

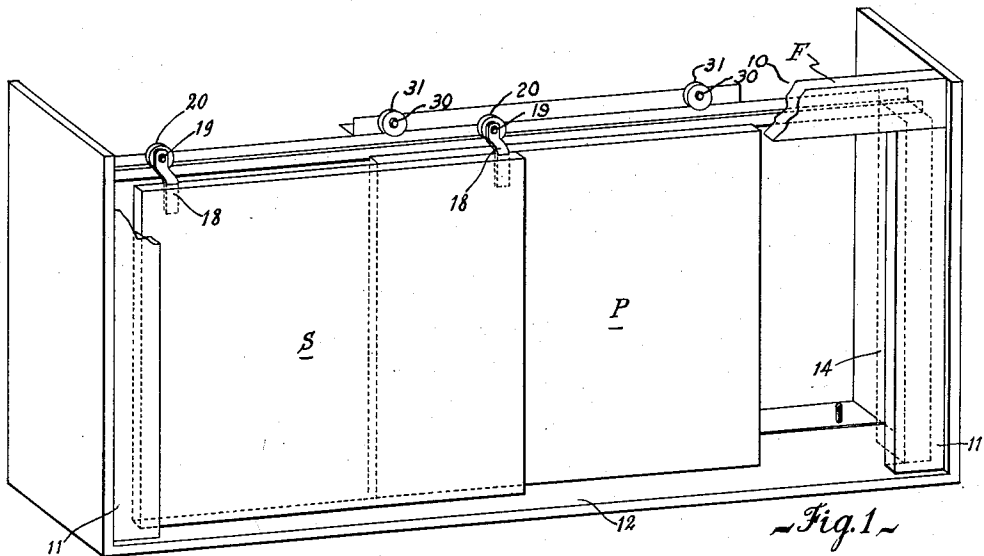
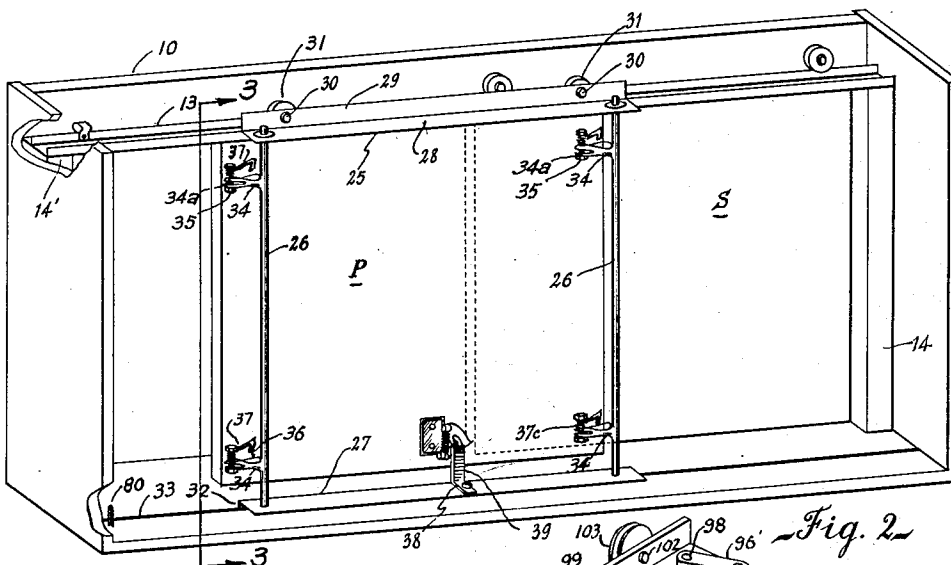
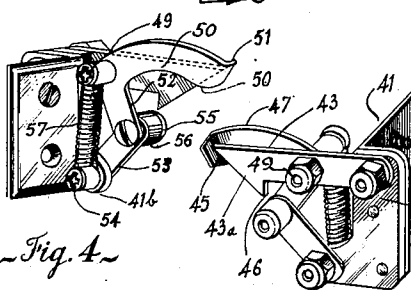
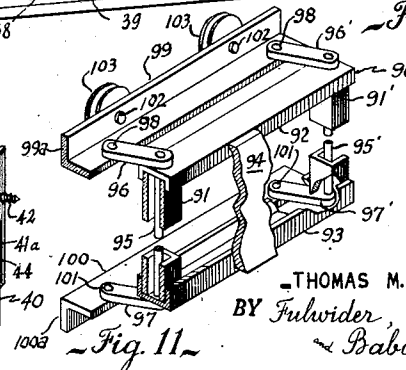
June 8, 1954

T. M. RUTHERFORD
MOVABLE PANEL STRUCTURE

2,680,268

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2 Sheets-Sheet 1



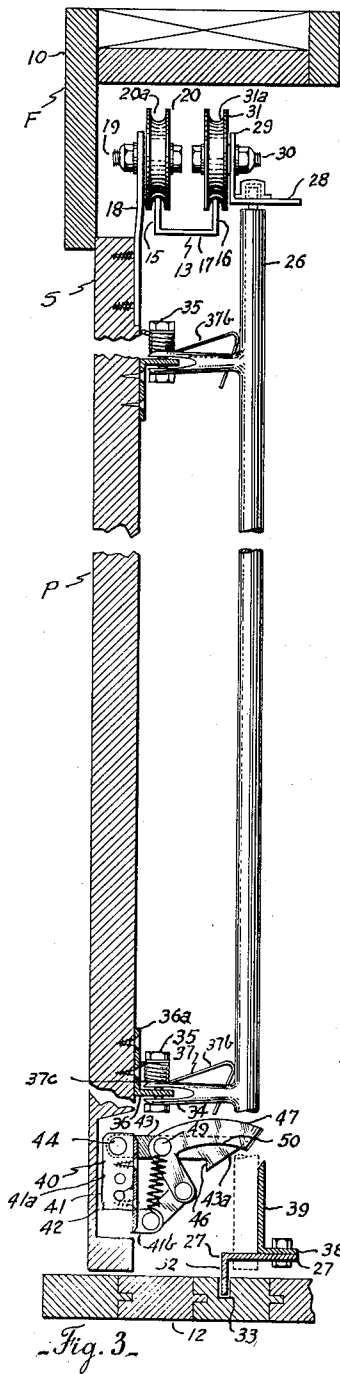
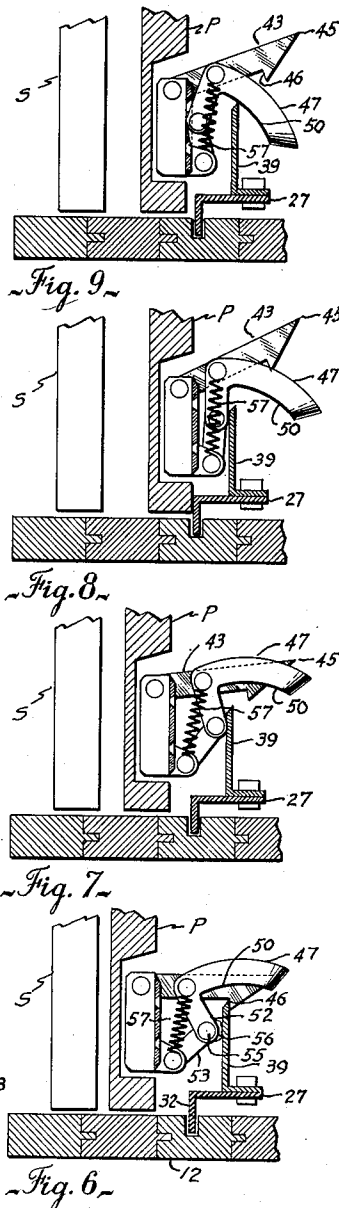
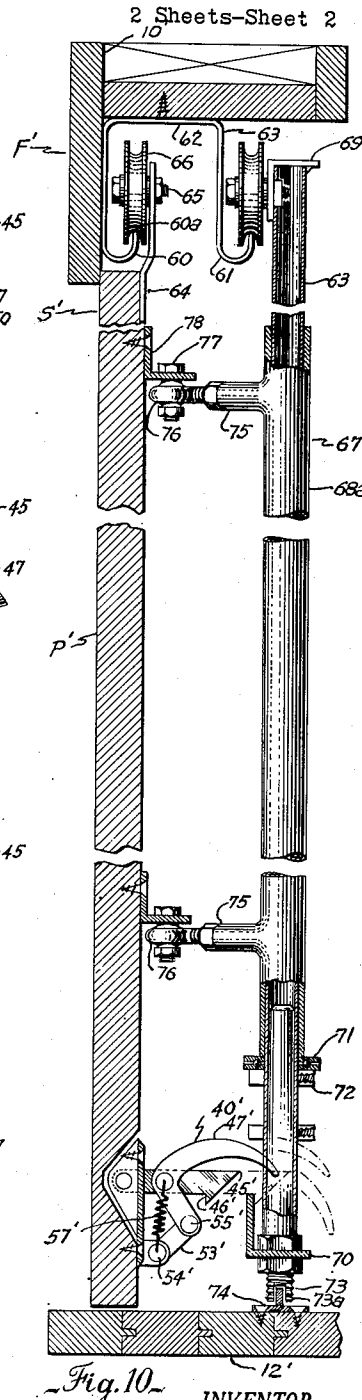
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UNITED STATES PATENT OFFICE

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MOVABLE PANEL STRUCTURE

Thomas M. Rutherford, Los Angeles, Calif.

Application November 21, 1952, Serial No. 321,797

14 Claims. (Cl. 20—19)

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The present invention pertains broadly to the field of sliding doors or panels; more specifically it presents a sliding door that may be moved longitudinally as well as laterally, and in detail, it is directed primarily to a door which when in the closed position appears to be an integral part of the adjacent wall structure.

Although many sliding door designs have been devised and marketed in the past, the majority of such structures have the disadvantage that their particular location is readily apparent due to the fact that the exterior surface of the door and the wall surface are not in the same vertical plane. The position of most sliding doors of previous design in a wall structure, is immediately ascertainable by the projecting handle or similar accessory employed in moving the door longitudinally. Earlier doors of this type have been found most unsatisfactory from an architectural standpoint in the design of modern homes and buildings, for it is impossible to achieve the long unbroken, streamlined wall areas desired.

A major object of the present invention is to provide a slidable door that may be moved both longitudinally and laterally, and one that eliminates the disadvantages of the prior art devices.

Another object of the invention is to supply a sliding door that is particularly adapted for use as a convenient and easily operated closure for closets, and one that may be moved to either an open, or closed longitudinally slidable position by the application of slight pressure thereon.

Yet another object of the invention is to provide a novel locking or holding mechanism for use in conjunction with a longitudinally and laterally movable panel.

A further object of the present invention is to furnish a sliding door having an extremely simple mechanical structure that may be fabricated from inexpensive standard commercially available materials, and requires a minimum of maintenance attention.

A still further object of the invention is to provide a framework in which two independently movable doors or panels may be slidably positioned for easy access to space behind the framework, with said doors or panels providing a continuous surface within a wall structure when in the closed position.

These and other objects and advantages of my invention will become apparent from the following description of a preferred form, and certain alternate forms thereof, taken in conjunction with the accompanying drawings wherein:

Figure 1 is a front perspective view of the sliding door of the present invention;

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Figure 2 is a rear perspective view of the device;

Figure 3 is a vertical cross-sectional view of the device taken on the line 3—3 of Figure 2;

Figure 4 is a perspective view of one side of the panel-locking mechanism;

Figure 5 is a perspective view of the locking mechanism shown in Figure 4, taken from the reverse side thereof;

Figure 6 is a side elevational view of the locking mechanism holding a laterally movable panel in a position where it may be moved longitudinally;

Figure 7 is a side elevational view of the locking mechanism being moved inwardly to assume a non-holding position;

Figure 8 is a side elevational view of the locking mechanism after it has assumed a non-holding position;

Figure 9 is a side elevational view of the locking mechanism as it is moving into the position shown in Figure 2;

Figure 10 shows an alternate form of longitudinally and laterally movable panel and locking mechanism therefor; and

Figure 11 is a perspective view of an alternate form of my invention.

Referring now to Figures 1 and 2 for the general arrangement of a preferred form of the invention, it will be seen that it embodies two vertically disposed panels P and S. Panels P and S are longitudinally movable within the confines of a framework F. When panel S is moved to either end of framework F, an opening is provided in the framework in which the panel P may be moved forwardly to assume a position flush with the panel S, as will be explained in detail hereinafter. When panel P is in the closing position, it is flush with and in substantially the same vertical plane as panel S. By the application of pressure on panel P, it may be moved to the frame-closing position shown in Figure 2, or to an inwardly disposed vertical position relative to panel S whereby both panels may be moved longitudinally and independently the length of the framework F.

As seen in Figure 1, the framework F includes a horizontally disposed header 10 that is supported by two longitudinally spaced vertical end pieces 11 and 11' from a sill 12. An elongate member 13 of inverted channel-shaped cross section is disposed in the upper rearward portion of the framework F parallel to header 10 (Figure 2). The ends of member 13 abut against the interior faces of end pieces 11 and may be rigidly affixed thereto by conventional fastening means. In practice it has been found convenient to support

member 13 in the desired position on the upper ends of two vertical uprights 14 and 14' that are rigidly affixed to the interior faces of end pieces 11 and 11' respectively.

The cross section of member 13 is such that two upwardly disposed, laterally separated tracks 15 and 16 are provided (Figure 3), joined on their lower ends by a web 17. Panel S is substantially rectangular in shape and may be formed from any rigid sheet material such as wood, or the like. Two L-shaped hangers 18 are vertically disposed in longitudinally spaced relationship on the upper portion of panel S as shown in Figure 1. Each hanger 18 has a short horizontally disposed shaft 19 extending forwardly from the upper portion thereof, and two rollers 20 are rotatably mounted on the shafts 19. Each roller is formed with a groove 20a that engages the upper edge of track 15 to movably support panel S in a hanging position therefrom.

Panel P, like panel S, is formed from a rectangular rigid sheet, and when disposed in a non-closing position, panel P is situated substantially under track 16, but laterally separated from panel S to permit each panel to be moved longitudinally within the confines of framework F.

An open rectangular frame 25 serves to support panel P. Frame 25 may be fabricated from a number of different structural materials of a variety of cross sections. However, it has been found expedient to fabricate frame 25 from two longitudinally spaced, vertical rods 26 of annular cross section, the lower end portions of which are rotatably mounted in a rigid horizontally disposed connector 27 of transverse L-shaped cross section, with their upper ends rotatably engaging a head member 28, likewise of L-shaped cross section. Head member 28 includes a vertical upwardly extending flange 29 running the entire length thereof, from which two longitudinally spaced horizontal stub shafts 30 extend forwardly. Two grooved rollers 31 are rotatably mounted on shafts 30, with grooved portions 31a of the rollers engaging the upper edge of track 16 to movably support the frame 25 therefrom.

Connector 27 includes a vertical downwardly extending flange 32 that slidably engages a groove 33 formed in sill 12 to maintain frame 25 in a fixed vertical plane. Groove 33 extends substantially the entire length of sill 12. Each frame rod 26 has two vertically spaced, horizontally disposed arms 34 extending forwardly therefrom that terminate in eyes 34a. Each eye 34a is engaged by a bolt 35, or other elongate fastening means, which also pivotally engages a horizontally disposed arm 36. Arms 36 are preferably formed as an integral part of L-shaped brackets 36a affixed to the rearward surface of panel P by conventional fastening means (Figures 2 and 3).

Thus it will be seen that when so supported, panel P may be moved both longitudinally and laterally relative to the framework F. Figures 2 and 3 also illustrate the manner in which panel P is constantly urged forwardly from the frame 25 by spring means. Although a variety of spring means may be employed for this purpose, it is preferred to employ a number of U-shaped springs 37. Each spring 37 includes two legs 37a and 37b that are at all times under compression, and engage the rearward surface of panel P and a portion of the forwardly disposed surface of one of the rods 26. It will be noted that each spring 37 is formed with a loop 37c at the apex of the two legs which snugly encircles one of the

bolts 35, serving to maintain the spring in a fixed horizontal plane.

The locking or holding mechanism 40 utilized in maintaining panel P in the rearwardly disposed position whereby it may be longitudinally moved within the confines of framework F, is best seen in Figures 4 and 5. This locking mechanism embodies an L-shaped bracket 38 rigidly affixed to the upper surface of connector 27 by suitable fastening means. Bracket 38 includes a vertical upwardly extending arm 39. Mechanism 40 also embodies a flat substantially rectangular plate 41 affixed by means of screws 42, or the like, to the rearwardly disposed face of panel P forwardly from arm 39. Lug 41a is bent substantially normally to plate 41 and extends forwardly into a recess formed in panel P, and by a similar bending operation lug 41b is disposed to extend rearwardly from plate 41, also substantially normal thereto.

An elongate detent 43 is pivotally supported on a screw, pin or other elongate member 44 rigidly mounted in recess 42 normal to lug 41a, and detent 43 extends rearwardly to terminate in a point 45 (Figure 3). The lower rear edge of detent 43 includes a curved portion 43a which extends downwardly and forwardly from point 45 to develop into a vertical seat 46. Seat 46 is adapted for removable engagement with the upper end portion of arm 39 to maintain panel P in the rearwardly disposed and longitudinally movable position shown in Figure 2. Panel P is moved to the rearward position by simply applying rearwardly directed pressure to the forward surface thereof when the panel is in the closed position.

A release member 47 functions to free detent 43 when it is in engagement with arm 39. Release member 47 is in the form of an L-shaped plate and is pivotally supported near its apex by a pin or screw 49 mounted on detent 43 as shown in Figures 4 and 5. Member 47 has a curved concave lower edge 50 disposed above the lower edges 43a and seat 46 of detent 43 when panel P is in the frame-closing position shown in Figure 2. A lip 51 is formed on the outer edge of release member 47 and has a forwardly disposed face that is engaged by the point 45 when the detent is in the position shown in Figure 2. Lip 51 not only shields the point 45, but prevents downward movement of detent 43 below a predetermined elevation, as will be explained hereinafter. A downwardly and rearwardly extending first link 52 is formed on the forwardly disposed portion of release member 47. A second upwardly and rearwardly extending link 53 is pivotally supported by a pin or screw 54 that extends through a bore formed in the lower end portion thereof and a bore formed in lug 51b.

The outer end portions of links 52 and 53 overlap, and each is formed with a bore through which a pin or screw 55 depends to rotatably support a roller 56. A helical spring 57 that is at all times under tension extends between pins 54 and 49, with the spring at all times tending to rotate the detent 43 downwardly. However, when detent point 45 and lip 51 contact one another, downward movement of detent 43 is limited thereby.

When it is desired to cause panel P to move from the rearward position to the forward frame-closing position, rearwardly directed pressure is momentarily applied to the panel, whereupon panel P moves rearwardly and the roller 56 is brought into contact with the forwardly disposed face of arm 39, as shown in Figure 7. Further

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rearward movement of panel P causes links 52 and 53 to pivot forwardly relative to one another, and assume the angular slightly forwardly extending position shown in Figure 10. With links 52 and 53 so disposed, the detent 43 has been pivoted to a position where seat 46 thereof is disposed above the upper edge of arm 39. Upon release of pressure, panel P will automatically move forwardly to a frame-closing position due to the compression on the U-shaped springs 37. A rearwardly disposed portion 50a of the lower edge of release member 47 is situated below the level of the upper edge 39a of arm 39, and slidably contacts same after the panel P has moved forwardly a sufficient distance that seat 46 cannot engage arm 39 when the detent pivots downwardly.

As panel P moves forwardly the release member 47 pivots upwardly and the links 52 and 53 rearwardly. When links 52 and 53 have pivoted rearwardly beyond a position where they are in coaxial alignment as shown in Figure 9, spring 57 tends to move them toward one another and at the same time move detent 43 downwardly until it reaches the position shown in Figure 2. When panel P is closed as just described, the detent 43 is so disposed that it may readily engage arm 39 to hold the panel P in a longitudinally movable position relative to the framework F.

Panel P is moved from the closed position to the rearwardly disposed position shown in Figures 1 and 2, by simply applying rearwardly directed force thereto to cause the lower rearward edge 42a of the detent to engage the upper edge 39a of arm 39, raising the detent to the position shown in Figure 6 where the seat 46 engages the arm 39 due to the action of helical spring 57. When it is desired to return panel P from this rearwardly disposed position to a frame-closing position, the previously described operation is repeated.

In Figure 10 an alternate form of the invention is shown in which a tubular construction is employed. Two laterally spaced, downwardly extending J-shaped track members 60 and 61 are provided which are connected on their upper ends by a web 62 to form an integral member 63. However, should it be desired, member 63 may be supported from the vertical end pieces forming a part of framework F', or from uprights affixed thereto as in framework F.

A panel S' identical to panel S, has a number of longitudinally spaced hangers 64 mounted on the upper portion thereof. Each hanger has a short stub shaft 65 extending forwardly therefrom on which a grooved roller 66 is rotatably mounted. Rollers 66 engage the edge 60a of track member 60, to permit panel S' to be movably supported therefrom.

A rectangularly shaped frame 67 for the support of panel P' is fabricated from two vertical, laterally spaced tubes 68 that are joined on their upper ends by a head member 69 of L-shaped cross section, and on their lower ends by a connector 70 of similar cross section. Each tube 68 has a second tube 68a rotatably mounted thereon with the second tube being maintained at the desired elevation by a bearing assembly 71. Bearing assembly 71 is preferably of the roller or ball bearing type, with one portion 72 thereof rigidly affixed to tube 68 and the other to tube 68a, as best seen in Figure 10. A downwardly extending threaded member 73 having a slot 73a formed in the lower end thereof is provided for each tube 68 and engages the lower end thereof. By proper orientation of members

73, the slots 73a are disposed parallel to connector 70, and slidably engage a rail 74 affixed to sill 12' of the frame F'.

Two vertically spaced, horizontally disposed arms 75 are affixed to each tube 68a and extend forwardly therefrom. An eye bolt 76 extends forwardly from and is supported by each arm 75. Should it be desired, the eye bolt 76 and arm 75 may be formed as an integral unit. Each eye bolt pivotally engages a vertically disposed pin or bolt 77 which in turn engages a suitable bracket 78 rigidly mounted on the rearwardly disposed face of panel P'.

A locking mechanism 40' is provided for the alternate form of the invention and operates precisely in the same manner employed in the preferred form previously described.

The use and operation of both the preferred and alternate forms of the sliding door of the present invention are extremely simple. When it is desired to place panel P or P' in a frame-closing position, the panel S or S' is moved to one end of the framework. The panel P or P' is then moved to the opposite end of the framework, and slight inward pressure applied thereto will cause the locking mechanism 40 or 40' to move from the position shown in Figure 6 to that of Figure 2. No forward force need be exerted on panel P or P' to bring it into a frame-closing position, as this is accomplished by springs 37.

When it is desired to place panel P or P' in a rearwardly disposed position where it may be moved longitudinally in framework F or F' a slight pressure is exerted on the exterior face thereof. This inward pressure causes rearward movement of the panel as the mechanism 40 or 40' changes from the locking to the non-locking position. In Figure 2 a stop 80 is shown, which may be used in either form of the invention to limit longitudinal movement of frame 25. Stop 80 may be so disposed that panel P or P' will completely fill the opening in framework F or F' when it moves forwardly into flush vertical alignment with panel S or S' as previously explained.

An alternate form of my invention is shown in Figure 11. A rectangular frame 90 is provided, and is preferably fabricated from two spaced vertically disposed end pieces 91 and 91' that are of channel shaped cross sections. The end pieces 91 and 91' are rigidly connected by a header 92 and base member 93, which are also of channel shaped cross section. A sheet of material 94 such as plywood is rigidly affixed to the exterior portion of frame 90, and is of the same exterior dimensions. The frame 90 and sheet 94 cooperate to provide a panel P'.

Two vertical rods 95 and 95' are provided, and are pivotally supported by header 92 and base member 93. The rods 95 and 95' are disposed within the confines of end pieces 91 and 91' respectively. Rod 95 has two rearwardly extending arms 96 and 97 mounted on the ends thereof, and rod 95' is similarly provided with arms 96' and 97'.

The rearwardly disposed ends of 96 and 96' are pivotally connected by pins 98 to a first horizontally disposed member 99 of L-shaped cross section. A second horizontally disposed member 100 has the ends of arms 97 and 97' pivotally connected thereto by pins 101.

Member 99 is of L-shaped cross section and has an upwardly extending leg 99a from which two longitudinally spaced horizontal shafts 102 extend rearwardly to rotatably support two

grooved rollers 103. The rollers 103 movably engage a rail (not shown) to support my invention therefrom. The second member 100 is also of L-shaped cross section and has a downwardly extending leg 100a that slidably engages a slot or guide means (not shown) to maintain members 99 and 100 in vertical alignment.

This alternate form of my invention operates in the same manner as the form of my invention shown in Figures 1 and 2. The form of my invention shown in Figure 11 has the advantage, that is important in some installations, that no end pieces extend between the members 99 and 100.

Although the sliding door structures above described are fully capable of achieving the objects and providing the advantages hereinbefore mentioned, it is to be understood that they are merely the presently preferred embodiments of the present invention and that it is not meant to limit the particular construction herein shown and described other than as defined by the appended claims.

I claim:

1. A movable panel structure which includes: a substantially rectangular panel; a substantially rectangular member parallel to said panel; means movably supporting said panel from said member that at all times maintain said panel parallel thereto; spring means that constantly urge said panel forwardly from said member; means preventing said spring means from moving said panel forwardly beyond a first vertical plane; locking means operatively associated with said panel and member that removably maintains said panel in a second plane when sufficient pressure is applied to said panel to move it thereto, said locking means releasing said panel from said second plane when said panel is moved rearwardly therefrom by application of pressure, and said spring means moving said panel forwardly from said second to said first plane after the pressure on said panel is removed; and means to movably support said member in a fixed vertical plane.

2. A movable panel structure which includes: a panel; a rigid frame disposed parallel to said panel; a plurality of arms pivotally supporting said panel from said frame; roller means mounted on said frame to movably support said frame on a track; guide means mounted on said frame to maintain said frame in a fixed vertical plane when said frame is supported on said track; spring means for urging said panel laterally away from said frame to a first vertical plane relative to said frame; and locking means operatively associated with said panel and frame removably holding said panel in a second vertical plane relative to said frame when sufficient pressure is applied to said panel to cause it to move to said second plane, and which releases said panel from said second plane when further pressure is applied to said panel permitting said spring means to return said panel to said first vertical plane.

3. A movable panel structure which includes: a panel; a frame disposed parallel to said panel; means that movably support said panel from said frame and at all times maintain said panel parallel thereto; spring means that constantly urges said panel forwardly from said frame; means that prevent said spring means from moving said panel forwardly beyond a first vertical plane; locking means operatively associated with said panel and frame that maintains said panel in

a second vertical plane when sufficient pressure is applied to said panel causing it to move to said second plane; a horizontally disposed track; roller means mounted on said frame engaging said track; and guide means operatively associated with said frame that cooperate with said roller and track to maintain said frame in a fixed vertical plane.

4. A movable panel structure which includes: a substantially rectangular panel; a substantially rectangular frame parallel to said panel; means that movably support said panel from said frame and at all times maintain said panel parallel thereto; spring means that constantly urge said panel forwardly from said frame; means that prevent said spring means from moving said panel forwardly beyond a first vertical plane; spring-actuated locking means associated with said panel and frame that removably maintain said panel in a second vertical plane when sufficient pressure is applied to said panel to cause it to move thereto; a release member operatively associated with said locking means that releases said panel from said second plane when pressure is applied to said panel to move it rearwardly therebeyond, said spring means moving said panel forwardly from said second plane to said first plane after the pressure on said panel is removed; and means to movably support said frame in a fixed vertical plane.

5. A movable panel structure which includes: a substantially rectangular panel; a substantially rectangular frame parallel to said panel; means that movably support said panel from said frame and at all times maintain said panel parallel thereto; spring means that constantly urge said panel forwardly from said frame; means that prevent said spring means from moving said panel forwardly beyond a first vertical plane; spring-actuated locking means associated with said panel and frame that removably maintain said panel in a second vertical plane when sufficient pressure is applied to said panel to cause it to move thereto; a release member operatively associated with said locking means that releases said panel from said second plane position when pressure is applied to said panel to move it rearwardly therebeyond, said spring means moving said panel forwardly from said second position to said first position after pressure on said panel is removed; a horizontally disposed track; roller means mounted on said frame engaging said track; and guide means operatively associated with said frame that cooperate with said roller and track to maintain said frame in a fixed vertical plane.

6. A movable panel structure which includes: a substantially rectangular panel; a substantially rectangular frame parallel to said panel; means that movably support said panel from said frame and at all times maintain said panel parallel thereto; spring means that constantly urge said panel forwardly from said frame; means that prevent said spring means from moving said panel forwardly beyond a first vertical plane; a spring-loaded locking member pivotally supported from said panel capable of removably engaging a portion of said frame to hold said panel in a second vertical plane when sufficient pressure is applied to said panel causing it to move thereto; a release member operatively associated with said locking member that releases said panel from said second plane position when pressure is applied to said panel to move it rearwardly therebeyond, and said spring means moving said

panel forwardly from said released position when pressure on said panel is removed; and means to movably support said frame in a fixed vertical position.

7. A movable panel structure which includes: a substantially rectangular panel; a substantially rectangular frame disposed parallel to said panel; means that movably support said panel from said frame and at all times maintain said panel parallel thereto; spring means that constantly urge said panel forwardly from said frame; means for preventing said spring means from moving said panel forwardly beyond a first vertical plane; a spring-loaded locking member pivotally supported from said panel capable of removably engaging a portion of said frame to hold said panel in a second vertical plane when sufficient pressure is applied to said panel causing it to move thereto; a release member operatively associated with said locking member that releases said panel from said second plane position when pressure is applied to said panel to move it rearwardly therebeyond, and said spring means moving said panel forwardly from said released position when pressure on said panel is removed; a horizontally disposed track; roller means mounted on said frame engaging said track; and guide means operatively associated with said frame that cooperate with said roller and track to maintain said frame in a fixed vertical plane.

8. A locking mechanism for a panel that is movably supported from a frame for lateral movement relative thereto and is at all times urged forwardly from said frame by spring means which includes: a detent; means pivotally supporting said detent from said panel in a rearwardly disposed position; a substantially L-shaped release member comprising a rearwardly disposed extension having a curved concave lower edge and a downwardly and rearwardly extending first link; means pivotally supporting said release member from said detent; a second upwardly and rearwardly extending link; means pivotally supporting said second link from said panel; means pivotally connecting the free ends of said first and second links; spring means that are at all times in tension extending between said means pivotally supporting said release member and said second link; and means mounted on said release member that removably engage a portion of said detent to prevent pivoting of said detent by said spring means below a predetermined elevation.

9. A locking mechanism for a panel that is movably supported from a frame for lateral movement relative thereto and is at all times urged forwardly from said frame by spring means which includes: a detent formed with a seat capable of removably engaging and holding said frame in a predetermined vertical plane; means pivotally supporting said detent from said panel in a rearwardly disposed position; a substantially L-shaped release member comprising a rearwardly disposed extension having a curved concave lower edge and a downwardly and rearwardly extending first link; means pivotally supporting said release member from said detent; a second upwardly and rearwardly extending link; means pivotally supporting said second link from said panel; means pivotally connecting the free ends of said first and second links; a roller rotatably supported on said means pivotally connecting the free ends of said links; spring means that subject said means pivotally supporting said release member and said second link to an inwardly directed force; and means mounted on said release member that re-

movably engage a portion of said detent to prevent pivoting of said detent by said spring means below a predetermined elevation.

10. A locking mechanism for a panel that is movably supported from a frame for lateral movement relative thereto and is at all times urged forwardly from said frame by spring means which includes: a detent form with a seat capable of removably engaging and holding said frame in a predetermined vertical plane; means pivotally supporting said detent from said panel in a rearwardly disposed position; a substantially L-shaped release member comprising a rearwardly disposed extension having a curved concave lower edge and a downwardly and rearwardly extending first link; means pivotally supporting said release member from said detent; a second upwardly and rearwardly extending link; means pivotally supporting said second link from said panel; means pivotally connecting the free ends of said first and second links; spring means operatively associated with said detent and releasing member, said spring means at all times urging said detent into an engageable position with said frame when said links are angularly and rearwardly disposed, and into a non-engageable position with said frame when said links are angularly and forwardly disposed; and means operatively associated with said detent and releasing member that prevent said spring means pivoting said detent beyond a predetermined position.

11. A locking mechanism for a panel movably supported from a frame for lateral movement relative thereto which is at all times urged forwardly from said frame by spring means which includes: a detent formed with a seat capable of removably engaging and holding said frame in a predetermined vertical plane; means pivotally supporting said detent from said panel in a rearwardly disposed position; a substantially L-shaped release member comprising a rearwardly disposed extension having a curved concave lower edge and a downwardly and rearwardly extending first link; means pivotally supporting said release member from said detent; a second upwardly and rearwardly extending link; means pivotally supporting said second link from said panel; means pivotally connecting the free ends of said first and second links; a helical spring that is at all times in tension extending between said means pivotally supporting said release member and said second link, said spring at all times urging said detent into an engageable position with said frame when said links are angularly and rearwardly disposed, and into a non-engageable position with said frame when said links are angularly and forwardly disposed; and an extension projecting from said release member that removably engages a portion of said detent to prevent pivoting of said detent by said spring beyond a predetermined position.

12. A slidable door structure having two independently movable panels, comprising: a substantially rectangular framework including a header and sill joined by two longitudinally spaced uprights; two laterally spaced track members extending the length of said framework and disposed in the upper portion thereof substantially parallel to said header; a substantially rectangular first panel; means to movably support said first panel from the forwardly disposed of said tracks in a first vertical plane; a substantially rectangular second panel; a substantially rectangular frame disposed rearwardly of and parallel to said second panel; means to movably

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support said second panel from said frame; roller means that movably support said frame from the rearwardly disposed of said tracks; spring means that constantly urge said second panel forwardly from said frame to a position in said first plane; locking means operatively associated with said second panel and frame that removably maintains said second panel in said second vertical plane, said locking means when pressure is applied to said second panel disposed in said second plane with sufficient force to move said second panel rearwardly therefrom, being disengaged from said frame and moved forwardly by said spring means to a position in said first vertical plane, and said locking means when said second panel is moved rearwardly from said first plane by the application of pressure, removably engaging said frame to maintain said second panel in said second plane; and guide means cooperatively associated with said frame to maintain said frame in a fixed vertical plane.

13. A slidable door structure having two independently movable panels, comprising: a substantially rectangular framework including a header and sill joined by two longitudinally spaced uprights; two laterally spaced track members extending the length of said framework and disposed in the upper portion thereof substantially parallel to said header; a substantially rectangular first panel; a substantially rectangular second panel; means to movably support said first panel from the forwardly disposed track in a first vertical plane; a substantially rectangular frame disposed rearwardly of and parallel to said second panel; roller means that movably support said frame from the rearwardly disposed track; spring means that constantly urge said second panel forwardly from said frame to a position in said first plane; spring-actuated locking means that maintain said panel in a second vertical plane when sufficient pressure is applied to said second panel to cause it to move thereto; a releasing member operatively associated with said locking means that releases said panel from said second plane position when pressure is applied to said panel to move it rearward therebeyond, and said spring means moving said panel forwardly from said released position to said first plane position when pressure on said panel is re-

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moved; and guide means cooperatively associated with said frame to maintain said frame in a fixed vertical plane.

14. A slidable door structure having two independently movable panels, comprising: a substantially rectangular framework including a header and sill joined by two longitudinally spaced uprights; two laterally spaced track members extending the length of said framework and disposed in the upper portion thereof substantially parallel to said header; a substantially rectangular first panel; means to movably support said first panel from the forwardly disposed track in a first vertical plane; a substantially rectangular second panel; a substantially rectangular frame disposed rearwardly of and parallel to said second panel; roller means that movably support said frame from the rearwardly disposed track; spring means that constantly urge said second panel forwardly from said frame to a position in said first plane; a spring-loaded locking member pivotally supported from said second panel capable of removably engaging a portion of said frame to hold said second panel in a second vertical plane when sufficient pressure is applied to said second panel to cause it to move thereto; a release member operatively associated with said locking member that releases said panel from said second plane position when pressure is applied to said panel to move it rearwardly therebeyond, said spring means moving said panel forwardly from said released position upon removal of said pressure; and guide means that cooperate with said frame to maintain said frame in a fixed vertical plane.

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