cl. 20—62)

This invention relates to a glass jalousie construction suitable for use as a window or a glass wall structure.

The jalousie of the present invention comprises supporting posts, transparent panes, holders for the transparent panes, and an operating means. The posts may serve as wall studding or may be attached to frame members at opposite sides of the window opening. The posts and operating means are the same for jalousies of all sizes and the holders may be used with panes of any length so that the jalousies of any desired size may be built by simply cutting the panes to the proper size and assembling them with the holders, posts and operating means. The holders fit on the ends of the panes and are formed to provide sockets in which the ends of the panes fit, the sockets being formed with an enlargement to receive an elastic pane retaining block of rubber-like material. Each holder is provided substantially midway between its ends with a pivot that projects into bearing openings in the posts that are so positioned that adjoining edge portions of the slats overlap when swung to their closed positions.

The operating means comprises an upright actuating bar that is connected to parallel pivots carried by superposed holders at one end of the jalousie. Each of the holders has an inwardly projecting lug which carries a pivot pin disposed parallel to the slat pivot and adapted to enter a bearing opening in the actuating bar. To facilitate the attachment of the actuating bar to the slats, each of the pivots engaging the bar is provided with a laterally projecting lug adjacent its outer end that is positioned to enter a slot at one side of the bearing opening of the bar when the slat is in a predetermined angular position. The slots in the actuating bar and the lugs on the pivot pins are so arranged that the slats must be swung past their full open horizontal position in order to align the lug of the pivot with the slot in the actuating bar.

A suitable crank and lever actuating mechanism is attached to the vertical bar and this actuating mechanism imparts an angular movement to the slat which is somewhat less than that required to align the lugs with the slots of the bar, so that it is necessary to disconnect the actuating bar from the actuating lever in order to detach the actuating bar from the slats.

The holders are so formed that they permit adjoining edge portions of the panes to have face to face contact throughout their length when in closed position and the posts and holders have projecting ribs that have side faces in contact throughout the spaces between the slot pivots when the slats are in closed position so that the pane holders and posts provide a weather-tight closure when the slats are in closed position.

Objects of the invention are to provide a glass jalousie construction that is inexpensive, that can be quickly and easily assembled, to provide a construction in which the panes, holders and posts form a weather-tight closure when the slats are in closed position, and to provide a construction in which the glass holders are provided with

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glass retaining means that is accessible for removal only from the interior of the building.

Reference should be had to the accompanying drawings forming a part of this specification in which:

5 Figure 1 is an elevation of a jalousie window looking toward the exterior thereof, a portion of the jalousie being broken away to show part of the operating mechanism;

Fig. 2 is a fragmentary vertical section taken on the line indicated at 2—2 in Fig. 1;

10 Fig. 3 is a fragmentary horizontal section taken on the line indicated at 3—3 in Fig. 2;

Fig. 4 is a section through the jalousie actuating shaft and its bearing taken on the line indicated at 4—4 in Fig. 3;

Fig. 5 is a fragmentary elevation viewed as indicated at 5—5 in Fig. 1, the view being on an enlarged scale and overlapping portions of two of the slats being broken away and shown in vertical section;

20 Fig. 6 is a fragmentary vertical section showing the jalousie in open position;

Fig. 7 is a fragmentary view showing the manner in which the actuating bar is attached to the pane holders;

25 Fig. 8 is a perspective view showing one of the slats consisting of a glass pane and the holders in which it is mounted;

Fig. 9 is a fragmentary perspective view of one of the supporting posts; and

Fig. 10 is a fragmentary perspective view of the actuating bar.

30 In the accompanying drawings a jalousie is shown in which each of the slats is composed of a transparent glass pane 1 and holders 2 and 3 that are attached to opposite ends of the pane. The pane holders 2 and 3 are each an elongated member preferably a die casting of a light metal alloy such as an aluminum alloy formed on one side with a shallow socket in which an end of the pane fits and having an integral pivot 4 projecting from its opposite side. The pivots 4 are disposed substantially midway between the ends of the holders and are axially aligned so that the slats can be mounted to swing about horizontal axes. The slats are supported between vertical posts 5 which may serve as wall studding or which may be attached to the inner faces of vertical window frame members. The posts 5, which may also be formed of a light metal, have vertically spaced bearing openings 6 to receive the pivots 5, these openings being spaced apart vertically a distance less than the width of the slats so that the edges of the slats overlap in the closed position thereof. Each of the posts is provided with inwardly projecting ribs 7 that extend vertically from opening to opening, each of the ribs being of a thickness less than the diameter of the bearing openings 6 and being in alignment with the axes of the openings.

Each of the holders is provided with ribs 8 and 9 which extend upwardly and downwardly from the pivots 4 to the upper and lower ends of the holders. The upper rib 8 is parallel to the lower rib 9 and the center planes of these ribs are spaced at equal distances from a plane that includes the pivotal axis of the slat and are spaced apart a distance corresponding to the thickness of the ribs 7. The ribs 8 and 9 are inclined at a small angle to the plane of the pane 1 to which their holder is attached so that the ribs 8 and 9 engage the outer and inner sides of adjacent vertical ribs 7 on the post when the slat is in closed position. The holders 2 and 3 closely overlie the ribs 7 when the slats are in closed position so that the holders 2 and 3 and ribs 7, 8 and 9 provide a weather-tight closure between the end edges of the slats and the supporting posts when the slats are in closed position.

70 The holders 2 and 3 are of identical construction except that the holders at one edge of the jalousie are provided with means for attaching them to an actuating mechanism.

As herein shown, the holders 2 are provided with integral inwardly projecting lugs 10 that have laterally projecting pivot pins 11 at their outer ends, the pivot pins 11 being disposed parallel to the pivot pins 4. Each of the pivot pins 11 is provided with a radial lug 12 adjacent its outer end and these lugs serve to retain an actuating bar 13 in place on the pivot pins. The actuating bar 13 is provided with bearing openings in the form of keyhole slots 14 which are adapted to receive the pivot pins 11 when the slats are swung past their full open horizontal position as shown in Fig. 7 of the drawings. As herein shown, the openings 14 are slotted at their bottoms and the lugs 12 are so positioned that they align with the slots of the openings 14 when the slat is swung to the position shown in Fig. 7. The actuating bar 13 has a link 15 connected at its upper end thereto, the lower end of the link being connected to a crank arm 16 carried by a horizontal shaft 17 adjacent the bottom of the window opening. A gear segment 18 is formed integrally with the crank 16 and meshes with a gear segment 19 carried by a horizontal shaft 20 mounted in a bracket 21 attached to the interior of the building wall, the shaft 20 being provided with a suitable handcrank 22 by means of which it may be turned to open or close the jalousie.

The actuating mechanism is preferably so connected to the actuating bar 13 that the slats are not permitted to move far enough to align the lugs 12 with the keyhole slots of the operating bar so that it is necessary to disconnect the bar 13 from the actuating mechanism when it is desired to replace a holder.

Each of the holders has a flat wall 23 forming the bottom of the pane receiving socket and engaging the end edge of the pane throughout its length. The pane receiving socket has an outer side wall 24 that is provided with a flat inner face for engagement with the outer face of the pane 1. The socket has an inner side wall 25 that is formed to provide a space for receiving a pane cushioning and retaining block 26 of a suitable rubber or rubber-like material. The inner side wall 25 has an inset upper end portion 27 that engages the outer face of the glass pane 1 and an integral portion 28 that is perpendicular to the end portion 27. The outer side wall 24 terminates short of the upper end of the holder so as to expose a portion of the pane for face to face engagement with the pane of the next adjacent slat and the inner side wall 25 terminates short of the lower end of the slat to expose a portion of the outer face of the pane adjacent its lower edge for engagement with the inner face of an adjacent pane as shown in Fig. 5.

The inner side wall 25 has a short flange 29 at its lower end that engages the lower end of the cushioning block 26 and a short flange 30 that engages the side face of the cushioning block to retain the same in the holder. The inner side wall 25 may also be provided with serrations 31 to more securely hold the cushioning block in place. The lower end portion 32 of the wall 23 is substantially flush with the inner face of the pane 1 and a bottom wall 33 is provided for engaging the bottom edge of the pane and this wall also is substantially flush with the pane. The pane socket also has a top wall 34 that engages the top edge of the pane and that is formed integrally with the walls 23 and 25. The upper portion 35 of the wall 23 is flush with the inner face of the pane 1 so that the slats have face to face contact throughout their length in their closed positions.

The jalousie window of the present invention requires no weather strips to make it weather proof. As above explained, the holders and posts have interengaging ribs which provide closures between the edges of the jalousie and the supporting posts when the window is closed. The jalousie will also effectively exclude driving rain when in a partially open position. The interior faces of the posts 5 are flat and closely overlie the edges of the ribs 8 and 9 of the holders. The exterior faces of the holders 2 and 3 are flat and closely overlie the edges of the ribs 7. Con-

sequently, the spaces between the edges of the jalousie and the posts are effectively sealed against entry of water during a rainstorm when the slats are disposed at a small angle to their fully closed position to provide ventilation. The pane cushioning and sealing blocks 26 also serve as sealing members and make it unnecessary to maintain great accuracy in the cutting of the panes. In the event that one of the panes is a trifle short and does not snugly engage the holders, the sealing blocks which extend to near the top ends of the holders will provide a seal to prevent entry of water through the space between the wall 23 and the edge of the pane 1.

It is to be understood that in accordance with the provisions of the patent statutes, variations and modifications of the specific devices herein shown and described may be made without departing from the spirit of the invention.

What I claim is:

1. A jalousie construction comprising spaced upright supporting posts, a series of elongated slats between said posts and pivoted to swing about parallel horizontal axes from a closed position in which side edge portions of the slats are in face to face contact to an open position in which the slats are spaced apart, each of said slats comprising a flat rectangular pane of glass and two one-piece metal holders each formed to provide a socket in which an end of said pane is received, the socket of each holder having a flat bottom wall, end walls for engagement with top and bottom side edges of said pane, an outer side wall terminating short of the upper end of the holder, and a serrated inner side wall terminating short of the lower end of the holder to expose the inner face of the pane at the upper end of the holder and the outer face of the pane at the lower end of the holder for face to face contact with panes of adjacent slats, said outer side wall being straight for engagement throughout its length with the flat outer face of said pane, the inner side wall of each holder being parallel to and spaced from said outer side wall a distance greater than twice the thickness of said pane, each holder having an upper wall portion parallel to and spaced from the plane of the outer side wall a distance corresponding to the thickness of said pane for engagement with the inner face of said pane adjacent the top edge thereof and having a rectangular pane cushioning and retaining block of rubber-like material between said pane and the inner side wall of the holder and extending from the lower end of said inner side wall to said upper wall portion, said block sealingly engaging the flat bottom wall of the holder to seal any space between said bottom wall and the end edge of said pane and serving as the sole means to hold said pane against said outer side wall, said block engaging the serrations of said inner side wall and being held in place thereby.

2. A jalousie construction comprising spaced upright supporting posts, a series of elongated slats between said posts and pivoted to swing about parallel horizontal axes from a closed position in which side edge portions of the slats are in face to face contact to an open position in which the slats are spaced apart, each of said slats comprising a flat rectangular pane of glass and a holder secured to each end thereof and overlying each end edge, each holder being an elongated one-piece metal member formed to provide a pivot member projecting from one side thereof substantially midway between its ends and formed to provide a pane receiving socket in its opposite face, said socket having a flat bottom wall for engagement with the end edge of said pane, top and bottom end walls that engage with the top and bottom side edges of said pane, an outer side wall that terminates short of the upper end of the holder, and an inner side wall that terminates short of the lower end of the holder to expose the inner face of said pane at the upper end of the holder and the outer face of said pane at the lower end of the holder for face to face contact with panes of adjacent slats, said outer side wall being straight for engagement throughout its length with the outer face of said pane, each holder

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having an upper wall portion adjacent to and integral with the top end wall of the holder and parallel to and spaced from the plane of the outer side wall a distance corresponding to the thickness of said pane for engagement with the inner face of said pane, and means carried by each of said holders for holding said pane against the outer side wall of the holder and for sealing any space between the bottom wall of the holder and the end edge of said pane comprising a rectangular pane cushioning and retaining rubber block between said pane and the inner side wall of the holder sealingly engaging said flat bottom wall and extending from the lower end of said inner side wall to the upper wall portion of the holder, said inner side wall having serrations engaging said rubber block to hold the same on the holder.

3. A jalousie construction comprising a pair of horizontally spaced upright metal posts each having a series of vertically alined openings forming pivot bearings that are equally spaced apart vertically, the openings in one post being axially alined with those of the other post, said posts having opposed flat parallel vertical interior faces perpendicular to the axes of said openings and integral vertical ribs of uniform width and uniform thickness alined with said openings and extending vertically from one opening to the next, said ribs having parallel flat vertical side faces perpendicular to the interior faces of said posts and spaced apart a distance less than the diameter of said openings, a series of elongated parallel slats between said posts and pivoted to swing about parallel horizontal axes spaced apart a distance less than the width of the slats from a closed position in which side edge portions of the slats are in face to face contact to an open position in which the slats are spaced apart, each of said slats comprising a rectangular pane of glass and two one-piece die-cast holders formed of a light metal alloy and secured to the opposite end portions of said pane, each holder being formed to provide a socket in which an end of the pane is received, said socket having a bottom wall with a flat exterior vertical surface that closely overlies the edge of one of said ribs when the slats are in closed position, integral end walls for engagement with the top and bottom side edges of the pane, and an integral outer side wall for engagement substantially throughout its length with the outer face of the pane, said outer side wall extending at least two-thirds the width of said outer face and terminating short of the upper end of the holder, the holder being shaped to expose the inner face of the pane at the upper end of the holder and the outer face of the pane at the lower end of the holder for face to face contact with panes of adjacent slats, the holders of each slat having axially alined pivot pins carried by the bottom walls thereof substantially midway between the ends of the holders and journaled in alined openings of said posts, said pivot pins having axes normal to the flat exterior vertical surfaces of the bottom walls of said holders, resilient means carried by said holder and extending on opposite sides of the pivot for engaging the inner face of the pane at points that are on opposite sides of said pivot and are spaced from said pivot to hold the face of the pane against the outer side wall of the holder, said resilient means being spaced from the adjacent slats when the slats are in closed position to permit face to face contact of the slat panes, each holder having two straight ribs of substantially uniform width that are integral with and perpendicular to the bottom wall, one extending upwardly and the other extending downwardly from its pivot to the end of the holder, said ribs having flat side faces for engagement with the opposite side faces of an adjacent vertical post rib, the ribs of each slat being parallel to, on opposite sides of, and equally spaced from a plane including the pivotal axis of the slat and disposed at a small angle to the plane of the slat pane for engagement with post ribs when the slats are in closed position, the edges of said ribs closely underlying the flat vertical interior faces of said posts when the slats are in said

closed position, said ribs providing a weather closure between the ends of said slats and said posts, and means for holding said slats in parallel relation comprising an upright actuating bar pivotally connected to one of the holders of each slat.

4. A jalousie construction comprising a pair of horizontally spaced upright metal posts each having a series of vertically alined openings therein forming pivot bearings that are equally spaced apart, the openings in one post having horizontal axes alined with the axes of the openings of the other post, said posts having opposed flat parallel vertical interior faces perpendicular to the axes of said openings, a series of elongated parallel slats between said interior faces and pivotally connected to said posts, each of said slats comprising a rectangular pane of glass with a width greater than the distance between adjacent post openings and two one-piece metal holders secured to the opposite end portions of said pane, said holders having edges closely adjacent the interior faces of said posts, each holder being formed to provide a socket in which an end of the pane is received and being shaped to expose the inner face of the pane at the upper end of the holder and the outer face of the pane at the lower end of the holder for face to face contact with panes of adjacent slats when the slats are swung to closed position, the holders of each slat having integral axially-alined pivot pins substantially midway between the side edges of the glass pane and journaled in alined openings of said posts to permit swinging of the slat about its horizontal axis from a closed position in which the side edge portions of the slat are in face to face contact with panes of adjacent slats to an open position in which the slat is spaced apart from adjacent slats, the holders that are pivotally connected to one of said posts having integral vertically alined arms that project laterally from said slats, each of said arms having a pivot pin projecting therefrom and disposed parallel to the pivotal axes of the slats and a predetermined distance therefrom, an integral laterally projecting lug on an end portion of each of said pivot pins, each of said lugs being at the same angle to the plane of its slat, an upright actuating bar having alined equally spaced openings to receive said pivot pins and slots to receive said lugs, said bar engaging said pivot pins to hold said slats in parallel relation and to move said slats from a closed position in which the panes of adjacent slats are in engagement to an open position wherein the slats are spaced apart, said lugs limiting axial movement of said bar relative to said pivot pins, said slots being located to aline with said lugs when the slats are swung from their closed positions and past their horizontal positions to a predetermined open position whereby the actuating bar may readily be detached from the arms of said slats.

5. A jalousie construction comprising spaced upright supporting posts, a series of elongated slats between said posts and pivoted to swing about parallel horizontal axes from a closed position in which side edge portions of the slats are in face to face contact to an open position in which the slats are spaced apart, each of said slats comprising a rectangular pane of glass and two one-piece rigid holders each formed to provide a socket in which an end of said pane is received, the socket of each holder having a bottom wall, end walls for engagement with top and bottom side edges of said pane, an outer side wall terminating short of the upper end of the holder, and an inner side wall terminating short of the lower end of the holder to expose the inner face of the pane at the upper end of the holder and the outer face of the pane at the lower end of the holder for face to face contact with panes of adjacent slats, said outer side wall being shaped for engagement throughout its length with the outer face of said pane, the inner side wall of each holder being parallel to and spaced from said outer side wall a distance greater than twice

the thickness of said pane, each holder having an upper wall portion parallel to and spaced from the plane of the outer side wall a distance corresponding to the thickness of said pane for engagement with the inner face of said pane adjacent the top edge thereof and having a removable rectangular pane cushioning and retaining block of rubber between said pane and the inner side wall of the holder and extending from the lower end of said inner side wall to said upper wall portion, said block being accessible for removal only from the inner side of said slats, and a short retaining flange extending from the edge of said inner side wall toward the pane for engaging the side face of said rubber block to hold the same on said holder.

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