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3,453,790

PORTABLE PARTITIONS

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Sheet 2 of 2

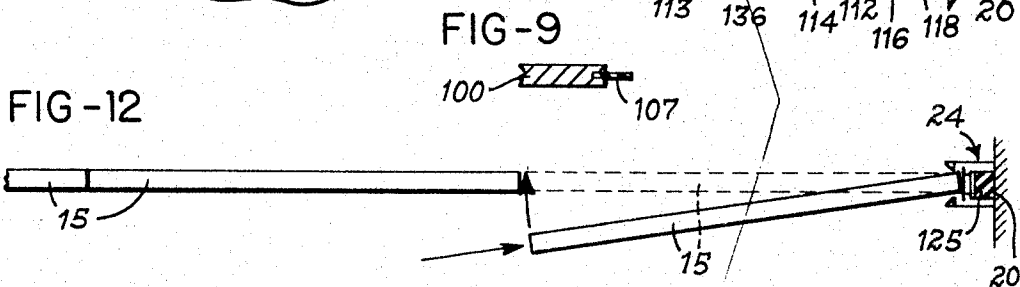
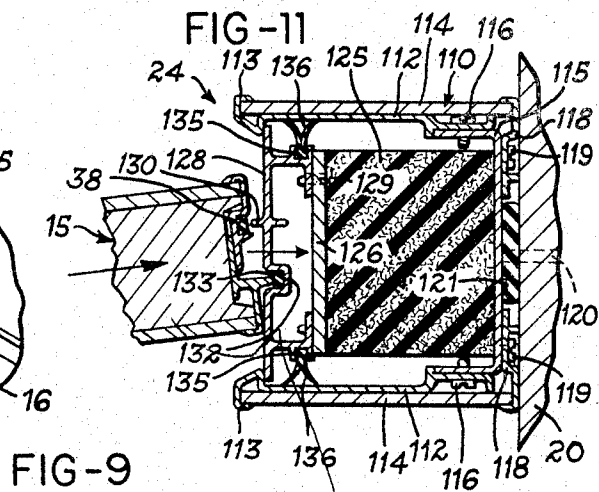
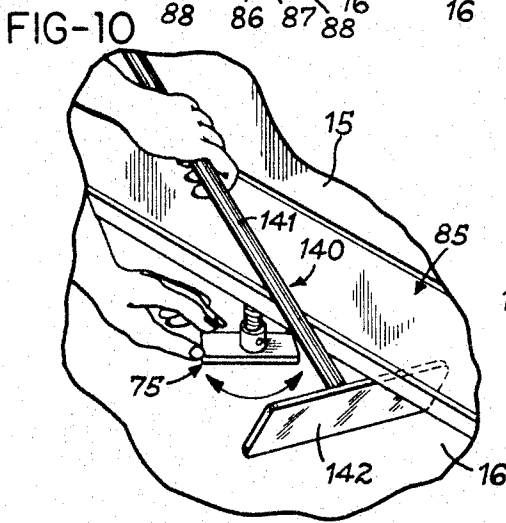
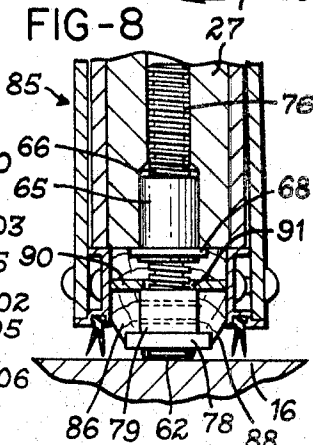
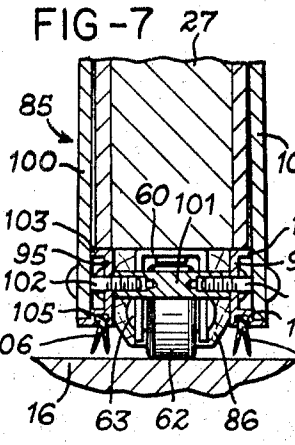
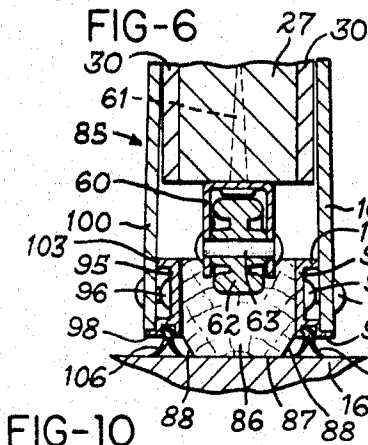
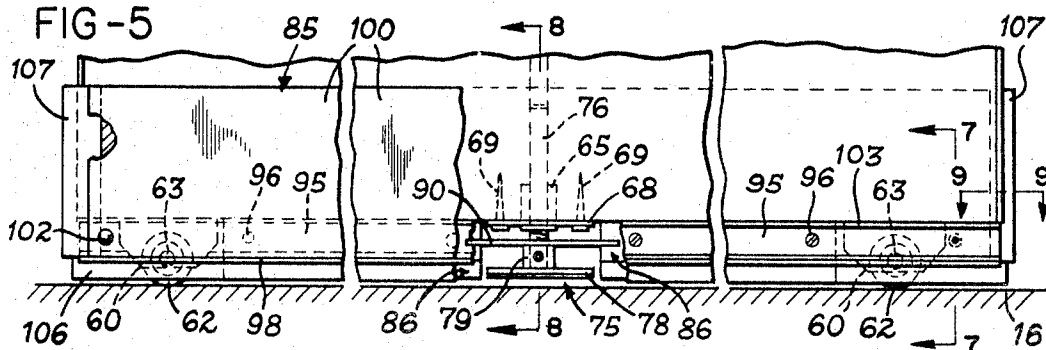
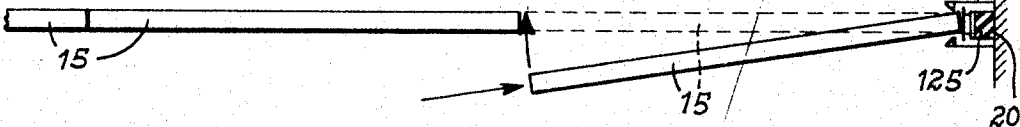


FIG-12



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PORTABLE PARTITIONS

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9 Claims

ABSTRACT OF THE DISCLOSURE

A partition formed with a series of interfitting portable panels extending between a rigid jamb and a movable jamb located on opposing walls, wherein each panel includes a set of rollers mounted on its lower end portion. A support member is threadably connected to the center of the lower end portion of the panel for supporting the panel in a raised vertical position with the upper edge portion of the panel engaging the ceiling and a skirt member is slidably mounted on the lower edge portion of each panel and adapted to be lowered, after the panel is set in position and raised, for covering the rollers and support member and forming a seal with the floor.

Background of the invention

The term "portable partition" commonly refers to a series of removable panels which are not supported, suspended or guided by a track, and which are commonly transported from a storage area to a site where a room divider is desired and is set in vertical position, and in edge-to-edge alignment forming a temporary closure wall within the room. Usually each panel making up the partition is provided with a slidable head member which is extended upwardly either by a mechanical or a pneumatic mechanism to engage the ceiling, so that the panel is thus self-supported between the ceiling and the floor.

It is desirable to construct the panels as wide as possible to minimize the number of panels required for forming a wall of predetermined size. On the other hand, in order to move the panels, each partition must be relatively narrow and of light weight construction. Moreover, the extendable head members do not cooperate to provide an appearance of a permanent wall.

Summary of the invention

The present invention is directed to an improved portable partition in which the panels may be constructed with substantial width, and in which the panels are provided with support rollers on their lower end portions for conveniently positioning after they have been raised to a vertical position near an adjacent panel. After the panel is placed in position, it is raised so that the upper portion of the panel forms a seal with the ceiling. The panel is secured in the raised position by an adjustable support leg, following which a skirt member is lowered to form a seal with the floor and to cover the rollers and support leg.

According to a preferred construction, the panel incorporates a resilient seal extending across its upper end portion, and an adjustable leg on the order of a screw jack mounted at the center of the lower end portion. A generally U-shaped skirt member is slidably mounted on the lower end portion of the panel, forming a kick plate on each side of the panel. The skirt member is adapted to be lowered, after the panel has been raised by means of a lever, so that resilient seals mounted on the bottom of the kick plates engage the floor. The kick plates provide the appearance of a baseboard on a permanent wall.

Brief description of the drawings

FIG. 1 is a perspective view of a temporary wall formed by a series of portable panels constructed in accordance with the invention;

FIG. 2 is an elevational view of a typical erected partition with lower portions broken away to show the relative positions of internal components;

FIG. 3 is a vertical section taken generally on the line 3—3 of FIG. 2 with the center portion of the panel broken away;

FIG. 4 is a fragmentary horizontal section taken generally on the line 4—4 of FIG. 2 with the center portion of the partition broken away;

FIG. 5 is an enlarged fragmentary view of the lower portion of the panel shown in the rolling position;

FIG. 6 is a fragmentary vertical section taken generally on the line 6—6 of FIG. 2;

FIG. 7 is a fragmentary section taken generally on the line 7—7 of FIG. 5;

FIG. 8 is a fragmentary section taken generally on the line 8—8 of FIG. 5;

FIG. 9 is a fragmentary horizontal section through one of the kick plate seals taken generally along the line 9—9 of FIG. 5;

FIG. 10 is a fragmentary perspective view illustrating the manner in which a panel is raised and secured in its raised position;

FIG. 11 is a fragmentary enlarged section taken generally on the line 11—11 of FIG. 1 and showing the normal position of the movable jamb before the final panel is set in position; and

FIG. 12 is a diagrammatic plan view of the last two panels of the partition and illustrating how the final panel is installed.

Description of the preferred embodiment

Referring to FIG. 1, a wall closure partition 10 is formed of a series of panels 15 which are shown as assembled and erected in generally coplanar relation to each other to form a temporary wall extending across a prepared opening in a room. The partition thus extends between a floor 16 and a ceiling 18 and between side walls 19 and 20 on which are mounted corresponding jamb members 22 and 24. Each of the partition panels 15 is of similar construction and is formed with a central panel section 25, the specific construction of which forms no part of the present invention. As shown in FIG. 3, however, the panel sections 25 incorporate upper and lower wooden horizontal rails 26 and 27, respectively, which are rigidly connected by vertical edge stiles 28 (FIG. 4) to form an essentially hollow rectangular framed construction. A sheet 30 of decorative wallboard is mounted on each side of the frame rails and stiles, and a suitable sound deadening material, such as expanded polystyrene or fiberglass batting, is spaced between the sheets 30 and frame members 26—28.

Referring to FIGS. 3 and 4, a two-piece trim strip 35, preferably formed as aluminum extrusions, extends along each vertical edge of each panel 15. Each trim strip 35 includes a first section 36 having a vertically extending groove 37 in which is mounted a strip 38 of resilient sponge-like material. The first section 36 partially overlaps a second section 40 having a vertically extending rib 41. Both sections 36 and 40 are secured at the overlapped portions to the stile 28 by a series of screws 42.

As shown in FIG. 4, the jamb strip member 22 is mounted on the wall 19 with seal strip 43 of resilient sponge-like material and resembles a vertical edge portion of a partition in that it includes a vertical frame member 44, decorative side sheets 45 and the vertical trim strip 35. However, the relative positions of the sections 36 and 40 have

been reversed so that, when two panels, or one panel and one jamb member 22 are positioned in aligned relation, the interfitting relationship of the ribs 41 and resilient strips 38 form an air and sound tight seal between adjacent panels and between the jamb members.

Referring to FIG. 3, a three-piece astragal 50, preferably of aluminum, has a central section 51 mounted on the upper end edge of each panel 15 by a series of screws 52 and receives a seal strip 53 of resilient sponge-like material on its upper surface. Corner moldings 54 underlie the central section 51 and overlap the upper edges of the sheets 30. While the seal strip 53 may engage the ceiling 18 directly, an inverted channel 56 may be mounted on the ceiling between the side walls 19 and 20 and secured by a series of screws 57 for receiving the upper end portion of each panel 15 to assist in positioning the panels in straight, coplanar alignment as they are erected.

Referring to FIGS. 2, 5 and 6, a pair of inverted U-shaped brackets 60 are mounted in spaced apart relation on the lower surface of the bottom rail 27 by screws 61 and are positioned adjacent the lower corners of the panel 15. Each bracket 60 supports a roller 62 rotatably mounted on a shaft 63. The arrangement accordingly provides a pair of roller supports for each panel which engage the floor, as shown in FIG. 5, for ease of positioning the panels.

Referring to FIGS. 5 and 8, a sleeve 65 having internal threads is mounted within a vertically extending bore 66 formed within the lower rail 27 and is located substantially on the vertical centerline of the panel 15. The sleeve 65 is retained by a plate 68 secured to the lower surface of the frame member 27 by screws 69. A support leg 75 includes a threaded rod 76 received within the sleeve 65 and an elongated foot pad 78 is secured to the lower end portion of the rod 76 by a hub 79.

An elongated skirt assembly indicated generally at 85, is slidably mounted on the lower end portion of each panel 15 and includes a pair of elongated blocks 86 (FIG. 6) each having a flat bottom surface 87 and beveled lower corners 88. The blocks 86 are spaced on opposite sides of the support leg 75 and are connected together by a plate 90 (FIGS. 5 and 8) positioned above the hub 79. The plate 90 is formed with a hole 91 for receiving the rod 76 therethrough.

A pair of elongated rigid channels 95 extend along opposite corresponding sides of the blocks 86 and are secured with screws 96 with the flanges thereof extending outwardly away from the blocks 86. Each channel 95 has a lower flange 98 which supports the lower edge of a corresponding kick plate 100. The plate 100 is rigidly secured to the channels 95 by a series of screws 102 extending through aligned holes formed within the corresponding channels 95 and into spacer rods 101 (FIG. 7).

As shown in FIGS. 6-8, the channels 95 are preferably formed of extruded aluminum and are constructed with a slightly narrower upper flange 103 as compared to the lower flange so that the kick plates 100 are spaced in slightly tapered relation with the upper edge portions of the kick plates 100 pressed slightly against the outer surfaces of the decorative sheets 30 forming the sides of the panel 15. A longitudinally extending recessed groove 105 is formed within the lower flange 98 of each channel 95 for retaining an elongated flexible floor seal 106 having an inverted V-shaped cross-sectional configuration. When the foot is in the raised position shown in FIG. 5, the hub 79 engages the plate 90 and retains the kick plate assembly 85 in the raised position, as shown in FIG. 8, with the seals 106 just clearing the floor 16. Leaf-like edge seals 107 are carried on the ends of each plate 100 (FIG. 9) to engage the corresponding seal on the adjacent panel when the panels are erected.

Referring to FIG. 11, the movable jamb member 24 which receives the last or final panel 15, includes a housing 110 which extends between the floor 16 and ceiling 18 and has a U-shaped cross-sectional configuration formed

by generally parallel spaced side walls each including an extruded aluminum trim strip 112 having a forward lip 113 receiving a decorative sheet 114. The strips 112 are secured to corresponding flanges of a channel 115 by screws 116. Trim strips 118 are connected to the channel 115 by screws 119 for retaining the side panels 114 and are held in contact with the wall 20 by a series of vertically spaced screws 120 extending through the channel 115 and sponge-like seal strip 121.

A series of rectangular blocks 125 of resilient material, such as open polyurethane foam, is mounted within the housing 110. Each such block 125 is secured to the channel member 115 by a suitable adhesive. The series of vertically spaced blocks 125 may be replaced by a continuous block extending between the floor and the ceiling, if desired. A vertically extending plate 126 adjoins on the corresponding forward faces of the blocks 125 and supports a vertically extending face member 128 which is secured by a series of screws 129.

The face member 128 is provided with a vertically extending rib 130 and groove 132 in which is secured a strip 133 of resilient sponge material for receiving the corresponding rib 41 and resilient strip 38 to form a seal with the final partition 15. The face member 128 also includes a pair of vertically extending slots 135 for retaining corresponding wiper seals 136 made of a flexible vinyl material. The seals 136 engage the inner surface of the trim strips 112 and slide thereon when a compressing force is exerted against the face member 128 during the positioning of the final panel 15.

The blocks 125 of elastomeric material form spring means supporting the face member 128 and resisting movement of the same toward the adjacent wall.

To install a series of panels 15 constructed in accordance with the invention in aligned edge-to-edge relation between the jambs 22 and 24, the first panel 15 is taken from the storage area and is positioned directly under the guide channel 56 mounted on the ceiling 18 with its trim strip 35 engaging the corresponding trim strip mounted on the jamb member 22 as shown in FIG. 4.

The first panel 15 is elevated with the use of a lifting lever 140 having an elongated handle 141 rigidly connected to the edge portion of a flat rectangular base 142 having a substantial width to thickness ratio. As shown in FIG. 10, the lever is used by placing the base 142 under the block 86 furthest from the same strip 22 after which the lever is tilted toward the jamb strip to raise the panel 15 until the resilient strip 54 carried by the top trim strip 50 engages the underneath surface of the guide channel 56 as shown in FIG. 3.

While the partition is supported in its raised position by the lever 140, with the rollers 62 lifted off of the floor 16, the support leg 75 is lowered by rotating the same so that the foot pad 78 engages the floor 16 and thereby holds the panel firmly against the ceiling 18. When the lever 140 is removed, the weight of the skirt assembly 85 is usually sufficient to cause it to slide downwardly on the lower end portion of the panel 25 until the spaced blocks 86 and seals 106 engage the floor 16, as shown in FIG. 6. If the assembly 85 remains in the raised position, it can be readily lowered by pushing downwardly on one of the kick plates 100.

The remaining panels 15 are successively installed in the same manner as the first panel. The final panel 15, however, is first pressed against the face member 128 (FIG. 11) causing the face member 128 to move inwardly within the housing 110 against the force exerted by the resilient blocks 125. This panel is then pivoted into an aligned position (FIG. 12) after which the panel is raised by the lever 140 to form a seal with the ceiling 18 and the skirt assembly is lowered in the same manner as of the previously installed panels 15.

To remove the partition formed by the panels 15, the above procedure is reversed. That is, the end panel 15 adjacent the jamb member 24 is first removed by raising

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its skirt assembly 85 with the lever 140 and releasing the load on the leg 75 so that the leg may be screwed upwardly into the sleeve 65. This also retains the assembly 85 in its raised position. The end panel 15 is then lowered by the lever 140 to release the upper edge portion of the panel from the guide channel 45 after which the end panel is pressed against the face member 128 to compress the resilient blocks 125 and thereby release the sealing engagement with the adjacent panel. The remaining panels 15 are then successively removed and taken to the storage area in the same manner.

From the drawings and the above description it can be seen that a temporary wall constructed by a series of portable panels and jamb members constructed in accordance with the invention provides several desirable features and advantages. For example, by providing each panel 15 with a set of rollers 62, a panel of relatively rigid construction and having substantial width can be conveniently positioned near adjacent panels 15 and jambs 22 and 24.

I claim:

1. An improved portable partition comprising a generally flat rectangular panel having upper and lower end portions, said panel adapted to be set in vertical position within a room and then raised until said upper end portion is positioned against the ceiling to form a closure therewith, a support leg mounted on said lower end portion of said panel, means for adjustably positioning said support leg for lowering said leg to engage the floor after said panel is raised and thereby support said panel in said raised position, a pair of skirt members slidably mounted on the opposite sides of said lower end portion of said panel and adapted to be moved downwardly to a position adjacent the floor after said panel is raised and said support leg is lowered to provide a cover for said leg and a closure with the floor, means for retaining said skirt members on said panel when said partition is moved, and means connecting said skirt members to provide simultaneous movement as a unit to simplify installing and removing of said partition.

2. A portable partition as defined in claim 1 including a set of rollers, and bracket means rigidly secured to said lower end portion of said panel for supporting said rollers in fixed alignment to provide a rolling support for conveniently positioning said panel when said support leg and said skirt members are raised.

3. A portable partition as defined in claim 1 including an elongated flexible seal mounted on said connecting means and engageable with the floor when said skirt members are moved downwardly on said panel.

4. A portable partition as defined in claim 1 wherein said connecting means includes a set of spaced elongated blocks forming spacers between said skirt members, a plate connecting said blocks, and means defining a hole within said plate for receiving said support leg.

5. A portable partition as defined in claim 1 wherein said support leg comprises a threaded rod projecting upwardly from a foot pad, threaded sleeve means mounted on said lower end portion of said panel substantially at the vertical centerline of said panel and receiving said rod, and means connected to said skirt members and engageable by said foot pad for retaining said skirt members in a raised position on said panel when said support leg is retracted.

6. A portable partition as defined in claim 1 in combination with an elongated jamb member including a housing adapted to be mounted on a wall and having a generally U-shaped cross-sectional configuration, a face member movable within said housing, and resilient elastomeric block means spaced within said housing behind said face member and adapted to be compressed when a panel is pressed against said face member for producing a sealing force against a vertical edge of said panel.

7. In a wall closure partition including a plurality of rigid panels positionable into generally aligned relation between a set of jamb posts, the improvement comprising a first relatively fixed vertical support housing adapted to be mounted on a wall, a movable jamb plate having an exposed front surface for engagement by the vertical edge of an adjacent said panel, means guiding said plate for translatable movement within said housing in a direction generally parallel to the plane defined by said panels, means in said housing forming a positive stop resisting movement of said plate toward said panels, and at least one elastomeric block interposed between said movable jamb plate and said housing for resiliently urging said plate toward said stop.

8. The partition of claim 7 wherein said housing includes vertical side plates, and vertically extending seals mounted on said jamb plate and slidably engaging said side plates.

9. The partition of claim 7 in which said elastomeric block comprises a block of polyurethane foam material.

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U.S. Cl. X.R.

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