

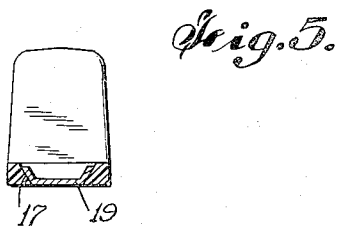
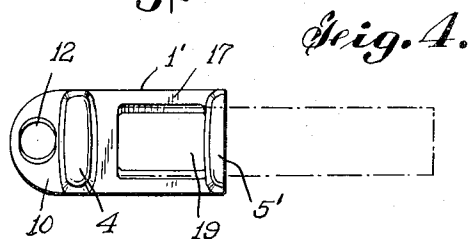
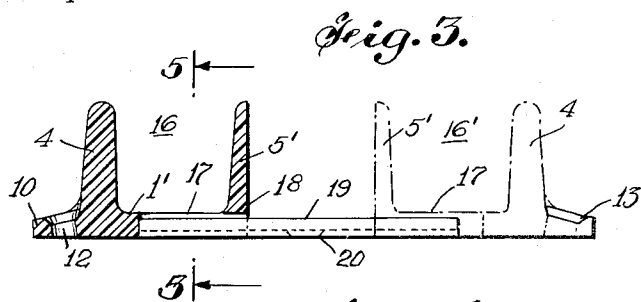
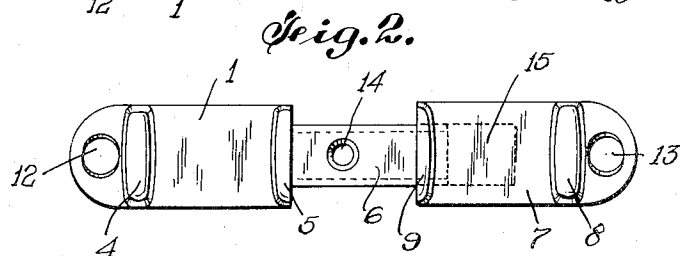
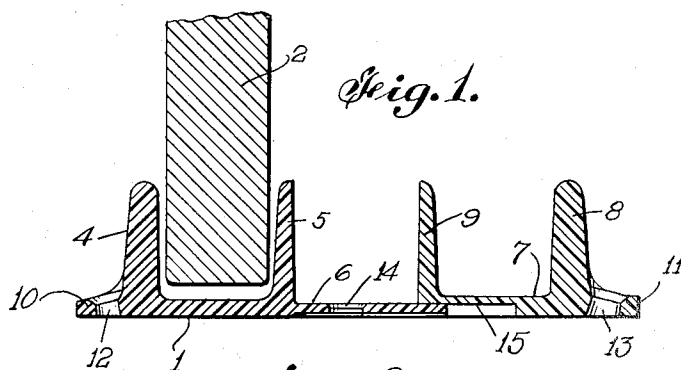
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GUIDE RAIL ASSEMBLY FOR SLIDING DOORS

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GUIDE RAIL ASSEMBLY FOR SLIDING DOORS

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3 Claims. (Cl. 16—90)

The present application relates to a guide rail assembly structure for sliding doors and the like.

It is proposed to provide a novel guide rail structure for one or more sliding doors. The structure is arranged with a plurality of inter-fitting parts which may be spaced a predetermined distance apart so that the said sliding doors move in pre-set channels.

A principal object of the invention is to provide a structure for guiding doors having inter-fitted parts of simplified form.

A further object of the invention is to provide a structure for guiding doors which is moldable from tough, plastic material or the like, is relatively inexpensive to fabricate, is easy to install, and is long-wearing in use.

A further object is to provide a guide rail assembly for sliding doors which enables the doors to be spaced apart parallel to each other any desired distance.

Another object is to provide a guide rail structure which may be assembled from a plurality of identical shaped parts.

Other and further objects of the invention will become readily apparent from the following description taken together with the drawing wherein:

Fig. 1 is a cross sectional view of one embodiment of the invention.

Fig. 2 is a top plan view of the structure shown in Fig. 1.

Fig. 3 is a cross sectional view of a modification of the invention.

Fig. 4 is a top plan view of Fig. 3.

Fig. 5 is a sectional view taken on lines 5—5 of Fig. 3.

In Fig. 1, the guide rail assembly structure shown in cross section has a straight flat base portion 1 on which slides the door 2. The door 2 is not a part of the invention and is shown as an aid to visualizing the invention. The base portion 1 is integrally formed with a pair of upstanding walls 4, 5 to define a channel of predetermined width serving to guide the door 2 in its travel. A flat strip 6 extends outwardly from wall 5. The thickness of strip 6 is made substantially less than a base portion 7 in a mating guide rail member. Base portion 7 is undercut to define a groove or channel 15 of less width than the transverse width of base portion 7.

Channel 15 is located on the under side base portion 7 to receive strip 6 which is dimensioned to fit snugly in the channel. Base portion 7 is provided with upstanding walls 8, 9 corresponding to walls 4, 5 respectively. These members thus define a channel of predetermined width for a guiding door to be moved there-through, over the base portion 7. The lower outer portions of walls 4 and 8 are widened to define integrally formed bracket portions 10, 11. The upper sides of these bracket portions are inclined with respect to walls 4 and 8 so that holding screws may be inserted in the obliquely directed screw holes 12, 13 adapted for retention of flat head screws. A screw hole 14 is provided in strip 6 and is adapted for retention of a flat head screw or the like. The width of strip 6 is less than that

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of the base portion 7 and the corresponding linear extent of wall 9 as shown in Fig. 2. Wall 9 has a channel cut in its underside coextensive with channel 15 to receive the strip 6. By the arrangement shown the several guide rail portions may be spaced a suitable predetermined distance apart with strip 6 interfitted in channel 15. The spacing of the guide rail portions will be limited only by the length of strip 6. The guide rails will normally be mounted over a wooden base such as a wood floor or the like so that flat head screws can be inserted through the respective screw holes 12, 13 and 14.

In Fig. 3 is shown a modification of the invention wherein two guide rail portions 16, 16' of identical shape are disposed in alignment with each other. Each rail portion has a heavier outer wall 4' corresponding to wall 4 of Fig. 1 in size and shape. The base portion 1' on which slides a door to be mounted thereover has a channel 17 with outwardly and upwardly flaring side walls shown clearly in Fig. 5. Wall 5' corresponding to wall 5 in Fig. 1 has a channel portion 18 in the bottom thereof which is continuous with the channel 17 in the base portion. The walls of channel 17 may continue upward if desired to the top of base portion 1' to form the framed cavity shown in Fig. 4. However it is not necessary to extend the channel 17 up through the top of the base portion if it is desired that a door slide over an unbroken upper surface of base portion 1'. A rigid center strip 19 formed of metal or other stiff material into channel-shaped member is provided to fit snugly into the channel 17—18. This strip serves to join the two guide rail portions or members 16, 16' in alignment with each other. A screw hole 20 is provided in strip 19 for fastening the strip to a suitable base.

It will be noted that guide rail members 16, 16' are identical in shape and used in aligned reversed positions in cooperation with each other for guiding a pair of sliding doors between the walls 4, 5' of each member. The several guide members may be spaced apart any desired distance depending on the length of the strip 19 with opposite ends of the strip fitted into channels 17. Suitable screws are required to be inserted through the screw holes 12 and 20 to hold the guide rail members in fixed position with respect to each other.

In both embodiments of Figs. 1 and 4 the center strips 6 and 19 serve the important functions of aligning and spacing the two channel-shaped guide rail portions or members. The center strips are further essential to the invention since the guide rail members are held in place only by the screws to be inserted in the screw holes 12 and 13 located in the outer brackets 10, 11. The screws in the outer brackets would obviously not be sufficient alone to hold the two guide members in alignment. Thus the center strips with the screws to be inserted through screw holes 14 and 20 therein are necessary to keep the guide members rigidly in place, aligned and spaced as desired.

Walls 4, 5 and 4, 5' of the several embodiments of the invention are smoothly shaped and their inner walls flare outwardly slightly. This shaping adapts the assembly to perform its basic function to guide the doors to be mounted therein, but also importantly this shaping adapts the structures to manufacture by mass production, economical, although conventional, fabrication processes. The shape of the guide rail structure is such that all members may readily be formed by known molding processes, for example, but it is to be understood that the invention is not considered as limited to fabrication by any particular process.

A preferred type of material usable for fabricating the several guide portions or members is nylon. This substance has characteristics of smoothness, toughness, and dimensional stability which adapt it remarkably well to

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use in fabricating the present invention. Of course other non-metallic materials can be used as well as metals such as brass, bronze and the like.

Although a limited number of embodiments of the invention have been disclosed and illustrated it would be understood that the invention is not intended to be restricted thereto and is considered co-extensive with the scope of the following claims.

I claim:

1. A guide rail assembly for sliding doors comprising a pair of guide rail members, each of said members having a flat base portion and upstanding integrally formed side walls to define a channel for guiding said doors, an integral flat strip extending from a wall of one of said members and inter-fitted in a groove in the other of said members, whereby the members are disposable with the said channels parallel to each other and spaced apart a distance less than the length of said strip.

2. A guide rail member for sliding doors and the like comprising a substantially flat base portion, a pair of upstanding walls integrally formed with the base portion to define a channel for guiding a sliding door, one of said walls and said base portion being grooved to receive an aligning strip, and a bracket portion integral with the other of said walls and adapted to receive a retaining screw.

3. A guide rail assembly for sliding doors comprising

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a pair of guide members, each of said guide members including a flat base portion and a pair of upstanding walls integrally formed with the base portion to define a channel for guiding a sliding door therein, one of said walls and said base portion having a continuous groove therein, and a bracket portion integral with the other of said walls and adapted to receive a retaining screw; and a substantially straight rigid strip joining said pair of guide members in alignment with each other a distance apart less than the length of said strip with the strip snugly inter-fitted in at least one of said grooves, said strip being adapted to receive a retaining screw.

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