Aug. 25, 1936. J. T. FAIRHURST 2,052,089

SLIDING AND FOLDING PARTITION

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Fig. 1.

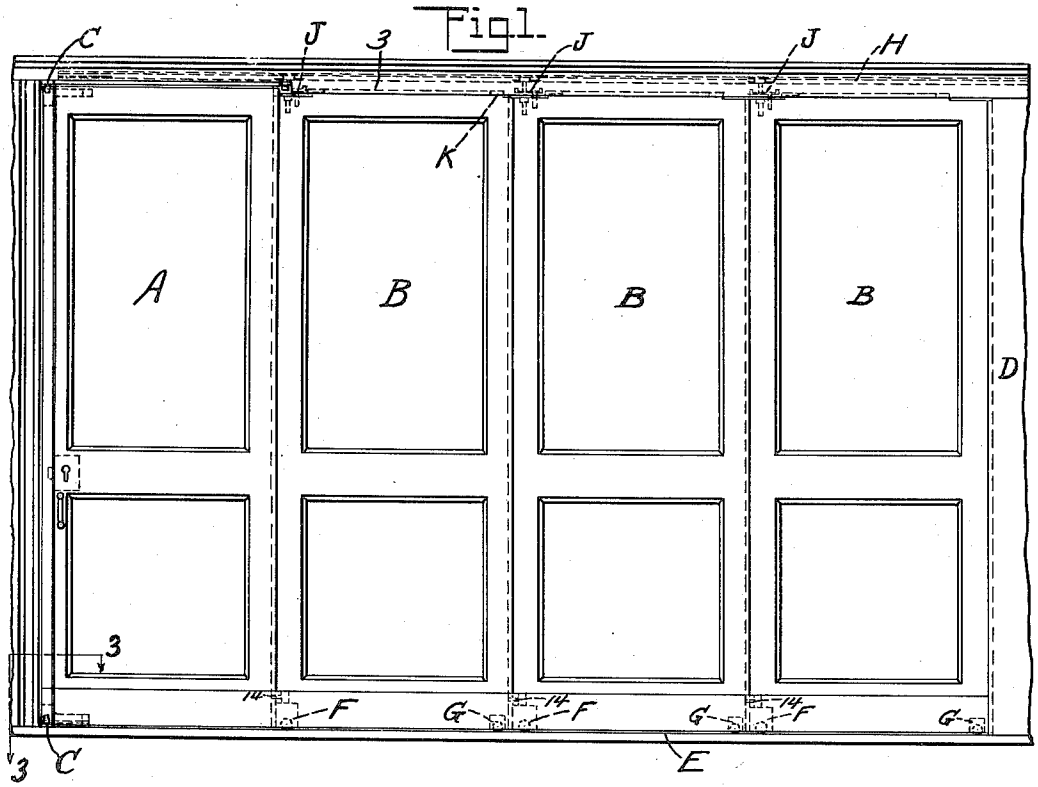



Fig. 2.

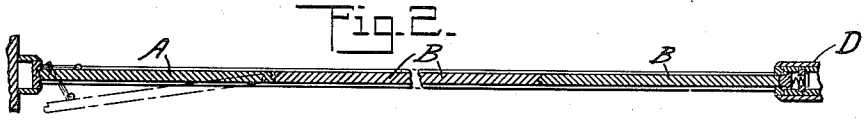
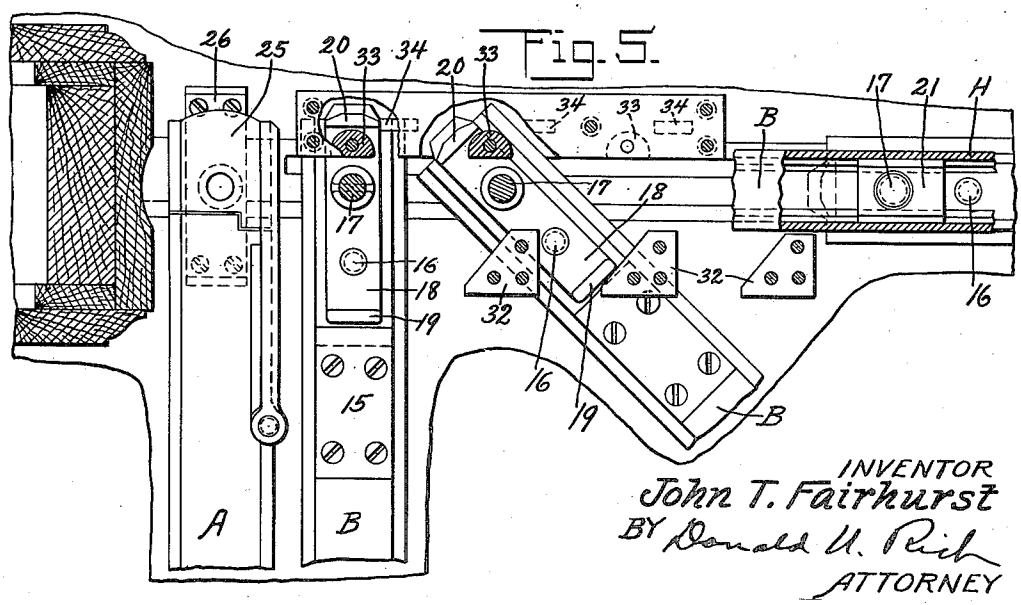



Fig. 5.




INVENTOR
John T. Fairhurst
BY Donald U. Rich
ATTORNEY

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Fig. 3.

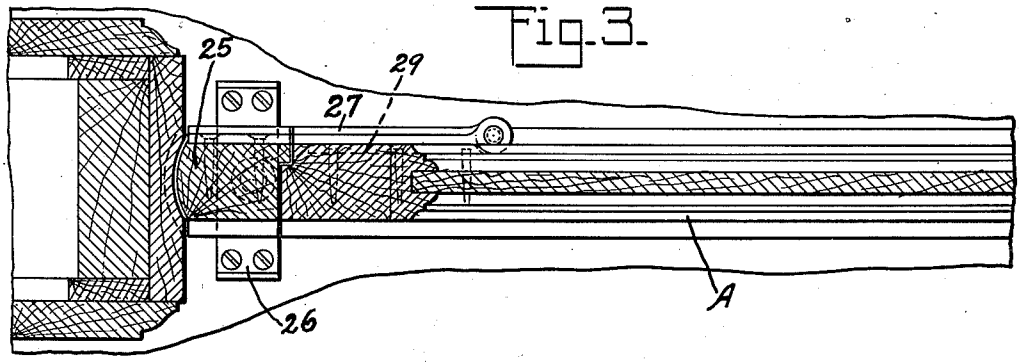



Fig. 4.

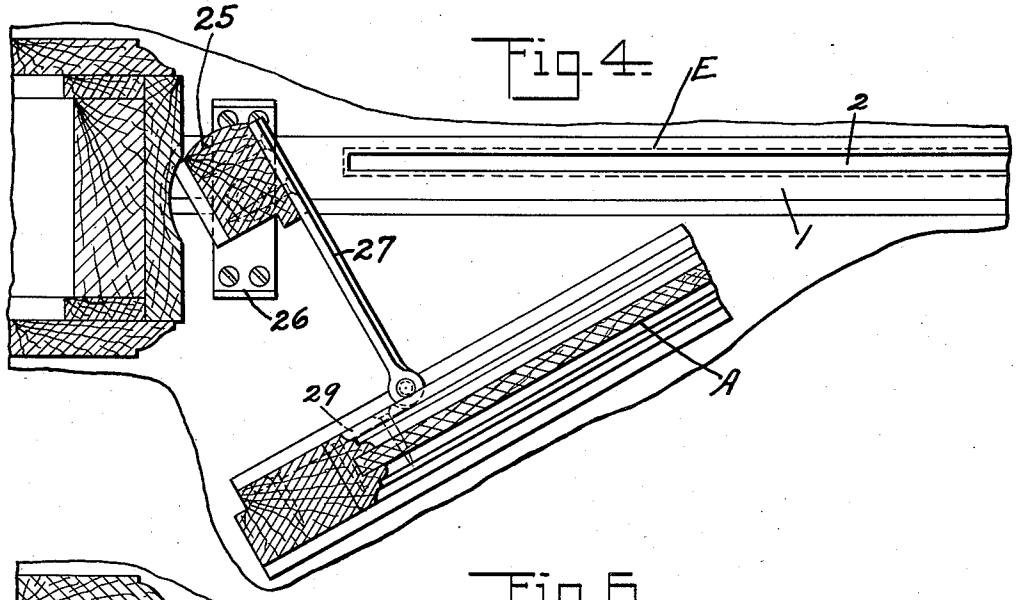
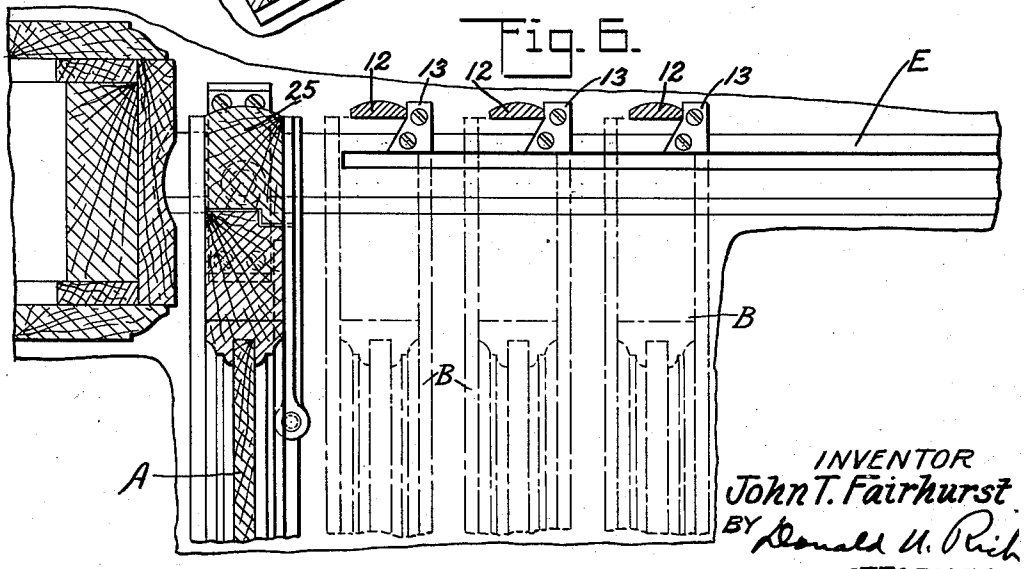



Fig. 6.




INVENTOR
John T. Fairhurst
BY Donald U. Rich
ATTORNEY

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Fig. 7.

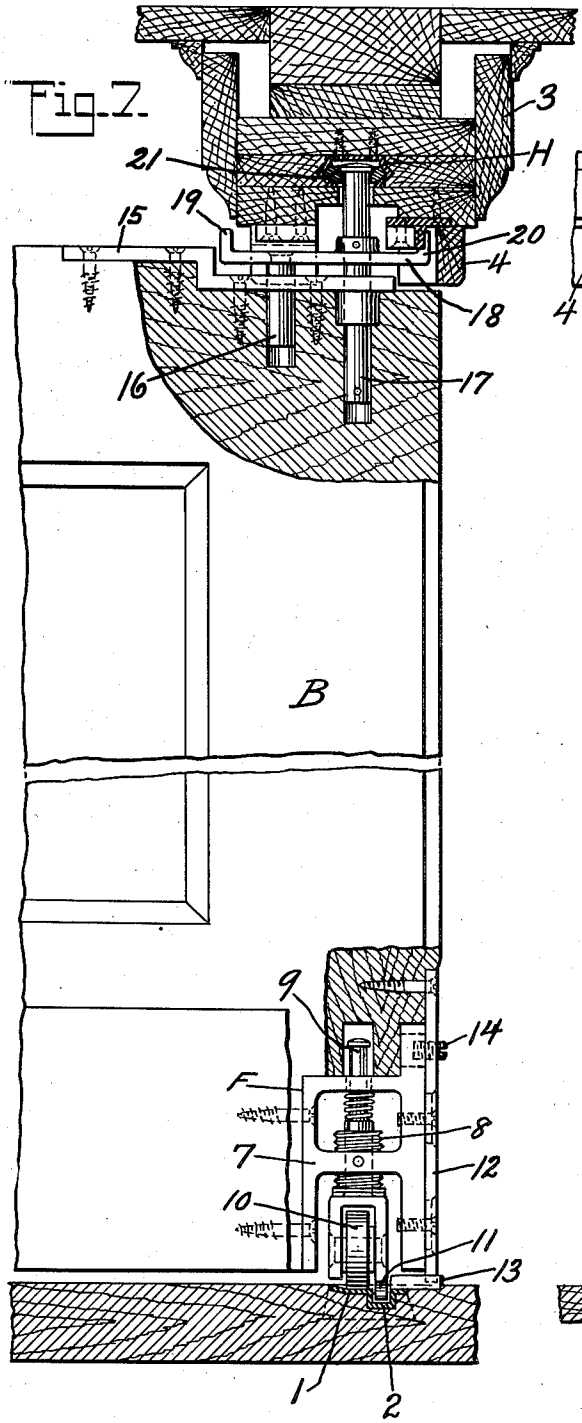
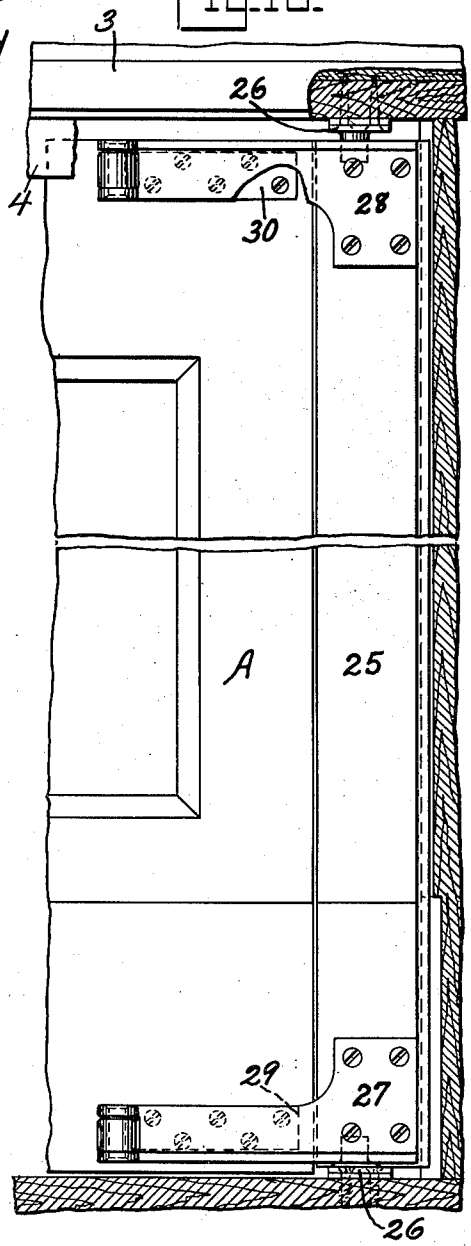



Fig. 10.

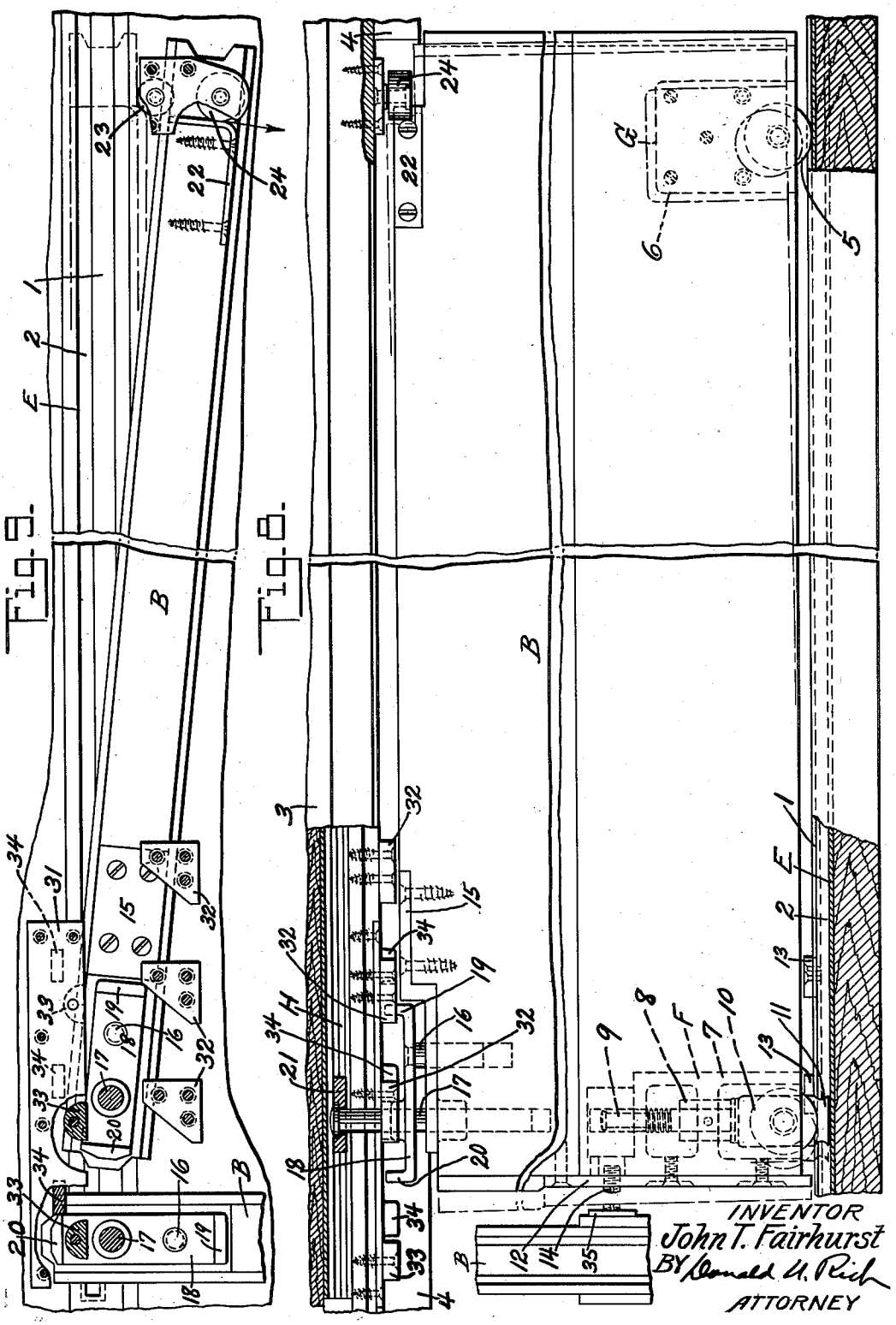



INVENTOR
John T. Fairhurst
BY Donald U. Rich
ATTORNEY

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SLIDING AND FOLDING PARTITION

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Patented Aug. 25, 1936 2,052,089

# UNITED STATES PATENT OFFICE

2,052,089

## SLIDING AND FOLDING PARTITION

John T. Fairhurst, Forest Hills, N. Y.

Application October 26, 1934, Serial No. 750,108

14 Claims. (Cl. 20—20)

This invention relates generally to partitions and more particularly to folding partitions employed in temporary subdivision of large rooms and especially to those partitions in which a definite, useful or decorative, room plan must be continued by the partition.

Folding partitions which have been previously devised have not lent themselves readily to the carrying out of a definite decorative plan since visible hardware was necessary and the partitions were not sufficiently rigid, nor maintained in perfect alignment.

It is an object of this invention to provide a rigid, yet folding partition, which will harmonize with the surroundings and be readily slidable and foldable to an out-of-the-way position.

It is a further object to provide a partition in sections which are slidable on a floor level trackway and at the ends of the trackway are foldable to an out-of-the-way position.

It is a still further object to provide folding partition sections carried by means supported on a floor level trackway and slightly tiltable to lift at least one of the means clear of the trackway and floor for swinging movement.

Further objects will be obvious from the following description taken in connection with the accompanying drawings, in which

Figure 1 is an elevation of the partition in the extended position;

Fig. 2 is a section through the partition showing the end section by dash and dot lines in the preliminary closing position;

Figs. 3 and 4 are enlarged sectional views on line 3—3 Fig. 1 of the end section in closed and preliminary closed position;

Fig. 5 is a sectional view looking down on the folding section and showing the top locking and pivoting arrangement;

Fig. 6 is a sectional view showing the bottom locking arrangement;

Fig. 7 is a sectional view showing the relation of top and bottom units with the partition section in the folded position;

Fig. 8 is detail elevation, with parts broken away and showing the section in the normal and preliminary folding position;

Fig. 9 is a top plan showing a section in the preliminary folded position, and

Fig. 10 is an elevation of the end or master section.

Referring now to the drawings in which like characters refer to like parts in the several views. The partition consists of a pivoted end or master section A and as many sliding sections B as desired, these sections may be plain and solid or provided with any decoration or type of opening desired. The master section A is pivoted to some portion of the building at C, while the end section B abuts a spring jamb D which will hold the sections in firm engagement. The sections B are supported on a trackway E by rollers or other means F and G and at the top are guided in a trackway H by rollers or other means J and K.

The lower trackway E is set in a groove in the floor and comprises a supporting portion 1 and an upwardly open channel or guide portion 2, the entire unit being embedded in the floor as is shown in Fig. 7. The upper trackway H is suspended from the ceiling and is concealed either in the ceiling or in a false beam or other structure 3 provided with a molding 4 which overlaps slightly the entire upper edge of the intermediate sections.

Each section B carries at what may be termed its lower front edge a roller 5, preferably of the ball bearing type, carried by a block 6 recessed and concealed in the lower edge of the section. Recessed in the lower rear edge of the section is a block 7 in which is threaded an adjustable tube 8 which carries a spring acting on a shoulder of a stem 9 carrying a roller 10 and an extension 11 which is so shaped as to act as a track cleaner and switch operator when desired. This arrangement permits of the section being spring carried on a roller and free to turn relative to the stem carrying the roller. Attached to the rear of the block is a plate 12 which may be adjusted vertically so as to insure that the lower part will be in position to engage behind a block 13 carried at one end of the trackway. The adjustable plate 12 is also provided with a set screw 14, the purpose of which will be explained later in connection with the operation.

The upper rear edge of the section is provided with a plate 15 fastened to the section and provided with two holes in which pins 16 and 17 are vertically slidable. A control plate 18 is immovably attached to the pin 17 and extends in either direction from the pin with its ends upturned to form hooks 19 and 20. Intermediate the pin 17 and hook 19 the pin 16 is rigidly attached to the control plate, this arrangement permitting the control plate to slide vertically while preventing any rotation. On the upper end of pin 17 is rotatably journaled a slide block 21 as shown or a roller may be substituted if desired.

The upper front edge of the section is provided with a plate 22 covering the front edge of a small cut-out portion which varies with each section

and adapted to cooperate with tilting rollers 23 and 24 carried by the ceiling or beam immediately adjacent the molding 4 which is discontinued on one side at least, from this point to the end.

The end or master section A is formed in two parts hinged together by long hinges to form a type of toggle with the front edge of the section free of any support on the trackway. The hinge post 25 is pivoted at its ends to the floor and ceiling by fixtures 26 and at its rear edge is curved to fit within a curved portion on the wall structure. The post 25 carries hinge members 27 and 28 which connect the post to hinge members 29 and 30 carried on the remainder of the section. The post 25 and the remainder of the section are provided with step cut surfaces which interengage when the units are closed as in Fig. 3.

Referring now to the control fixtures which are attached to the building, it is seen that the rear end of the lower trackway is provided with lugs or lower stops 13 as previously mentioned, while the upper structure is provided with a plate 31 on one side of the trackway and on the opposite side with a plurality of angle shaped or intermediate control lugs 32. The plate 31 is provided with downwardly directed cam shaped projections or final control lugs 33 and projections or upper stops 34.

Assuming the partition is in the extended position as shown in Fig. 1 and it is desired to fold the units into the storage space, the master unit is pulled sidewise from the position shown in Fig. 3 to that in Fig. 4 thus freeing the front edge of the section. The section may then be rotated to the position shown in Fig. 6. It is obvious that the reversal of this movement will place the edge of the door back on the track and the movement of the unit from the position of Fig. 4 to that of Fig. 3 will apply pressure to the section forming the partition.

The section B may be slid along the lower trackway guided and held in position by the upper trackway, and without any binding due to the freedom of movement allowed the guide units. The section upon approaching the end position from which it is to be folded strikes either the master section or the next preceding folded section and is stopped by the properly adjusted set screw 14 striking a plate or other means 35 then when sidewise pressure is applied to the section and it starts to rotate the plate 22 and section top is forced rearwardly by the rollers 23 and 24 thus tilting the unit to the dash and dot position of Fig. 8. This tilting action lifts the roller 5 clear of the floor and the section may be swung without marring the floor finish. Before the plate 22 has left the roller 24, the hook 19 has engaged the intermediate control lug 32, see Fig. 9, and the hook 20 is in a position behind but free from the final control lug 33 and the section is held in the tilted position. Further rotation of the section will free the hook 19 and the hook 20 which is already engaged with the final control lug 33 holds the section tilted as it is moved to the final folded position in which the edge of hook 20 abuts the top stop 34. During this rotation the lower edge of the section has been turning about the stem 9 and the plate 12 has engaged behind the bottom stops 13 as seen in Figs. 6 and 7.

It is thus seen that a partition has been provided having independent sections supported and sliding in the plane of the sections on two or more bottom rollers yet which, when the sections are to be rotated for storage, revolve freely as any ordinary door and the hinge edge cannot be pulled out due to the stops 13 and 34.

The sections have been illustrated as folding to only one side but they may be folded to both sides by a slight shift in the mechanism and the provision of switch means and it is to be understood that the preceding description is purely illustrative and that various modifications and changes are possible which will still fall within the scope of this invention.

What is claimed is:

1. In a folding and sliding partition for structures including a plurality of guided sliding sections and a multi-part swingable master section; said master sections comprising a portion pivoted to the structure and another portion connected to said first named portion by hinges thereby forming a toggle section whereby pressure may be applied to the sliding section, said hinges having their pintles offset from the adjacent edges of said portions.

2. In a substantially vertical, movable section supported and guided at a plurality of points for sliding movement, the combination of stop means adjacent the bottom of the section and means adjacent the upper edge of the section, said means cooperating with the section to tilt the section for rotation about an axis inclined to the vertical.

3. In a substantially vertical, movable partition section supported and guided at a plurality of points for sliding movement, the combination of adjustable stop means adjacent the bottom of the section and means adjacent the upper edge of the section, said means cooperating with the section to tilt the section for rotation about an axis inclined to the vertical.

4. In a substantially vertical, movable partition section supported and guided at a plurality of points for sliding movement, the combination of adjustable stop means adjacent the bottom of the section, and camming means adjacent the upper edge of the section, said means cooperating with the section to tilt the section for rotation about an axis inclined to the vertical.

5. In a substantially vertical, movable partition section for structures supported and guided for sliding movement, the combination of stop means carried by the section adjacent its lower edge, means carried by the structure adjacent the upper portion of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis.

6. In a substantially vertical, movable partition section for structures supported and guided for sliding movement, the combination of adjustable stop means carried by the section adjacent its lower edge, camming means carried by the structure adjacent the upper portion of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis.

7. In a substantially vertical, movable partition section for structures supported and guided for sliding movement, the combination of stop means carried by the section adjacent the lower edge, means carried by the structure adjacent an end of the upper edge of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis, control means carried by the other end of the upper edge of

the section, a plurality of lugs depending from the structure and cooperating with the control means to progressively shift the inclined axis as the section is rotated.

8. In a substantially vertical, movable partition section for structures, supported and guided for sliding movement, the combination of adjustable stop means carried by the section adjacent the lower edge, camming means carried by the structure adjacent an end of the upper edge of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis, control means carried by the other end of the upper edge of the section, a plurality of lugs depending from the structure and cooperating with the control means to progressively shift the inclined axis as the section is rotated.

9. In a substantially vertical, movable partition section for structures, supported and guided for sliding movement, the combination of stop means carried by the section adjacent the lower edge, means carried by the structure adjacent an end of the upper edge of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis, a plurality of lugs depending from the structure, control means carried by the other end of the upper edge of the section and provided with projections cooperating with the lugs to progressively shift the inclined axis as the section is rotated.

10. In a substantially vertical, movable partition section for structures, supported and guided for sliding movement, the combination of adjustable stop means carried by the section adjacent the lower edge, camming means carried by the structure adjacent an end of the upper edge of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis, vertically movable guide and control means carried by the other end of the upper edge of the section, a plurality of lugs depending from the structure and cooperating with the control means to progressively shift the inclined axis as the section is rotated.

11. In a substantially vertical, movable partition section for structures, supported and guided for sliding movement, the combination of stop means carried by the section adjacent the lower edge, means carried by the structure adjacent an end of the upper edge of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis, control means carried by the other end of the upper edge of the section, a plurality of lugs depending from the structure and cooperating with the control means to progressively shift the inclined axis as the section is rotated and stop means carried by the structure to prevent sliding movement of the axis.

12. In a substantially vertical, movable partition section for structures, supported and guided for sliding movement, the combination of adjustable stop means carried by the section adjacent the lower edge, camming means carried by the structure adjacent an end of the upper edge of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis, control means carried by the other end of the upper edge of the section, a plurality of lugs depending from the structure and cooperating with the control means to progressively shift the upper end of the inclined axis as the section is rotated.

13. In a substantially vertical, movable partition section for structures, supported and guided for sliding movement, the combination of adjustable stop means carried by the section adjacent the lower edge, camming means carried by the structure adjacent an end of the upper edge of the section and cooperating with portions of the section to apply pressure on the stop means to tilt the section for rotation about an inclined axis, control means carried by the other end of the upper edge of the section, a plurality of lugs depending from the structure and cooperating with the control means to progressively shift the upper end of the inclined axis as the section is rotated and stop means carried by the structure to prevent sliding movement of the axis.

14. In a folding and sliding partition for structures including a plurality of sliding sections and a multi-part swingable master section; said sliding sections being guided for independent sliding movement in the plane of the section, and said master section comprising a portion pivoted to the structure and another portion connected to said first named portion by hinges thereby forming a toggle section whereby pressure may be applied to said sliding sections, said hinges having their pintles offset from the adjacent edges of said portions.

JOHN T. FAIRHURST.