

Sept. 20, 1960

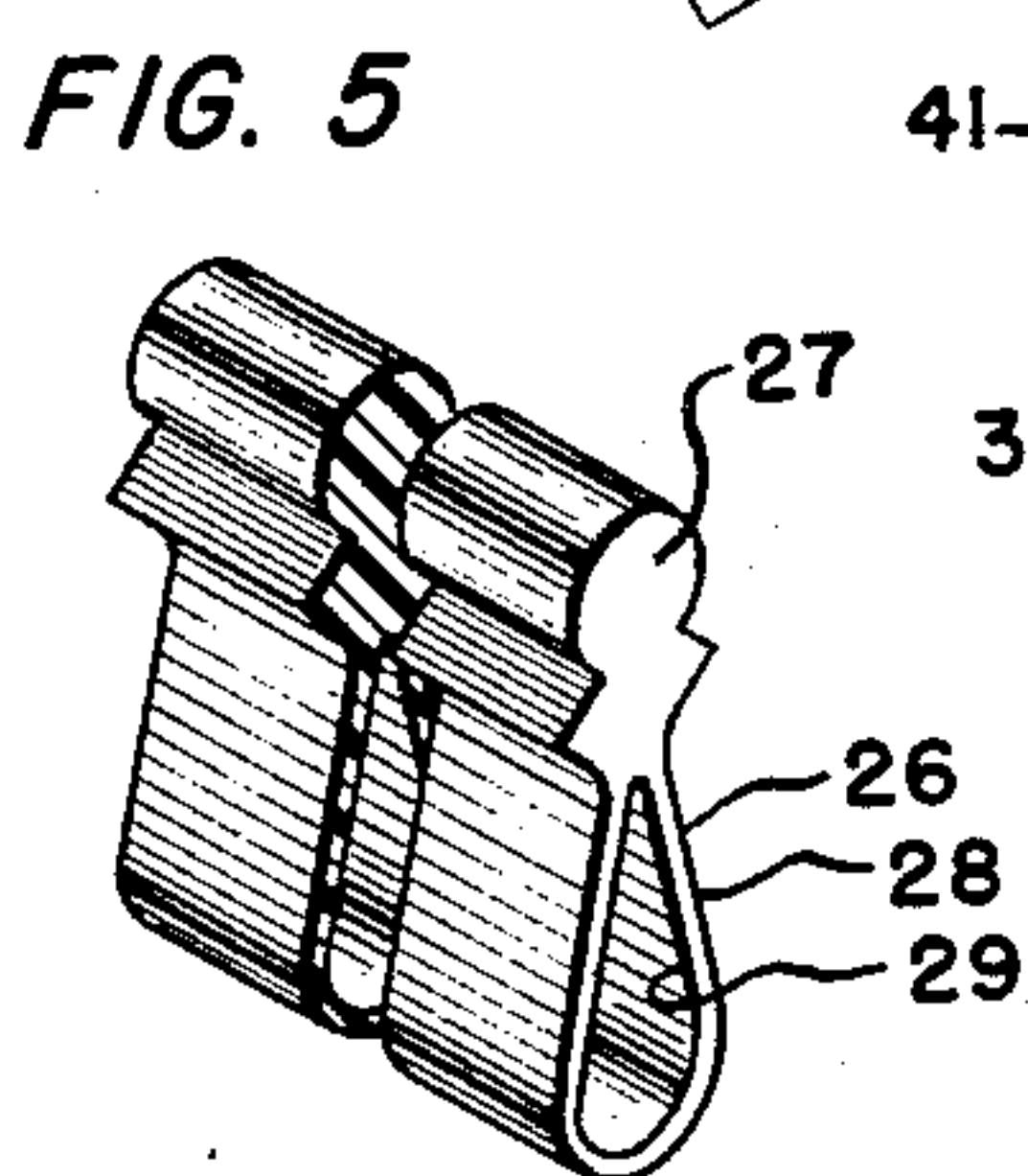
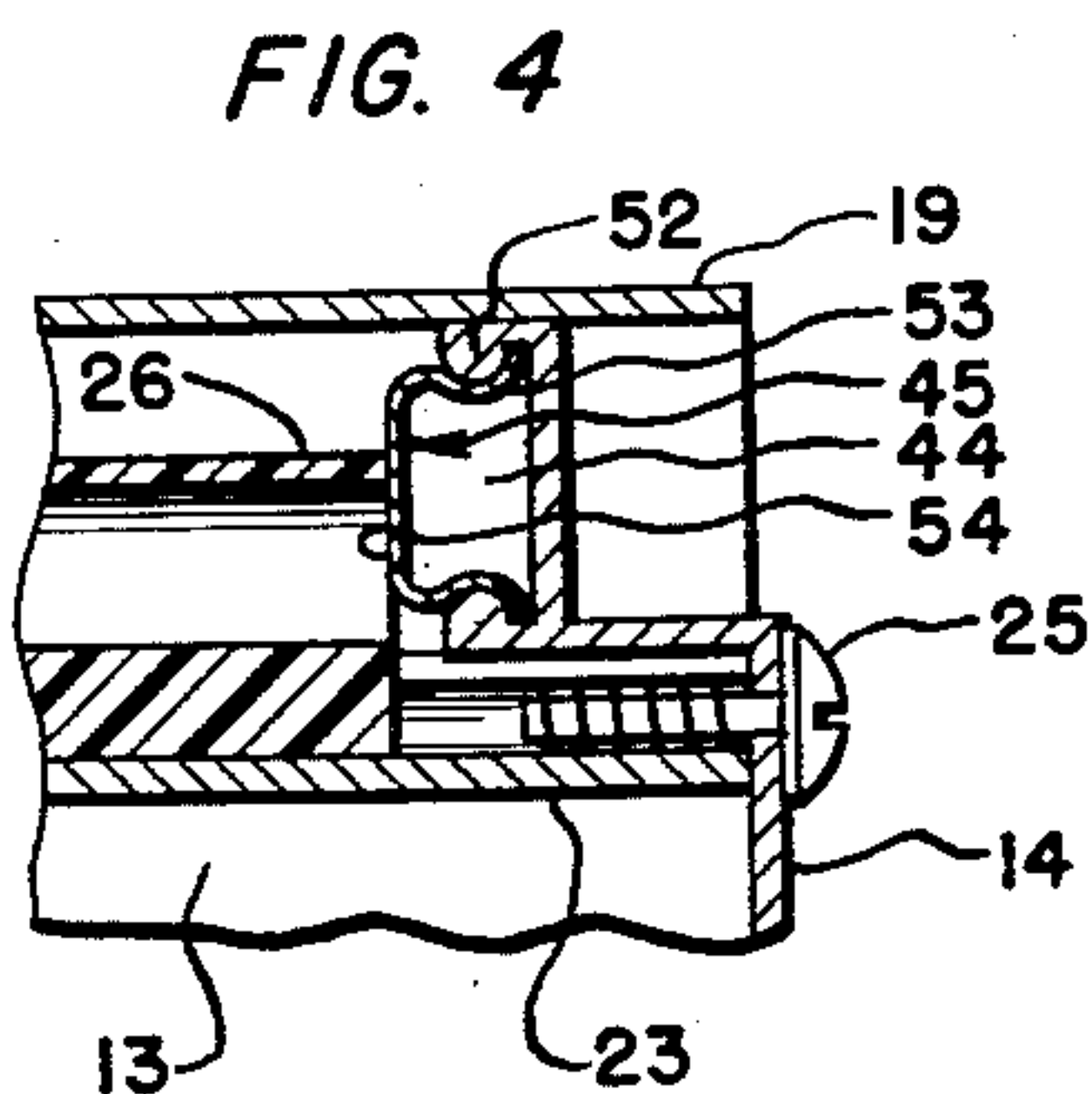
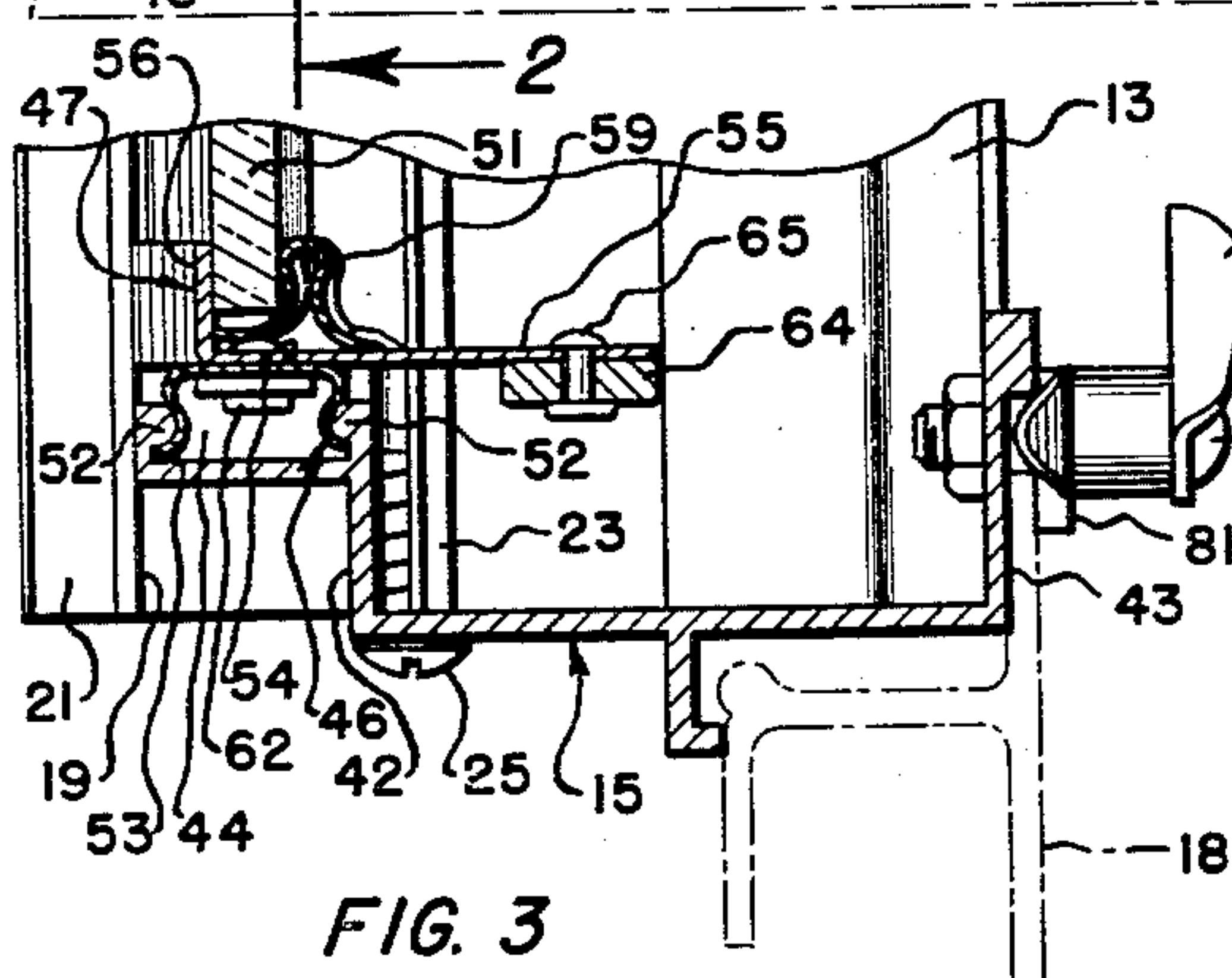
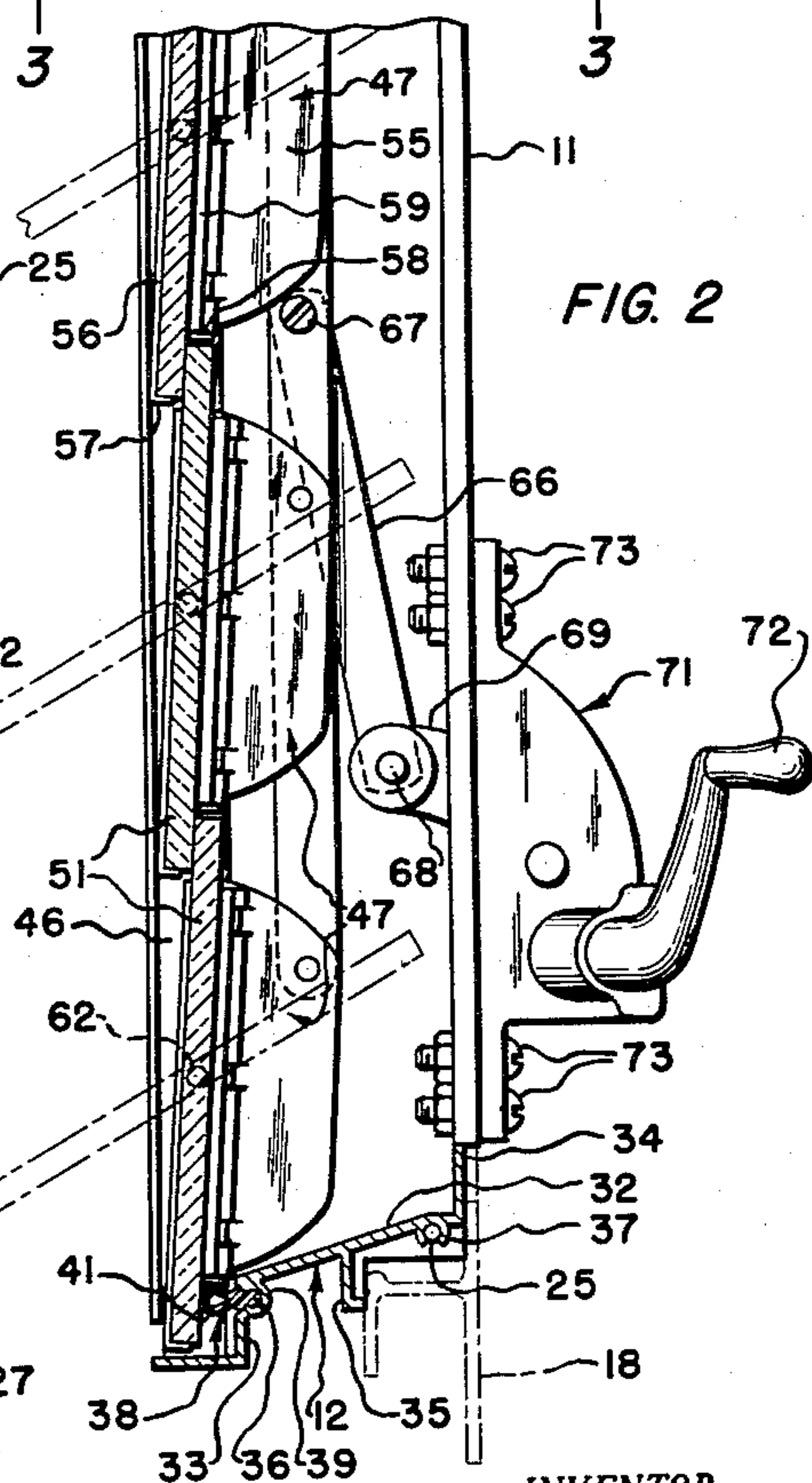
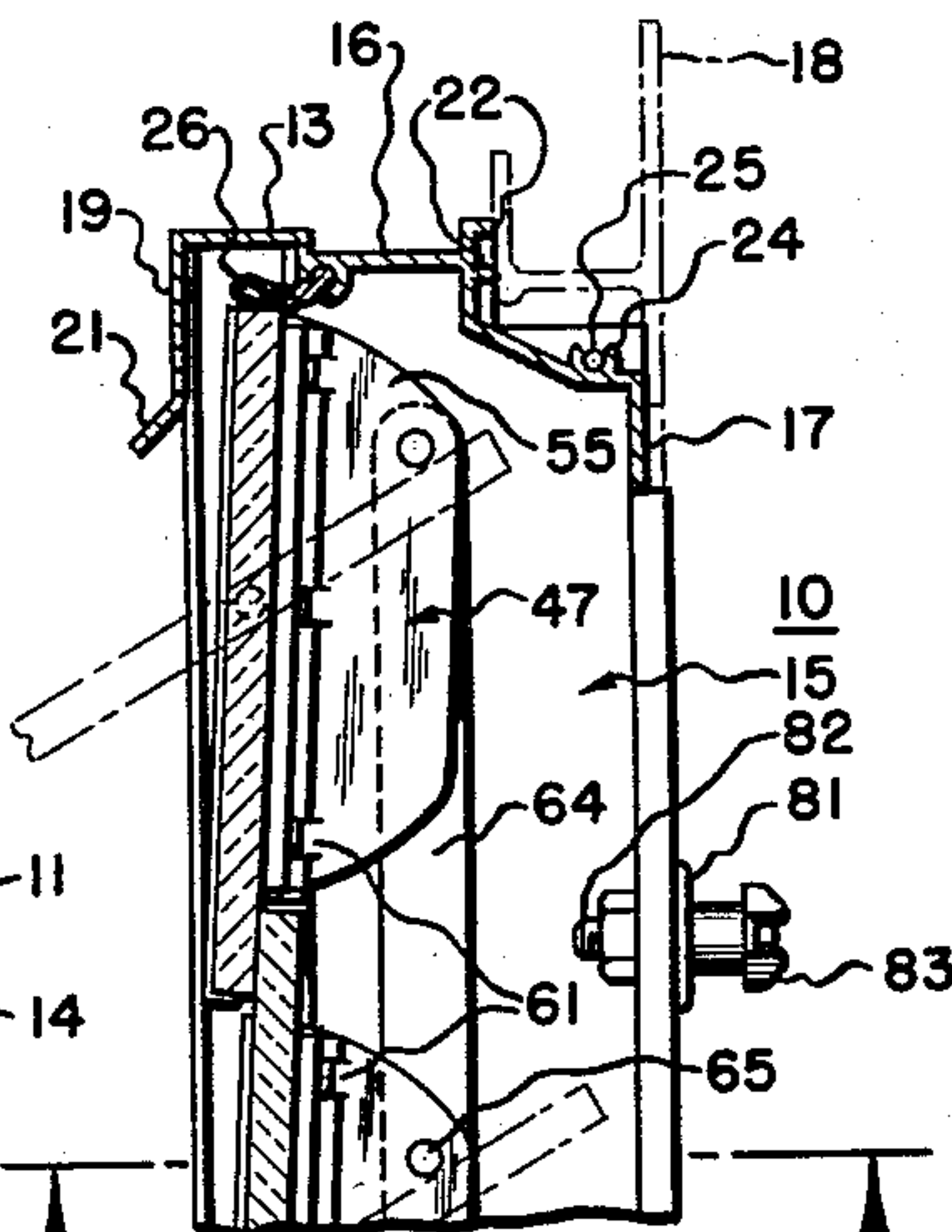
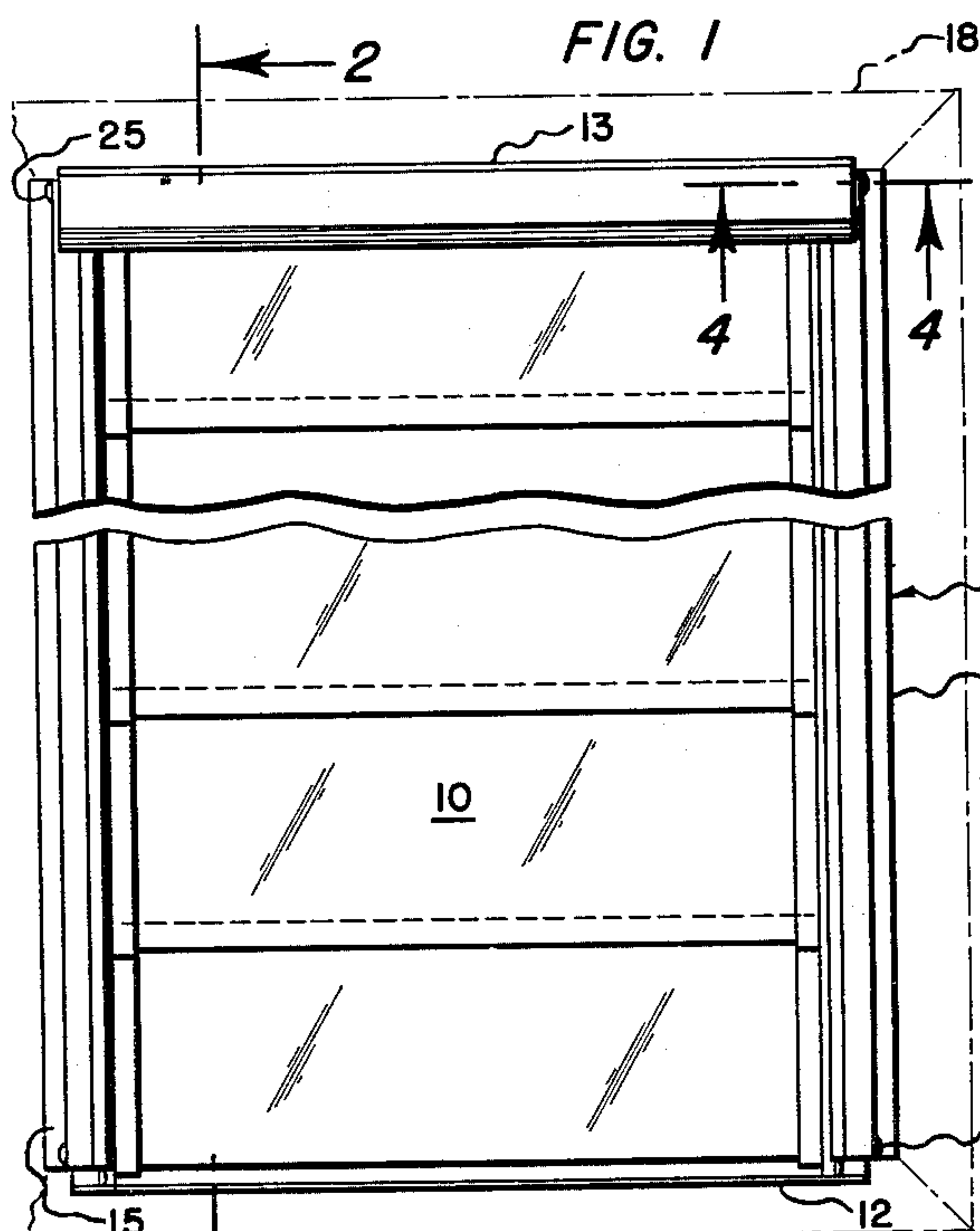
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2,952,885

JALOUSIE WINDOW

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2 Sheets-Sheet 1



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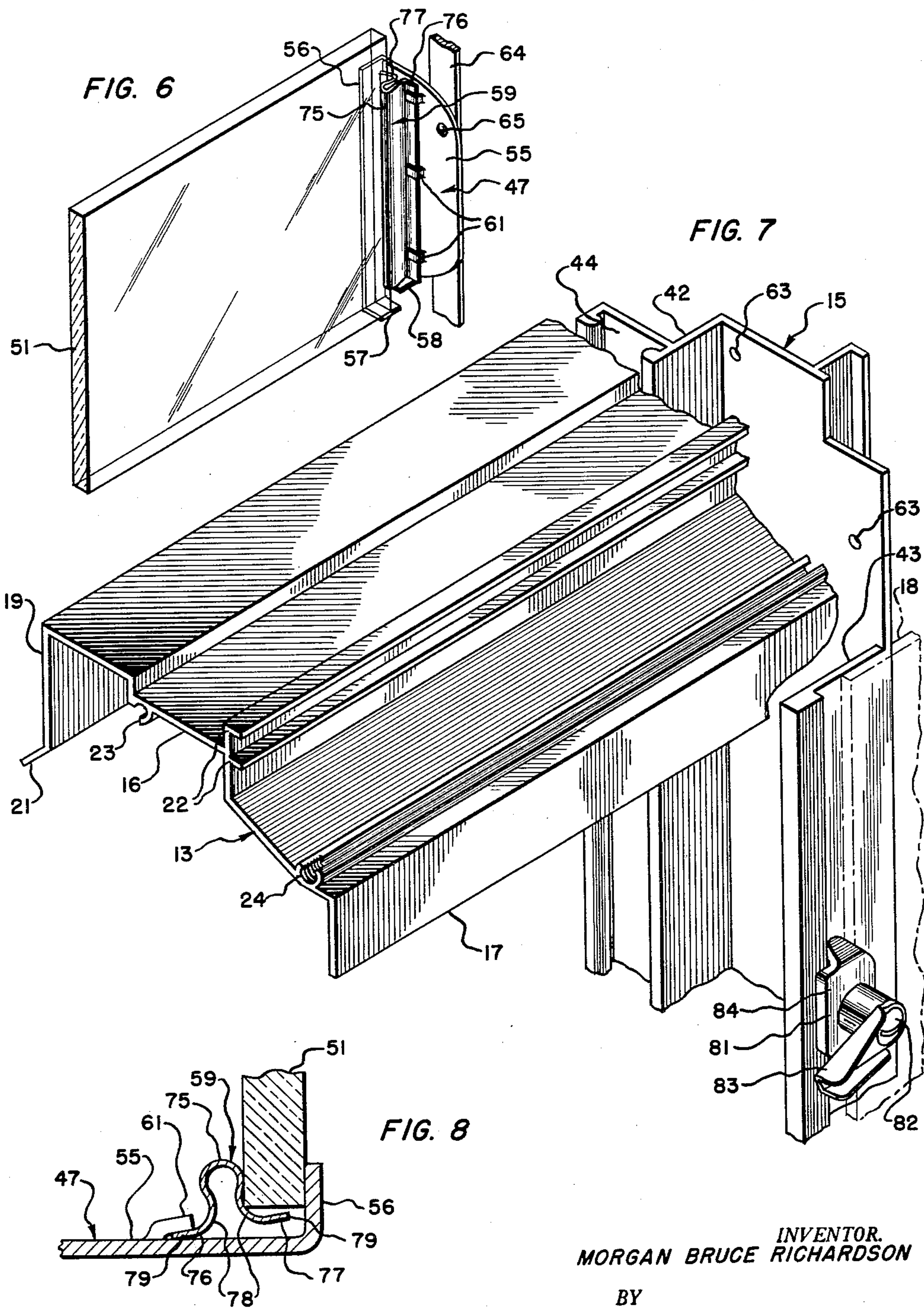
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2,952,885

## JALOUSIE WINDOW

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3 Claims. (Cl. 20—62)

This invention relates to window structures and more particularly to windows of the jalousie type.

An object of the present invention is to provide a jalousie which is constructed in novel manner to afford a sealed, weather-proof structure.

Another object of this invention resides in providing novel means for maintaining the louvers of the jalousie in weather-tight engagement.

Another object of this invention lies in the provision of an improved construction for the jalousie wherein the louvers and the supporting structure therefor may be readily installed or removed as a unit from the casement.

Another object of this invention is to provide a jalousie construction which is economical to manufacture, sturdy, effective in operation, and which is readily and easily assembled.

Other objects and features will be readily apparent to those skilled in the art from the following specification and appended drawings wherein is illustrated a preferred form of the invention, and in which:

Figure 1 is a front elevational view of a jalousie constructed according to the present invention.

Figure 2 is an enlarged vertical sectional view taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged fragmentary sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a fragmentary sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a fragmentary perspective view of a sealing element of the present embodiment.

Figure 6 is a fragmentary view illustrating the retainer element for holding a glass louver.

Figure 7 is a fragmentary view illustrating a portion of the window construction; and

Figure 8 is a fragmentary sectional view showing the means for holding a glass louver.

Having particular reference now to the drawings, there is illustrated therein a jalousie assembly which is designated in its entirety by the numeral 10. Jalousie assembly 10 comprises a metallic frame 11 which includes a sill 12, a header 13 and two side jambs 14 and 15, each of these elements being formed of suitably shaped aluminum or other suitable metal.

Header 13 is of generally channel shape with the channel thereof facing downwardly. Header 13 has a body portion 16 including a rearward flange 17 which abuts against a surface of a casement frame 18, indicated in dash-dot outline, which is fitted and suitably secured into a wall opening. Header 13 also has a forward flange 19 provided with an outwardly projecting flange 21 disposed angularly to flange 19 and serving as a drip surface. Header 13 also includes rearwardly projecting flanges 22 which are adapted tightly to press against a flange surface of casement frame 18 and assist in providing a weatherproof window assembly. Further header 13 includes a pair of longitudinally extending grooves or slots 23 and 24, the first located on the interior surface of header body portion 16 and the second on the

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exterior surface thereof. Each of the grooves 23 and 24 is suitably interiorly threaded at each of their opposite ends to receive screws 25 by means of side jambs 14 and 15 is secured to header 13, as will hereinafter be further described.

As seen in Figure 2, interior groove 23 in addition to accepting screws 25 also serves to receive a longitudinally extending sealing element 26. Sealing element 26 is made of flexible plastic, rubber or any other suitable flexible sealing material, and has a cross-sectional shape as best shown in Figure 5. It includes a head portion 27 which is forced within groove 23 and is securely maintained therewithin by this act of compression. Extending from head portion 27 is a flap portion 28 having a longitudinal channel or opening 29 therethrough. In operation flap portion 28 is adapted to engage the uppermost edge of the uppermost of the glass slats or louvers included in the present jalousie 10.

Sill 12 as shown in Figure 2 is inclined downwardly and outwardly and includes a body strip 32 having a forward flange portion 33, a rearward flange 34 which abuts a surface of casement frame 18 and a flanged portion 35 which also presses against a surface of casement frame 18. Sill 12 also includes a pair of grooves or slots 36 and 37, groove 36 being located in forward flange 33 and facing outwardly and groove 37 being located on the underside of body strip 32 as shown. Both grooves 36 and 37, similarly to grooves 23 and 24 of header 13, are provided with internal threads at each of their opposite ends for accommodation of holding screws 25 for the connection of the lower ends of side jambs 14 and 15 thereto.

Outwardly facing groove 36 in forward flange 33 holds a sealing element 38 which is of the same construction as sealing element 26 and has a bead portion 39 and a flap portion 41. Bead portion 39 fits tightly within groove 36 and flap portion 41 is engageable by the lowermost of the glass louvers of jalousie 10.

Side jambs 14 and 15 are similarly constructed one to the other except that they are formed right and left and each is shaped to include spaced, parallel, inwardly directed, vertical wall portions 42 and 43 and to include a narrow longitudinally extending channel 44 adjoining wall portion 42, which channel 44 extends the full height of the jamb. The channels 44 of side jambs 14 and 15 are adapted to receive metallic elongated, generally channel shaped support elements 45 and 46 which pivotally mount a plurality of end brackets or holders 47 provided for the support of the opposite ends of a plurality of elongated, flat rectangular glass louvers or slats 51. Louvers 51 are of sufficient height that the face of a lower louver along its uppermost longitudinal edge will engage the face of the adjacent louver above along its lowermost longitudinal edge, as will be described more fully.

Support elements 45 and 46 are generally U-shape in cross section, as shown in Figures 3 and 4, and are adapted to slidably, removably and closely fit within vertical channels 44 of side jambs 14 and 15, and are of sufficient length to extend the length of channels 44 and project a portion therebelow. Inwardly projecting rounded portions 52 provided on the defining side walls of the channels 44 engage with opposite outwardly curved portions 53 of support elements 45 and 46 to prevent these elements from moving laterally out of their channels 44 and restrict them to longitudinal endwise movement into and out of such channels.

The support elements 45 and 46 pivotally carry upon their exposed front faces 54 the end brackets or holders 47 which mount the glass louvers 51 at their opposite ends. End brackets 47 are positioned in opposition and in pairs on support elements 45 and 46, there being as many pairs of brackets as there are louvers 51 embodied



in the jalousie. The end brackets 47 which are carried by support element 45 are identical in construction to the end brackets 47 mounted on support element 46 except obviously that they are formed left and right.

End brackets 47 are preferably formed of extruded or otherwise suitably shaped aluminum and each, as best shown in Figures 3 and 6, comprises a base 55, and a right angular flange 56 which extends the length of base 55 at one side thereof, as shown. The lower end of flange 56 is bent at a right angle as at 57 to serve as a stop or support upon which the lower edge of a glass louver 51 rests. Bent upwardly and at right angles to base 54 is a flange 58 which serves as a limit stop for a retainer member or clip 59 which will be described more fully hereinafter. As shown, flange 56 supports its louver in projecting relationship to the adjacent louver when the louvers are in closed position so that a portion of the louver will make face to face engagement with an adjacent louver.

Flange 58 is spaced inwardly of stop 56 and upwardly therefrom as illustrated in Figure 6. Upwardly struck from base 55 are a plurality of tongues 61 for positioning and holding retainer member 59 upon bracket 47. Tongues 61 extend in the direction of flange 56 and are aligned along a line parallel to the flange 56.

Each of the end brackets 47 are movably supported upon a support element 45 and 46 by a pivot connection 62 which is disposed generally midway of the ends of brackets 47. Pivot connections 62 of each opposed pairs of brackets 47 are axially aligned whereby the louvers 51 are mounted to swing about horizontal axes. Brackets 47 and their pivot connections are located upon support elements 45 and 46 in predetermined spacing so that the edges of adjacent louvers 51 carried by each pair of opposed brackets will overlap a desired amount when the jalousie is in its closed position. It is obvious that the length of each of the louvers 51 of the jalousie will be such as to span between side jambs 14 and 15 and have their lateral ends relatively closely seated within the pair of end brackets 47 supporting it.

Side jambs 14 and 15 which carry the support elements 45 and 46 and their end brackets 47 form the vertical members of the jalousie assembly 10 and are interfitted at their top and bottom ends with header 13 and sill 12. These various members are then suitably maintained in assembled relationship by the plurality of screws 25. Suitable openings 63 are appropriately located in the side jambs 14 and 15 to align with the internally threaded ends of the grooves 23, 24, 36 and 37 whereby screws 25 may be passed to be threaded into a groove aligned with an opening. It is noted that when screws 25 are fitted into the ends of grooves 23 and 36 which respectively hold sealing elements 26 and 38, such sealing elements cannot move endwise out of their grooves. Thus grooves 23 and 36 serve a dual purpose, to contain the sealing elements and to assist in the assembly of the frame of the jalousie.

Obviously a sufficient number of louvers 51 is provided as is necessary to close the opening defined by the header 13, sill 12 and side jambs 14 and 15. As is usual in jalousie windows the various louvers thereof are vertically swung in unison to cover and uncover the window opening, with various of the louvers overlapping at adjoining edges for effecting a seal therebetween.

The plurality of brackets 47 pivotally mounted on side jamb 15 are interconnected for common movement by a connecting bar 64 which is suitably secured to the base portions 55 of each of the various brackets 47 through pivot connections 65.

In like manner the brackets 47 which are pivotally supported on the opposite side jamb 14 are interconnected for common movement by a connecting bar identical to connecting bar 64 which is secured to the base portions of the brackets 47 by pivot connections in the same way that bar 64 above is connected.

Means are provided for effecting bodily movement of connecting bar 64 which is associated with side jamb 15, to rotate brackets 47 about their pivot connections 62 to swing the several louvers 51 between their open and closed positions. This means comprises an actuating bar or link 66 which is pivotally connected at one end, as at 67, to connecting bar 64 and at its other end pivotally connected as at 68 to a vertically and arcuately movable arm 69 provided by an operator 71 and extending through a suitable opening in vertical wall 43 of side jamb 15. Operator 71 is of conventional construction having an operating handcrank 72 interconnected by conventional gearing (not shown) to arm 69 for movement thereof. The operator 71 is suitably mounted to the exterior surface of vertical wall 43 of side jamb 15 by a plurality of nut and bolt assemblies 73.

As above described each louver 51 is supported at its opposite ends by a pair of spaced, pivotally mounted, end brackets 47. As best shown in Figure 6 when an end of a louver is inserted into a bracket 47 the lower edge of the louver will rest on stop 57 and the louver will lie between the inner surface of angular flange 56 and the plurality of aligned tongues 61 upstruck from the base of the bracket. To hold the end of a louver within its associated bracket 47 there is provided the retainer 59. Retainer 59 preferably is made of a suitable light gage stainless steel as to have appreciable spring action when in operative position. Retainer 59, as best shown in Figures 6 and 8, is of generally U-shaped in cross-section having a bight portion 75 and legs 76 and 77. Legs 76 and 77 are each arced or curved as at 78 to provide projecting portions 79. Retainer 59 is placed in bracket 47 prior to the insertion of the louver and when disposed on bracket 47 has one end resting upon flange 58 of the bracket 47 and extends along the base 55 of the bracket substantially the width thereof. When in position retainer 59 will have a projecting portion 79 of one of its leg members fitted beneath the aligned tongues 61, as best shown in Figures 6 and 8. Insertion of projecting portion 79 beneath tongues 61 properly positions retainer 59 relative to right angular flange 56 and serves to maintain it in desired position. After the retainer 59 is in position the end of louver 51 is slipped into place between retainer 59 and the interior face of flange 56. This insertion of louver 51 results in deflection or distortion of retainer 59 so that it reacts to exert a resilient force upon louver 51 to press it tightly against the face of flange 56. The resilient force developed also serves to jam the projecting portion 79 of retainer 59 into tongues 61 and further to press the exterior surface of bracket 47 in close contact with the face of support element 46 which carries it to effect a seal and minimize air leakage between these members without the necessity of auxiliary weather-stripping.

By the use of retainers 59 in each of the brackets 47 there is achieved a very satisfactory and more perfect contact between the overlapped faces of adjacent louvers 51 when in closed position since the resilient character of retainer 59 permits of lateral adjustment for inequalities which may exist in the louvers. The resilient force of retainers 59 will cause the overlapped faces to be maintained in effective sealed weatherproof relationship to prevent the entrance of air or rain therebetween. With respect to the upper edge of the uppermost louver 51 and the lower edge of the lowermost louver 51 which do not overlap any other edge of a louver sealing against air and rain is accomplished through the means of the sealing elements 26 and 38 carried respectively by the header 13 and sill 12. As shown in Figure 2 the uppermost louver 51 will engage flap 28 of sealing element 26 and lowermost louver 51 will press against flap 41 of sealing element 38 when the louvers have been actuated to closed position.

The present jalousie assembly 10 requires no auxiliary weather strips to make it weatherproof. The opening



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present between the side jambs 14 and 15, header 13 and sill 12 is effectively closed by the louvers 51 when the louvers are actuated into closed position by operator 71. The louvers 51 at their interengaging surfaces are held in tight and effect contact by retainers 59 and, as above described, the top and bottom of the assembly is sealed against air and rain by the cooperation of the sealing elements 26 and 38 with the uppermost and lowermost louvers 51. As best shown in Figure 2 the size of brackets 47 is such that when the brackets are moved to closed position they will substantially overlie the entire length of outer faces 54 of support elements 45 and 46, and since, as above described, the exterior surfaces of brackets 47 are in close engagement with such faces 54 under the pressure of the resilient force of retainers 59 air or rain leakage is very effectively minimized.

It is apparent from the description hereinabove that the present jalousie assembly 10 is one which is well adapted to ready assembly and disassembly. In the assembly procedure the sealing elements 26 and 28 are inserted into their grooves 23 and 38 in header 13 and sill 12; the support elements 45 and 46 carrying their pivotally mounted brackets 47 are slid into channels 44 in side jambs 14 and 15, and the side jambs 14 and 15 are then secured to header 13 and sill 12 by the screws 25. Operator 71 which actuates the louvers 51 is then attached to the lower corner of jamb 15, and actuating bar 66, which is pivotally secured at one end to arm 69 of operator 71, is then connected to connecting bar 64 to which brackets 47 are pivotally joined.

In mounting the above described assembly of elements to casement frame 18 the corner of jamb 15 which will carry operator 71 is inserted in position first so that a portion of operator 71 will slightly overlap an edge of casement frame 18. Thereafter the jalousie assembly is secured to casement frame 18 by a number of retainer clips 81 mounted on side jambs 14 and 15 and which are of a shape best shown in Figure 7. Clips 81 are held to their jambs by screws 82 which screws also serve to mount usual screen retaining elements 83, as shown in Figure 7. The base portion 84 of each clip 81 is adapted to overlie an edge of a side jamb as well as an edge of the casement frame 18 to thereby maintain jalousie 10 positioned on the casement frame. After the jalousie 10 has been secured to the casement frame 18 the retainer elements 59 are positioned in the various end brackets 47 and the louvers 51 are then slid into place.

It is apparent that there is here provided a jalousie which is readily and easily installed and which requires only a minimum of attachment elements and a minimum of effort. When it is necessary to effect repair or replacement of the jalousie assembly it is readily removable as a complete assembly merely by dismounting the retainer clips 81.

The operation of the present jalousie assembly is very simply accomplished. Actuation of handcrank 72 will move arm 69 to shift actuating bar 66 and thereby shift connecting bar 64. The direction of movement of the latter determines movement of the louvers 51 to open or closed position. Shifting of connecting bar 64 upwardly will cause louvers 51 to swing upon a horizontal axis into overlapped, closed and sealed position. When bar 64 is shifted in the opposite direction louvers 51 will swing to an open position as indicated in dash-dot outline in Figure 2.

There has been described an efficient jalousie which has an economy of parts, is readily mountable, and which is an effective sealing medium for the window opening to be closed.

While a certain preferred embodiment of the invention has been specifically disclosed it is understood that the invention is not limited thereto as many variations will be readily apparent to those skilled in the art and the

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invention is to be given its broadest possible interpretation within the terms of the following claims.

What I claim is:

1. A jalousie comprising a rigid open frame formed of a header, a sill and a pair of side jambs, said header and said sill each having a longitudinally extending groove therein, an elongated sealing element fitted within each of said grooves, said grooves having their opposite ends open, fastening means engageable within said open ends for releasably securing said side jambs to said header and sill, a plurality of elongated louvers extending between said side jambs, means for pivotally supporting said louvers for swinging movement about parallel horizontal axes to and from closed position wherein the uppermost longitudinal edge face of a lower louver engages the lowermost longitudinal edge face of the adjacent louver above and wherein the uppermost louver of the plurality of louvers engages the sealing element of the header, and the lowermost louver engages the sealing elements of the sill, said means for mounting comprising pivoted end brackets for supporting the opposite ends of each panel, mounting means on said end brackets, an elongated resilient metallic generally U-shape in cross section member removably supported by said mounting means on each of said end brackets for urging said end brackets into sliding sealing relationship with said support members to which said end brackets are pivotally secured and for adjustably exerting a resilient restraining force laterally upon the louver positioned on the end bracket to maintain it thereon and to resiliently press said louver in sealing face to face engagement with an adjacent louver when the louvers are in closed position, an actuating bar for simultaneous swinging of said louvers, and an operator having an operative connection with said actuating bar for shifting said actuating bars in opposite directions for simultaneously swinging said louvers to and from their sealed closed positions.

2. A jalousie comprising a rigid open frame formed of a header, a sill and a pair of side jambs, said header and said sill each having a longitudinally extending groove therein, the opposite ends of said grooves being open and internally threaded, screw means received within said threaded open ends for releasably securing said side jambs to said header and sill, an elongated sealing element for each of said grooves, each of said sealing elements having a longitudinal bead portion for fitting within a groove and a flap portion for sealing engagement with a louver, a plurality of elongated louvers extending between said side jambs, means for pivotally supporting said louvers for swinging movement about parallel horizontal axes to and from closed position wherein the uppermost longitudinal edge face of a lower louver engages the lowermost longitudinal edge face of the adjacent louver above and wherein the uppermost louver of the plurality of louvers engages the sealing element of the header, and the lowermost louver engages the sealing element of the sill, said means for mounting comprising pivoted end brackets for supporting the opposite ends of each panel, mounting means on said end brackets, an elongated resilient metallic generally U-shape in cross-section member removably supported by said mounting means on each of said end brackets for urging said end brackets into sliding sealing relationship with said support members to which said end brackets are pivotally secured and for adjustably exerting a resilient restraining force laterally upon the louver positioned on the end bracket to maintain it thereon and to resiliently press said louver in sealing face to face engagement with an adjacent louver when the louvers are in closed position, an actuating bar for simultaneous swinging of said louvers, and an operator having an operative connection with said actuating bar for shifting said actuating bars in opposite directions for simultaneously swinging said louvers to and from their sealed closed positions.

3. A jalousie comprising a rigid open frame formed



of a header, a sill and a pair of side jambs, said header and said sill each having a longitudinally extending groove therein, an elongated sealing element fitted within each of said grooves, fastening means receivable by said grooves within said grooves at the opposite ends thereof for releasably connecting said side jambs to said header and sill, each of said jambs having a longitudinally extending channel formed therein, a plurality of elongated louvers extending between said side jambs, means for pivotally supporting said louvers for swinging movement about parallel horizontal axes to and from closed position wherein the uppermost longitudinal edge face of a lower louver engages the lowermost longitudinal edge face of the adjacent louver above and wherein the uppermost louver of the plurality of louvers engages the sealing element of the header, and the lowermost louver engages the sealing element of the sill, said means for mounting comprising pivoted end brackets for supporting the opposite ends of each panel and vertically extending, elongated channel-shape support members having face portions to which said end brackets are pivotally secured, said support members being endwise removably fitted within the channels of said side jambs, mounting means on said end brackets, an elongated resilient metallic generally U-shape in cross-section member removably supported by said mounting means on each of said end brackets for adjustably exerting a resilient restraining

force laterally upon the louver positioned on the end bracket to maintain it thereon and to resiliently press said louver in sealing face to face engagement with an adjacent louver when the louvers are in closed position, said resilient metallic member acting on its end bracket to press it into slidable sealing engagement with the face portion of the support member on which said end bracket is pivotally secured, an actuating bar for simultaneous swinging of said louvers, and an operator having an operative connection with said actuating bar for shifting said actuating bars in opposite directions for simultaneously swinging said louvers to and from their sealed closed positions.

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