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A. EMBURY, II

2,571,696

DOOR

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FIG. 1

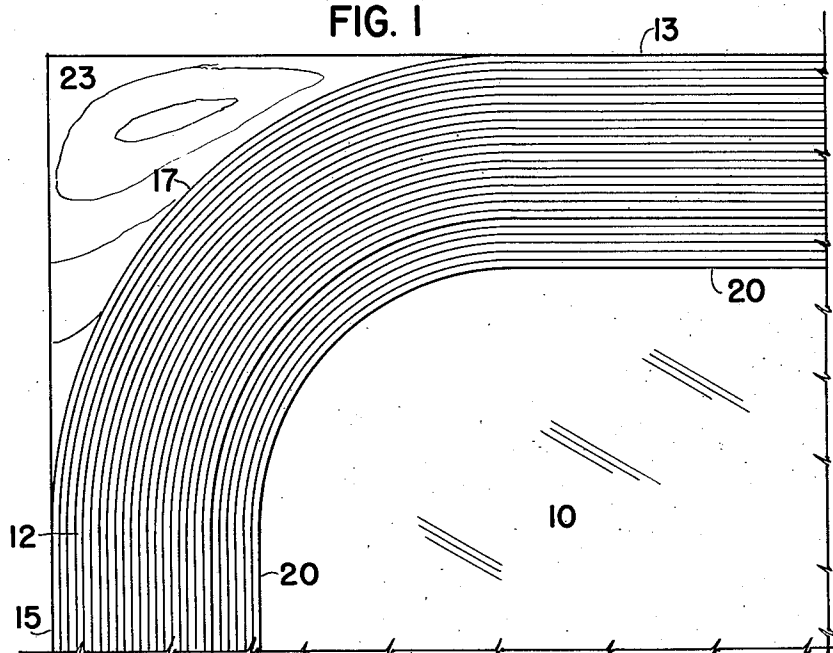


FIG. 2

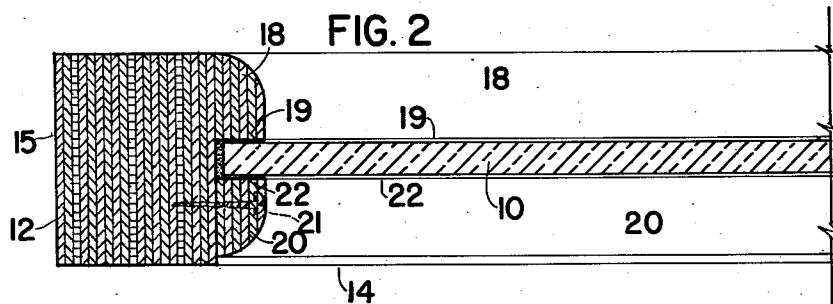
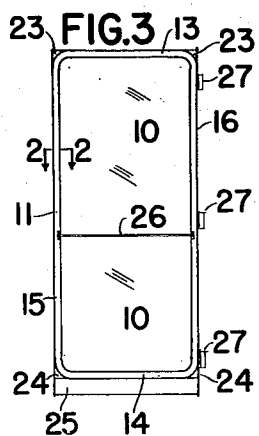


FIG. 3



INVENTOR  
BY *Arma S. Lawrence*

ATTORNEY

## UNITED STATES PATENT OFFICE

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DOOR

Aymar Embury, II, New York, N. Y.

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3 Claims. (Cl. 20—35)

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This invention relates to doors, and especially to doors having extensive glass areas as required by modern architectural design. Such doors are now made with metal stiles or rails, at the top and bottom of the glass, or extending entirely around the glass. All are expensive and none completely satisfactory.

The present invention provides a door having a glass area meeting modern architectural requirements, and with surrounding stiles or rails which provide ample strength and protection, and pleasing appearance, at greatly decreased cost. The door may readily be hung on hinges or pivots, and can be arranged to lock on the jamb or at the bottom with either a mortise or rim lock. It can also be made to fit any door closer.

In carrying out my invention I provide stiles or rails of laminated wood, the laminations of which are perpendicular to the face of the door and parallel to adjacent edges. Also, the stiles or rails are bent around the corners, providing curved laminated corner portions.

Other features of the invention will be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a fragmentary detail view in side elevation showing a corner portion of a door embodying my invention.

Fig. 2 is a fragmentary detail view in horizontal section, taken on line 2—2 of Fig. 3, looking in the direction of the arrows.

Fig. 3 is a view in side elevation of a complete door embodying the invention.

Referring to the drawings, the door comprises a glass panel 10, which may occupy almost the entire door area. The stiles or rails are embodied in a border strip 11 composed of laminated wood, the laminations 12 of which are perpendicular to the face of the door.

As shown, the border strip 11 comprises top and bottom portions 13, 14, and side portions 15, 16. Said strip also comprises curved portions 17 joining said upper and lower portions with said side portions. Thus the portions 13 and 14 comprise top and bottom stiles or rails, and the portions 15 and 16 side stiles or rails, with intervening curved corner portions 17, all made of laminated wood. The laminations in the portions 13 and 14 are parallel to the top and bottom edges of the door; while the laminations in the side portion 15 and 16 are parallel to the side edges.

For receiving the glass panel 10, the laminated border strip 11 may, as shown, have an inwardly

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projecting laminated portion 18 extending around the interior thereof and providing a shoulder 19 adapted to be abutted by the glass panel around its marginal edges along one face of the panel. After the glass panel is positioned within said border strip, against the shoulder 19, a bead 20, of a shape to extend around the interior of said border strip, is moved into position against the opposite face of the glass panel, and is secured to the border strip by screws 21 at as many points as desired. Said removable bead 20 provides a shoulder 22 extending around the last mentioned face of the glass panel, so that said panel is held firmly in place by the engagement of said shoulders 19 and 22 with its marginal edges around the opposite faces of the panel. If desired, the glass panel may engage the shoulders 19 and 22 directly around its marginal edges, or suitable packing may be interposed between said edges and said shoulders.

In the embodiment disclosed, it will be understood that the corners of the glass panel 10 are curved in correspondence with the curved corners 17 of the laminated border strip. When the glass panel has rectangular corners, the laminated border strip may be either curved or rectangular at its corners, so long as an internal groove or internal shoulders 19 and 22 of sufficient extent are provided therein to provide bearing surfaces for the marginal edges of said panel.

The laminated structure above described is sufficiently strong to be made much narrower than previous wooden stiles or rails employed in doors with glass panels. At the same time it can support longer and wider glass panels. Said laminated structure can support panels of such extensive areas as are now employed in doors with metal stiles or rails, and it accomplishes this result more economically and advantageously. A single laminated border strip 11 with removable panel-retaining bead 20 are all that are necessary to form an adequate rigid frame surrounding the glass panel and providing the stiles or rails therefor. The laminated structure above described is, in effect, the door in which the glass panel is carried. No further door structure is needed; though where the surrounding door frame has rectangular corners, the border strip 11 may have corner pieces with rectangular outer edges suitably secured thereto, as by nails, screws, or adhesive. Such corner pieces may be of unlaminated wood, and are indicated at 23, 23, in conjunction with the

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upper corners of the border strip 11, to fit the upper rectangular corners of the door frame. Similar corner pieces 24, 24, may, if desired, be fastened to the lower corners of said border strip. In addition, a "kick plate" 25 may be secured to the lower edge of the bottom portion 14 of said border strip, and to the lower edges of said corner pieces 24, said kick plate extending downwardly to substantially fill the space between said lower strip portion 14 and the bottom of the door frame and also protecting the glass against accidental kicking by users of the door.

A "push and pull" bar 26 may be fastened to the longitudinal portions 15, 16 of the border strip, on each face of the door for convenience of those opening the door. Conventional hinge butts, such as shown at 27 may be fastened to the end edge of the longitudinal portion 16, as shown in Fig. 1, for engagement with cooperating hinge members of conventional type on the adjacent door jamb, as will be readily understood.

If desired, the laminated border strip 11 may be made in sections suitably secured together after being fitted over the glass panel. In such construction the bead 20 may be omitted and the laminated sections of the border strip may be grooved to receive the panel edges. I prefer, however, the construction shown in the drawings and previously described herein, wherein the laminated border strip forms a single unitary frame and cooperates with a panel-retaining bead 20. The single frame construction above described provides a structure of superior strength and rigidity, having the advantages previously referred to. It further avoids the need of providing grooves for the panel edges, and enables the use of a readily removable and insertible bead 20 for holding the panel firmly in place. Said bead 20 may also be made in sections, if desired, but I prefer that it be formed as a single frame, insertible into and removable from the border strip 11 as a single unitary structure.

The terms and expressions which I have employed are used as terms of description and not of limitation, and I have no intention, in the use of such terms and expressions, of excluding any equivalents of the features shown and described or portions thereof, but recognize that various modifications are possible within the scope of the invention claimed.

I claim:

1. A door comprising a glass panel extending throughout the major portion of the door area, and a border strip surrounding said panel, said border strip comprising portions extending along opposite sides of said panel, upper and lower portions extending respectively along the top and bottom of said panel, and curved portions joining said upper and lower portions with said side

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portions of said border strip, all of said border strip portions being formed of laminated wood, the laminations being perpendicular to the face of said door.

2. A door comprising a glass panel extending throughout the major portion of the door area, and a border strip surrounding said panel, said border strip comprising portions extending along opposite sides of said panel, upper and lower portions extending respectively along the top and bottom of said panel, and curved portions joining said upper and lower portions with said side portions of said border strip, all of said border strip portions being formed of laminated wood, the laminations of which are perpendicular to the face of said door, said door also comprising corner pieces secured to the upper curved portions of said border strip and each having exterior rectangular edges merging respectively with the top edge of said border strip and the adjacent side edge.

3. A door comprising a glass panel extending throughout the major portion of the door area, and a border strip surrounding said panel, said border strip comprising a single unitary frame having portions extending along opposite sides of said panel, upper and lower portions extending respectively along the top and bottom of said panel, and curved portions joining said upper and lower portions with said side portions of said frame, all of said frame portions being of laminated wood, said laminations being perpendicular to the face of the door, said frame also having an inwardly projecting shoulder forming an abutment for the edges of said panel on one face thereof, and a bead fitting into the interior of said frame and forming a unitary structure providing an abutment for the panel edges on the opposite face thereof, said bead being secured to said frame.

AYMAR EMBURY, II.

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