Nov. 15, 1960 C. BARABAS 2,959,827

SLIDING DOORS AND WINDOWS

Filed Nov. 7, 1958

2 Sheets-Sheet 1

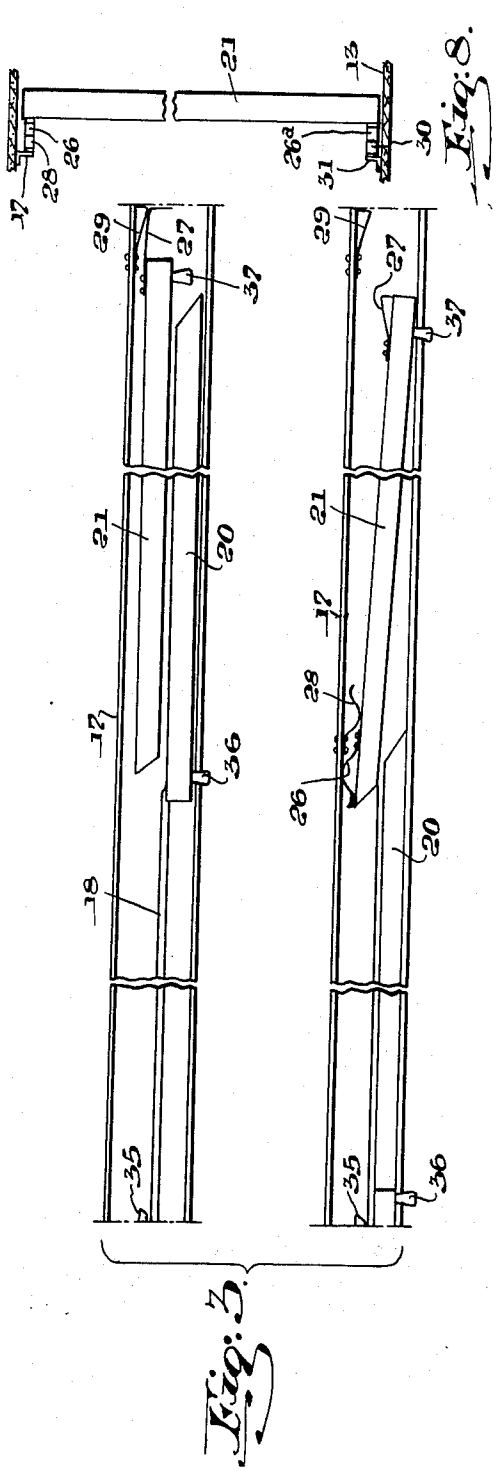


Fig. 3.

Fig. 8.

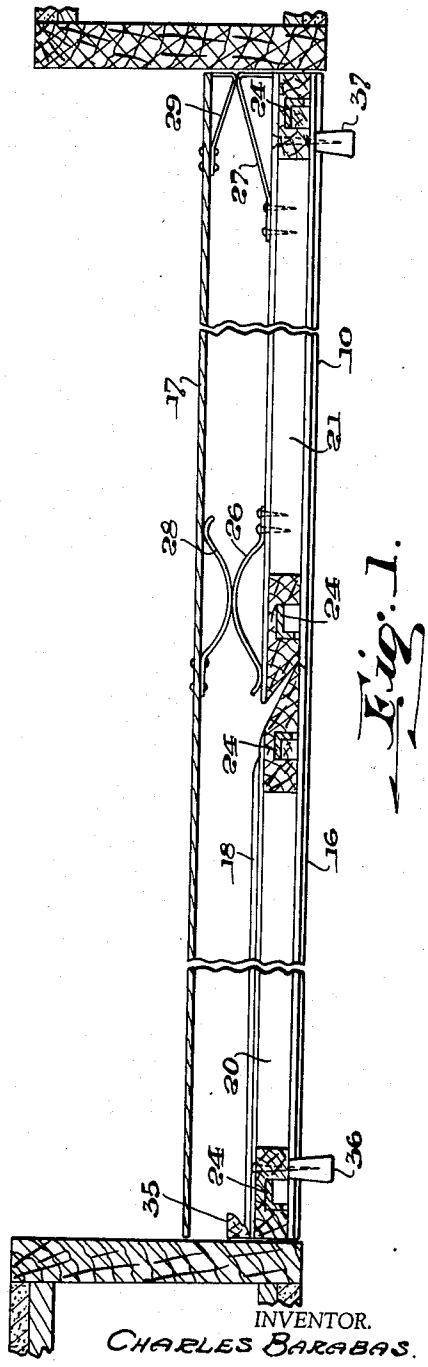


Fig. 1.

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Nov. 15, 1960 C. BARABAS 2,959,827

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Filed Nov. 7, 1958 2 Sheets-Sheet 2

Fig. 2.

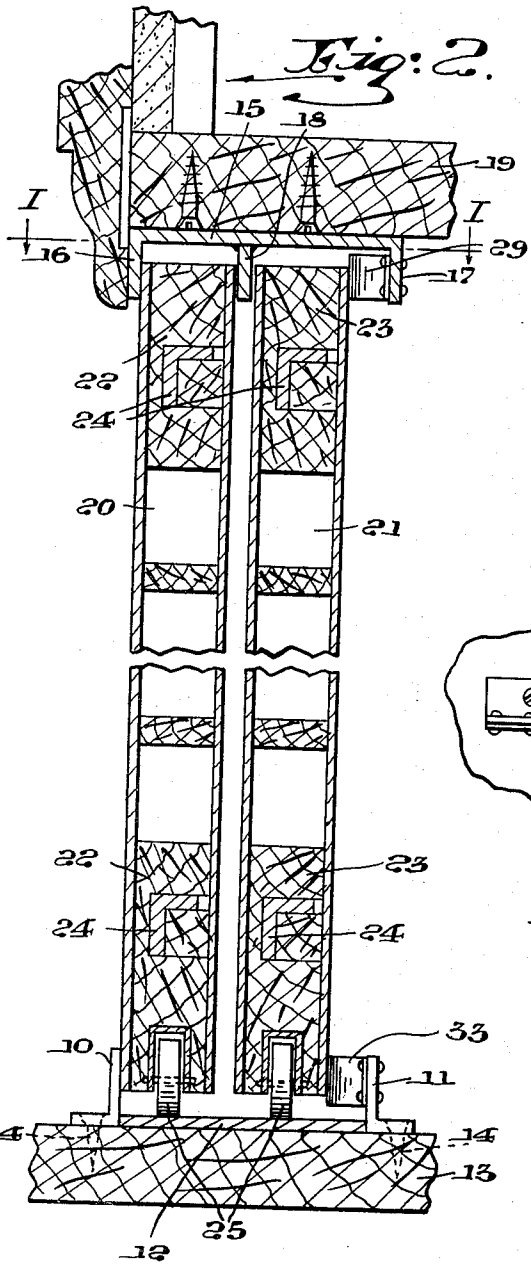


Fig. 4.

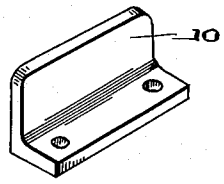
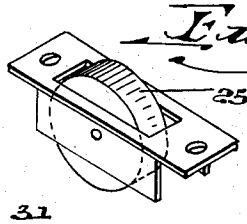


Fig. 5.



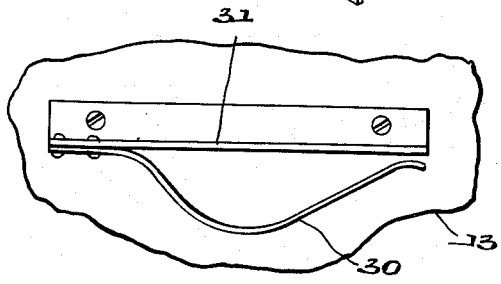


Fig. 6.

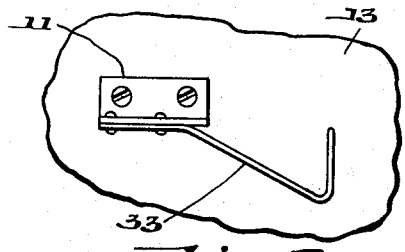


Fig. 7.

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SLIDING DOORS AND WINDOWS

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2 Claims. (Cl. 20—19)

My invention relates to doors of the sliding panel type wherein each panel is of approximately one-half door width, the invention being applicable to cupboards, closets and doors that separate rooms, and to windows.

One object of my invention is to provide a structure of the character referred to wherein the doors are slidable upon one another into open relation to either the right-hand or the left-hand half of a doorway, the doors being automatically yieldably moved to and held in a common plane when the doors or panels are in positions that close the doorway.

Another object of my invention is to provide springs so arranged as to exert constant yieldable pressure on the sliding panels either in their open or closed positions to thereby avoid looseness and rattling of the doors in their supports.

As shown in the accompanying drawings:

Figure 1 is a horizontal sectional view of the door structure, taken on the line I—I of Fig. 2 but with the doors closed.

Fig. 2 is a vertical sectional view through both panels, when they are in the open position shown in the upper part of Fig. 3.

Fig. 3 is a schematic view showing various positions occupied by the panels when one panel has been moved to the right to open position, the figure also showing the manner in which the panels are shifted perpendicularly to one another through sliding movement of one panel.

Fig. 4 is a view showing one of the stop brackets of Fig. 2, at the lower right-hand side of the doorway.

Fig. 5 is a perspective view of one roller upon which the door panels are supported.

Fig. 6 is an enlarged view of a spring that is mounted on the floor at about where the inner vertical edges of the panels meet, as indicated in Fig. 8.

Fig. 7 is a plan view of the spring of Fig. 2, located at the lower right-hand corner of the doorway.

Fig. 8 is a schematic view showing the manner in which the upper and lower edges of one of the door panels are yieldably engaged to hold and guide the panels.

The structure comprises a pair of short stop angles **10** and **11**, at the lower corners of the doorway, and a long plate **12** that serves as a trackway and is secured to the floor **13** as by screws **14**. A channel **15** is secured to a ceiling or a doorway lintel **19**, the flanges **16** and **17** of the channels serving as guideways. A relatively short flange **18** is welded or otherwise connected to the channel **15**, it being of a length somewhat less than half the length of the doorway.

The doors **20** and **21** may be of any suitable form but are here shown as of paneled construction, there being framing **22** and **23** to which the panels are secured, by nails, glue, or the like. Also, when the framing is of wood, I may suitably use reinforcing angles **24** imbedded therein a reinforce against splitting and warping.

Each door is supported upon a pair of rollers **25**, the rollers being positioned adjacent to each vertical edge of the door and traveling along the trackway **12** when

the doors are being opened and closed. The door **21** adjacent to its upper edge has leaf springs **26** and **27** secured thereto as for engagement with springs **28** and **29** respectively, when the doors are in closed position as shown in Fig. 1. Another spring **26***a* (Fig. 8) is secured to the door **21** adjacent to its bottom and bears against a spring **30** that is fastened to the floor **13** by a bracket **31**, at the middle of the doorway, below the spring **28**. Similarly, a spring corresponding to the spring **27** is secured to the door **21** near its lower edge, in position to engage a spring **33** that is below spring **29** that is secured to the angle **11** on the floor **13**. The spring **30** serves as a yieldable guide for the lower edge of the door **21** when this door is pushed completely to the left, behind the door **20**.

A stop block **35** on the door frame alines and holds the lower edge of the door **20** against backward swing when the door occupies the position shown in Fig. 1. The doors are provided with handles **36** and **37** respectively by means of which they may be rolled along the trackway **12**.

As shown in Fig. 1, the doors are closed. If now it is desired to open one half of the doorway, either the handle **36** or the handle **37** will be pulled in a direction to slide one of the doors. If it is desired to open the right-hand half of the doorway, the handle **37** will be pulled to move the beveled vertical edge of this door along the beveled edge of the door **20**, toward and past the position shown in the lower part of Fig. 3. This movement will cause compression of the springs **26** and **28** against the flange **17**, and continued movement will place the door **21** completely behind the door **20**. To open the left hand half of the door to the position shown in the upper part of Fig. 3, the handle **36** will be pulled, thereby sliding the door **20** past the beveled edge of the door **21** and compressing the springs **26** and **28** as well as the lower spring **30**. Completion of this opening movement will result in compression also of the springs **27** and **29** as well as the spring **33**, so that both doors will be accommodated between the flanges **16** and **17**, at their upper edges, their lower edges being held between the stops **10** and **11**.

I claim as my invention:

1. A door structure that comprises an upper guideway of a length approximately equal to the width of an opening through a door frame, front and rear depending guide flanges at the longitudinal edges of the guideway, a pair of doors disposed at their upper edges, between the flanges, a trackway that supports the doors vertically, an intermediate guide flange engaged by the upper portion of one door and serving to guide the door in a fixed path along the front guide flange and of a length approximately one-half the lengths of the front and rear flanges, a spring yieldably engaging the lower edge of the other door and holding the door against the said front flange when the doors are in generally edge-to-edge relation and in a common plane, means for guiding the said other door behind the intermediate flange and the first-named door when the said other door is being moved toward its open position from said edge-to-edge relation, a second spring on the said other door, engageable with the rear guide flange when the door is in open position, to hold the door against the intermediate guide flange, and a third spring on the rear flange, in position to be engaged by the second-named spring when the said second door is closed, in position to cooperate with the rear side of the second-named spring to hold the last-named door against the front guide flange when this door is closed.

2. A structure as recited in claim 1, wherein the second and third-named springs are normally located adjacent to the meeting edges of the doors when they

are closed, and fourth and fifth springs are provided on the upper edge of the said other door and the rear flange **17** respectively, in position to engage one another when the said other door is fully closed and to hold said door against the front guide flange when the said one door is in closed position, and to hold the said other door against the first-named door when the first-named door is in open position.

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