Jan. 3, 1967 J. E. DOUGLASS 3,295,257

WALL PANEL ASSEMBLY

Filed March 12, 1965 7 Sheets-Sheet 1

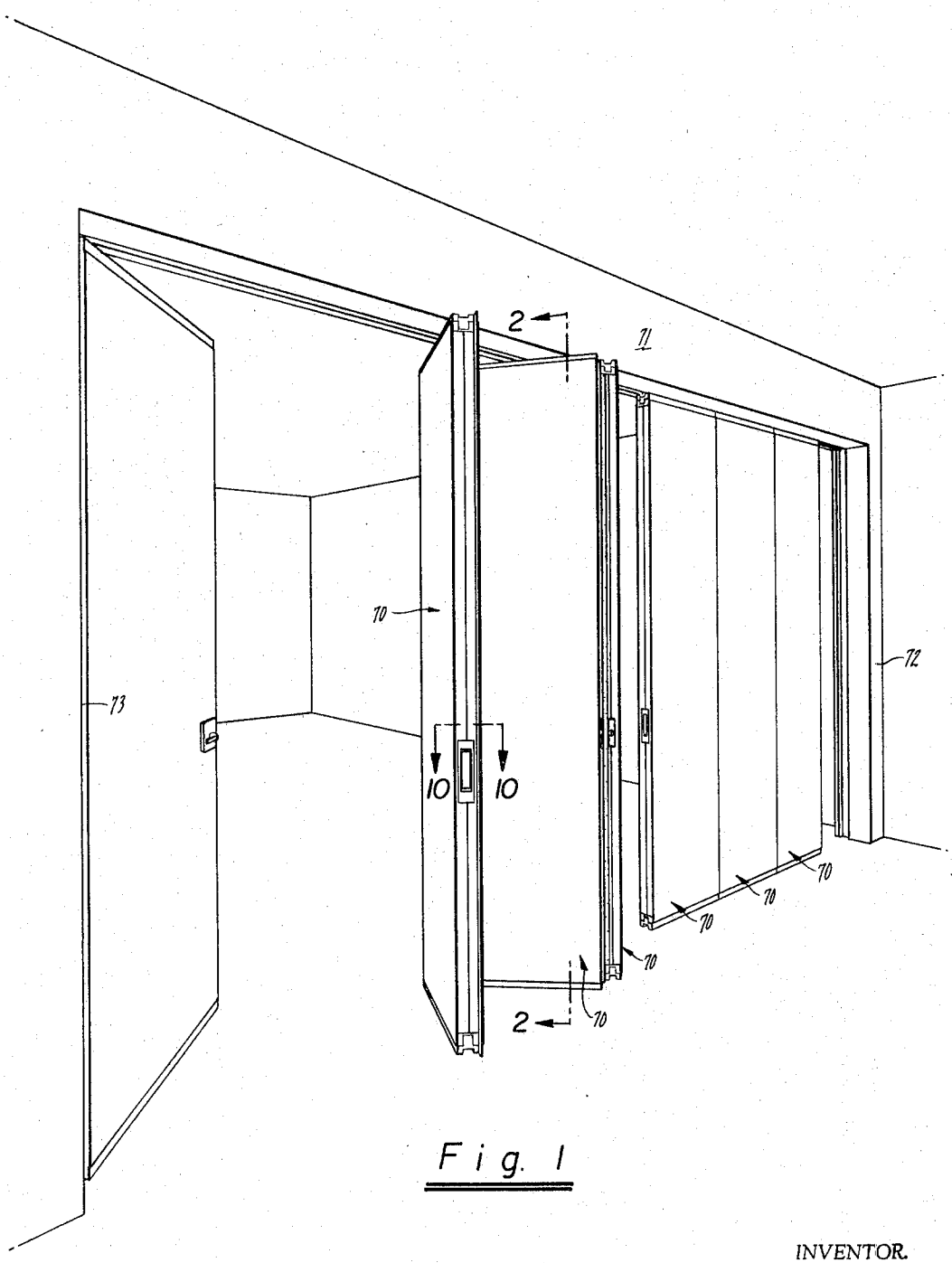


Fig. 1

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Jan. 3, 1967 J. E. DOUGLASS 3,295,257

WALL PANEL ASSEMBLY

Filed March 12, 1965 7 Sheets-Sheet 2

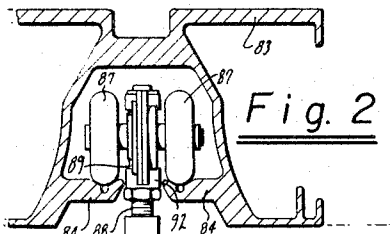


Fig. 2

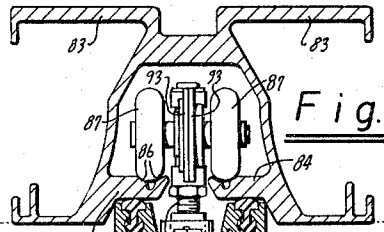


Fig. 4

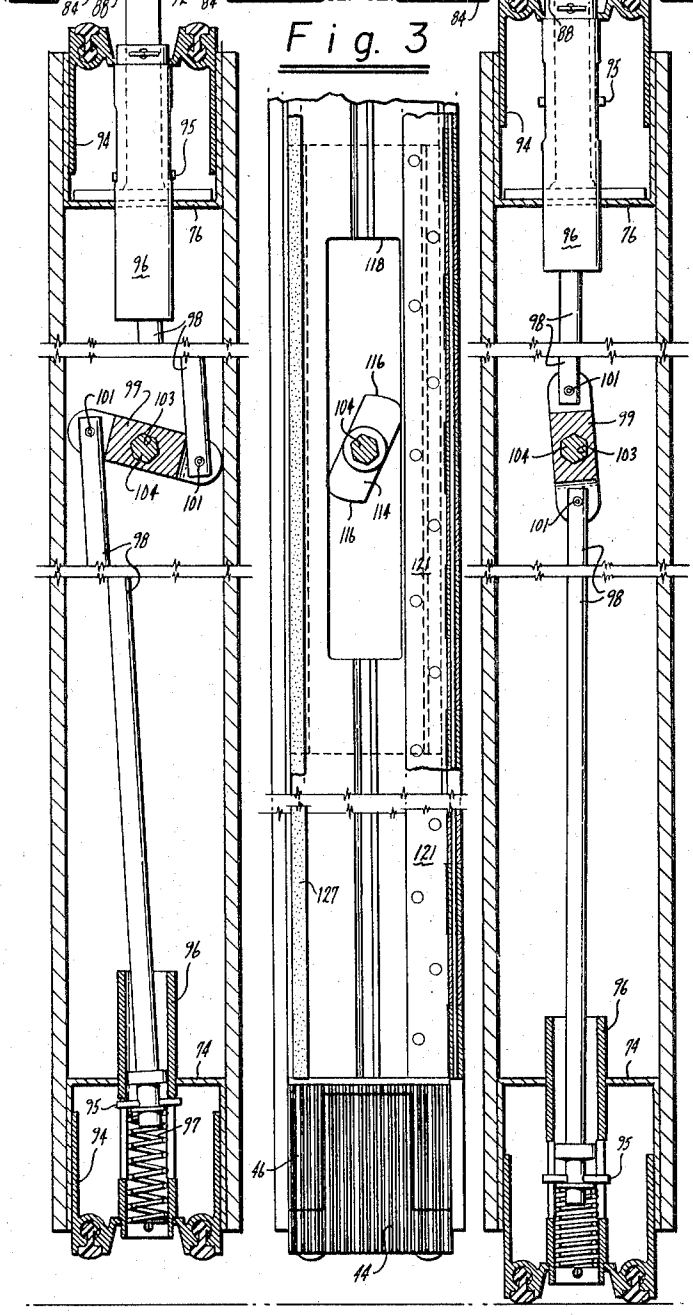


Fig. 3

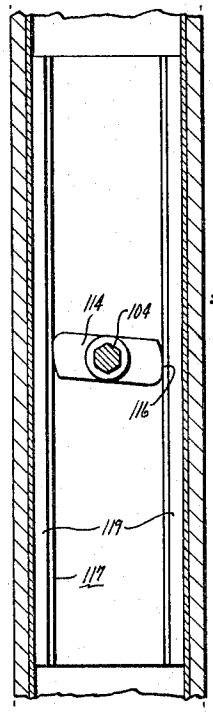


Fig. 5

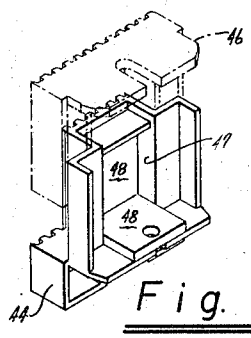


Fig. 12

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WALL PANEL ASSEMBLY

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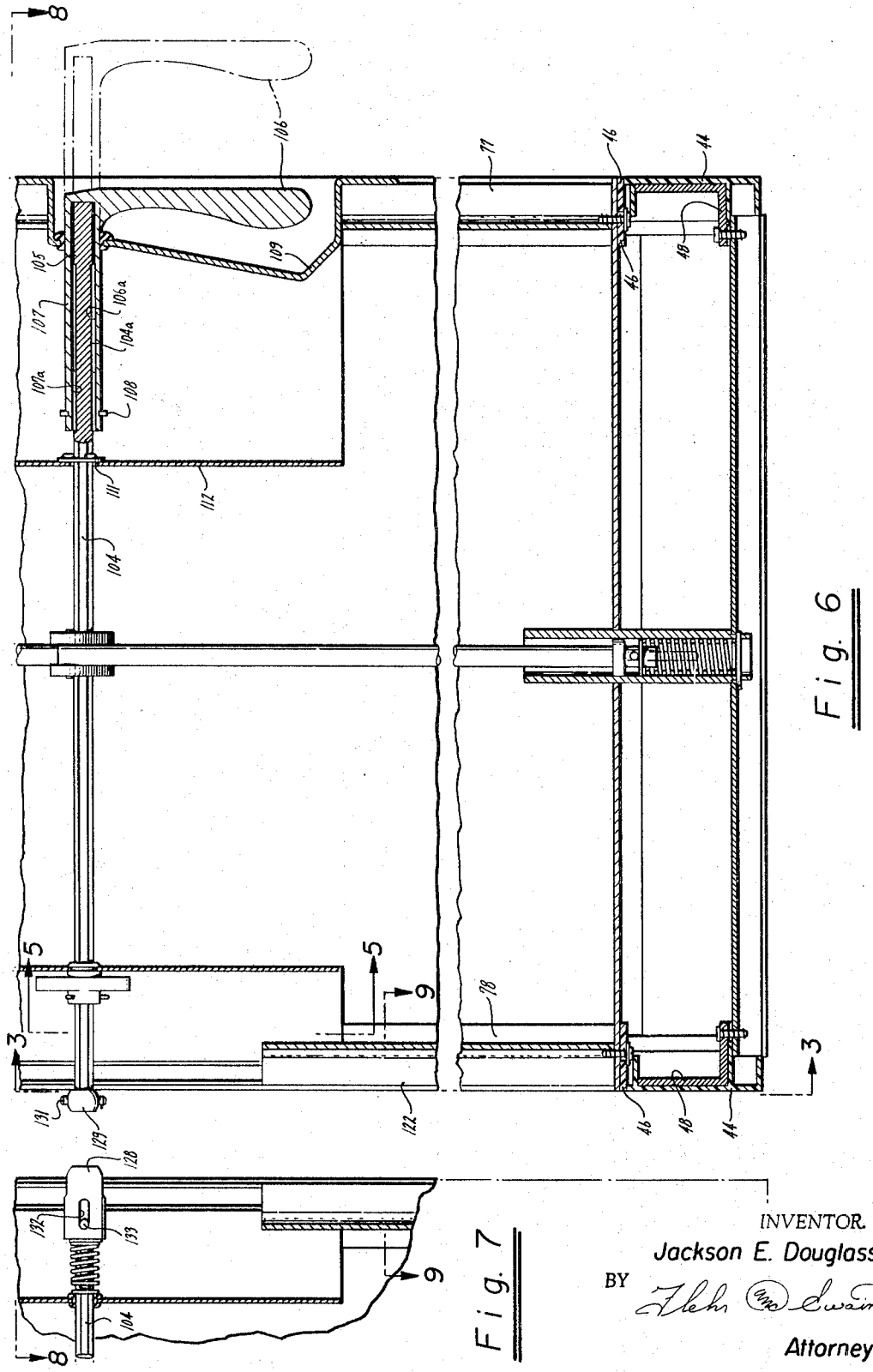


Fig. 6

Fig. 7

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WALL PANEL ASSEMBLY

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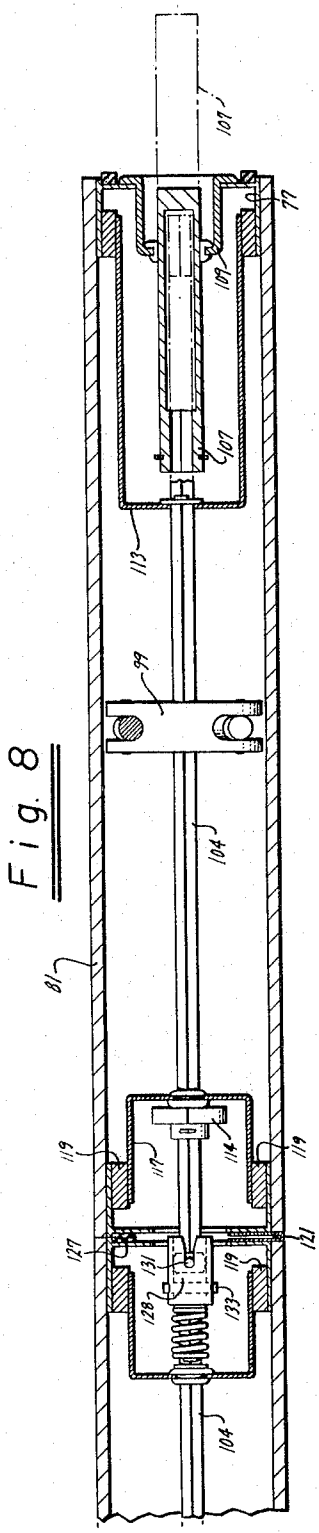


Fig. 8

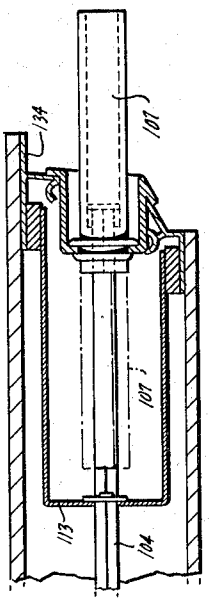


Fig. 10

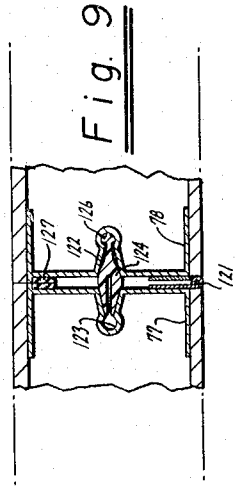


Fig. 9

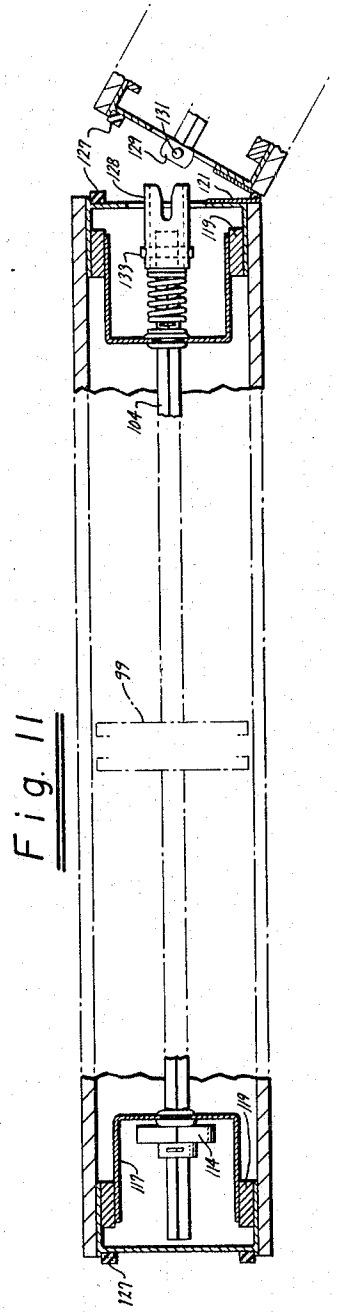


Fig. 11

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WALL PANEL ASSEMBLY

Filed March 12, 1965 7 Sheets-Sheet 5

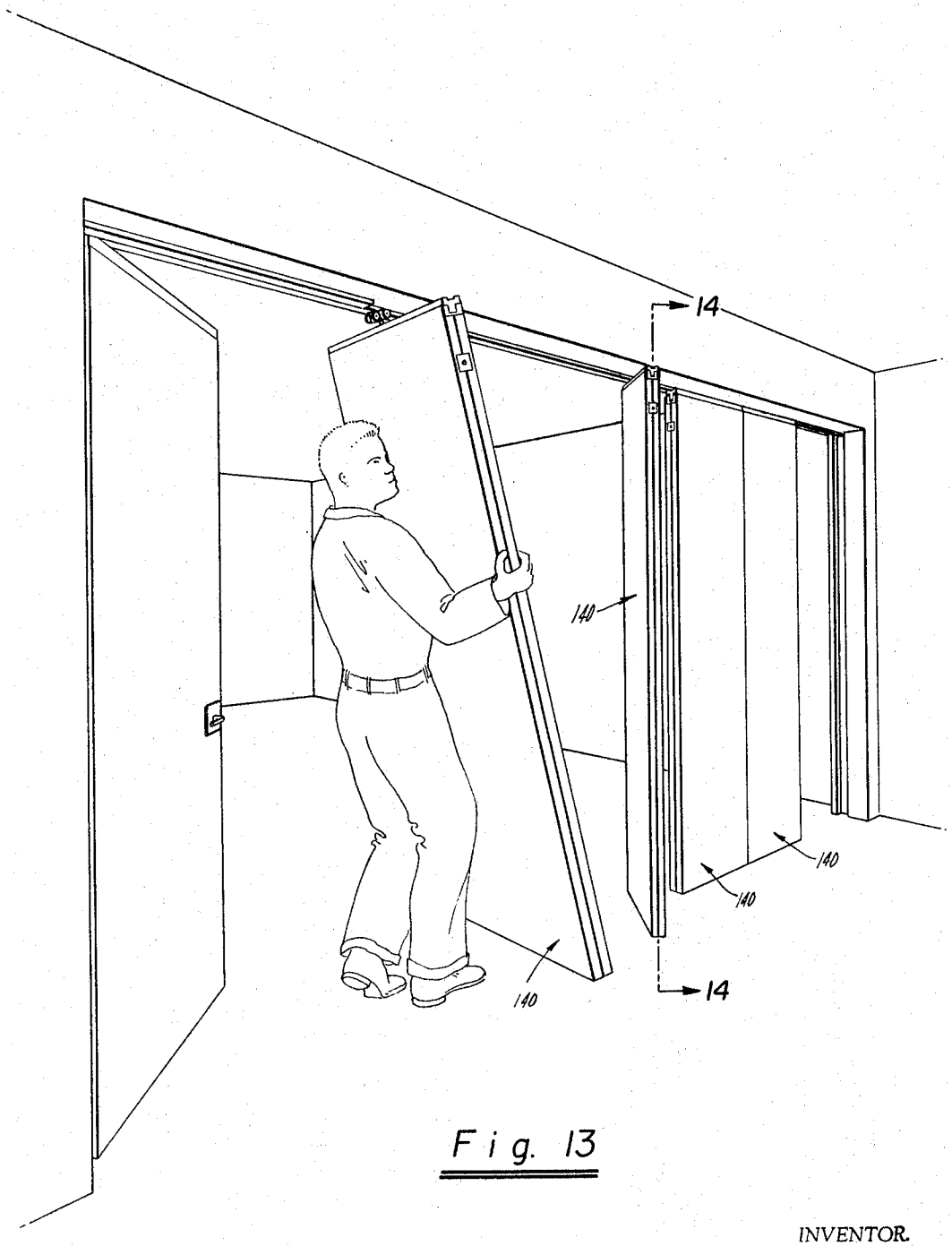


Fig. 13

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Jan. 3, 1967 J. E. DOUGLASS 3,295,257

WALL PANEL ASSEMBLY

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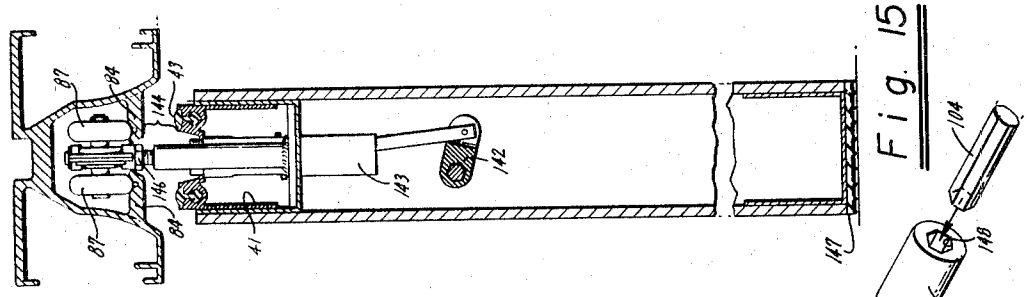


Fig. 15

Fig. 17

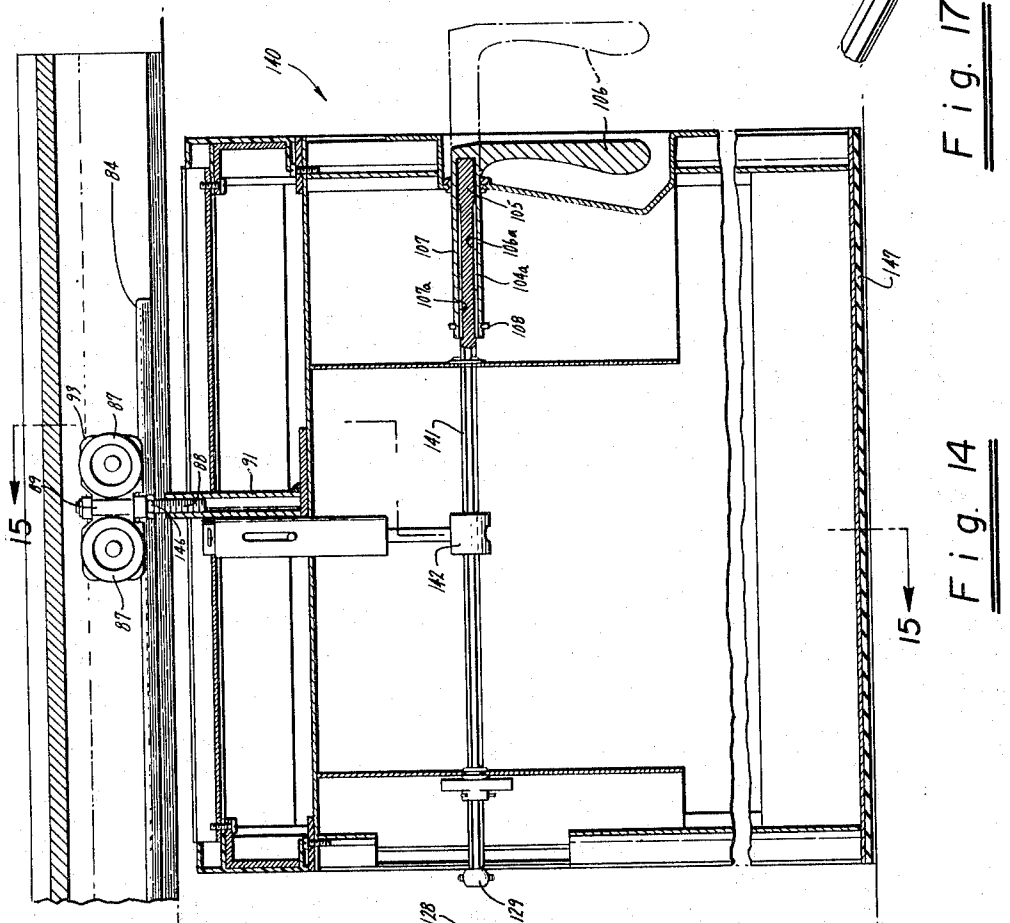


Fig. 14

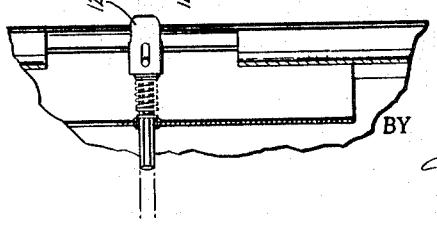


Fig. 16

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WALL PANEL ASSEMBLY

Filed March 12, 1965 7 Sheets-Sheet 7

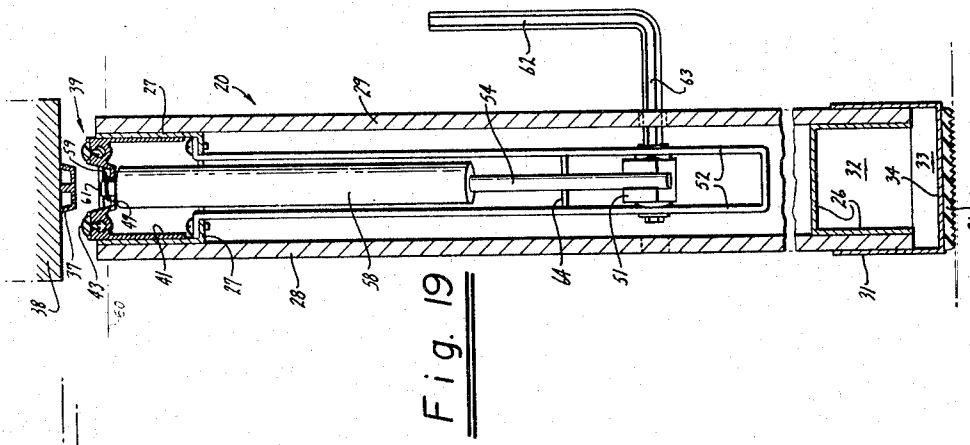


Fig. 19

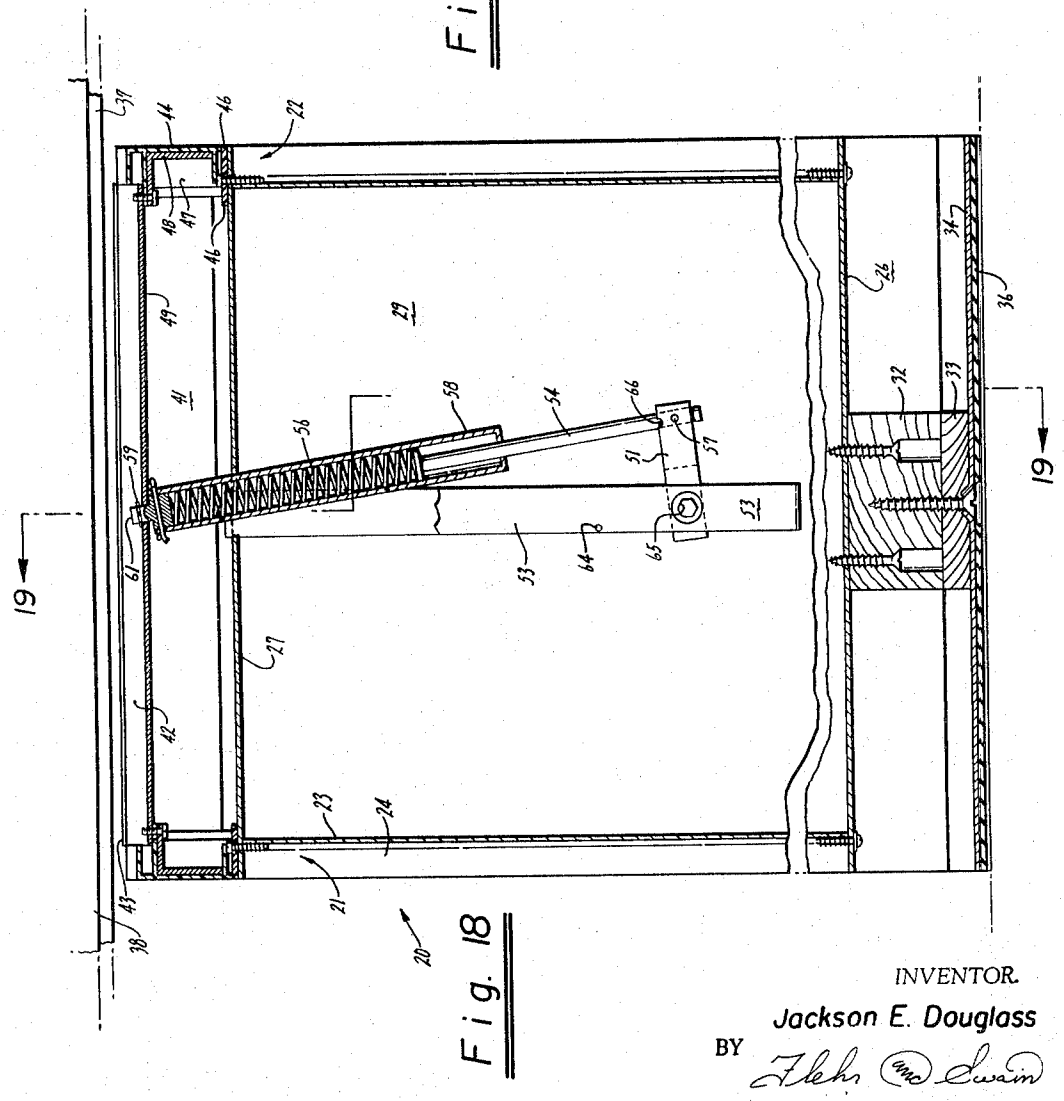


Fig. 18

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United States Patent Office 3,295,257 Patented Jan. 3, 1967

3,295,257

WALL PANEL ASSEMBLY

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Filed Mar. 12, 1965, Ser. No. 439,272
4 Claims. (Cl. 49—317)

This invention relates to a wall panel assembly of the type adapted to be releasably positioned to extend between spaced parallel room surfaces, such as the floor and ceiling of rooms in order to subdivide the space thereof. Releasably positionable wall panel assemblies may include so called operable walls and demountable walls. The former generally refers to that style of wall which is operable between two positions respectively subdividing a room into smaller units or providing enlargement of a room space by moving the wall temporarily out of the way. A demountable wall generally refers to that type of wall wherein panels are manhandled into position and locked in place under conditions where it is not anticipated that removal of the wall will be required often.

It is a general object of the invention to provide an improved wall panel assembly which can be readily releasably locked in place so as to subdivide room spaces conveniently.

It is another object of the invention to provide improved locking means for readily releasably locking a wall panel assembly between spaced room surfaces.

It is another object of the invention to provide an improved wall panel assembly of simplified design and entailing an economy of parts whereby expense of construction can be minimized.

These and other objects of the invention will be more readily apparent from the following detailed description of preferred embodiments according to the invention when taken in conjunction with the following drawings in which:

FIGURE 1 is a perspective view showing an operable wall in accordance with one embodiment of the invention;

FIGURE 2 is an elevation section view of a panel as shown in FIGURE 1 taken along the line 2—2 showing the actuator mechanism in its released condition;

FIGURE 3 is an elevation view of a side edge of the panel shown in FIGURE 6 looking in the direction of line 3—3;

FIGURE 4 is a view similar to FIGURE 2 showing the actuator mechanism in its locked position;

FIGURE 5 is a detailed view in section taken along the line 5—5 of FIGURE 6;

FIGURE 6 is a front elevation view in section of a panel as shown in FIGURE 1 taken along the line 6—6 thereof;

FIGURE 7 is an elevation section view of a portion of an adjacent panel arranged to cooperate with the panel shown in FIGURE 6;

FIGURE 8 is a plan view in section of FIGURES 6 and 7 when joined together as viewed along line 8—8 thereof;

FIGURE 9 is a detail plan section view of an acoustically sealed seam of FIGURES 6 and 7 when joined together taken along line 9—9 thereof;

FIGURE 10 is a detail plan view in section of a door jamb portion of a panel taken along the line 10—10 of FIGURE 1;

FIGURE 11 is a plan view in section of an end panel for abutment to a support column;

FIGURE 12 is an enlarged detail perspective view showing extensible plug means for closing the corners of a panel;

FIGURE 13 is a perspective view showing another embodiment of the invention;

FIGURE 14 is a front elevation view in section taken along the line 14—14 of FIGURE 13;

FIGURE 15 is an end view in section taken along the line 15—15 of FIGURE 14;

FIGURE 16 is a front elevation view in section of a portion of a panel adjacent to the panel shown in FIGURE 14 and adapted to cooperate therewith;

FIGURE 17 is an enlarged detail view in perspective of another embodiment of the releasable connecting means for coupling one crank rod to the next; and

FIGURES 18 and 19 show another embodiment according to the invention and are respectively a front elevation section and end elevation section (taken along the line 19—19).

In general as will be developed below in more particular detail, there is provided a wall panel assembly which includes a frame adapted to be enclosed by sheets of material. A locking apparatus is provided which comprises essentially a grip member or shoe adapted to be disposed at an end of the panel where it can move between retracted and projected positions. A rotatable radius link is adapted to be rotated between first and second positions so as to move the grip member from retracted to projected positions thereof. An elongated resilient force translating device, consisting essentially of another link and spring means arranged in tandem, serves to transmit the thrust from the radius link to the grip member and, by arranging the radius link whereby the connection to the force translating device passes through advanced dead center, the spring acting in cooperation with a fixed stop, serves to provide an over-center locking of the linkage thereby retaining the grip member in its projected position.

According to one embodiment of the invention there is shown in FIGURE 18 a demountable wall panel 20 of a type adapted to be arranged in side-by-side relation to other such panels to form a readily releasable wall construction for partitioning rooms.

A rectangular frame assembly comprises, in general, spaced parallel upright channel bars 21, 22 of a type characterized by a generally U-shaped transverse cross-section wherein a web portion 23 joins opposed side portions 24. The ends of the frame are generally constructed by similar U-shaped channel bars 26, 27. Two sheets 28, 29 are held spaced apart and attached to the opposed side portions 24 of each of the four channel bars.

Gripping means adapted to engage the floor of a room extend along the bottom edge of the panel. A U-shaped channel bar 31 embraces the outer surface of sheets 28, 29 and is attached to extend downwardly therefrom by suitable means such as the wooden spacer blocks 32, 33 held together by screws as shown. The web 34 of channel bar 31 carries a resilient high friction gripping material 36 adapted to engage the floor of a room.

At the upper end of the panel, means are provided for engaging a fixed registration rib 37 secured upon a stationary member 38 presumed to be disposed within a room.

A gripping assembly 39 is telescopically received within channel bar 27 and movable between retracted and projected positions into and out of engagement with the fixed member 38. Thus an inverted U-shaped shoe or grip member 41 is formed to include a pair of spaced parallel feet 42 each of which carries an elongated gripping strip 43 of high friction material and preferably of a ribbed outer surface construction. The backside of gripping strips 43 is provided with a resilient barb which extends the length of the strip. Strips 43 are therefore adapted to be pressed into longitudinally extending openings

formed along each of the feet 42 so as to be retained therein.

As grip member 41 moves to its projected position rib 37 will be received between and wedge into engagement with the opposed side faces of each of the feet 42. In the event that a rib such as the rib 37 is unavailable the high friction strips 43 serve to grip the member 38 and retain the panel by friction contact rather than by the positive locking provided by rib 37.

Each end of grip member 41 is closed by an extensible plug assembly including a T-shaped closure portion 44 disposed with the stem of the T slidably positioned between the sides of a U-shaped closure portion 46. The two closure portions 44, 46 are preferably of a plastic whereby they will be substantially self-lubricating surfaces in order to permit the ends of the grip member 41 to move freely with minimal restraint. The backside of the T-shaped portion 44 includes a well 47 adapted to receive an L-shaped insert 48 of suitable metal which provides rigidity to the outer face of portion 44. The insert 48 is fastened, as by a screw, to the web 49 which extends between feet 42. Accordingly the T-shaped portion 44 is carried upwardly with projectiong movement of grip member 41. The U-shaped closure portion 46 is suitably secured as by a screw to the web of channel bar 27 whereby it remains fixed to the frame during the projected movement of the T-shaped closure portion 44 (FIG. 12).

Means are provided for moving grip member 41 between retracted and projected positions and for locking grip member 41 in its projected position in contact relation with the stationary member 38.

Thus a rotatable radius link, swing arm, or clevis 51 is mounted for rotation between the side bands 52 of a bale-shaped strap 53. Strap 53 is retained in an opening formed in the web of channel bar 27 substantially mid-way between the ends of grip member 41. The upper ends of the two side bands 52 are bent outwardly to form ears adapted to be screwed tightly against channel bar 27.

Clevis 51 is supported for movement between first and second positions to move the grip member 41 respectively from retracted to advanced positions as now to be described.

Thus an elongated resilient force translating device consisting essentially of a connecting link or compression member 54 and a coil spring 56 carried within an elongated sleeve or open ended tubular housing 58 serves to transmit an upward drive force imparted by rotation of clevis 51 counterclockwise as shown. One end of the resilient force translating device as described is coupled to the clevis by means of a pivot pin 57 and the other end is connected to the web of grip member 41 by a snap ring 59 encircling a boss 61 disposed to extend through an opening in the web of grip member 41. Connecting link 54 is free to slide longitudinally along sleeve 58 and carries a spring seat for engaging spring 56.

Sleeve 58 is carried between the side bands 52 of strap 53 whereby counter-clockwise movement of clevis 51 serves to pivot the force translating device between the side bands 52.

Clevis 51 is rotated as by means of a removable crank 62 having a crank rod 63 of hexagonal cross-section adapted to extend through an opening in one of the sheets 28, 29 and into a hexagonal female opening formed in the axle supporting clevis 51. Rotation of rod 63 serves to rotate clevis 51 from a retracted position to an advanced position defined by the fixed stop pin 64 extending between the side bands 52 of strap 53. Stop pin 64 engages a detent 66 formed in each side of clevis 51. It is to be noted that in order for detent 66 to engage stop pin 64, the connecting pin 57 must be carried across a plane extending betwen the axis of rotation of clevis 51 and the pivot point in the region of boss 61. Accordingly, as clevis 51 is rotated counter-clockwise, grip member 41 will be projected against the stationary member 38 whereby spring 56 will become compressed and, as the connecting pin 57 passes through advanced dead center, the spring 56 will urge clevis 51 against the fixed stop 64 and lock grip member 41 in its projected position.

Operation of a panel assembly 20 and its installation is as follows:

A crank 62 is inserted into the hexagonal female opening 65 formed in the axle of clevis 51. The crank is turned in order to retract grip member 41 whereby the overall height of the panel assembly 20 is at a minimum. The upper edge of panel assembly 20 is aligned with rib 37 disposed to lie along the valley formed between the opposed side faces of feet 42.

By turning crank 62 to move clevis 51 counter-clockwise, as shown, connecting link 54 will be driven upwardly and carry grip member 41 into engagement with the wedge shaped side faces of rib 37 and carry the high friction feet 43 into engagement with the stationary portion 38. As grip member 41 is urged upwardly against the upper stationary wall surface, the bottom of the panel assembly 20 will be pressed against the floor. Further counter-clockwise rotation of clevis 51 continues until arrested by the fixed stop 64. At that time the connecting pin 57 has passed through its advanced dead center position whereby spring 56 serves to releasably lock the panel assembly 20 in position.

After having installed one of the demountable wall panels 20 further panels of like construction are positioned in abutting side-by-side relation thereto until a dividing wall has been constructed as desired.

In order to form a snug seam between adjacent panel assemblies 20 the extensible closure formed by the T- and U-shaped portions 44, 46 is formed with a serrated face having longitudinally extending ridges and valleys adapted to engage the ridges and valleys of adjacent wall panels. After each wall panel is positioned in place the cranks 62 are removed and the opening through which crank rod 63 penetrated the panel assembly is closed by a decorative button pressed into the opening.

According to another embodiment an operable wall for partitioning a room is provided, as now to be described with particular reference to FIGURES 1 through 12.

The operable wall shown in FIGURE 1 includes six panel assemblies 70 in groups of three wherein each of the three panel assemblies of each group are hinged to fold accordion style and supported to be rolled out of the way at one side of a stationary truss portion 71 of the room being partitioned. Side columns 72, 73 are located at each end of the truss portion 71. The frame of a panel 70 includes channel bars 74, 76 at opposite ends of the panel assembly 70. The sides of the frame are formed generally by channel bars 77, 78. Channel bars 74, 76 are disposed to provide a recess along the top and bottom of each panel assembly 70, whereas channel bars 77, 78 are arranged with the web portion of each outermost. Sheets of material 79, 81 form the inner and outer faces of each panel assembly 70.

Each panel is hung to be rolled along a track member 82 formed, for example, as an extrusion including wings 83 adapted to be secured along the lower edge of the truss portion 71. Track member 82 includes a pair of opposed ledges 84 spaced at their distal ends to provide a guideway therebetween. The upper sides of ledges 84 are formed to include a track or groove 86 adapted to engage and guide rollers 87 therealong.

Means forming a carriage adapted to permit each panel assembly 70 to pivot about an axis lying substantially coplanar within the panel assembly 70 includes the downwardly depending threaded stem 88 journalled at its upper end in a sleeve 89 and at its lower end supporting the weight of the panel assembly 70 by threadably engaging a mounting bracket 91 (as in FIGURE 14). Mounting bracket 91 is fixed to the upper channel bar 76. Thus

when grip member 94 is in its retracted position within channel bar 76 the panel assembly 70 is free to rotate about the axis defined by stem 88. The panel assembly can also be rolled along tracks 86 guided by a plastic or other self-lubricating collar 92 moving along the guideway formed between the distal ends of ledges 84. Rollers 87 are supported upon axles journalled within the carriage further comprising the pair of plates 93.

At each end of the panel assembly 70 a grip member 94 is telescopically received respectively within channel bars 74, 76 for movement between retracted and projected positions. Grip members 94 are of generally similar construction to the previously described grip member 41. It will be noted however that a sleeve or open ended tubular housing 96 is immovably fixed to each of the grip members 94 and carries a spring 97 housed therein to form part of a resilient elongated force translating device which further includes a connecting link or compression member 98. Link 98 is sufficiently long with respect to the diameter of the sleeve 96 whereby sleeve 96 need not be pivoted at its connected end and carries a spring seat for engaging spring 97 (see FIGURES 2 and 4). Thus the pair of connecting links 98 within each panel assembly 70 serve to urge an associated grip member 94 at the top and bottom of each panel assembly outwardly therefrom. As grip members 94 respectively engage the floor and the underside of ledges 84, further rotation of the radius link or swing arm 99 serves to compress springs 97 until the connecting pins 101, 102 pass respectively through their bottom dead center and top dead center positions.

The radius link 99 is formed as a double clevis construction and includes a hexagonal opening 103 therethrough. Opening 103 is adapted to receive a reach rod 104 to be rotated by a crank 106 splined upon the end thereof.

Rod 104 includes a round relieved portion 104*a*. Crank 106 includes a cylindrical bore portion 106*a* formed within a sleeve 107. The outer end of sleeve 107 includes a hexagonal interior 107*a* to engage the hexagonal end 105 of rod 104 whenever crank 106 is withdrawn and splined thereto for rotating rod 104. After rotation is complete, crank 106 slides forward on rod 104 for radial alignment between portion 107*a* and portion 104*a* as well as between bore portion 106*a* and end 105.

Thus, crank 106 includes a sleeve portion 107 which is formed with a hexagonal bore adapted to cooperate with reach rod 104. Crank 106, when not in use, is recessed into the side edge of panel assembly 70. When it is desired to rotate the crank rod 104, crank 106 is moved to its phantom line position as shown in FIGURE 6. A snap ring 108 serves to limit the degree to which the crank 106 may be withdrawn from its recess or pocket 109. Crank rod 104 is journalled at the crank end in an opening 111 formed in the web 112 of a U-shaped channel plate 113.

Means are provided at the other end of reach rod 104 forming a fixed stop for the rotation of rod 104 so as to define the projected position of grip members 94 at a position whereby the connecting pins 101, 102 will move through their respective advanced dead center positions. Thus, as shown best in FIGURES 3 and 5 a fixed stop defining the projected position of grip members 94 is arranged and adapted to receive the urging of springs 97 transmitted thereto via the radius link 99 when the grip members 94 have been projected against stationary surfaces.

Accordingly, a rotatable wedge member 114 is mounted to rotate with reach rod 104 (see FIGURE 6) and is formed at each end with a curved wedge surface 116 (see FIGURES 3 and 5) adapted to engage the opposed inner faces of the side of a substantially rigid channel member 117 having a U-shaped transverse cross-section. Channel member 117 is recessed in an edge of the panel assembly 70. Channel member 117 is preferably formed of a material such as steel and the wedge member 114 of a softer material such as aluminum whereby the opposed side faces of channel member 117 provide a wear plate for the respective ends 116 of member 114.

Access to wedge member 114 is provided by an elongated opening 118 formed in the web of channel bar 78.

Accordingly, where it is desired to introduce slight variances with respect to the locked position of grip members 94, the wedge member 114 can be slid longitudinally along reach rod 104 out through opening 118 to a point where, for example, the wedge surface 116 can be filed to provide a close adjustment of the projected locked position for the members 94.

The foregoing described actuator mechanism is suitable for use with panel assemblies 70 of various thicknesses. Thus, as shown in FIGURE 8, spacers 119 accommodate variations in the thicknesses of the channel bars 78 and the like whereby notwithstanding an increase in thickness of the panel assembly 70 the same actuator mechanism can be employed.

In order to construct a wall as shown in FIGURE 1 comprised of panel assemblies 70, as described, each panel assembly 70 is hinged along diagonally opposite side edges thereof on opposite sides of the plane of the panel assembly. Thus, a hinge 121 runs along one side edge of the panel assembly with the leaves of the hinge being secured to the opposing faces of the webs of channels bars 77, 78.

Means are provided to form an acoustic seal along each joint between adjacent panel assemblies. Thus, as shown for example in FIGURE 9, the confronting channel bars 77, 78 are each formed with an elongated slot having inwardly converging sides 122 which merge at their converging inner ends with a tubular opening 123. A rubber sealing strip 124 is formed with a transverse cross-section resembling a tuning fork whereby a pair of leaves are adapted to be wedged into the groove formed by the inwardly converging sides 122. The "stem" portion of strip 124 includes a pair of resilient ribs 126 which, when forced through the throat formed between tubular opening 123 and sides 122, serves to anchor the sealing strip 124 in position. Further acoustic sealing is provided by the foam rubber strips 127 secured to run along the opposed webs of channel bars 77, 78.

In a wall construction of the type shown in FIGURE 1, means are provided whereby the individual locking means and actuator assemblies of each of the panel assemblies 70 can be simultaneously actuated by a single crank. Thus, one of the panel assemblies 70 will include a crank 106 whereas the remainder of the panel assemblies 70 hinged thereto are provided with a non-rotatable inter-connecting, slotted sleeve 128 for interengagement with a ball joint 129 carrying a cross pin 131. The slotted sleeve 128 serves to cause its associated reach rod 104 to rotate by means of the slot 132 and pin 133 whenever the sleeve 128 is rotated. Sleeve 128 is spring urged outwardly along reach rod 104 and slidably mounted thereon whereby when ball joint 129 has been swung into the throat of sleeve 128 inter-engagement is readily effected without critical alignment problems. Thereafter, rotation of crank 106 serves to rotate reach rod 104 of all panel assemblies 70 arranged to form a wall as in FIGURE 1.

In forming a wall as shown in FIGURE 1 it will be readily evident that certain additional details have been provided as shown in FIGURES 10 and 11.

The panel assembly 70 adapted to abut the support column 72 (FIGURE 1) is formed without a ball joint and cross pin, as shown in FIGURE 11 at the left end thereof.

A door jamb construction is shown in FIGURE 10 whereby the right hand vertical channel bar 77 has been replaced by an extrusion of special configuration to include a protruding lip or jamb portion 134.

Another embodiment of an operable wall is shown in

FIGURE 13 utilizing panel assemblies 140. Panel assemblies 140 are shown in more particular detail in FIGURES 14 through 16 as now to be described.

A reach rod 141 is arranged to rotate a radius link 142 between retracted and projected positions so as to move a grip member 41 to a projected position whereby the high friction strips 43 engage the under side of ledges 84. Following initial engagement between strips 43 and ledges 84, further rotation of the radius link 142 will serve to compress a spring carried within the sleeve 143 comparable in function to the sleeve 96 previously described. By making suitable adjustment in the gap 144, a clamping action can be imparted between strips 43 engaging one face of ledges 84 and the resilient rollers 87 engaging the obverse side thereof. Thus, it is preferred that rollers 87 are of a suitable resilient material such as rubber or plastic and preferably entail a self-lubricating characteristic as found in various plastics.

Accordingly, the nut 146 can be adjusted to vary the gap 144 so as to vary the degree of clamping action desired.

From the foregoing, it will be readily evident that as the gap 144 is reduced, a greater proportion of the weight of each panel assembly 140 will be transferred to the rollers 87 rather than being supported by the floor of the room, and the panel assembly 140 will be primarily retained by the clamping action between rollers 87 and the high friction strips 43. On the other hand, widening the gap 144 will serve to maintain the wall panel 140 primarily by the forces exerted outwardly thereof by the grip member 41 acting against the underside of ledges 84 and the force acting downwardly against the floor through the high friction foot 147.

As previously described, a slotted sleeve 128 and a ball joint 129 serve to translate the locking movement from one reach rod to the next between adjacent panel assemblies.

As shown, however, in FIGURE 17, a splined coupling of simplified design which eliminates various of the parts previously noted is provided. Thus, the end of a hexagonal crank rod, such as rod 104, is adapted to enter a hexagonal opening 148 formed axially in a cylindrical sleeve 149 secured to the adjacent end of a comparable crank rod 104.

From the foregoing description, it will be readily apparent that there has been provided an improved wall panel assembly characterized by simplicity of design and improved features and advantages whereby demountable and operable wall partitions can be readily arranged.

For example, it will be readily obvious that by providing a grip member supported centrally between its longitudinal ends by means allowing the grip member to tip slightly about a transverse axis, such as the axis 60, through the upper end of protrusion 61 (FIGURE 18) or the axis through the retainer pin 95, the opposite ends of the grip member will adjust upon pressure contact of one end or the other with a stationary wall surface. By virtue of the extensible unrestrained ends of the grip member, it will be apparent that devices for maintaining parallelism during projected movement are unnecessary.

I claim:

1. In a wall panel assembly having a panel adapted to be releasably positioned to extend between spaced parallel room surfaces, locking apparatus comprising a grip member adapted to be disposed at an end of the panel and movable between retracted and projected positions, a rotatable member adapted to be disposed between the ends of the panel, means supporting said rotatable member for movement between first and second positions to move the grip member respectively from retracted to advanced positions, elongated resilient force translating means, one end of the elongated resilient force translating means being connected to said rotatable member at a point spaced from the axis of rotation thereof, the other end of said force translating means being connected to said grip member, means to move said rotatable member to said second position thereof and means to lock the rotatable member thereat so as to project and retain said grip member at its advanced position, the last named means including limit means forming a positive stop to define said second position, said stop being disposed to permit said one end of the force translating means to pass through advanced dead center in moving said rotatable member between said first and second positions, said limit means including stop means mounted to rotate with said rotatable member, and a stationary abutment lying substantially normal to the plane of rotation of the stop means in the path thereof to be engaged thereby and limit rotation of the stop means, said stop means including a member having a wedge surface at one end thereof, and a substantially rigid channel member of U-shaped transverse cross-section adapted to be recessed in an edge of the panel with one of the opposed sides of said channel member being disposed and adapted to be engaged by the wedge surface of said stop member thereby forming said abutment.

2. A wall panel assembly comprising means forming a wall panel adapted to be releasably positioned to extend between spaced parallel room surfaces, locking apparatus carried by said panel and comprising a grip member adapted to be disposed at an end of the panel and movable between retracted and projected positions to engage one of the room surfaces, grip means at the other end of the panel adapted to engage the other of the spaced room surfaces, a rotatable radius link adapted to be disposed between the ends of the panel, means supporting said link for movement between first and second positions to move the grip member respectively from retracted to advance positions, an elongated resilient force translating device consisting essentially of another link and spring means coupled to extend longitudinally therewith, one end of the elongated force translating device being connected to said radius link, the other end of said device being connected to said grip member, a crank rod connected to rotate said radius link to said second position and means to lock said radius link thereat so as to project and retain said grip member at its advanced position, the last named means including a wear plate secured to said panel adjacent an edge thereof, and a stop member carried by and rotatable with said crank rod to be rotated into abutting relation with the wear plate, a journal member of U-shaped channel bar including web and opposed side portions, said web of the journal member extending along and recessed from an edge of said panel, an opening through the web receiving said rod between said opposed side portions, and a stop member having a wedge surface at one end thereof, said stop member being mounted to rotate with said rod to move said wedge surface into abutting relation with one of said opposed side portions.

3. An operable panel type partition arrangement comprising:

a panel proportioned lengthwise thereof to extend between upper and lower room surfaces,

a grip member at the upper and lower ends of said panel,

said grip members being movable with respect thereto between retracted and projected positions,

said grip members when disposed in their projected positions being adapted to engage said surfaces so as to secure said panel therein when said grip members are urged against the surfaces,

and means for simultaneously moving said grip members from their retracted positions to their projected positions,

said moving means comprising:

a swing arm mounted within said panel for swinging movement in a vertical plane and about an axis extending in coplanar relation with said panel,

said swing arm being journalled intermediate its ends,

each of said grip members having connected thereto an elongate tubular housing adjacent the longitudinal axis of the panel,

said housings being secured to the respective grip members at one end of the respective housings and each including a compression spring received therein adjacent their said one ends,

each of said housings having received therein one end of an elongate compression member seated against the compression spring contained therein,

with the other ends of said compression members being operably connected to opposite ends of said swing arm,

means for pivoting said swing arm for its swinging movement from one edge of said panel,

said swing arm being movable between a first position in which the ends thereof are on either side of the plane extending substantially parallel to the plane of said panel and passing through the points of connection of said housings to the respective grip members in which said grip members are in their retracted positions to a second position in which the ends thereof are respectively disposed on the other sides of the first mentioned plane in which position said grip members are in their retracted positions to a second position in which the ends thereof are respectively disposed on the other sides of the first mentioned plane in which position said grip members are in their projected positions,

and means for releasably holding said swing arm in its said second position against the action of said springs to lock said grip members in their projected positions in engagement with the respective room surfaces.

4. A demountable panel type partition arrangement comprising:

a panel proportioned lengthwise thereof to extend between upper and lower room surfaces,

a grip member at the upper end of said panel and movable with respect thereto between retracted and projected positions,

the lower end of said panel being adapted to rest on the lower room surface,

a swing arm mounted within said panel for swinging

movement about an axis extending transversely of said panel,

said axis being located adjacent the longitudinal axis of the panel,

an elongate tubular housing swingably connected at one end thereof to the grip member adjacent the longitudinal axis of the panel,

a compression spring received in said housing adjacent said one end of said housing,

an elongate compression member having one end thereof received in said housing and seated against said spring and the other end thereof operably connected to said swing arm at a point spaced from its said swinging axis,

said housing extending short of said swing arm axis of rotation and said compression member extending outwardly of said housing,

means for rotating said swing arm through the plane extending transversely of said panel along its said longitudinal axis and in the direction required to pass the connection between said compression member and said swing arm through said plane between said swing arm axis of rotation and said tubular housing,

said swing arm being movable between a first position on one side of said plane in which said grip member is in its retracted position to a second position on the other side of said plane in which said grip member is in its projected position,

and means for releasably holding said swing arm in its said second position against the action of said spring to lock said grip member in its projected position and secure said panel in place between the room surfaces when placed therebetween.

References Cited by the Examiner

UNITED STATES PATENTS

2,966,706	1/1961	Christensen	160—40 X
3,072,975	1/1963	Burmeister	20—68 X
3,195,192	7/1965	Neisewander	20—68 X

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