April 29, 1969 J. F. WEAVER 3,440,786

FRAME WITH DECORATOR PANEL

Filed June 28, 1967

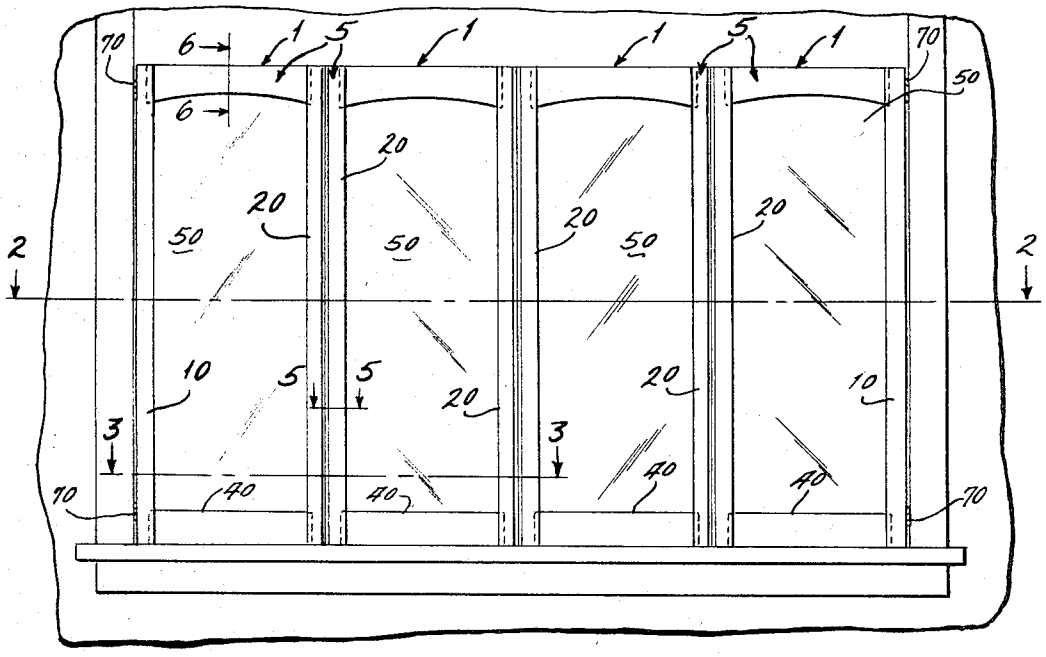


FIG.1

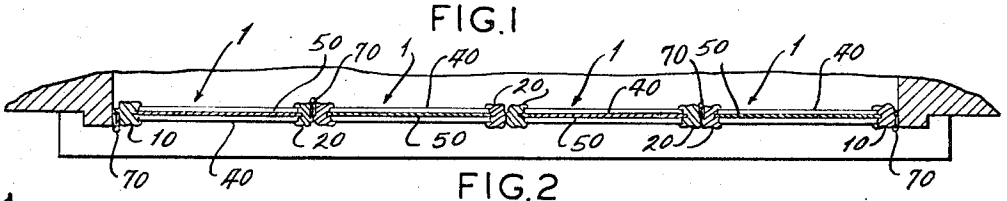


FIG.2

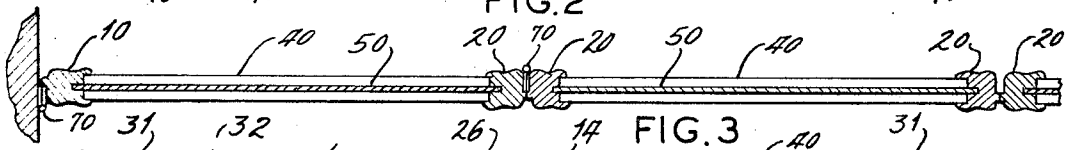


FIG.3

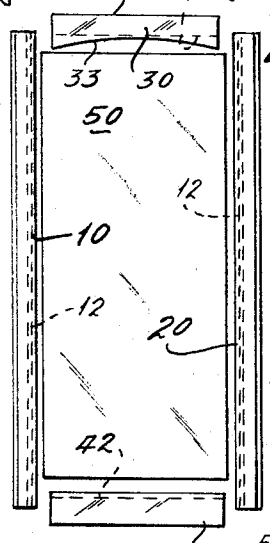


FIG.4

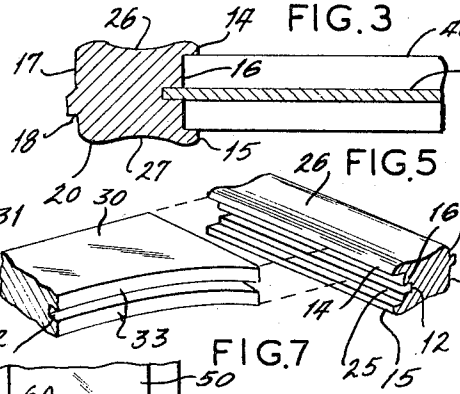


FIG.5

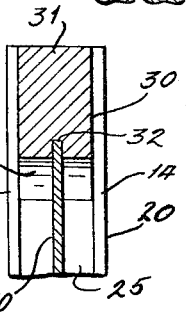


FIG.6

FIG.7

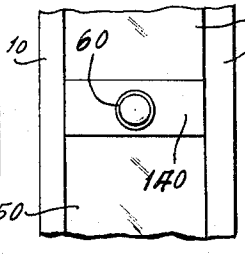


FIG.8

INVENTOR:
JOSEPH F. WEAVER
BY
ATTORNEY.

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FRAME WITH DECORATOR PANEL

Joseph F. Weaver, Hazelwood, Mo., assignor to K-S-H, Inc., a corporation of Missouri

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ABSTRACT OF THE DISCLOSURE

A prefinished frame with plastic decorator panel, made up of prefinished stiles and rails all having a central panel-receiving groove. The stiles have flanges flanking the groove to define a relatively wide, rail-receiving channel on one long edge of the stile, and an asymmetric rabbet along the opposite long edge of the stile. A shoulder formed by the rabbeting, is of a size and configuration to permit the use of a surface mounted butt hinge.

Background of the invention

The hinged panel of this invention has particular utility as a decorative interior shutter, but its utility is not confined thereto. It can be used in the construction of interior doors, screens and the like. Multileaved interior shutters are popular and useful, but they have been difficult to fit and install. Their construction has precluded a prefinishing of the elements which make up the shutters, because exposed long edges have had to be planed, sawed, mortised or otherwise operated upon in a way which did not permit prefinishing.

One of the objects of this invention is to provide panels made up of elements so constructed as to permit their being prefinished and yet adjusted in height and width so as to permit their fitting and assembly by inexperienced and unskilled persons.

Other objects will become apparent to those skilled in the art in the light of the following description and accompanying drawing.

Summary of the invention

In accordance with this invention, generally stated, a panel is provided which comprises joined prefinished stiles and prefinished rails all having a central panel-receiving groove along one long inside face. The rails are thinner than the stiles and the stiles are elongated and have flanges flanking the central groove to define a rail end-receiving channel on the long inside face of the stiles. The rails are mounted at their ends between the flanges. On the long outside face of the stiles opposite the grooved and flanged face, the stiles are rabbeted asymmetrically in such a way as to permit the mounting of butt hinges without mortising. A panel, preferably a plastic decorator panel, is seated in the groove which, when the rails and stiles are assembled, extends all the way around the inside surface of the panel frame. In the preferred embodiment, one of the rail elements is arcuate on its inside edge, but the groove in that curved face has a linear bottom defining wall so that the groove will accomodate a square-ended decorator panel. When the panel is used in the production of a tall, multileaved door, for example, one or more rails can be mounted intermediate the ends of the stiles, so as to define two or more decorator panel-framing areas.

Brief description of the drawing

In the drawing, FIGURE 1 is a view in front elevation of a plurality of hinged panels of this invention mounted as interior shutters in a window;

FIGURE 2 is a sectional view taken along the line 2—2 of FIGURE 1;

FIGURE 3 is a sectional view taken along the line 3—3 of FIGURE 1;

FIGURE 4 is an exploded view of a panel in the process of assembly;

FIGURE 5 is a sectional view taken along the line 5—5 of FIGURE 1;

FIGURE 6 is a sectional view taken along the line 6—6 of FIGURE 1;

FIGURE 7 is an exploded fragmentary view in perspective of rail and stile members in the process of assembly; and

FIGURE 8 is a fragmentary view in front elevation of a portion of a panel used as a leaf of a multileaved door.

Description of the preferred embodiments

Referring now to the drawing, particularly to FIGURES 1 through 7, for one illustrative embodiment of panel of this invention, reference numeral **1** indicates an individual panel, with a frame **5** and a center decorator panel **50**. The frame **5** is made up of stiles and rails. The frames of the left and rightmost panels shown in FIGURE 1 are made up of a left stile **10**, a right stile **20**, a top rail **30**, and a bottom rail **40**. The other two have two right stiles **20**. For purposes of explanation, although the left stile and the right stile are identical, the left stile **10** will be described as one in which a butt hinge is accommodated with its pintle toward the front of the panel and the right stile, as one in which a butt hinge is accommodated with its pintle toward the back of the panel.

Each of the stiles **10** and **20** has, along an inside long surface, a decorator panel-receiving groove **12**, and flanges **14** and **15** flanking the groove **12** on either side, and defining between them, with a bottom wall **16**, a rail receiving channel **25**. Two side faces **26** and **27** of the stiles are profiled to give a pleasing esthetic appearance. The outer edge of the stiles is rabbeted to produce a hinge receiving face **17** and a hinge concealing and stop rib **18**. As can be seen particularly in FIGURES 2, 3 and 5, the rabbet is asymmetrical, so that the rib **18** is closer to the face **27** than it is to the face **26**.

In effect, since the inner face of the stiles is symmetrical about the central groove, the stile **10** is merely turned end for end with respect to the stile **20** or vice versa.

As can be seen from FIGURES 2, 3, 5 and 7, the rails **30** and **40** are thinner than the stiles **10** and **20**, being of a thickness to fit closely but easily between the flanges **14** and **15** and in the channel **25** of the stiles.

The rail **40** is rectangular in both side and end elevation, and has a panel receiving groove running lengthwise through the center of one long narrow edge.

The upper rail **30** in the embodiment shown has a straight outside face **31**, and an arcuate inside face **33**, with a groove **32** running lengthwise in the center of the arcuate face. The groove **32** has a linear bottom wall, as indicated in dotted lines in FIGURE 4. On those panels which are to be hinged either to some supporting structure or to another panel, hinges **70** are mounted on the hinge surface **17** of the stile, with their knuckles and pintles spaced outboard of the arris between the surfaces **17** and **26**.

The embodiment of panel shown in FIGURE 8 is particularly suitable for use as a door panel, with long stiles **10** and **20** and upper and lower decorator panels **50** separated by an intermediate lock rail **140**. The lock rail **140** is rectangular in side elevation, is substantially wider than the bottom rail **40** of the first embodiment, and is provided with a decorator panel-receiving groove along both its top and bottom surfaces. An upper rail **30**, not here shown, completes the upper part of the frame and a lower rail, also not here shown, which, in this door panel, is preferably another relatively wide rail **140**, com-

pletes the lower part of the frame. A handle **60** is mounted in the center of a broad face of the lock rail **140**.

In fitting and assembling the panel of this invention, particularly in such an application as the shutter shown in FIGURE 1, the desired height and width of the panels is determined by measuring. The stiles are then cut off to the desired height, which can be done along the edge which is to be at the bottom of the stile when that edge is not going to be in evidence, or along the top, if that edge will not be seen in use. The lower rail **40** can be cut off at either end to the desired width. The upper rail **30** should be cut at both ends an equal amount, so as to center the apex of the arcuate surface between stiles. The cut pieces are then put into the position shown in FIGURE 4, the rails moved toward one another until the panel edges are seated in the grooves, and the stiles are then moved in until the panel edges seat in their grooves and the ends of the rails are seated in the rail-receiving channels **25**. The rails and stiles can be fastened together by any suitable means. One of the simplest and most satisfactory, is by drilling and counter sinking holes to receive flat head screws, which are screwed through the stiles and into the rails. However, the stiles and rails can be glued or nailed, stapled or doweled, or fastened in any other common way. The cut ends of the rails **30** and **40** will be concealed by the flanges **14** and **15**. Accordingly, the only surface that will have been disturbed and which will be exposed, among the prefinished surfaces of the stiles and rails, are ends of the stiles, which in almost every practical case, will not be exposed to view. In fact, the height of panels of this sort is generally standard, the adjustment having to be made in the width, to accommodate various widths of door or window openings.

The panel **50** is preferably a plastic decorator panel, which has been found particularly suitable for the purpose.

The fitting and assembly of the panel of the multileafed door embodiment shown in FIGURE 8, is self evident from the explanation of the fitting and assembly of the embodiment shown in FIGURES 1–7.

Numerous variations in the construction of the panels of this invention will be apparent to those skilled in the art in the light of the foregoing disclosure. Merely by way of example, the rails can be scalloped or otherwise profiled in side elevation, or they may be provided with flanges corresponding to the flanges **14** and **15**, though fitting within the confines of the flanges **14** and **15**, to make them more nearly of the same appearance between the decorator panel and the side surfaces. The shape of the rib **18** and its placement can be changed. These are merely illustrative.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. A prefinished panel comprising joined prefinished stiles and prefinished rails all having a central panel-receiving groove along one long inside face, said rails being thinner than said stiles and said stiles being elongated and having flanges flanking said groove to define a rail end-receiving channel on said long inside face, said rails being mounted at their ends between said flanges and said stiles having an asymmetric rabbet along a long outside face opposite the said inside face, and a decorator panel seated in said groove.

2. The panel of claim **1** wherein one rail has an arcuate inner face and a linear bottomed groove.

3. The panel of claim **1** wherein rails are joined to the stiles intermediate the ends of the stiles and also at the ends, and a plurality of decorator panels are mounted between the rails.

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ALFRED C. PERHAM, *Primary Examiner.*

U.S. Cl. X.R.

52—455, 627; 160—117, 213