

March 24, 1959

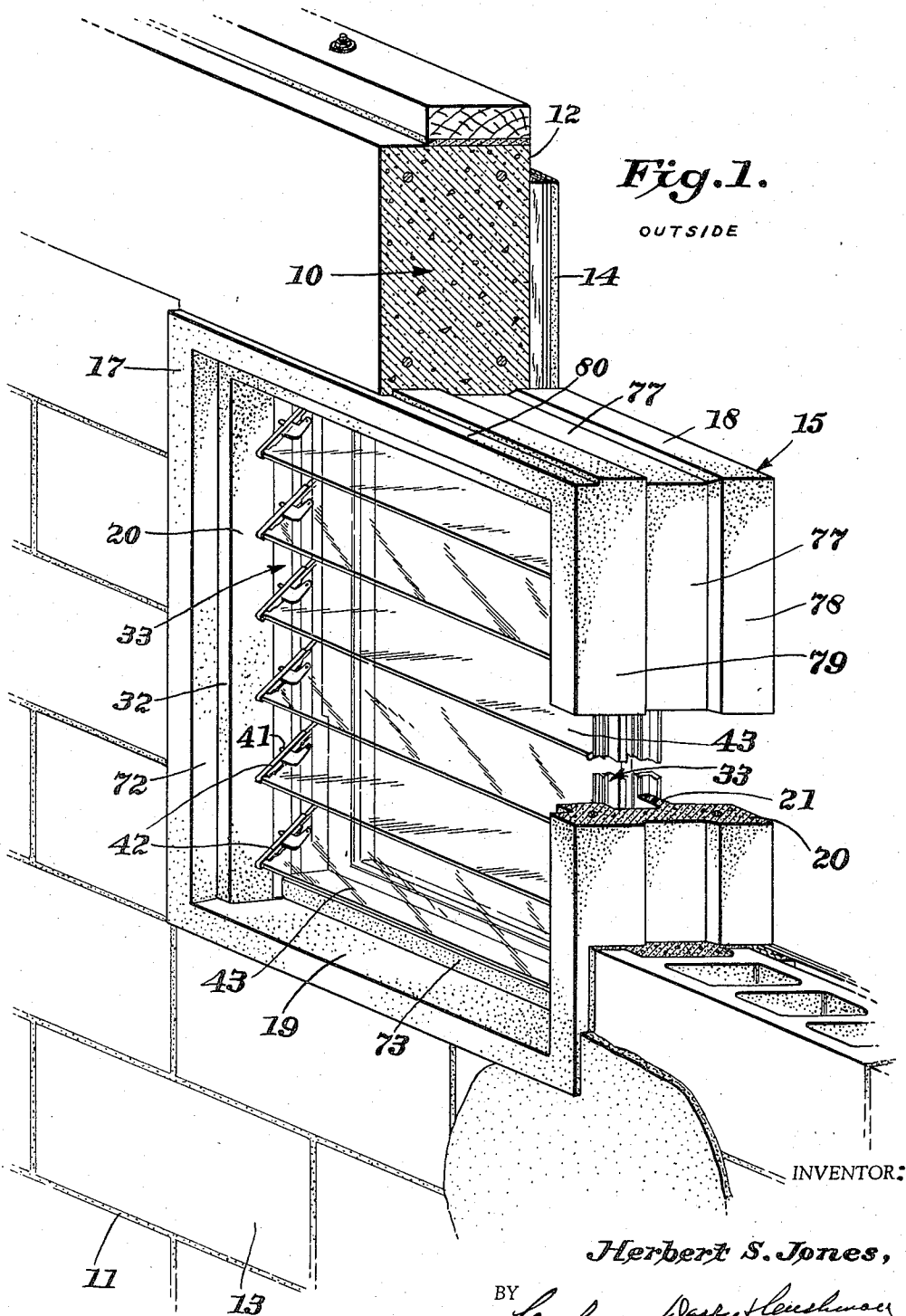
H. S. JONES

2,878,667

CONCRETE WINDOW FRAME AND JALOUSIE ASSEMBLY

Filed Oct. 7, 1953

3 Sheets-Sheet 1



Herbert S. Jones,

BY

Leushman Dasty Leushman
ATTORNEYS.

March 24, 1959

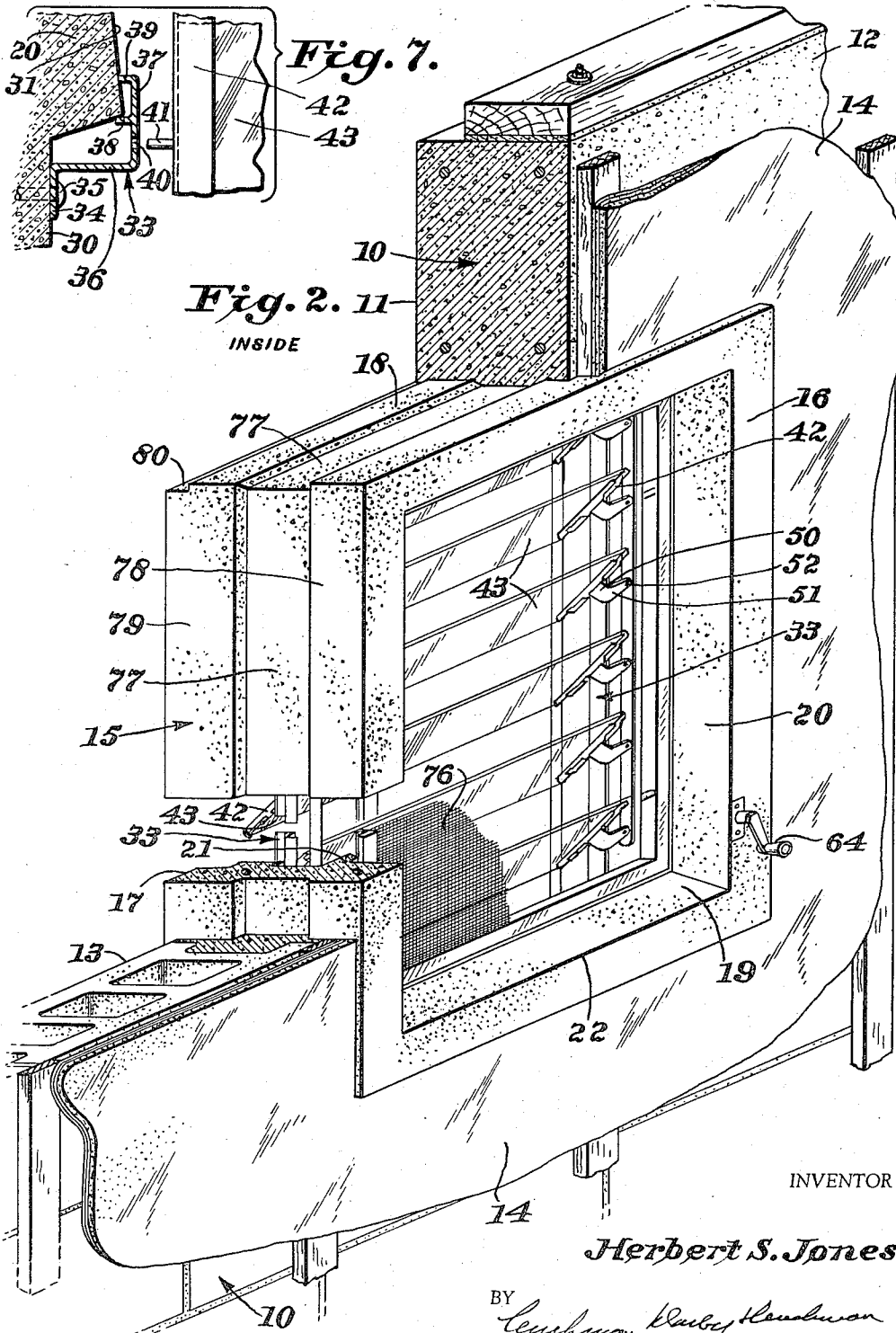
H. S. JONES

2,878,667

CONCRETE WINDOW FRAME AND JALOUSIE ASSEMBLY

Filed Oct. 7, 1953

3 Sheets-Sheet 2



March 24, 1959

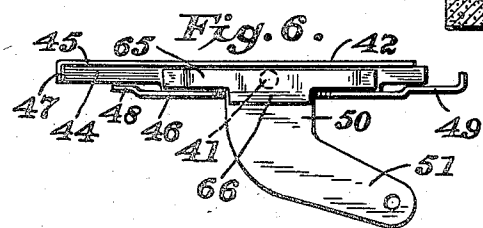
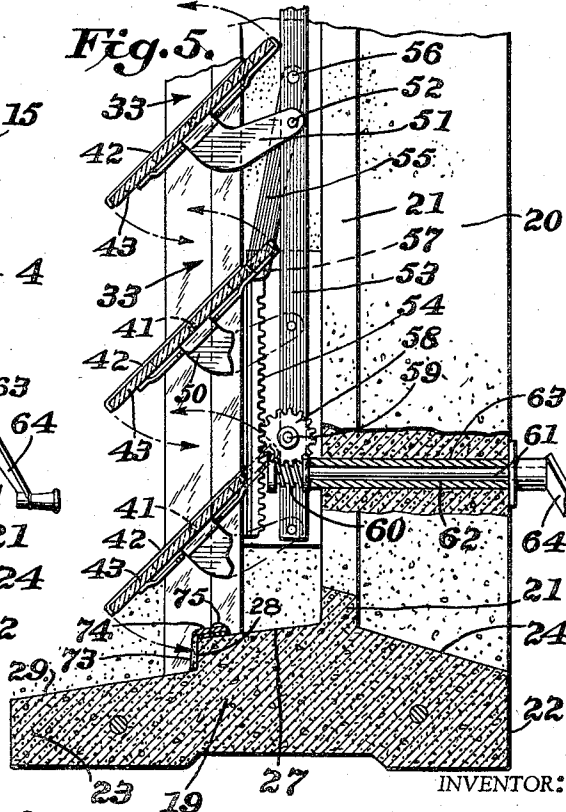
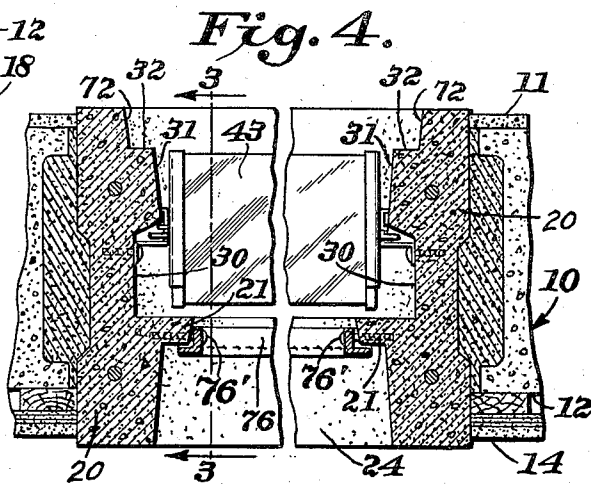
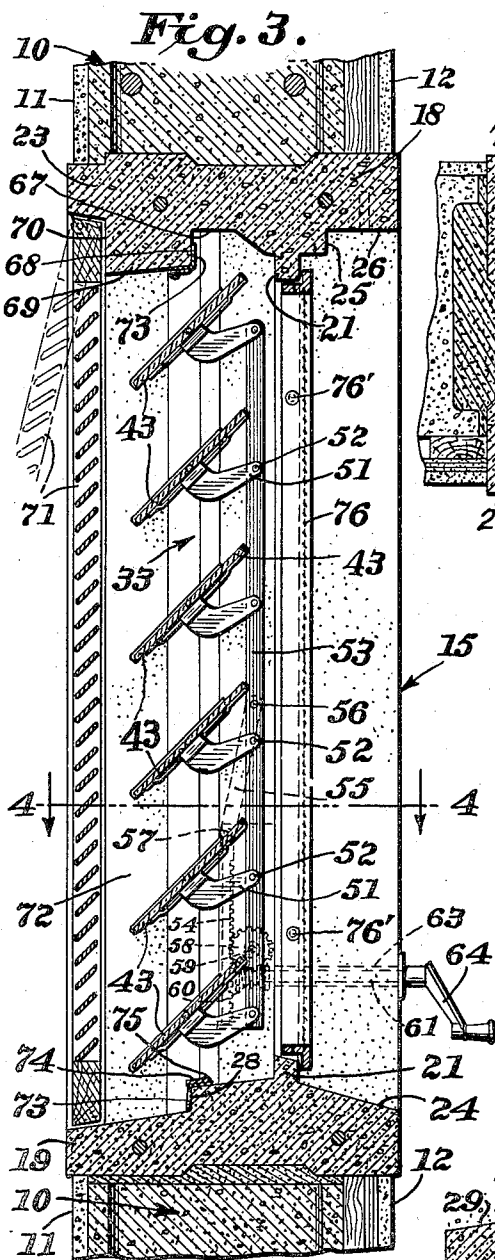
H. S. JONES

2,878,667

CONCRETE WINDOW FRAME AND JALOUSIE ASSEMBLY

Filed Oct. 7, 1953

3 Sheets-Sheet 3



INVENTOR:

Herbert S. Jones,

BY *Cushman, Davis, Cushman*
ATTORNEYS

1

2,878,667

CONCRETE WINDOW FRAME AND JALOUSIE ASSEMBLY

Herbert S. Jones, Miami, Fla., assignor to Engineered Products, Inc., a corporation of Florida

Application October 7, 1953, Serial No. 384,694

2 Claims. (Cl. 72-98)

The present invention relates to an improved frame assembly for windows and the like.

An important object is to provide a simple, efficient, water-tight and economical pre-cast monolithic concrete window frame with which is associated a jalousie window. The complete assembly constitutes a window structure composed of a minimum number of parts that can be installed at a minimum expenditure of time, labor and cost.

A further object consists in providing a reinforced monolithic concrete frame with a continuous rib or ridge which extends around the inner wall of the frame so as to separate the same into inner and outer sides. The outer side between the rib and the outer edge thereof has metal jamb strips or plates connected thereto which are arranged to detachably and pivotally receive the glass vane clips that constitute the jalousie unit of the frame. The vanes are so positioned as to be freely movable within the frame without danger of engaging auxiliary closure means connected to either the front or inner sides of the frame. Manually operable means are connected to the vanes and are positioned so as to be conveniently operable from inside the room or building.

Heretofore, each concrete window frame had to be connected to its associated jalousie unit by a metal frame and hardware strips. In other words, such a construction required a concrete frame, a normal metal frame and a hardware strip or plate. Accordingly, an important object of the present invention consists in designing an improved reinforced monolithic concrete frame of a minimum number of parts, in which the concrete frame performs the dual function of constituting the support for the masonry and also serves as the window frame, thus eliminating the expense of providing the usual metal frames which heretofore were customarily employed.

A further object consists in providing a concrete window frame having a continuous rib or ridge extending around the inner wall of the frame and separating the same into inner and outer sides. The outer side between the rib and the outer edge thereof being provided with means for detachably mounting the jalousie unit to the frame. Additionally, the outer side of the frame is provided with a recess or rebate opening for receiving a closure member such as a storm shutter, a window sash or the like.

A further object consists in forming the outer surfaces of the frame adjacent the inner edge thereof with a recessed or shouldered portion that constitutes a water seal and also a stop for the plaster or stucco so as to eliminate cracks that often occur at the lintel or head of the window, thus insuring a tight water proof joint being provided at this point.

Other objects and advantages of the invention will become apparent from the following description when taken in conjunction with the accompanying claims and drawings.

Referring to the drawings in which is shown a preferred embodiment the invention may assume:

Figure 1 is a perspective front view of concrete window frame constructions in accordance with the present in-

2

vention with parts in section for clearness of illustration; Figure 2 is a detailed perspective inside or rear view similar to Figure 1 and showing certain of the parts in section;

Figure 3 is an enlarged sectional view taken substantially along the line 3-3 of Figure 4;

Figure 4 is a sectional view taken substantially along the line 4-4 of Figure 3 with parts broken away;

Figure 5 is an enlarged detailed sectional view of the lower portion of the frame showing the means for actuating the vanes;

Figure 6 is a detailed side view of one of the clips used for supporting the glass vanes; and

Figure 7 is a detailed exploded sectional view showing the means for detachably connecting a vane to a jamb strip.

Referring to the drawings, 10 generally indicates a masonry wall structure having a front or outer side 11 (Fig. 1) and an inner side 12. As shown, the masonry or stucco of the front 11 is formed of concrete blocks 13 of modular sizes preferably of multiples of 8". The inner side 12 may be formed of plaster 14 or the like. The wall may be provided with one or more openings, in each of which may be mounted a reinforced pre-cast monolithic concrete window frame 15 having its inner side 16 (Fig. 2) projecting beyond the face of the plaster 14 so as to eliminate costly plaster returns. The outer side 17 of the frame (Fig. 1) projects beyond the face of the masonry or stucco blocks 13 so as to eliminate the expense of stucco returns. Each of the concrete frames 15 is formed with the usual lintel or top 18, sill 19 and vertical side jambs 20. A continuous rib or flange 21 extends around the inner wall of the frame 15 and separates the same into an inner side 22 and an outer side 23 (Fig. 5). The inner side of the sill 19 has preferably an inclined surface 24 extending from the rib 21 outwardly and downwardly (Fig. 3). The inner surface of the lintel or head 18 has a shouldered portion 25 positioned above the rib 21 (Fig. 3) and which terminates in a flat transverse end portion 26 confronting the sill surface 24. The side jambs 20 merge into the sill and lintel so as to provide a smooth inner concrete surface for the frame when the parts are assembled.

The outer side 23 of the sill has a flat inclined raised portion 27 that extends outwardly from the rib 21 in a direction opposite to the portions 24 (Fig. 5) and terminates in a depending shoulder 28 which has extending outwardly therefrom an inclined flat end portion 29. The outer side of each jamb 20 has on its inner surface a recessed portion 30 (Fig. 4) adjacent the continuous rib 21 and extending from the lintel to the sill. The recessed portion 30 is connected to an intermediate shoulder portion 31 which preferably is inclined and stepped as at 32 (Fig. 4) so as to connect with a rebate or end portion 72. A metal strip or plate 33 preferably of aluminum may be shaped as particularly shown in Fig. 7 and is provided with a flanged end 34 secured to the jamb 20 in any suitable manner such as by the bolts 35, and is connected to an outwardly extending horizontal portion 36 which projects inwardly and terminates in a smooth flat portion 37 that may be provided with spaced ribs 38 and 39 that engage the adjacent sides of the portion 31 of the jamb so as to properly position the strip in a fixed position when the parts are assembled. The flat portion 37 is also provided with a series of vertically spaced openings 40 each of which is arranged to receive a trunnion or pivot pin 41 that extends outwardly from a metal jalousie clip 42 to which is detachably connected the glass vanes, louver slats or shutters 43 in any well known and suitable manner. It will be seen that the flat metal strips 33 are connected to the jambs and are co-extensive in length therewith and attached so

as not to require caulking to provide a weather-proof joint.

Each of the glass vane clips 42 may have a bottom or base 44 (Fig. 6) and spaced side flanges 45 and 46 so as to be of substantially channel shape in cross section. The side 45 may have its lower end bent laterally to form a stop flange 47 while the side 46 is interrupted to provide yieldable arms 48 and 49 that extend outwardly from opposite sides of an arm 50. The arm 50 projects from one side of the base 44 and is bent to form a free end portion or arm 51 which is pivoted as at 52 to a vertically movable activating bar or member 53. Thus, it will be seen that each of the glass vane clips 42 is pivotally connected by the pin 40 to a jamb strip 33 and also is pivotally and movably connected at 52 to the bar 53, so that upon movement of the bar 53 in one direction, it will cause the glass vanes 43 to be moved to their closed position and when the bar is moved in an opposite direction, will open the vanes. Reciprocal movement may be imparted to the activating bar 53 in any suitable manner and as shown this is effected by providing a vertically disposed rack 54 in the lower portion of one of the jambs 20 and between a strip 33 and the rib 21 (Fig. 5). The rack 54 is operatively connected to an adjacent activating bar 53 by link 55 pivoted as at 56 to the bar and at 57 to the upper end of the rack. A gear wheel 58 is rotatably mounted in the recess 30 as at 59 and meshes with a worm 60 on a rotatable operating shaft 61 that extends through a sleeve 62 mounted in a transverse opening 63 in the jamb 20. The shaft 61 projects beyond the outer end of the jamb and has connected thereto a manually operated handle 64 so that upon rotation of the shaft, to cause reciprocal movement to be imparted to the bar 53 in order to either open or close the glass vanes 43. A leaf spring 65 may be loosely positioned in the bottom 44 of the clip so as to yieldably engage the adjacent end of a glass vane when the latter is inserted within the clip. In order to retain the spring 65 between the sides 45 and 46 of the clips, the spring may have an intermediate lug 66 that abuts against the opposed sides of the interrupted flange 46 so as to prevent being vertically displaced when the parts are set up. It will be seen that as the spring 65 is loosely mounted in the clip, it may be readily removed when the glass vanes are withdrawn. Manifestly, any other suitable clip or shutter mechanism may be used.

The inner surface of the lintel or top 18 of the frame on its outer side 23 may be provided with an enlarged recess or rebate 67 (Fig. 3) which terminates in a depending shoulder portion 68 that is connected to a flat upwardly extending end portion 69 that is formed with a reduced or cut out rebate portion 70 in which may be pivotally connected a suitable closure, such as a storm shutter, winter sash or awning 71. The recess 67 not only constitutes a transverse extension of the jamb recesses 30 but also receives the upper end slat 43 when the latter is moved to its closed position. The rebate portions 72 in the jambs coact with the rebate portion 70 for firmly receiving the storm shutter, window sash or the like 71. Suitable weather stripping 73 is connected to the sill and lintel on the inner side thereof in any suitable manner such as by the metal straps 74 and the screws 75 (Fig. 3). When the upper and lower end slats 43 are moved to their closed positions, they engage the strips 73 and 74 respectively, so as to provide a seal therewith. An insect screen or the like 76 may be detachably connected to the frame on the inner side of the rib 21 in any suitable manner, such as by the screws 76' so as to be readily insertable or withdrawn from the inside of the room or building.

The outer surface or sides of the concrete frame is preferably formed with an intermediate recessed portion 77 which terminates in the raised flat end portions 78 and 79 (Fig. 2) that extends continuously around the outer perimeter of the frame. Additionally, the outer end of

the lintel or head 18 is provided with a reduced or cut away portion 80 (Fig. 1) that constitutes a water-stop or seal in the frame for preventing seepage of liquid between the frame and the masonry wall when the parts are assembled.

It will be seen that by reason of the direct connection of the metal jamb strips 33 with the inner wall of the frame and the pivotal connection of each of the glass vanes 43 with the strips 33, that means are provided for dispensing with the use of the normal metal frame required in devices of this character. In other words, the concrete frame assembly 15 performs the dual function of providing both the support for the masonry and also serves as the window frame, thus eliminating the expense of providing the usual metal frame required in installations of this type. Additionally, the concrete frame 15 is so constructed and designed as to be incorporated with modular sizes of standard construction units so that no cutting of the wall construction unit is required to install the frame. Moreover, the frame 15 is so mounted in the masonry opening as to form a water proof joint or seal at the lintel by reason of the reduced shoulder portion 80 which coacts with the adjacent wall of the building to provide a leak proof joint. Additionally, the connection of the sill with the wall opening likewise provides a tight seal. The provision of the rebates 72 in the jambs 20 coact with the rebate 70 in the lintel to provide means for readily receiving a suitable closure such as a storm shutter, sash or the like. Further, the projection of the concrete frame beyond the finished surface of the exterior and the interior faces of the walls, dispenses with the use of plaster or stucco returns at the jambs and head, and thus results in a considerable saving in the construction of the concrete frame 15 and its associated parts. The exposed sides of the surfaces of the concrete frame are provided with a smooth finish and the provision of a concrete stool eliminates the use of the ordinary window stool. The front shoulder portion 80 in the top or lintel 18 of the frame not only constitutes a water-stop or seal but also prevents the stucco from flowing and thus eliminates cracks being formed that often occur at the head or top of the window which allows rain and water to leak into the building.

The vanes or shutters 43 are so positioned in the frames that they may be freely moved between their opened and closed positions without interfering with any of the other parts of the assembly. It will be seen that the operating handle 64 is conveniently positioned adjacent the inside of the frame so as to provide a free interior within the opening of the window for Venetian blinds or the like, without interfering with the normal operation of the window. The pre-cast window frame is so constructed and arranged as to readily combine with a jalousie window or the like to provide means for conveniently controlling the window and in which the number of parts required are reduced to a minimum so that the concrete frame and vanes may be installed at a minimum expense of time, labor and cost. Further, the window sill, rebate for the window sash, storm shutters or awning installations as well as the water-stop recesses, eliminate the use of caulking or other weather proofing means. As the blocks are of modular sizes, which are multiples of standard concrete building blocks, a substantial saving in construction of the building is provided. It will be seen that the novel construction of the pre-cast concrete window frame and its associated parts, eliminates the need of the usual expensive jalousie metal frames and that operation of the vanes or shutters 43 to either open or close the same is effected by means which does not interfere with the operation of other parts of the window frame such as blinds, screens, shutters and the like.

The removal insect screen 76 is arranged to abut the adjacent wall of the rib 21 (Fig. 3) so that the vanes 43 are freely movable between the screen 76 and the storm shutters 71. The exposed surface of the concrete has a

5

smooth finish so as to provide an attractive appearance. While for the purpose of illustration the vanes 43 are shown made of glass, it will be manifest that they may be formed of any other suitable transparent or opaque material. Further, the modular sizes of the blocks may be varied and the blocks used for both the inside and outside wall structure of the building.

The improved concrete window frame is equally adaptable for use with casement windows, awning type windows and the like. The operating shaft 61 is rotatably mounted in a jamb 20 of the concrete frame so as to provide a free interior within the opening of the window for screens or Venetian blinds.

It will be understood that the form of the invention shown is merely illustrative and that such changes may be made as come within the scope of the following claims.

I claim:

1. A window assembly of the class described, including in combination, a pre-cast concrete frame having a lintel, side jambs and a sill, a continuous rib extending around the inner peripheral walls of the frame and separating the same into inner and outer peripheral sections, said lintel on the inner section of the frame having a shoulder portion above said rib and terminating in a flat portion extending laterally and outwardly from said shoulder portion, said lintel on the other side of said rib having a recess extending transversely of the lintel and a depending shouldered portion extending laterally and outwardly from said recess, said depending shoulder portion terminating in a vertically disposed cut-out end portion, said jambs, on the outer section of the internal periphery of the frame, having confronting co-extensive recesses and confronting co-extensive shoulders thereon, said shoulders

6

terminating in rebate portions adjacent the exterior side of said frame, a screen connected to the frame and having a shouldered portion abutting the inner side of said rib, a storm shutter insertable within the frame and abutting the cut-out portion on the outer side of the frame, said jambs on the inner side of said frame having confronting plates secured thereto, a window closure between said plates, and means connecting the window closure to said plates.

2. A window assembly, as called for in claim 1, in which the window closure includes transversely disposed glass vanes, clips secured to opposite ends of each of said vanes, means pivotally connecting the clips to adjacent plates, means connected to said plates, and operable from inside of the window assembly for actuating the same so as to control the opening and closing position of the slats, said slats when in their closed position overlapping the recesses in said jambs and the upper slat extending into the recess in said lintel so as to abut the shouldered portion on the outer side of the frame and form a sealing engagement therewith.

References Cited in the file of this patent

UNITED STATES PATENTS

532,483	Poertner et al.	Jan. 15, 1895
2,166,870	Livesay	July 18, 1939
2,574,344	Miller	Nov. 6, 1951
2,613,405	Moseley	Oct. 14, 1952
2,640,233	Silvers	June 2, 1953
2,649,629	Baxter	Aug. 25, 1953

FOREIGN PATENTS

941,586	France	July 26, 1948
---------	--------------	---------------