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## (54) Hinge for mounting glass panels or similar structures

(57) The invention provides a hinge for pivotally connecting a first panel to a second panel. The hinge has a first hinge member for connection to the first panel and a second hinge member for connection to the second panel. The hinge has a connector between the first hinge member and the second hinge member, the connector allowing the first hinge member to pivot with relation to the second hinge member. The connector is mounted in a track formed in the first hinge member and is selectively movable therein to vary a position of the first hinge member with relation to the second hinge member. The invention also provides a kit of hinges for pivotally mounting a first panel to a second panel and a clamping arrangement for mounting a panel to a wall.

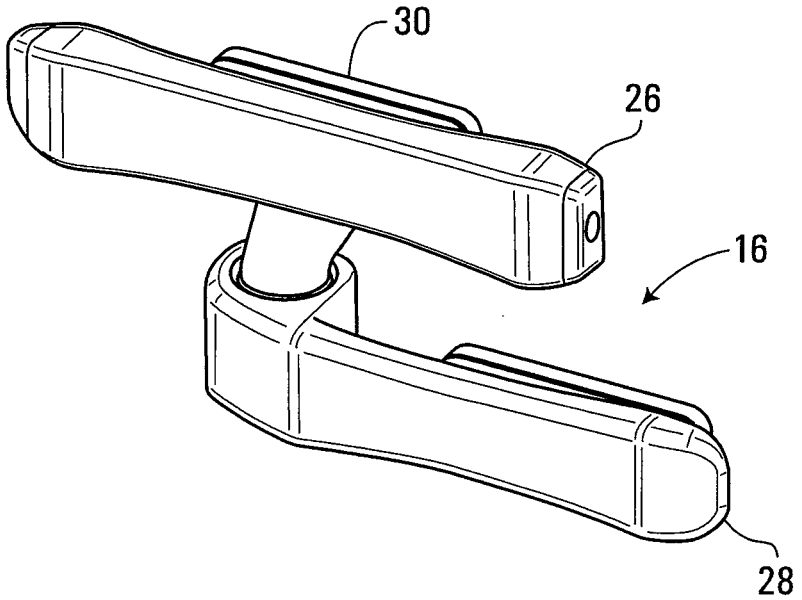


FIG. 1

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## Description

### *FIELD OF THE INVENTION*

**[0001]** The present invention is directed to hardware for securing panels made of glass or similar material, of the type typically used in bathroom installations. More particularly, the invention encompasses a hinge structure allowing for an easier adjustment between a pivoting panel and fixed one. The invention also extends to a clamping structure for mounting a panel to wall.

### *Background of the prior art*

**[0002]** Typical shower stall constructions include one or more panels attached to a wall structure, commonly referred to as the "fixed panels", and shower doors movably attached to the fixed panels. In some instances, the door consists in an arrangement of vertical panels slidingly mounted on rails and displaceable sidewardly to access the stall. In other instances, one or multiple door panels are pivotally mounted to the fixed panels by way of hinges.

**[0003]** The installation of shower stalls made from an assembly of panels represents a challenge, especially where hinges are used. Indeed, the wall structures to which the fixed panels are attached are rarely perfectly vertical, thereby making difficult the perfect alignment of the hinged door with the fixed panels.

**[0004]** To facilitate the alignment of the door panels, some have proposed hinges capable of horizontal and/or vertical adjustment. However, most of the prior art configurations require adjustment at the time of installation, thereby requiring the installer to properly position the door prior to tightening the threaded fasteners used to secure the hinge to the panels. Because shower panels are relatively large structures, their prior positioning and installation by a single installer tend to be inconvenient, especially with heavier panels such as glass panels. Further, the prior hinge configurations tend not to be suitable where the door and the fixed panels are designed to partially overlap.

**[0005]** In addition to making the alignment of the door panels difficult, the "out of plumb situations" result in the edges of the fixed panels not being exactly parallel to the wall structure to which they are attached, thereby leaving gaps between the wall structure and the fixed panels. In addition to not being aesthetic, these gaps provide space for water to infiltrate. To alleviate the shortcomings these "out of plumb" situations, fixed panels channels can be attached to the wall structures by way of channels. Typical channel configurations consist of a generally U-shaped channel sized to receive one edge of the panel and, in some instances, a gasket interposed between the panel and the channel. Because the width of the channel cannot be modified, such arrangements may prove unsatisfactory with panels having different thicknesses.

**[0006]** To accommodate panels having different thicknesses, some have proposed clamping arrangements. For instance German Patent Application No. DE202005010512 describes a two-part clamping arrangement comprising a main bracket fastenable to the wall structure and a secondary bracket. The secondary bracket is pivotally attached to the main bracket by a cylindrical pivot clipped into a rounded socket. Grips for holding the panel are provided at the outer ends of the brackets. The grip on the panel is adjusted by way of a threaded adjuster provided at the inner end of the secondary bracket. In this instance, the opening of socket and the axial direction of the faster are both orientated generally perpendicular to the surface of the clamped panel. With such clamp configuration, the pivot is prone to dislodge from the socket when the grips abut the panel and the threaded adjuster is further actuated, making this arrangement less suitable with heavier panels such as tempered glass panels.

**[0007]** Therefore, it would be advantageous to be provided with a hinge for connecting panels and a clamping arrangement which can alleviate the above-identified drawbacks.

### *Summary of the invention*

**[0008]** In a broad aspect the invention provides a hinge for pivotally connecting a first panel to a second panel. The hinge has a first hinge member for connection to the first panel and a second hinge member for connection to the second panel. The hinge has a connector between the first hinge member and the second hinge member, the connector allowing the first hinge member to pivot with relation to the second hinge member. The connector is mounted in a track formed in the first hinge member and is selectively movable therein to vary a position of the first hinge member with relation to the second hinge member.

**[0009]** In another broad aspect, the invention provides a kit of hinges for mounting a first panel to a second panel for pivotal movement about a rotation axis. The kit comprises at least one upper hinge and one lower hinge. Each of the at least one upper hinge and one lower hinge includes a first hinge member for connection to the first panel and a second hinge member for connection to the second panel. Each of the at least one upper hinge and one lower hinge also includes a connector between the first hinge member and the second hinge member, the connector allowing the first hinge member to pivot with relation to the second hinge member, and a track in the first hinge member. The connector is mounted in the track and is selectively movable therein to vary a position of the first hinge member with relation to the second hinge member. The connector of the at least one upper hinge is aligned with the connector of the lower hinge to defined the rotation axis, one or the other connector being movable in the corresponding track to orient the rotation axis substantially vertically.

**[0010]** In a further broad aspect, the invention provides

a clamping arrangement for mounting a panel to a wall, the clamping arrangement having a base component to be secured to the wall, the base component including a support leg projecting generally perpendicularly from the wall. The clamping arrangement also has a clamping member pivotally mounted to the base component, the clamping member including a clamping leg projecting from the clamping member and extending along the support leg to define with the support leg a seat for receiving a panel edge. A fastener is mounted on the clamping member for causing a pivotal movement of the clamping member to urge the clamping leg toward support leg.

## *BRIEF DESCRIPTION OF THE DRAWINGS*

**[0011]** A detailed description of examples of implementation of the present invention is provided hereinbelow with reference to the following drawings, in which:

Figure 1 is a perspective view from the front of a hinge for pivotally mounting two glass panels according to a non-limiting example of implementation of the invention;

Figure 2 is perspective view from the back of the hinge shown in Figure 1, some components being omitted for clarity;

Figure 3 is a fragmentary perspective view of two glass panels pivotally mounted to one another using the hinge arrangement shown in Figures 1 and 2;

Figure 4 is an exploded view of the hinge shown in Figure 1;

Figure 5 is a perspective view of a glass panel and a clamping structure for mounting the glass panel to a wall, the perspective view being taken from one side of the panel;

Figure 6 is a perspective view of a glass panel and a clamping structure for mounting the glass panel to a wall, the perspective view being taken from the opposite side of the panel;

Figure 7 is a horizontal cross sectional view of the clamping structure shown in Figures 5 and 6;

Figure 8 is a perspective view of a pivot pin bushing of the hinge shown in Figure 1;

Figure 9 is a bottom plan view of the pivot pin bushing of the hinge shown in Figure 1;

Figure 10 is a side elevational view of the pivot pin bushing of the hinge shown in Figure 1;

Figure 11 is an enlarged side view of the pivot pin of the hinge shown in Figure 1.

**[0012]** In the drawings, embodiments of the invention are illustrated by way of example. It is to be expressly understood that the description and drawings are only for purposes of illustration and as an aid to understanding, and are not intended to be a definition of the limits of the invention.

## *DETAILED DESCRIPTION*

**[0013]** Figure 1 is a perspective view of a hinge suitable for pivotally mounting panels made of glass or any other suitable material to one another. More specifically, the hinge can be used for pivotally mounting a glass panel that constitutes the door of a shower stall.

**[0014]** Figure 3 is a fragmentary perspective view of an arrangement of glass panels that uses the hinge according to the present invention. In the example shown, the arrangement of panels includes a fixed panel 10 that is mounted to a wall 502 via a clamping structure 504 (shown in Figures 6 and 7). The clamping structure 504 will be described in greater detail later. The panel 10 is secured to the wall 502 in such a way that the panel 10 is generally perpendicular to the wall 502.

**[0015]** A movable panel 14 is pivotally connected to the fixed panel 10 by a pair of hinges 16. In the example, two hinges 16 are shown, namely an upper hinge and a lower hinge, but more than two can be used, especially if the movable panel 14 is heavy and requires more support. The upper and lower hinges 16 allow the movable panel 14 to pivot about a generally vertical axis 18 in order to open or close the door of the shower stall.

**[0016]** The hinges 16 mount to the respective panels 14 and 10 in such a way that the movable panel 14 and the fixed panel 10 are in different planes, the meeting edge portions of the panels 10 an 14 overlapping one another in the area 20. During the pivotal movement imparted to the moving panel 14 to open the door, the panel 14 pivots in the direction 22. The door closes when the panel 14 moves in the opposite direction identified by the arrow 24. The relative position in which the panels 10 and 14 are shown corresponds to a position in which the door of the shower stall is closed. As it will become apparent below, in that position, the hinges 16 act as abutments to prevent further movement of the moveable panel 14 along the direction 24, which if allowed could cause the panels 10, 14 to interfere with one another in the area of overlap 20. Note that this abutment feature is optional and the invention is not limited to this particular characteristic. Embodiments are possible where the abutment feature is not implemented.

**[0017]** Referring back to Figure 1, the hinge 16 includes a pair of hinge members 26 and 28 pivotally mounted to one another. In the arrangement shown in Figure 3, the hinge member 26 attaches to the moving panel 14 while the hinge member 28 attaches to the fixed panel 10. The hinge member 26 mounts to the glass ma-

terial by a clamp structure 30. The clamp structure 30 is best shown in Figure 4 and it includes a clamping plate 32, a pair of liners 34 and 36 made of compliant material such as rubber or similar polymeric materials and a pair of fastening screws 38. To secure the hinge member 26 to the moveable panel 14, a pair of holes is drilled in the glass panel 14 to register with the openings 40 in the clamping plate 32. The clamping plate 32 and the liner 34 are placed against one face of the glass panel 14 while the hinge member 26 and the other liner 36 are placed against the opposite face of the glass panel 14. The screws 38 are inserted in the drilled holes and fastened in respective threaded apertures (not shown in Figure 3) in the hinge member 26. In this fashion, the hinge member 26 is securely fastened on the glass panel 14. The hinge member 28 attaches to the fixed panel 10 in a similar fashion. For clarity and completeness, the attachment components of the hinge member 28 are identified using the same reference numerals as those used in connection with hinge member 26.

**[0018]** A connector attaches the hinge member 26 to the hinge member 28 while allowing the hinge members 26, 28 to pivot one with respect to the other. With reference to Figure 4, the connector includes a pivot pin 40 mounted on the hinge member 26 which rests onto the hinge member 28 and at the same time allows a relative pivotal movement between the two hinge members 26, 28. The pivot pin 40 slidingly mounts in a track 42 extending longitudinally into hinge member 26. The track 42 opens at 44 and can receive the upper end portion 46 of the pivot pin 40. The upper end portion 46 is geometrically configured to match the cross-sectional profile of the track 42 such as to allow the pivot pin 40 to slidingly move horizontally in the track 42 while preventing vertical movement thereof. The sliding movement allows positioning the pivot pin 40 at any desired position along the length of the hinge member 26. To slidingly fasten the pivot pin 40 in the track 42 of the hinge member 46, a screw 48 is provided. More particularly, the screw 48 is threaded into an upper end portion 46 of the pivot pin 40 and it is received longitudinally into the track 42. A cap 50 made of plastic or any other suitable material closes the track opening 44 in order to keep the screw 48 captive in the track 42. The cap 50 has an aperture 52 that lines up with the head of the screw 48 and allows receiving the head of a tool, such as a screw driver in order to turn the screw 48. The cap 50 mounts in the opening 44 of the track 42 and it is secured therein with a pair of Allen screws 54 or with any other suitable fasteners.

**[0019]** The hinge member 26 is assembled by threading the screw 48 into the upper end portion 46 and then the upper end portion 46 is inserted into the track 42 via the entryway 44. The upper end portion 46 of the pivot pin 40 slides into the track 42 until the extremity of the screw 48 abuts against the bottom of the track 42. The cap 50 is then placed in the track 42 to close the entryway 44 and secured in place via the Allen screws 54.

**[0020]** The screw 48 allows horizontally locating the pivot pin 40 at any desirable position in the track 42. To adjust the position of the pivot pin 40, any appropriate tool is used to turn the screw 48 and as a result cause a translational movement of the upper end portion 46 within the track 42.

**[0021]** This arrangement is such that the position of the hinge member 26 can be easily adjusted with relation to the hinge member 28 once the panels 10 and 14 are assembled to one another by way of hinges 16. Referring back to Figure 3, when the screw 48 of the upper hinge 16 is turned, the edge of the glass panel 14 will be caused to move along the axis 54, the direction of movement being determined by the direction in which the screw 48 is turned. The axis 54 is generally perpendicular to the imaginary pivot axis between the hinge members 26, 28. More specifically, a clockwise rotation of the screw will cause the hinge member 26 to move toward the hinge member 28, causing the edge of the panel 14 to move in the direction 54a. An opposite movement is obtained when the screw 48 is turned in the counterclockwise direction.

**[0022]** It is to be noted that since the upper and lower hinges 16 are independent from one another, they can be independently adjusted such as to position the corresponding edges of the panel 14 in the desired position. This adjustability is very useful when it is desired to position the edge 56 of the panel 14 very close to an adjoining panel or structure (not shown in the drawings). Accordingly, the moveable panel 14 does not need to be cut at a very precise panel width in order to achieve a tight and visually pleasant fit with the structure adjoining the edge 56. In order to locate the edge 56 close to the adjoining structure, the panel 14 is hung on the fixed panel 10 with the hinges 16 adjusted independently in order to locate the edge 56 as close as desired to the adjoining structure. It is to be noted that such adjustability is possible since the meeting edges of the panels 14 and 10 do not abut; rather the panels 10 and 14 are in different planes and overlap to permit a relative degree of movement.

**[0023]** Referring back to Figure 4, the connector between the hinge member 26 and the hinge member 28 is provided with a circular cavity 60, mounted on the hinge member 28, designed to receive a pivot pin bushing 62, which in turn engages the pivot pin 40. The arrangement is such that during the pivotal movement of the moveable panel 14 with respect to the fixed panel 10 the moveable panel 14 pivots and at the same time moves vertically. The upward movement is shown by the arrow 64 in Figure 3. This characteristic simplifies the construction of the shower stall allowing eliminating the traditional drip channel that is placed immediately below the lower edge 66 of the moveable panel 14. The drip channel (not shown) is usually an aluminum extrusion that interacts with the seal 68 (positioned along the lower edge 66) when the moveable panel 14 is in a closed position such as to prevent water from leaking outside the shower stall under the lower edge 66 of the moveable panel 14.

**[0024]** When the moveable panel 14 is in a closed position, the lower edge 66 of the moveable panel and the seal 68 are positioned such that they are in firm contact with the shower stall floor. Thus, when the movable panel 14 is in a closed position, the seal 68 which is pressed against the floor creates a water tight joint. As the moveable panel 14 is opened by pivoting outwardly, the upward movement imparted to the panel 14 raises the panel 14 up and disengages the seal 68 from the floor. The moveable panel 14 is then free to continue pivoting unimpeded since the seal 68 is disengaged from the floor.

**[0025]** The upward motion of the moveable panel 14 is achieved by creating an interaction between the pivot pin bushing 62 and the pivot pin 40. The interaction is such that as the two components pivot one with respect to the other (during the door opening motion) they are also vertically pushed away from one another along the pivot axis of connector, which produces the vertical motion of the panel 14.

**[0026]** Figures 8, 9 and 10 illustrate the structure of the pivot pin bushing 62. The pivot pin bushing 62 is made of plastic or any other suitable material. It has a generally circular configuration to fit in the circular cavity 60. To prevent the bushing 62 from pivoting in the cavity 60 it is locked therein against angular movement by a pair of projections (not shown in the drawings) in the cavity 60 that engage corresponding recesses 64 formed on the pivot pin bushing 62. Note that the recesses 64 open at the extremity 68 of the pivot pin bushing 62 such that during the insertion of the pivot pin bushing 62 into the cavity 60 the projections slide into the respective recesses 64. The recesses 64 tightly engage the projections in order to limit free play as much as possible.

**[0027]** With specific reference to Figure 8, the pivot pin bushing 62 is provided with a recess 70 which is opposite the extremity 68 and which receives the pivot pin 40. The recess 70 includes a pair of projections 72 and 74 that are diametrically opposed to one another. Each projection 72, 74 is provided with three functional surfaces. The first surface 76 is a top surface and it is generally horizontal. The second surface 78 is a generally vertical surface and it provides abutment functions, as it will be described below. The third surface 80 is a ramp surface and it is opposite to the abutment surface 78. The ramp surface 80 is a generally sloping surface that connects the top surface 76 with the bottom of the recess 70.

**[0028]** The pivot pin bushing 62 also has a through aperture 82, used for alignment purposes, as it will be discussed below.

**[0029]** Figure 11 illustrates in greater detail the portion of the pivot pin 40 that fit into the pivot pin bushing 62. Generally, the structure of the pivot pin is the mirror image of the recess 70. When the two components are assembled, they are intended to dovetail with one another. More specifically, the pivot pin 40 is provided with a central generally cylindrical projection 84 which has dimensions such as to fit with little free play into the aperture 82. The pivot pin 40 also has two generally opposite projections 86 and 88, similar to the projections 72 and 74 in terms of structure. The projections 86 and 88 are provided with a pair of top bearing surfaces 90, ramp surfaces 92 and vertical abutment surfaces 94.

**[0030]** When the pivot pin 40 is mounted into the pivot pin bushing 62, the projections 88 and 86 enter the recess 70 and fit between the projections 72 and 74. The bearing surfaces 90 engage the bottom of the recess 70 and the projection 84 is also received in the aperture 82. This position corresponds to the position of the moveable panel 14 shown in Figure 3, namely the closed position. As the moveable panel 14 pivots toward the open position, the ramp surfaces 80 and 92 slidingly engage one another and cause the pivot pin 40 to rise out of the pivot pin bushing 62. This relative separation movement produces an upward displacement of the moveable panel 14, which as discussed previously causes the seal 68 to disengage from floor of the shower stall. The relative outward motion between the pivot pin 40 and the pivot pin bushing 62 will continue until the bearing surfaces 90 engage the top surfaces 76 at which point the upward motion will cease and only a pivotal movement will be produced.

**[0031]** As the moveable panel 14 is moved back such as to close the door, the reverse sequence of events takes place. The bearing surfaces 90 disengage from the top surfaces 76 and at that point contact between the pivot pin 40 and the pivot pin bushing 62 occurs at the level of the ramp surfaces 80 and 92. The ramp surfaces 80 and 92 interact and allow the pivot pin 40 to retract into the pivot pin bushing 62 in order to create a descending movement of the moveable panel 14 as it pivots toward the closed position. The cycle terminates as the projections 86 and 88 are fully located between the projections 72 and 74. Any further pivotal movement will not be possible by virtue of the abutment surfaces 94 and 78 engaging one another. Since those surfaces are vertical they act as a stopping device to prevent the moveable panel 14 from being moved beyond the closed position shown in Figure 3.

**[0032]** Figures 5, 6 and 7 illustrate a variant of the invention that relates to a clamping structure for mounting a glass panel or a panel of similar material to a wall. The clamping structure can be used in conjunction with the hinge described earlier or separately, without departing from the spirit of the invention.

**[0033]** The panel 500 which may be part of a shower installation or similar arrangement is attached to a wall structure 502. The panel 500 is usually intended to be mounted at right angle with relation to the plane of the wall 502.

**[0034]** In some instances, the wall 502 may not be perfectly vertical and in such case the edge of the panel 500 will not be exactly parallel to the wall 502. The clamping structure 504 provided to mount the glass panel 500 to the wall 502 is designed to accommodate such "out of plumb" situations while allowing to securely attach the glass panel 500 in place.

**[0035]** The clamping structure 504 is an extrusion having a generally constant cross-sectional shape along its length, made of aluminum or any other suitable material, including polymer materials. The clamping structure 504 comprises a base element 506 and a clamping element 508. The base element 506 is L-shaped and has a leg 510 that sits flat against the surface of the wall 502. The base element 506 also has a support leg 512 that is at right angles with respect to the leg 510 and is also transversal to the plane of the wall 502. On the inside surface of the leg 512 are provided a series of longitudinally extending grooves 514 in which is mounted a gasket 516 made of compliant material, such as rubber. The gasket 516 has a component 518 which extends along the leg 512 and component 520 that runs along the leg 510. The component 520 engages the edge of the glass panel 500 when the glass panel 500 is mounted to the clamping structure 504, while the component 518 engages one of the main faces of the glass panel 500.

**[0036]** The clamping element 508 is generally L-shaped and has a clamping leg 524 extending generally transversally to a support leg 526. The clamping leg 524 has a longitudinally extending recess in which is mounted a gasket 528, similar to the gasket 516. The gasket 528 engages the other main face of the glass panel 500 when the glass panel 500 is secured to the clamping structure 504.

**[0037]** The clamping element 508 is pivotally mounted to the base element 506 via a hinge arrangement 522. More specifically, the clamping element 508 includes a longitudinally extending projection that constitutes a fulcrum 530. The fulcrum 530 engages a slot defined by a longitudinally extending hook-shaped projection 532 extending from the leg 510 of the base element 506. In the example shown in Figures 6 and 7, the portions of the fulcrum and of the hook-shaped projection 532 engaging one another are orientated generally parallel to the leg 510 of the base element 506(i.e. perpendicular to the clamping leg 524 of the clamping element 508). As it will become apparent below, this configuration allows firm engagement of the fulcrum 530 and the projection 532, thereby preventing the fulcrum 530 from disengaging from the slot when the glass panel 500 is clamped.

**[0038]** In engagement, the fulcrum 530 and the slot defined by the projection 532 form a hinge that allows the clamping element 508 to pivot about a generally vertical axis (which coincides with the longitudinal axis of the clamping structure) with relation to the base element 506. The degree of pivotal movement allowed is within a limited angular range but it permits to open sufficiently the spacing between the legs 524 and 512 to allow insertion of the glass panel 500 and then securely clamp the glass panel 500 in place. The pivotal movement also allows different glass panel thicknesses to be accommodated in the clamping structure 504.

**[0039]** The installation of the glass panel 500 to the wall 502 by using the clamping structure 504 starts by mounting the clamping structure 504 to the wall 502. This is achieved by placing the base element 506 against the wall 502 and securing the base element 506 by using any suitable fasteners. An example of a suitable method for securing the base element 506 is to drive screws or nails at spaced apart locations through the leg 510, which engage a stud (not shown) in the wall 502.

**[0040]** The clamping element 508 is then mounted to the base element 506. This is achieved by inserting the fulcrum 530 into the slot defined by the hook-shaped projection 532 of the base element.

**[0041]** The glass panel 500 is then mounted to the clamping structure 504. This is done by inserting the vertical edge of the glass panel 500 between the clamping leg 524 and the leg 512. In cases when the wall 502 is not perfectly vertical, hence the surface of the wall is not strictly parallel to the vertical edge of the glass panel 500, the clamping structure 504 will accommodate this fault while still holding the edge of the glass panel 500 securely. The extent to which an "out of plumb" imperfection can be accommodated is determined by the length of the legs 524 and 512. A person skilled in the art will appreciate that the deeper the glass panel edge penetrates into the clamping structure 504 the greater the compensation capability is.

**[0042]** When the glass panel edge is inserted into the clamping structure 504, the clamping element 508 is pressed against the glass panel 500. This is achieved by causing the clamping element 508 to pivot with respect to the base element 506 by the intermediary of the hinge arrangement 522. In the embodiment shown in Figures 6 and 7, the pivotal movement is achieved by way of a series of set screws 534 arranged longitudinally along the edge of the support leg 526 of the clamping element 508. The set screws 534 are threadedly mounted in the clamping element 508, generally perpendicular to the wall 502. As they are screwed in the support leg 526 of the clamping element 508 (i.e. they are rotated clockwise), their threaded ends project or extend from the clamping element 508 to abut the leg 510 of the base element 506. This in turn forces the edge of the support leg 536 to move away from the leg 510 of the base element 506, thereby driving the clamping element 50 to pivot counterclockwise and pressing the clamping leg 524 against the glass panel 500. The degree of pressure exerted against the glass panel 500 can be adjusted by varying the length of the threaded portion of the set screws 534 which projects or extends from the support leg 526 of the clamping element.

**[0043]** A person skilled in the art will appreciate that because the axial direction of the set screws 534 is perpendicular to the wall 502, screwing of the set screws 534 forces the engaging portions of the fulcrum 530 and of the projection 532 to firmly engage one another, thereby preventing the fulcrum 530 to disengage from the slot when the glass panel 500 is clamped.

**[0044]** A person skilled in the art will further appreciate that the number of screws comprised within the set may vary based on the length of the clamping structure 504

and of the glass panel mounted therein. For instance, in some embodiments, the clamping structure 504 may comprise only one screw. A person skilled in the art will further appreciate that clamping structure 504 may be suitably used for mounting panels made from materials other than glass, such as, for instance, polymer panels including acrylic panels and plastic panels.

**[0045]** Although various embodiments have been illustrated, this was for the purpose of describing, but not limiting, the invention. Various modifications will become apparent to those skilled in the art and are within the scope of this invention, which is defined more particularly by the attached claims.

## Claims

1. A hinge for pivotally connecting a first panel to a second panel, the hinge comprising:

   a) a first hinge member for connection to the first panel;
   b) a second hinge member for connection to the second panel;
   c) a connector between the first hinge member and the second hinge member, the connector allowing the first hinge member to pivot with relation to the second hinge member;
   d) a track in the first hinge member, the connector being mounted in the track and being selectively movable therein to vary a position of the first hinge member with relation to the second hinge member.

2. A hinge as defined in claim 1, wherein the hinge is adapted for connecting the first panel to the second panel in an overlapping relationship.

3. A hinge as defined in anyone of claims 1 and 2, wherein the connector moves slidingly in the track.

4. A hinge as defined in claim 3, including a screw threadedly engaged in the connector, a rotation of the screw causing displacement of the connector in the track.

5. A hinge as defined in anyone of claims 1 to 4, wherein the connector is responsive to pivotal movement between the first hinge member and the second hinge member about an imaginary axis to vary a spacing between the first hinge member and the second hinge member.

6. A hinge as defined in claim 5, wherein the connector includes a first component and a second component capable of angular movement one with relation to the other.

7. A hinge as defined in claim 6, wherein the first component includes a cam surface that engages a corresponding surface on the second component to cause the first and the second components to move away from each other in response to angular movement between the first and the second components.

8. A hinge as defined in claim 7, wherein the first component includes an abutment surface for engaging a respective surface on the second component to limit the angular motion between the first component and the second component to a certain angular range.

9. A kit of hinges for mounting a first panel to a second panel for pivotal movement about a rotation axis, the kit comprising at least one upper hinge and one lower hinge, each of the at least one upper hinge and one lower hinge including:

   a) a first hinge member for connection to the first panel;
   b) a second hinge member for connection to the second panel;
   c) a connector between the first hinge member and the second hinge member, the connector allowing the first hinge member to pivot with relation to the second hinge member;
   d) a track in the first hinge member, the connector being mounted in the track and being selectively movable therein to vary a position of the first hinge member with relation to the second hinge member;

   the connector of the at least one upper hinge being aligned with the connector of the lower hinge to defined the rotation axis, one or the other connector being movable in the corresponding track to orient the rotation axis substantially vertically.

10. A kit as defined in claim 9, wherein each of the at least one upper hinge and one lower hinge is responsive to a pivotal movement between the first hinge member and the second hinge member to cause a movement between the first hinge member and the second hinge member along the rotation axis.

11. A clamping arrangement for mounting a panel to a wall, the clamping arrangement comprising:

    a) a base component to be secured to the wall, the base component including:

       i) a surface for engaging the wall;
       ii) a support leg projecting generally perpendicularly from the surface such that when the base component is mounted to wall the support leg is generally perpendicular to the

wall;

b) a clamping member pivotally mounted to the base component, the clamping member including a clamping leg projecting from the clamping member and extending along the support leg to define with the support leg a seat for receiving a panel edge;
c) at least one fastener mounted on the clamping member for causing a pivotal movement of the clamping member to urge the clamping leg toward the support leg.

**12.** A clamping arrangement as defined in claim 11, wherein the clamping member is generally L-shaped and comprises a support leg projecting generally perpendicularly from the clamping leg of the clamping member and extending along the surface of the base component.

**13.** A clamping arrangement as defined in claim 12, wherein the clamping member and the base component interact to form a hinge to allow the clamping member to pivot with relation to the base component.

**14.** A clamping arrangement as defined in claim 13, wherein the base component comprises a projection extending from the surface and defining a slot and the clamping member comprises a fulcrum adapted to engage the slot of the base component, thereby forming the hinge.

**15.** A clamping arrangement as defined in claim 14, wherein the at least one fastener includes a screw threadedly mounted on the support leg of clamping member and engaging the surface of the base component, wherein the screwing of the screw forces the support leg member to move away from the surface of the base component and to pivot about the hinge, thereby causing clamping of the clamping arrangement; and preferably wherein the axial direction of fastener is substantially perpendicular to the slot.

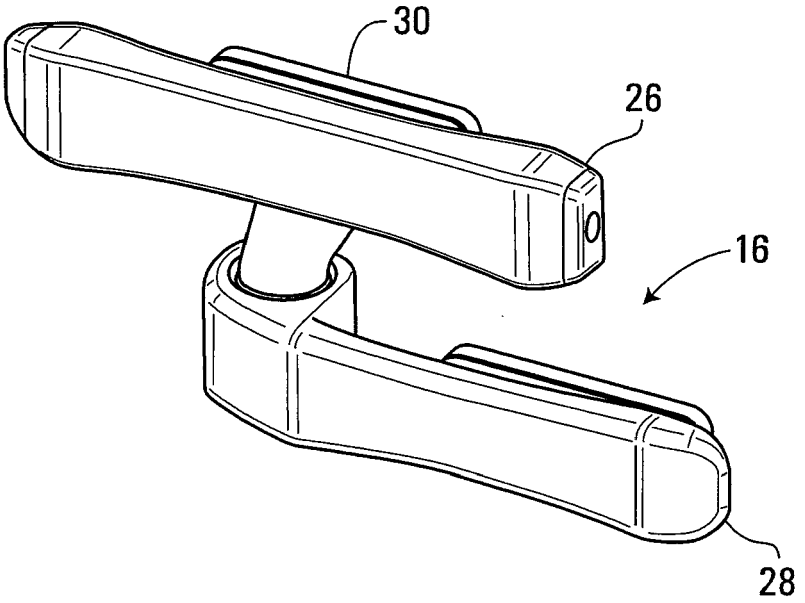


FIG. 1

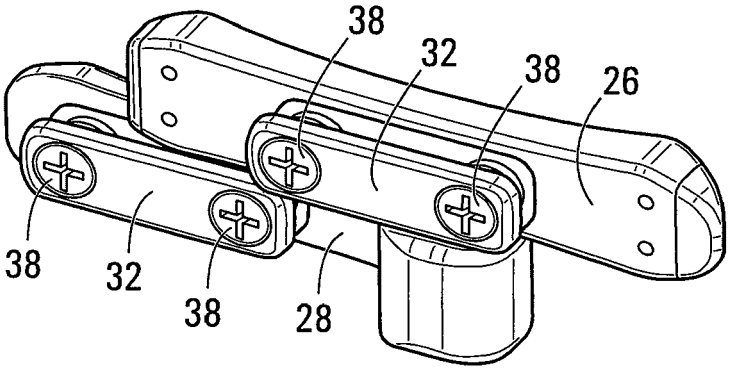


FIG. 2

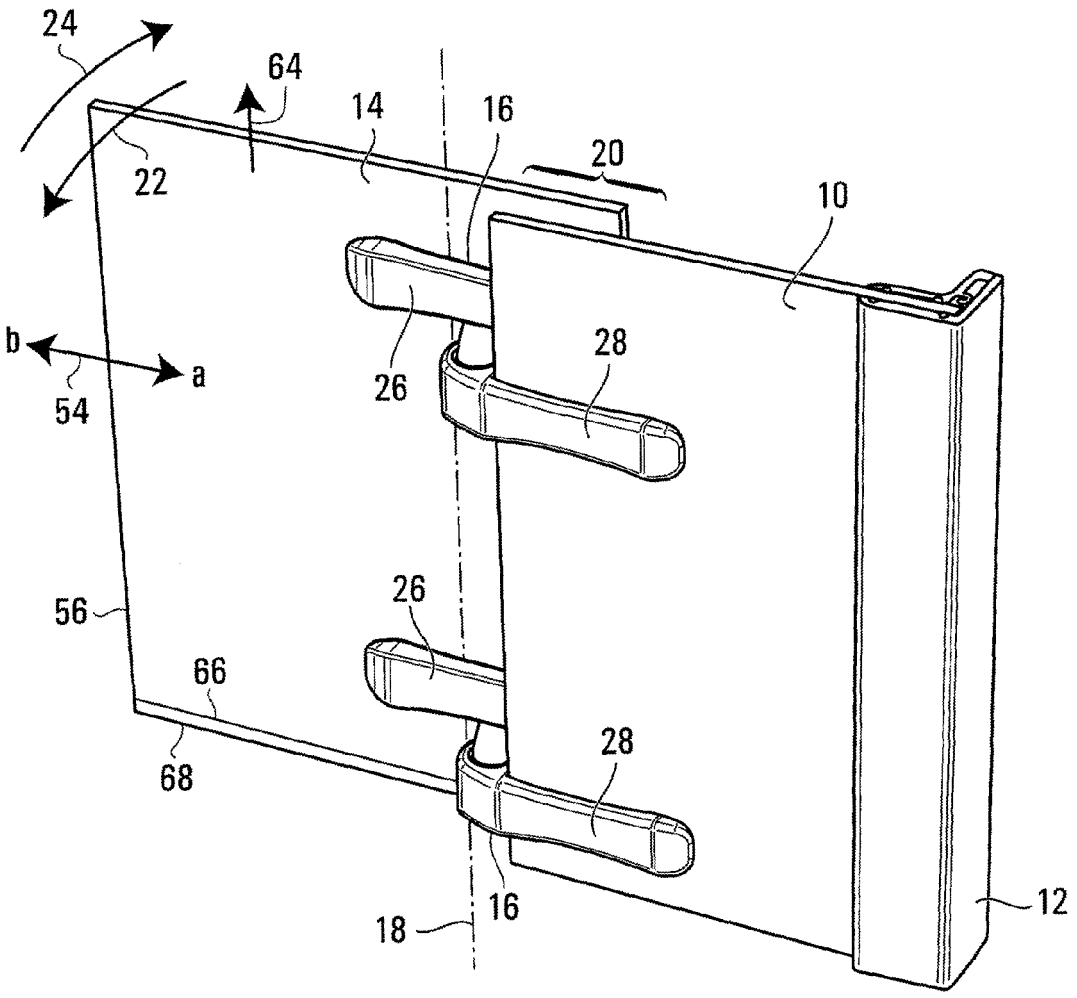


FIG. 3

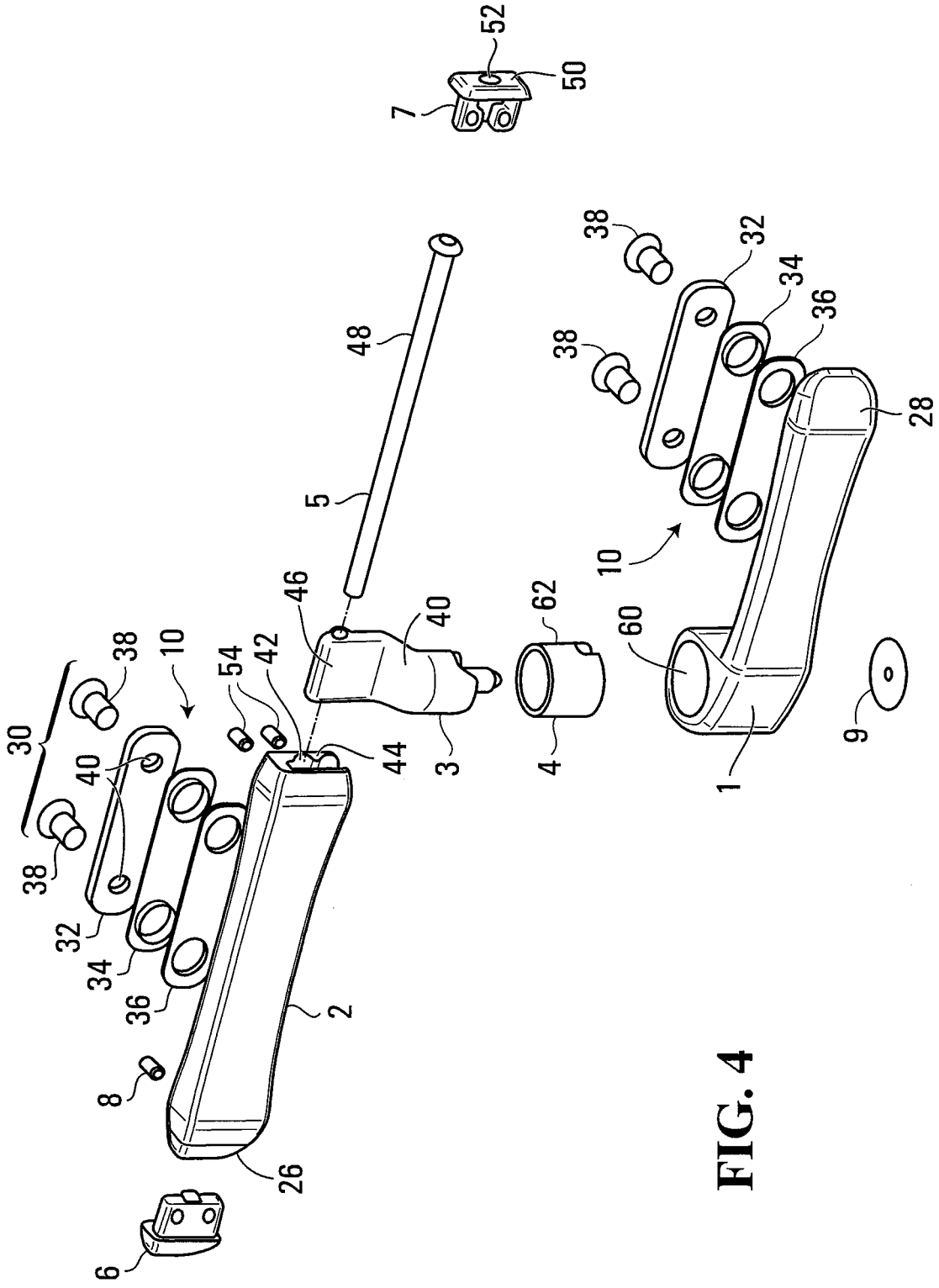
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FIG. 4

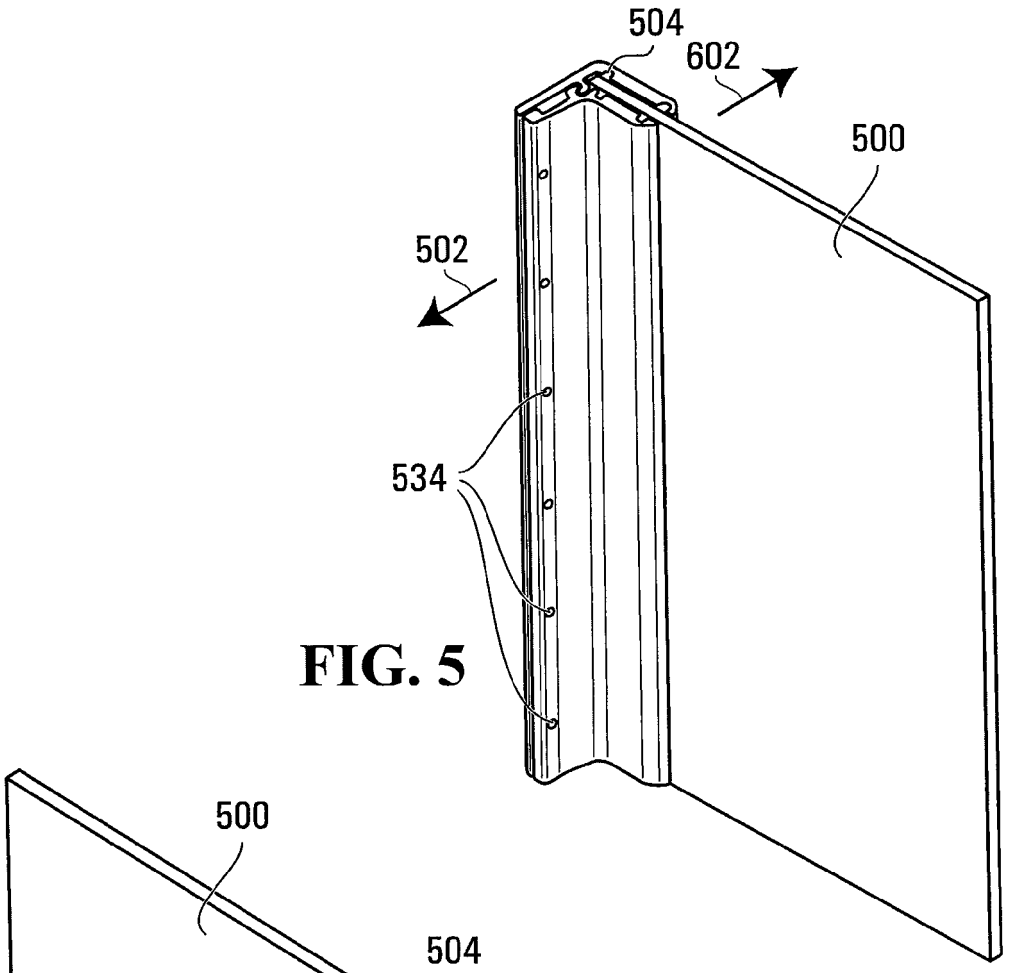


FIG. 5

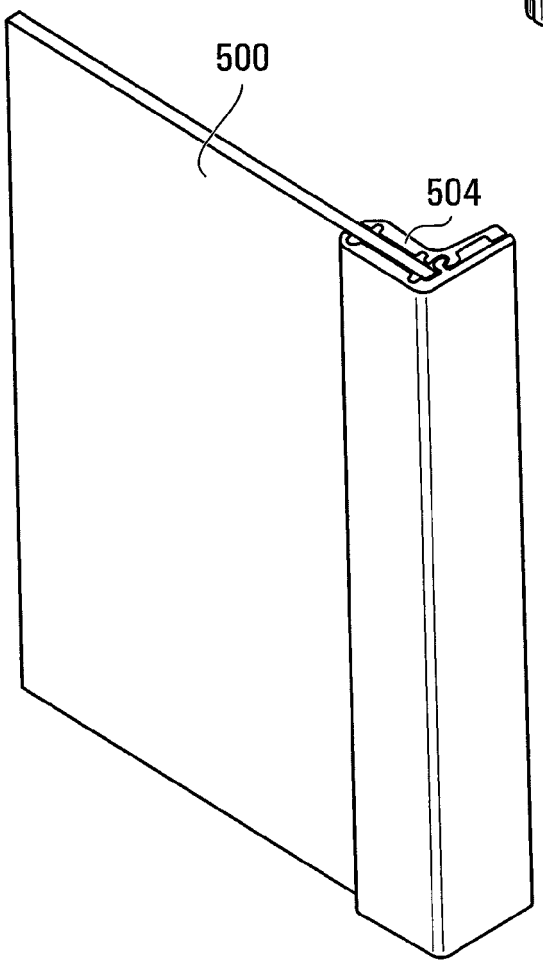


FIG. 6

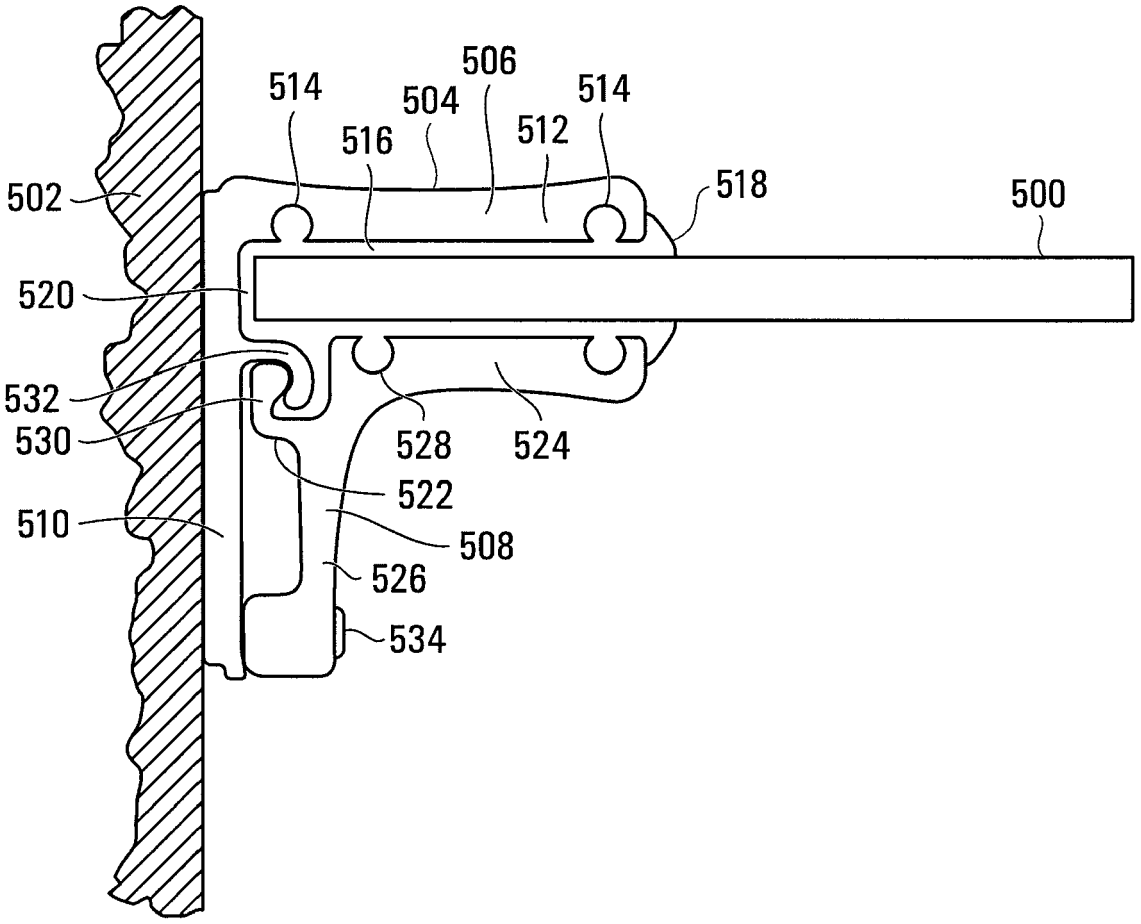
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FIG. 7

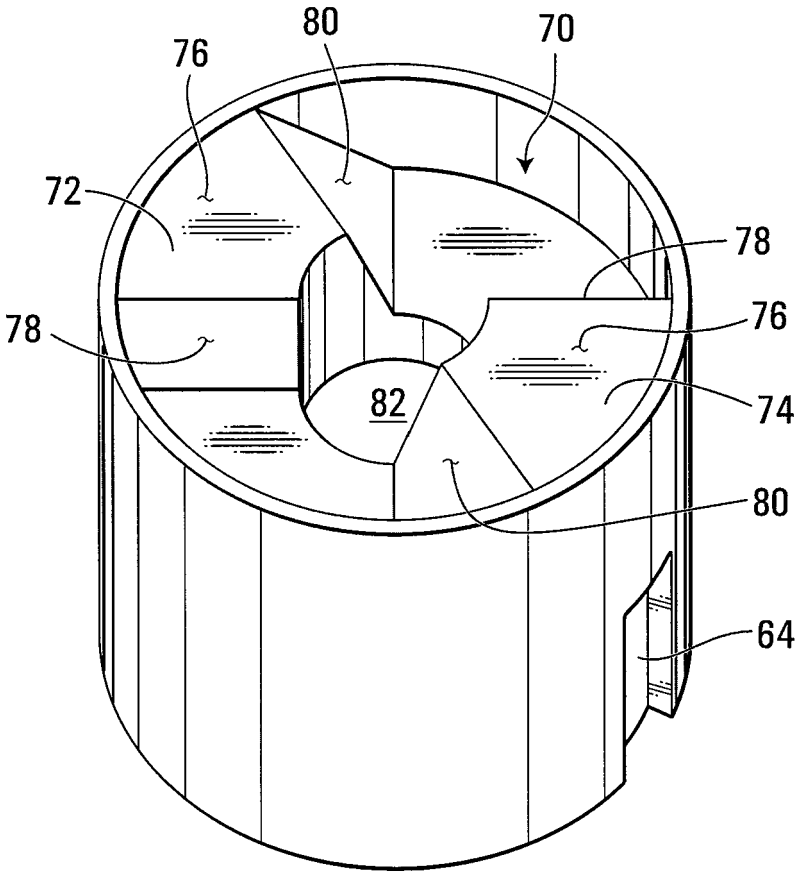


FIG. 8

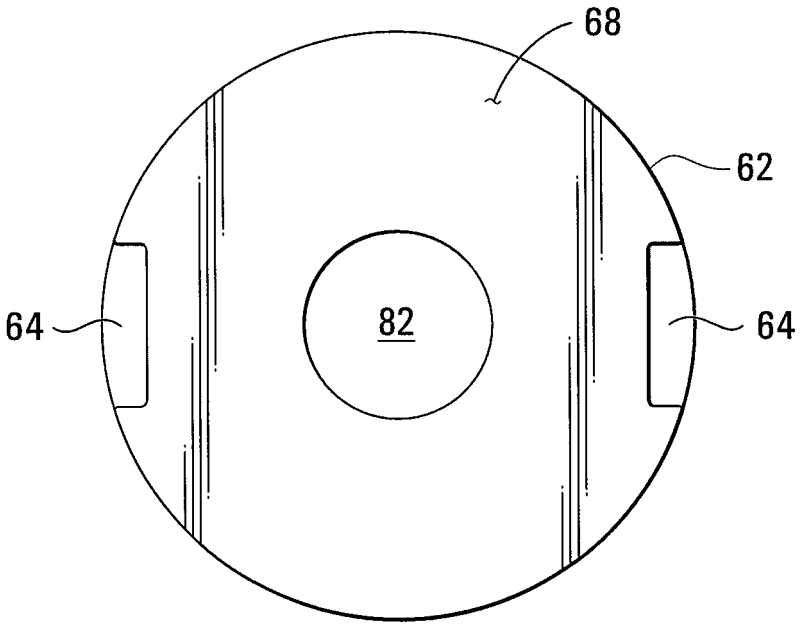


FIG. 9

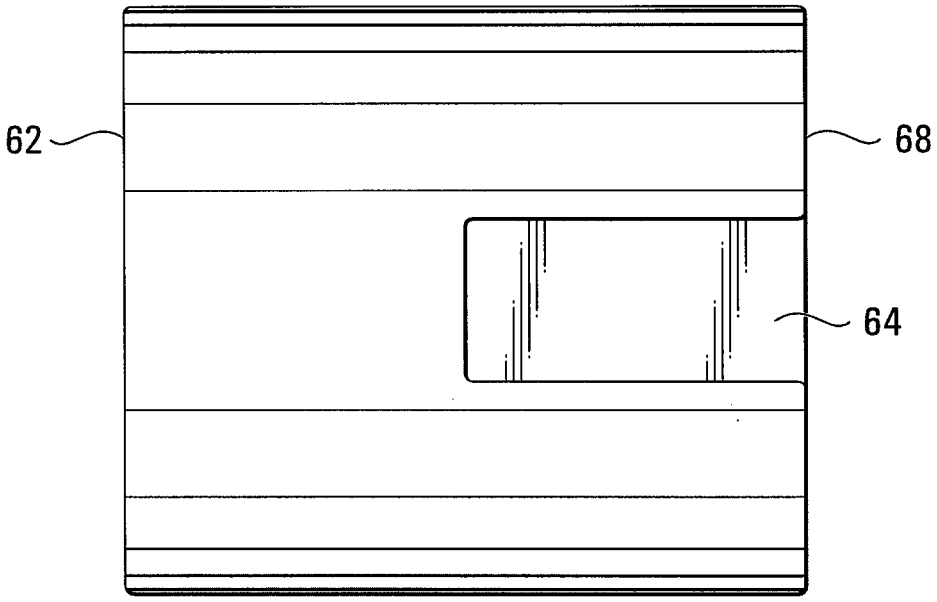


FIG. 10

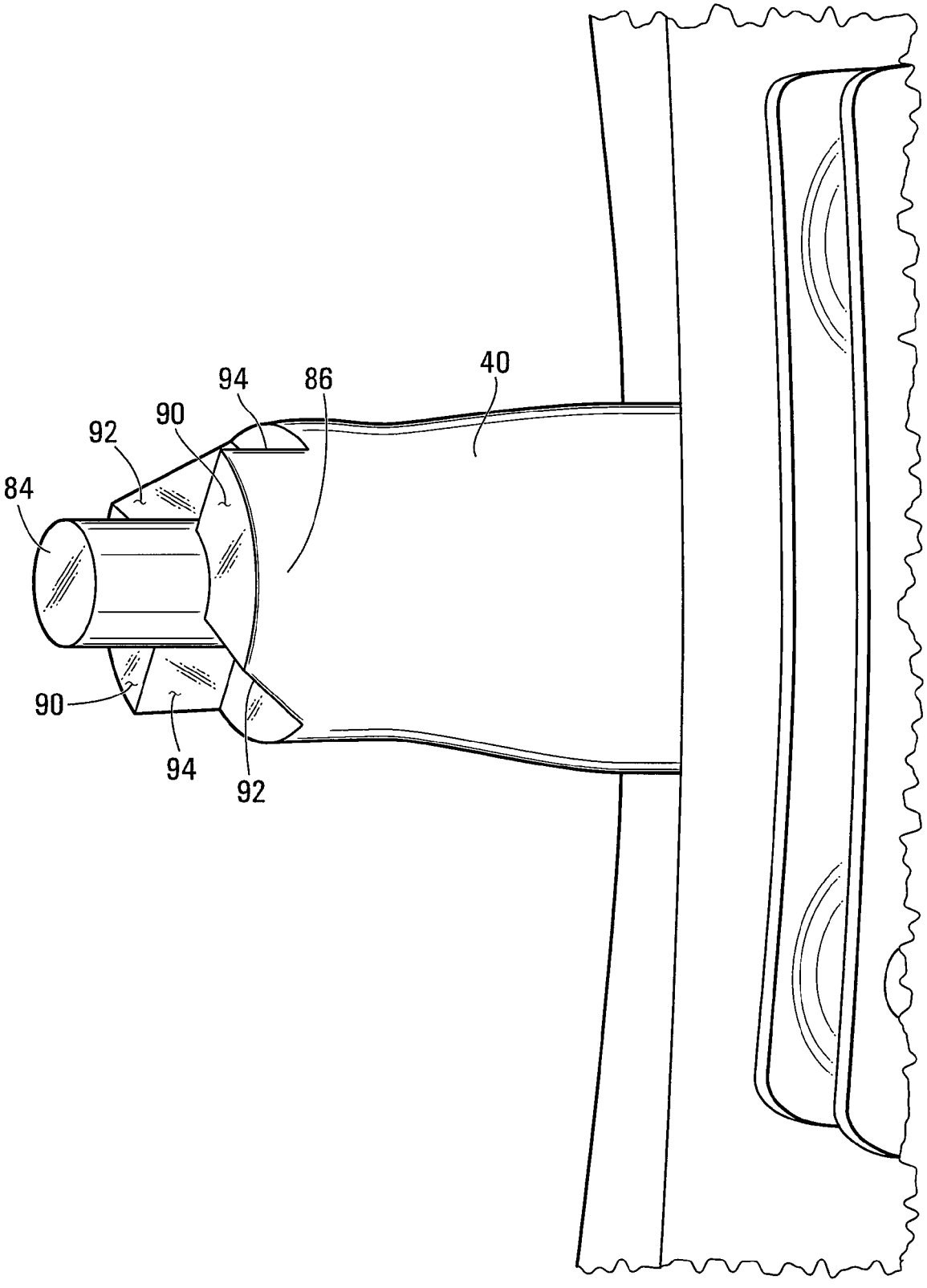


FIG. 11

## REFERENCES CITED IN THE DESCRIPTION

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### Patent documents cited in the description


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