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Seal-actuating mechanism for a wall panel.

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Description

This invention relates to a seal-actuating mechanism for operating an edge seal assembly which is adapted to move outwardly or inwardly of the panel edge, for example a spring-loaded top, and/or bottom seal of the wall panel; the invention concerns in particular but not exclusively, a seal-actuating mechanism which can be installed in or removed from a wall panel, or replaced without damaging or removing the finished surfaces therefrom.

Various types of seal assemblies for wall panels, either of the operable, or demountable types are known, for example U.S. Patents Nos. 3,073,381; 3,253,552; 3,295,588; 3,327,439; 3,341,992; 3,450,185; 3,755,968 and 4,014,137. The seal mechanisms for operating shiftable seals shown and described in the foregoing patents are all housed within the panel and can only be installed, removed or replaced by removing the outer panel facing or cover on either side of the panel. In U.S. Patents Nos. 3,327,439 and 3,253,552 seal mechanisms are actuated by a scissor-type mechanism. In U.S. Patent No. 3,073,381 the seal mechanism is operated by mechanical linkages and levers. U.S. Patent No. 885,703 describes a window lock mechanism construction which utilises pivot levers for locking the window against any attempt to raise it. U.S. Patent No. 799,348 describes a car door latching mechanism having a pair of levers which pivot simultaneously to and away from the header and sill of a door.

WO-A-8 101 027 discloses a reversible panel arrangement which may be used in operable wall systems and shop fitting systems. The panel has upper and lower sealing elements which can be locked in an extended position, by means of a rod and lever arrangement involving a spring which supplies a compressive force when the sealing elements are extended.

According to the present invention there is provided a wall panel having a pair of frame members adjacent opposed edges thereof at least one further edge of the panel being adapted to be provided with a spring-biased seal assembly movable generally outwardly or inwardly of the panel edge for sealing the panel against an adjacent surface, there being provided a seal-actuating mechanism comprising a rotatably mounted shaft extending between the frame members, two operator members mounted spaced apart on the shaft at least one having latch means, and two elongate coupling members disposed in the wall panel, one end of each coupling member being connected to a respective operator member and the other end of each coupling member being adapted to be releasably connected to the seal assembly, characterised in that the latch means is adapted to cooperate with the operator member and/or the shaft so that rotation of the shaft to tension the coupling members causes the latch means to adopt a latching condition (for holding the seal assembly retracted) and

rotation of the shaft in the other direction releases the latch condition of the latch means to permit the tension in the coupling members to be released allowing the seal assembly to shift outwardly.

Preferably the latch means comprises: pivot lever means associated with each operator member, the pivot lever means being adapted to adopt a latch condition or an unlatched condition upon rotation of the shaft in one direction or the other. For example, each coupling member may cooperate with the pivot lever to provide the releasable latch means; and advantageously each pivot lever means includes a pivot bearing which is offset from the rotary axis of the shaft, and a pivoting rigid arm mounted in the bearing, which arm at its end remote from the bearing is connected to the coupling member, the pivot bearing being rotatable with the shaft to cause the arm to pivot with respect to the operator member either to adopt its latched condition, for example when the tension force acts on the arm over-centre relative to the rotation axis, or to adopt its unlatched condition.

Thus, the present invention generally contemplates providing a seal-actuating mechanism adapted to be coupled to a spring-loaded seal assembly that is shiftable mounted on a wall panel. The wall panel includes a pair of opposed frame members. A shaft extends between the opposed frame members and is mounted for rotation therein. A pair of operator members including pivot lever means are mounted on the shaft in spaced relation between the opposed frame members. A pair of coupling members are disposed in the wall panel; one end of each member is coupled to the pivot lever means and the other end of each member is coupled to the shiftable seal assembly so that when the shaft is rotated, the seal assembly is shifted, respectively, from a retracted, latched position to its extended unlatched position.

The invention particularly includes a seal-actuating mechanism housed within the cavity of each opposed channel-shaped frame member of a wall panel in which the seal-actuating mechanism can be installed, replaced, or repaired without removing the exterior finished surface of the wall panel.

The invention may be put into practice in a number of ways but certain specific embodiments will now be described by way of example with reference to the drawings, in which:

Figure 1 is a perspective view illustrating one form of a wall panel assembly in use;

Figure 2 is a fragmentary view, partly broken away, of an edge of one of the panels, taken on line 2-2 of Figure 1 showing the edge-operated seal-actuating mechanism;

Figure 3 is a fragmentary side elevational view of Figure 2;

Figure 4 is a perspective view of another panel of the assembly of Figure 1 showing a face-operated seal-actuating mechanism;

Figure 5 is a fragmentary view, partly broken

away, on line 5-5 of Figure 1 showing the seal-actuating mechanism in its latched position;

Figure 6 is a view similar to that of Figure 5 but showing the seal-actuating mechanism in its unlatched position;

Figure 7 is a fragmentary, side elevational view of Figure 5;

Figure 8 is a perspective view of the door panel illustrated in Figure 1 but with the door removed;

Figure 9 is a fragmentary, elevational view taken on line 9-9 of Figure 8; and.

Figure 10 is a partially broken away, side elevational view of Figure 9.

As shown in Figure 1, an operable wall panel assembly 10 is arranged to form a wall comprising a plurality of panels 12, 14, 16 and 18. Each of the panels 12, 14, 16 and 18 is supported by a pair of trolley assemblies 19 which are connected on the top portion of each panel, with the trolley assembly rotatably mounted on an overhead track 20. The trolley and track assemblies are suitably recessed in the ceiling of the room so as to be hidden from view. When each of the wall panels is in position, the top seal assembly is urged up against the ceiling so as to conceal the trolley and track assembly from view. A similar seal is provided on the bottom of the panel, and when in its extended position seals the floor so that no space can be seen between the floor and the bottom of the panel. Also, in place of an operable wall panel assembly, a demountable wall panel assembly, not shown, may be used.

Each panel comprises a frame 22 on which the outer covering or skin 24 is mounted. The frame 22 includes a pair of opposed members 26, which each have a U-shaped or channel cross-section providing a continuous cavity 27 along the length of each frame member 26, facing outwardly of the panel edge, in which a seal-actuating mechanism 30 is mounted.

Figures 2 and 3 show the wall panel 14 in which the seal-actuating mechanism 30 is mounted at a height that is accessible to the average person.

The seal-actuating mechanism 30 comprises a shaft 33 which extends between the opposed frame members 26, and is mounted for rotation therein on a respective bearing assembly 34 at each end. An operator member 36 is mounted on each end of shaft 33 and rotates therewith. Each operator member 36 is housed within the channel cavity 27 of the respective frame member 26, and includes pivot lever latch means 38 for controlling one end of one or more coupling members in the form of tension members 40.

The operator member 36 at each end of the shaft 33, as illustrated in Figure 2, is in the form of a rectangular metal block and is provided with a bore 37 that is positioned offset with respect to the centre axis of the rectangular block. One such rectangular block 36 is mounted on each end of the shaft 33, the ends of the shaft being located in the offset bores 37. The pivot lever means 38 includes a pair of holes 39 disposed along the longitudinal axis of rectangular block 36, the holes 39 being disposed equidistant from the

centre of offset bore 37. In other embodiments, the holes 39 can have different radii from the centre of the bore 37 so that top and bottom seals 31, 32 can extend unequal distances.

The panel 14 is provided with top and bottom seals 31, 32 which are mounted along the top and bottom edges of panel 14 so that they are shiftable vertically therewith. Two pairs of spring assemblies 35, shown in Figure 4, are provided in the panel and are coupled one pair to each seal assembly 31, 32 so that each pair of springs is compressed to spring load the respective seal when in its retracted position.

Each tension member 40, which can be in the form of a flexible steel cable or steel wire, has a rigid offset arm 42 coupled at one end. Where top and bottom seals are employed, two pairs of tension members 40 will be required for each panel; that is, one pair is coupled between pivot lever means 38 and one seal assembly, and a second pair of tension members 40 is coupled between the pivot lever means and the other seal assembly as illustrated for panel 12 in Figure 4.

As indicated above, the rectangular block 36 includes a pair of equidistant eccentric holes or bores 39 to provide pivot bearings for the offset arms 42 which are rotatably mounted therein. When the seals 31, 32 are in their fully retracted position, the offset arms 42 are in a position rotated eccentrically with respect to the axis of the shaft 33 so that the offset arms 42, positioned in the pivot bearings 39 in the rectangular block 36, are rotated past the vertical axis of the frame member 26; in such positions the rigid arms 42 serve as latch devices by cooperation with the shaft 33 to provide releasable latch means that hold the seals 31, 32 in their fully retracted position. Latching of the seals 31, 32 is accomplished when the rectangular block 36 is rotated to a point where pivot bearings 39 are rotated past the vertical axis of the opposed frame members 26 so that the pivot points are over-centre with respect to the line of action of the tension. The seals 31, 32 are unlatched by rotating the rectangular block 36 clockwise (as viewed in Figure 2), which causes the pivot levers or arms 42 to pivot outwardly with respect to the rectangular block 36 out of their latching condition into an unlatched condition allowing the tension members 40 to move; the spring-loaded seals 31, 32 will then be urged vertically outwardly from each of the panel 12.

The tension members 40 initially hold the seals 31, 32 as they shift outwardly until the shaft 33 has been rotated approximately 180° from its position shown in Figure 2 when the end portion 37 of the rectangular block 36, which is more distant from the axis of the bore 37, will contact a stop block 41. The seals 31, 32 being spring-loaded, are urged against the respective room surfaces; that is, the ceiling and/or floor and since they are free to float each seal will mate against the floor or ceiling even though there may be a lack of parallelism with respect to the bottom or top edge of the panel and the plane of the floor or

ceiling. When the tension members 40 approach their extended position, as shown in Figure 6 for example, they continue to shift vertically until stop means, for example a nut 44 at the end of the tension cable 40 remote from the operator means 36, no longer abuts against a bracket on the respective seal, effectively releasing the seal 31 or 32 with no further force being exerted by the tension members 40 to restrain the seals 31, 32 which are therefore free to float.

In Figures 4, 5, 6 and 7, the seal-actuating mechanism 30' which in this case is operated from the face of the panel, has a pulley-shaped operator member 36', shown in detail as mounted in panel 12 of Figure 1. The panel 12 illustrates an operable wall panel which is movably mounted on an overhead track 20 and trolley assembly 19. The seal-actuating mechanism 30' is mounted in the upper half of the panel, though its operating means is mounted in the panel at a convenient height for an average person to operate.

The operating means is in the form of a pulley assembly 50 which is spaced below the seal-actuating mechanism 30' and is mounted in the channel or cavity 27 of one of the frame members 26. The pulley assembly 50 includes a pulley 51 rigidly mounted on an axle 52. Axle 52 is mounted on a bearing 53 in the frame member 26 for rotation therein. On the opposite ends of the axle 52 there is provided a crank handle receiving slot 54 which is conveniently accessible from either of the faces of panel 12 through crank openings 56 through which a crank handle 57 can be inserted to rotate the pulley assembly 50.

A cable 55 is mounted around the pulley 51, the ends 58 of which are wound in opposite directions around the pulley shaped operator member 36'. As illustrated in Figure 5, the seal-actuating mechanism 30' is in its latched position and the offset arms 42 are positioned so that they nest around shaft 33 with the pivot bearings 39 of the pivot lever means 38' rotated past the vertical axis of opposed frame member 26 i.e. over-centre. Figure 6 illustrates the seal-actuating mechanism 30' in its unlatched position; that is, with the offset arms 42 rotated approximately 180° from that illustrated in Figure 5 so that the pivot bearings 39' lie substantially along the vertical axis of frame 26.

When the tension members 40 and 40' are in their unlatched position, their other ends 41 are released from the seals 31 or 32 as discussed above in relation to Figure 3 and in this position, the tension members 40 release the seals 31, 32 so that they are free to float; that is, the spring assemblies 35 urge the seals 31, 32 outwardly to seek sealing contact with either the floor and/or ceiling regardless of whether the bottom or top edges of the panel are parallel to the planes of the floor or ceiling.

The seal-actuating mechanism 30' is identical in operation to that shown in Figures 2 and 3. In Figures 2 and 3, the crank handle receiving slot 54 is formed on the face of the operator member 36; in the embodiment shown in Figures 4 to 7, the

crank handle receiving slot 54 is formed in the ends of the pulley axle 52 of the pulley assembly 50. In both embodiments, only the location for the rotating seal-actuating mechanism is changed.

In Figures 8, 9 and 10, the seal-actuating mechanism 30' again has a pulley-shaped operator member shown in detail as mounted in panel 16 of Figure 1. In Figure 8, the panel 16 illustrates an operable wall panel having a door, not shown, which is movably mounted on an overhead track 20 and trolley assembly 19. The seal-actuating mechanism 30' is mounted in the upper half of the panel, above the header for the door frame, and its operating means is mounted on a vertical edge of the panel at a convenient height for an average person to operate.

The operating means is in the form of a pulley assembly 50 which is spaced below the seal-actuating mechanism 30' and is mounted in the channel or cavity 27 of the frame member 26. The pulley assembly 50 includes a pulley 51 rigidly mounted on an axle 52. Axle 52 is mounted on a bearing 53 in the frame member 26 for rotation therein. On the outer end of the axle 52 there is provided a crank handle receiving slot 54 which is conveniently accessible through an opening in the vertical edge, the astragal not shown, through which a crank handle 57 can be inserted to rotate pulley assembly 50.

A cable 55 is mounted around the pulley 51, the ends 58 of which are wound in opposite directions around the pulley-shaped operator member 36'. As illustrated in Figure 9, the seal-actuating mechanism 30' is in its latched position and offset arms 42 are positioned so that they nest around shaft 33 with the pivot bearings 39 of the pivot lever means 38 rotated past the vertical axis of opposed frame member 26 i.e. over-centre with respect to the axis of the shaft 33. In its unlatched position, the offset arms 42 are rotated approximately 180° from that illustrated in Figure 9 so that the pivot bearings 39 lie substantially along the vertical axis of frame 26.

When the tension members 40 are in their unlatched position, their other ends 45 are released from the seals 31 or 32 as discussed above in relation of Figure 3, and in this position, the tension members no longer hold the seals 31, 32 so that they are free to float; that is, the spring assemblies 35 freely urge the seals 31, 32 outwardly to seek sealing contact with either the floor and/or ceiling regardless of whether the bottom or top edges of the panel are parallel to the planes of the floor or ceiling. Seal 32 in Figure 8 is shown mounted on either side of the door opening. Spring assemblies 35 spring load each section of seal 32. Tension member 40 at its lower end section is formed with an offset 59 which passes through an opening 60 of frame 26. Each end 41 of the tension member 40 is attached to the seal 32 as illustrated in Figures 2 and 3 so that the seal 32 as shown in Figure 8 floats.

As indicated above, the seal-actuating mechanism 30' is identical in operation to that shown in Figures 2 and 3. In Figures 2 and 3 the

crank handle receiving slot 54 is, as mentioned, formed on the face of operator member 36; however, in the embodiment shown in Figures 8 to 10, the crank handle receiving slot 54 is formed in the outer ends of the pulley axle 52 of the pulley assembly 50.

In the above described embodiments, there is thus illustrated:

a seal-actuating mechanism which is operatively coupled to a shiftable seal mounted on a panel in which the seal-actuating mechanism can be installed in or removed from the wall panel, or replaced, without destroying or removing the exterior facing surface of the panel;

a seal-actuating mechanism which utilizes tension actuating forces to permit the use of light structural members and obviates the necessity of having heavy duty, rigid type members to resist and overcome compressive and/or buckling forces;

means for latching a seal assembly in its retracted position without requiring additional latch forming members;

top and bottom seal assemblies coupled to a common seal-actuating mechanism for shifting each seal assembly simultaneously from a latched, inoperative, retracted position to an unlatched, operative, extended, sealing position;

a seal-actuating mechanism for operably coupling a top, and/or bottom seal assembly which is capable of being operated remotely from the seal-actuating mechanism;

a seal-actuating mechanism which is disengaged from the top and/or bottom seals when in their extended, unlatched, operative position so that the or each seal automatically floats to provide a seal by relative up-and-down motion with respect to the floor or ceiling and the bottom or top edge of the panel; and

a seal-actuating mechanism which is lightweight, utilizes a minimum number of inexpensive, easy-to manufacture, parts, and which is simple and easy to install, replace or repair in a wall panel.

Claims

1. A wall panel having a pair of frame members (26) adjacent opposed edges thereof at least one further edge of the panel being adapted to be provided with a spring-biased seal assembly (31,32) movable generally outwardly or inwardly of the panel edge for sealing the panel against an adjacent surface, there being provided a seal-actuating mechanism (30) comprising a rotatably mounted shaft (33) extending between the frame members, two operator members (36,36') mounted spaced apart on the shaft at least one having latch means (38,39), and two elongate coupling members (40,40') disposed in the wall panel, one end (42) of each coupling member being connected to a respective operator member (36,36') and the other end of each coupling member being adapted to be releasably connected to the seal assembly (31,32), characterised

in that the latch means is adapted to cooperate with the operator member (36,36') and/or the shaft (33) so that rotation of the shaft to tension the coupling members (40,40') causes the latch means (38,39) to adopt a latching condition (for holding the seal assembly retracted) and rotation of the shaft in the other direction releases the latch condition of the latch means to permit the tension in the coupling members to be released allowing the seal assembly to shift outwardly.

2. A wall panel as claimed in claim 1 in which the latch means comprises pivot lever means (38,39) associated with each operator member (36,36'), the pivot lever means being adapted to adopt a latched condition or an unlatched condition upon rotation of the shaft (33) in one direction or the other.

3. A wall panel as claimed in claim 2, in which each coupling member (40,40') cooperates with the pivot lever means (38,39) to provide the releasable latch means.

4. A wall panel as claimed in claim 3, in which each pivot lever means (38,39) includes a pivot bearing (39) which is offset from the rotary axis of the shaft (33), and a pivoting rigid arm (42) mounted in the bearing, which arm at its end remote from the bearing is connected to the coupling member (40,40'), the pivot bearing (39) being rotatable with the shaft (33) to cause the arm (42) to pivot with respect to the operator member (36,36') either to adopt its latched condition, for example when the tension force acts on the arm over-centre relative to the rotation axis, or to adopt its unlatched condition.

5. A wall panel as claimed in any one of the preceding claims, in which rotating means (50) is provided for operating the seal-actuating mechanism (30), the rotating means being operable to rotate the shaft (33) to cause the seal assembly (31,32) to move from the retracted position in which it is held latched by the seal-actuating mechanism to its outward, sealing position.

6. A wall panel as claimed in claim 5, in which the rotating means comprises means (54) on the operating member (36) for releasably coupling a handle to it.

7. A wall panel as claimed in claim 5, in which the rotary means includes a pulley assembly (50) mounted in the panel and spaced from the operator member (36') of the seal-actuating mechanism, a cable (55) coupling the pulley assembly and the operator member so that when the pulley is rotated the operator member is rotated for shifting the seal assembly (31,32) respectively, from its operative, latched position to its inoperative, unlatched position.

8. A wall panel as claimed in any one of claims 1 to 7, in which each operator member (36) includes two latch means (38,39) to which two coupling members (40,40') are connected, the two coupling members being connectable to two discrete seal assemblies (31,32).

9. A wall panel as claimed in any one of the preceding claims, in which the frame members

(26) are channel-shaped affording respective channel cavities facing outwardly of the panel and extending along opposite edges of the panel, the operator members (36,36'), the latch means (38,39) and the coupling members (40,40') of the seal actuating mechanism being disposed in the channel cavities of the frame member (26).

10. A wall panel as claimed in any one of the preceding claims, in which at least one operator member (36,36') is operable directly or indirectly by means (50) accessible at the edge of the panel, or by means accessible at the face of a panel.

Patentansprüche

1. Wandpaneel, das zwei Rahmenglieder (26) neben gegenüberliegenden Kanten besitzt, wobei zumindest eine weitere Kante des Paneels so aufgebaut ist, daß sie einen federgespannten Dichtungsaufbau (31, 32) besitzt, der im allgemeinen nach außen und innen zur Paneelkante bewegbar ist, um das Paneel gegen die Nachbarfläche abzudichten, wobei eine Dichtungsbedienungs-einrichtung (30) vorgesehen ist, die eine drehbar gelagerte Welle (33), die zwischen den Rahmengliedern verläuft, zwei Betätigungsglieder (36, 36'), die beabstandet auf der Welle befestigt sind, wobei zumindest eines eine Verriegelungseinrichtung (38, 39) besitzt, sowie zwei längliche Kupplungsglieder (40, 40') enthält, die im Wandpaneel angeordnet sind, wobei ein Ende (42) eines jeden Kupplungsglieds mit einem entsprechenden Betätigungsglied (36, 36') verbunden ist, und das andere Ende eines jeden Kupplungsglieds so aufgebaut ist, daß es mit dem Dichtungsaufbau (31, 32) freigebbar verbunden ist, dadurch gekennzeichnet, daß die Verriegelungseinrichtung so aufgebaut ist, um mit dem Betätigungsglied (36, 36') und/oder der Welle (33) zusammenzuwirken, sodaß eine Drehung der Welle, um die Kupplungsglieder (40, 40') zu spannen, verursacht, daß die Verriegelungseinrichtung (38, 39) einen Verriegelungszustand annimmt (um den Dichtungsaufbau zurückgezogen zu halten), und eine Drehung der Welle in die andere Richtung den Verriegelungszustand der Verriegelungseinrichtung freigibt, um die Spannung in den Kupplungsgliedern freizugeben, wodurch der Dichtungsaufbau nach außen geschoben werden kann.

2. Wandpaneel gemäß Anspruch 1, wobei die Verriegelungseinrichtung eine Schwenkhebeleinrichtung (38, 39) enthält, die jedem Betätigungsglied (36, 36') zugeordnet ist, wobei die Schwenkhebeleinrichtung so aufgebaut ist, um einen Verriegelungszustand oder einen Entriegelungszustand einzunehmen, wenn die Welle (33) in die eine oder andere Richtung gedreht wird.

3. Wandpaneel gemäß Anspruch 2, wobei jedes Kupplungsglied (40, 40') mit der Schwenkhebeleinrichtung (38, 39) zusammenwirkt, um eine freigebbare Verriegelungseinrichtung zu liefern.

4. Wandpaneel gemäß Anspruch 3, wobei jede Schwenkhebeleinrichtung (38, 39) ein Drehlager (39) aufweist, das von der Drehachse der Welle

(33) versetzt ist, sowie einen starren Schwenkarm (42) aufweist, der im Lager befestigt ist, wobei der Arm an seinem vom Lager entfernten Ende mit dem Kupplungsglied (40, 40') verbunden ist, wobei das Drehlager (39) sich mit der Welle (33) drehen kann, um den Arm (42) im Hinblick auf das Betätigungsglied (36, 36') zu verschwenken, um entweder seinen Verriegelungszustand anzunehmen, z.B. wenn die Zugkraft auf den Arm über der Mitte relativ der Drehachse wirkt, oder seinen Entriegelungszustand anzunehmen.

5. Wandpaneel gemäß jedem der bisherigen Ansprüche, wobei eine Dreheinrichtung (50) vorgesehen ist, um die Dichtungsbedienungs-einrichtung (30) zu betätigen, wobei die Dreheinrichtung betätigt werden kann, um die Welle (33) zu drehen, um den Dichtungsaufbau (31, 32) aus der zurückgezogenen Stellung, in der er von der Dichtungsbedienungs-einrichtung verriegelt gehalten wird, in seine äußere, abdichtende Stellung zu bewegen.

6. Wandpaneel gemäß Anspruch 5, wobei die Dreheinrichtung eine Einrichtung (54) auf dem Betätigungsglied (36) enthält, um einen Griff freigebbar damit zu verbinden.

7. Wandpaneel gemäß Anspruch 5, wobei die Dreheinrichtung einen Rollenaufbau (50) aufweist, der im Paneel angebracht und vom Betätigungsglied (36') der Dichtungsbedienungs-einrichtung beabstandet ist, wobei ein Seil (55) den Rollenaufbau und das Betätigungsglied verbindet, sodaß dann, wenn die Rolle gedreht wird, das Betätigungsglied in Drehung versetzt wird, um den Dichtungsaufbau (31, 32) aus seiner verriegelten Betriebsstellung in seine entriegelte Ruhestellung zu verschieben.

8. Wandpaneel gemäß jedem der Ansprüche 1 bis 7, wobei jedes Betätigungsglied (36) zwei Verriegelungseinrichtungen (38, 39) aufweist, mit denen die beiden Kupplungsglieder (40, 40') verbunden sind wobei die beiden Kupplungsglieder mit zwei getrennten Dichtungsaufbauten (31, 32) verbunden werden können.

9. Wandpaneel gemäß jedem der bisherigen Ansprüche, wobei die Rahmenglieder (26) kanal-förmig ausgebildet sind, wobei sie entsprechende Kanalhöhlräume bilden, die zur Außenseite des Paneels gerichtet sind und längs entgegengesetzter Kanten des Paneels verlaufen, wobei die Betätigungsglieder (36, 36'), die Verriegelungseinrichtung (38, 39) sowie die Kupplungsglieder (40, 40') der Dichtungsbedienungs-einrichtung in den Kanalhöhlräumen des Rahmenglieds (26) angeordnet sind.

10. Wandpaneel gemäß jedem der bisherigen Ansprüche, wobei zumindest ein Betätigungsglied (36, 36') direkt oder indirekt mit einer Einrichtung (50), die von der Kante des Paneels zugänglich ist, oder durch eine Einrichtung betätigt werden kann, die von der Fläche eines Paneels zugänglich ist.

Revendications

1. Panneau mural comportant une paire d'élé-

ments de cadre (26), dont les bords adjacents qui se font face et au moins un autre bord du panneau sont aptes à être munis d'un ensemble (31, 32) de joint d'étanchéité poussé par un ressort susceptible d'être déplacé d'une façon générale vers l'intérieur ou vers l'extérieur du bord du panneau pour former un joint entre le panneau et une surface adjacente, un mécanisme d'actionnement (30) de joint d'étanchéité étant présent, lequel comprend un arbre (33) monté de façon rotative qui s'étend entre les éléments de cadre, deux organes de manoeuvre (36, 36') montés avec un écart entre eux sur l'arbre, dont l'un au moins comporte un moyen de verrouillage (38, 39), et deux organes d'accouplement allongés (40, 40') disposés dans le panneau mural, une extrémité (42) de chacun des organes d'accouplement étant reliée à l'organe de manoeuvre correspondant (36, 36') et l'autre extrémité de chacun des organes d'accouplement étant apte à être reliée de façon détachable à l'ensemble de joint d'étanchéité (31, 32) caractérisé en ce que le moyen de verrouillage est apte à coopérer avec l'organe de manoeuvre (36, 36') et/ou l'arbre (33) de façon telle que la rotation de l'arbre en vue d'exercer une traction sur les organes d'accouplement (40, 40') fait prendre un état de verrouillage au moyen de verrouillage (38, 39) (pour maintenir rétracté l'ensemble de joint d'étanchéité) et que la rotation de l'arbre dans l'autre sens déverrouille le moyen de verrouillage pour permettre la suppression de la traction exercée sur les organes d'accouplement pour que l'ensemble de joint d'étanchéité puisse se déplacer en direction de l'extérieur.

2. panneau mural selon la revendication 1, dans lequel le moyen de verrouillage comprend un moyen de levier pivotant (38, 39) associé à chacun des organes de manoeuvre (36, 36') le moyen de levier pivotant étant susceptible de prendre un état verrouillé ou un état déverrouillé lors de la rotation de l'arbre (33) dans un sens ou en sens inverse.

3. Panneau mural selon la revendication 2, dans lequel chaque organe d'accouplement (40, 40') coopère avec le moyen de levier à pivot (38, 39) pour fournir le moyen de verrouillage déverrouillable.

4. Panneau mural selon la revendication 3, dans lequel chaque moyen de levier pivotant (38, 39) comporte un palier (39) de pivotement qui est excentré par rapport à l'axe de rotation de l'arbre (33) et un bras rigide pivotant (42) monté sur le palier lequel bras est relié à son extrémité située à l'opposé du palier à l'organe d'accouplement (40, 40') le palier (39) de pivotement étant susceptible de tourner avec l'arbre (33) pour provoquer le pivotement du bras (42) par rapport à l'organe de

manoeuvre (36, 36') soit pour prendre son état verrouillé par exemple, lorsque la force de traction agit sur le bras exercé par rapport à l'axe de rotation, ou pour prendre son état de déverrouillage.

5. Panneau mural selon l'une quelconque des revendications précédentes, dans lequel un moyen rotatif (50) est monté pour faire fonctionner le mécanisme d'actionnement (30) du joint d'étanchéité, le moyen rotatif pouvant être mis en fonctionnement pour faire tourner l'arbre (33) pour provoquer le déplacement de l'ensemble de joint d'étanchéité (31, 32) de sa position en retrait dans laquelle il est maintenu verrouillé par le mécanisme d'actionnement de joint d'étanchéité, à sa position d'étanchéité extérieure.

6. Panneau mural selon la revendication 5, dans lequel le moyen rotatif comprend un moyen (54) situé sur l'organe de manoeuvre (36) destiné à recevoir une poignée qui lui est accouplée de façon séparable.

7. Panneau mural selon la revendication 5, dans lequel le moyen rotatif comprend un ensemble de poulie (50) monté dans le panneau et situé à distance de l'organe de manoeuvre (36') du mécanisme d'actionnement de joints d'étanchéité, un câble (55) reliant l'ensemble de poulie et l'organe de manoeuvre de façon telle que lorsque la poulie tourne, l'organe de manoeuvre tourne pour faire passer l'ensemble de joint (31, 32) respectivement de sa position de activé verrouillée, à sa position déverrouillée.

8. Panneau mural selon l'une quelconque des revendications 1 à 7, dans lequel chaque organe de manoeuvre (36) comprend deux moyens de verrouillage (38, 39) auxquels sont reliés deux éléments d'accouplement (40, 40'), les deux éléments d'accouplement pouvant être reliés à deux ensembles de joints d'étanchéité discrets (31, 32)

9. Panneau mural selon l'une quelconque des revendications précédentes, dans lequel les éléments de cadre (26) ont un profil en U fournissant des cavités correspondantes en forme de rainures orientées vers l'extérieur du panneau et s'étendant le long des bords opposés du panneau, les organes de manoeuvre (36, 36'), les moyens de verrouillage (38, 39) et les organes d'accouplement (40, 40') du mécanisme d'actionnement de joint d'étanchéité étant disposés dans les cavités en forme de rainures de l'élément de cadre (26).

10. Panneau mural selon l'une quelconque des revendications précédentes, dans lequel au moins un organe de manoeuvre (36, 36') peut être actionné directement ou indirectement grâce à un moyen (50) accessible sur le bord du panneau, ou grâce à un moyen accessible par le devant du panneau.

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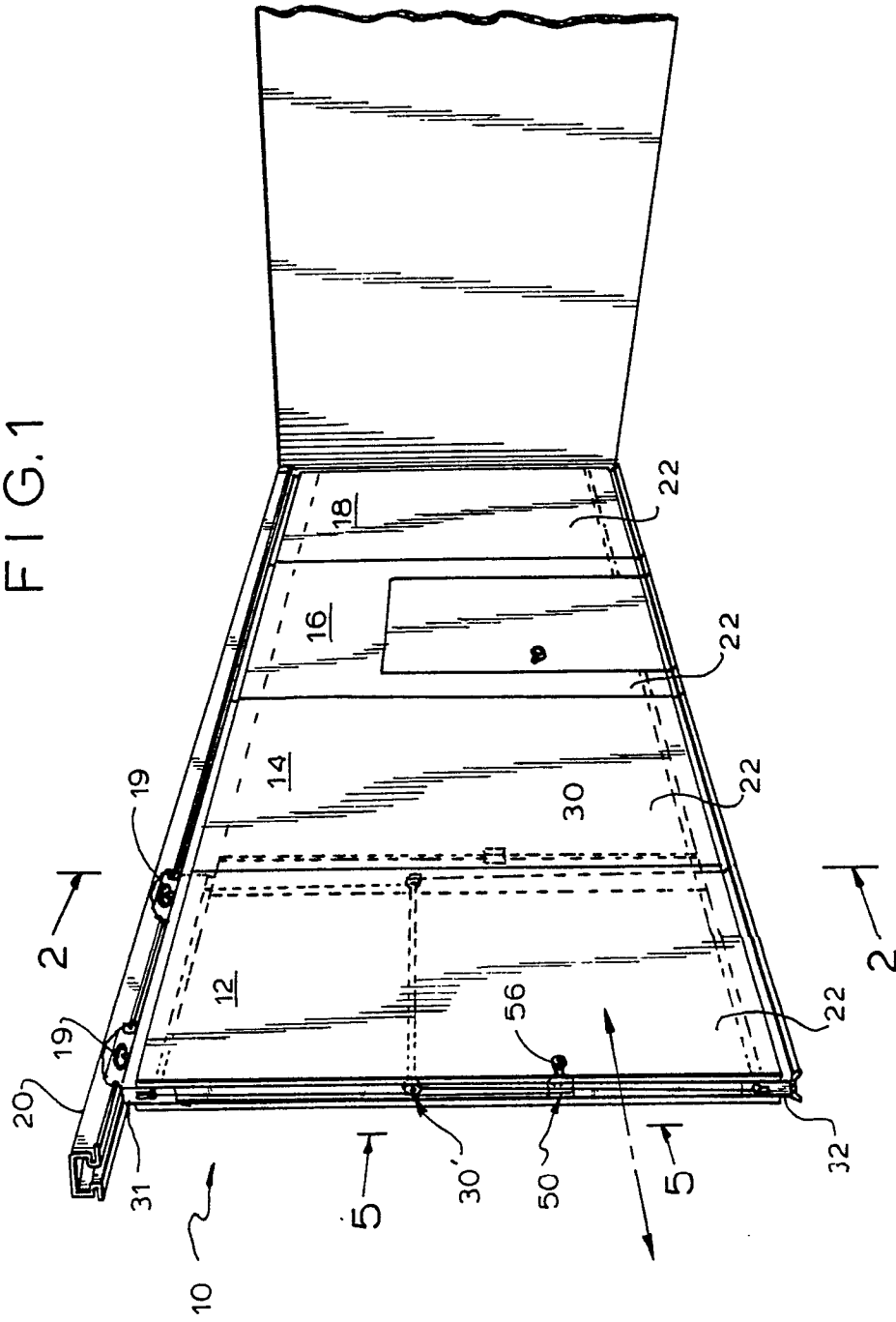
55

60

65

7

FIG.1



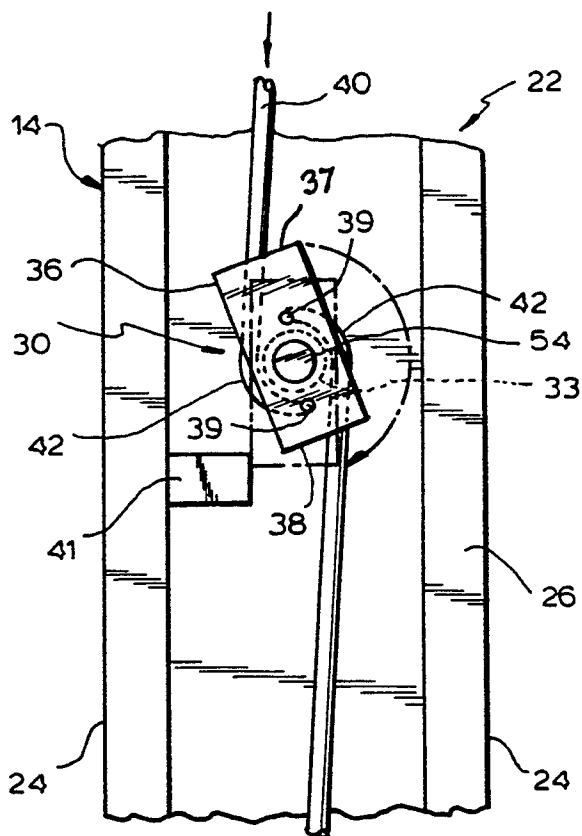
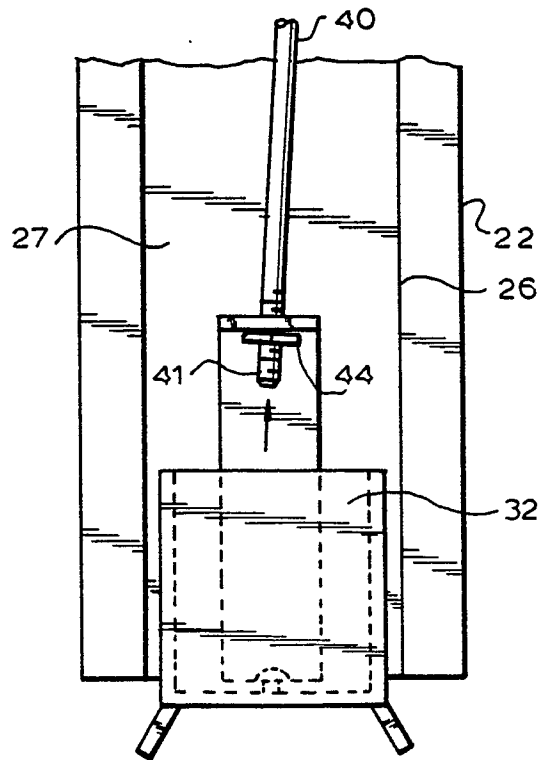


FIG. 2



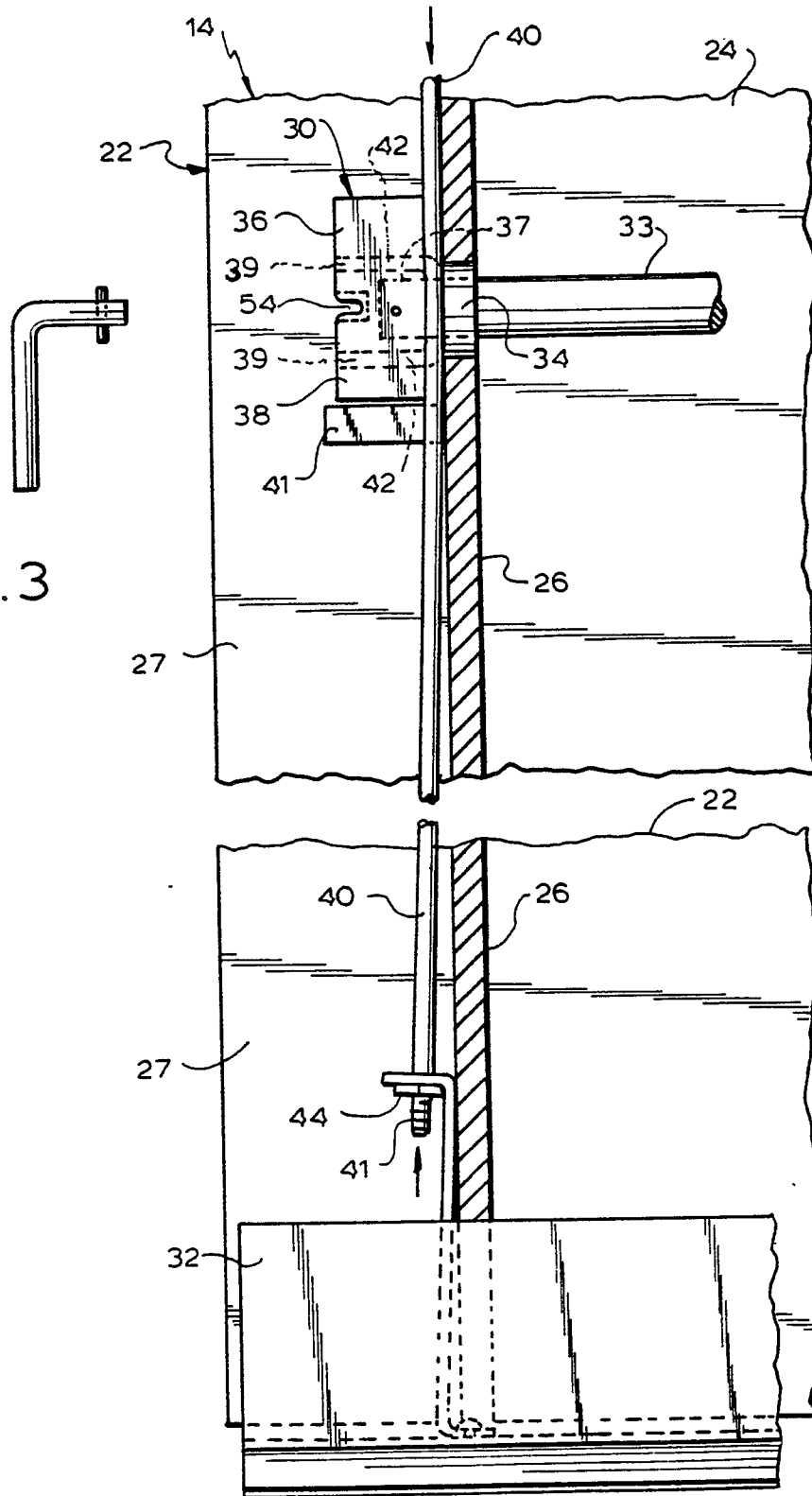


FIG.3

FIG.5

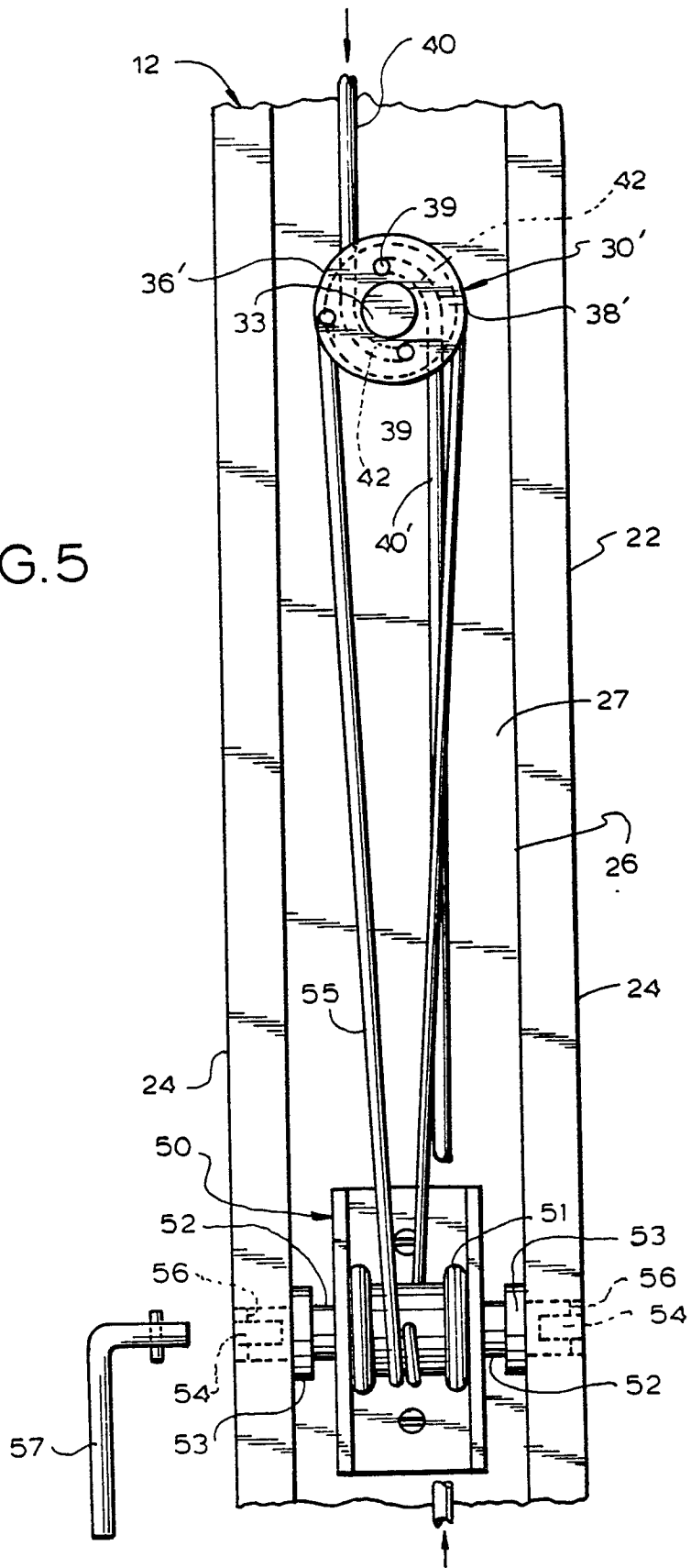
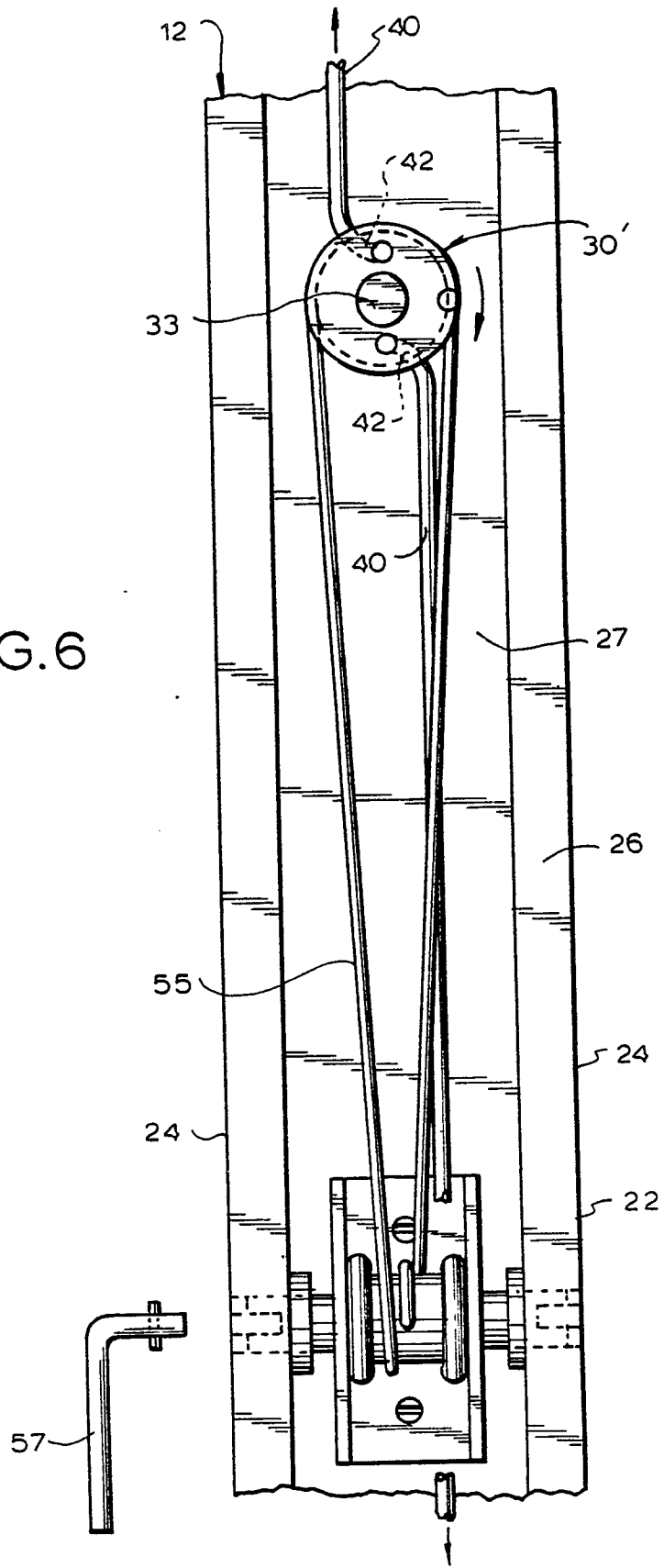


FIG.6



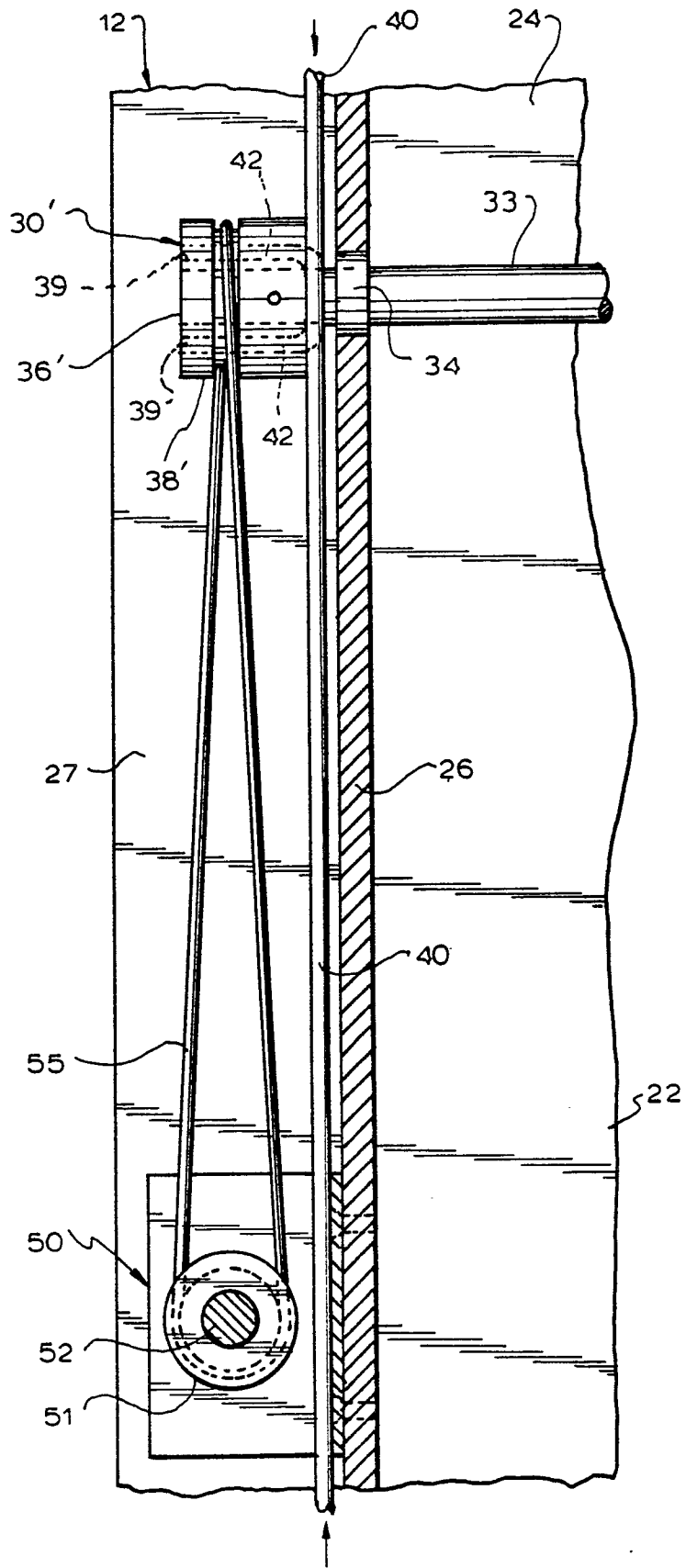


FIG. 7

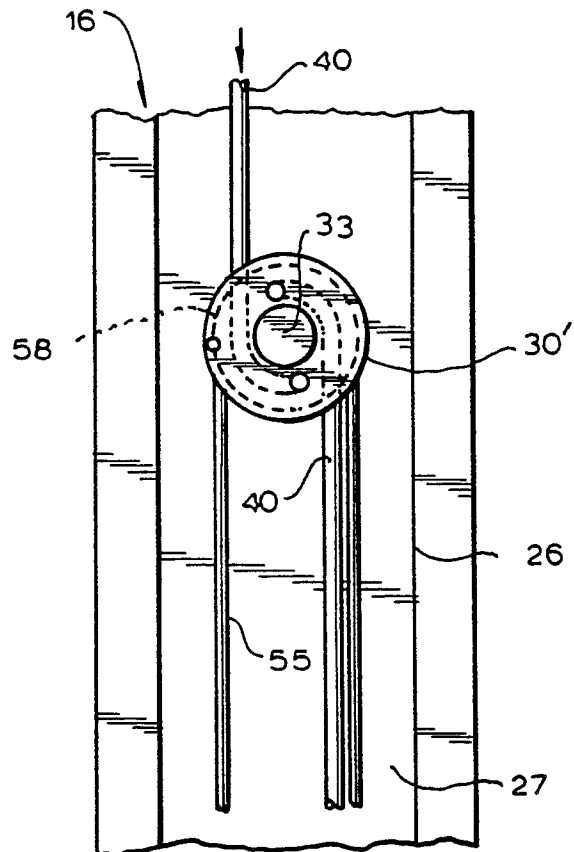


FIG. 9

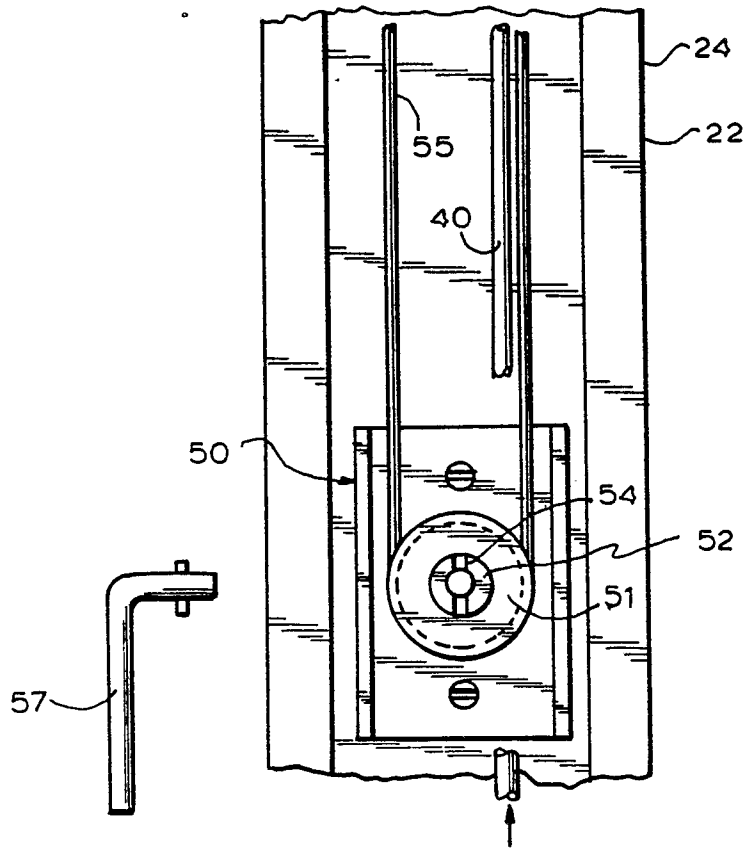


FIG. 10

