Oct. 7, 1930. W. E. LAND 1,777,317

PANEL

Filed March 8, 1929

Fig. 1.

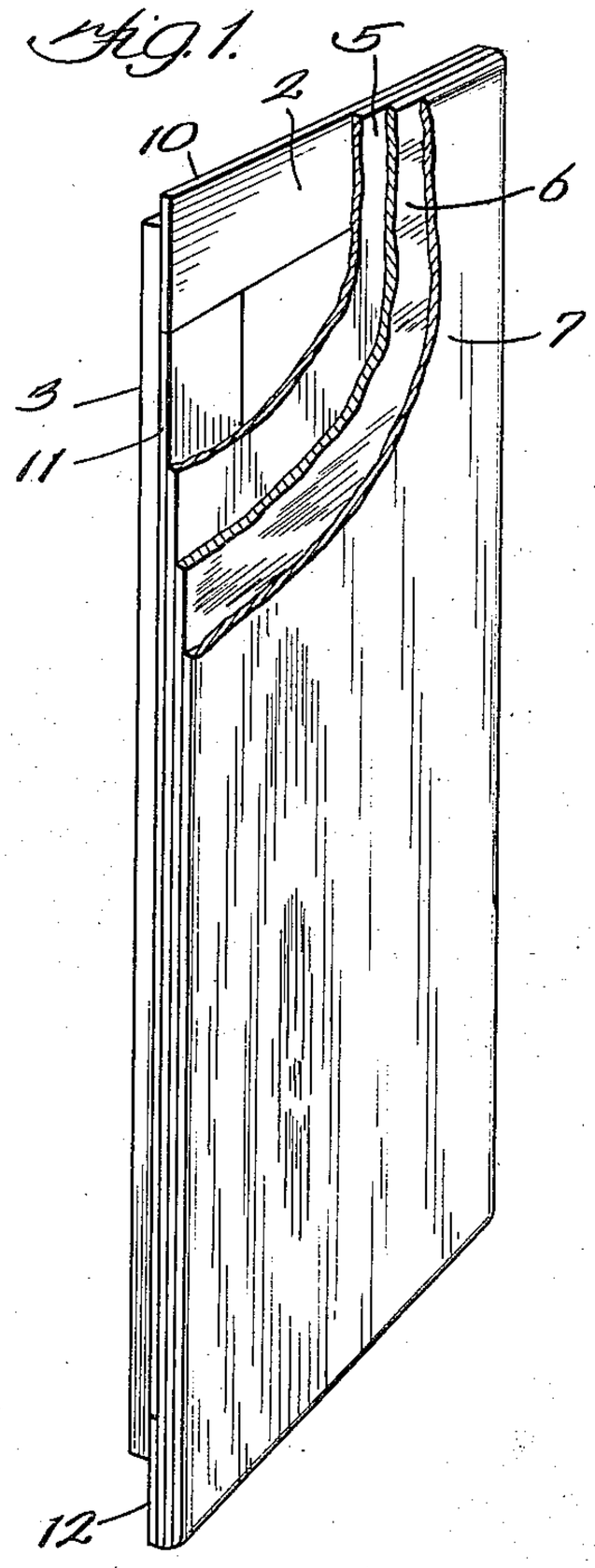


Fig. 2.

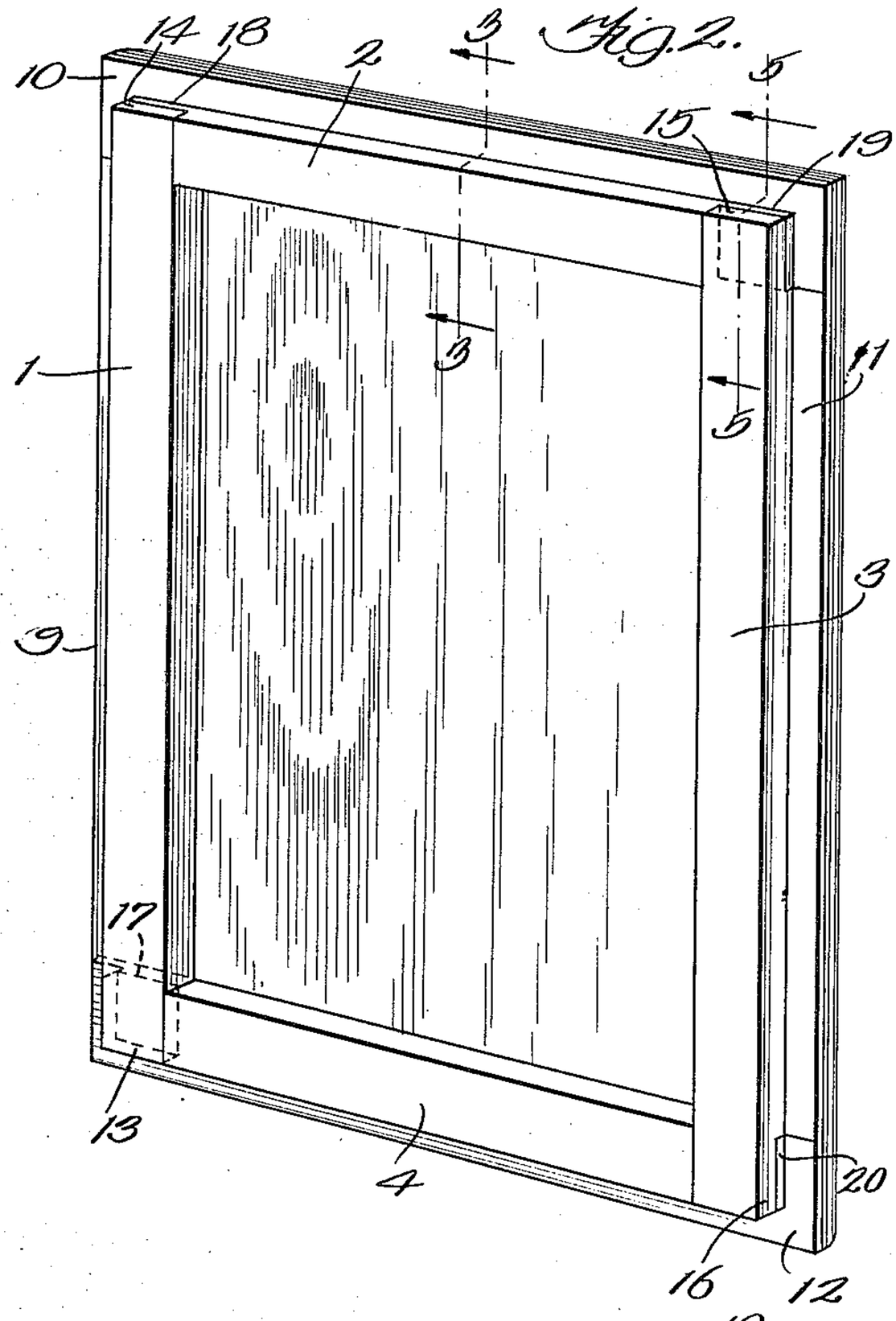


Fig. 3.

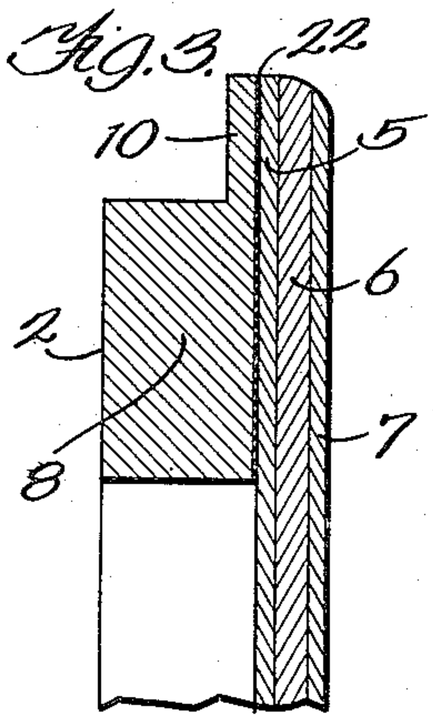


Fig. 4.

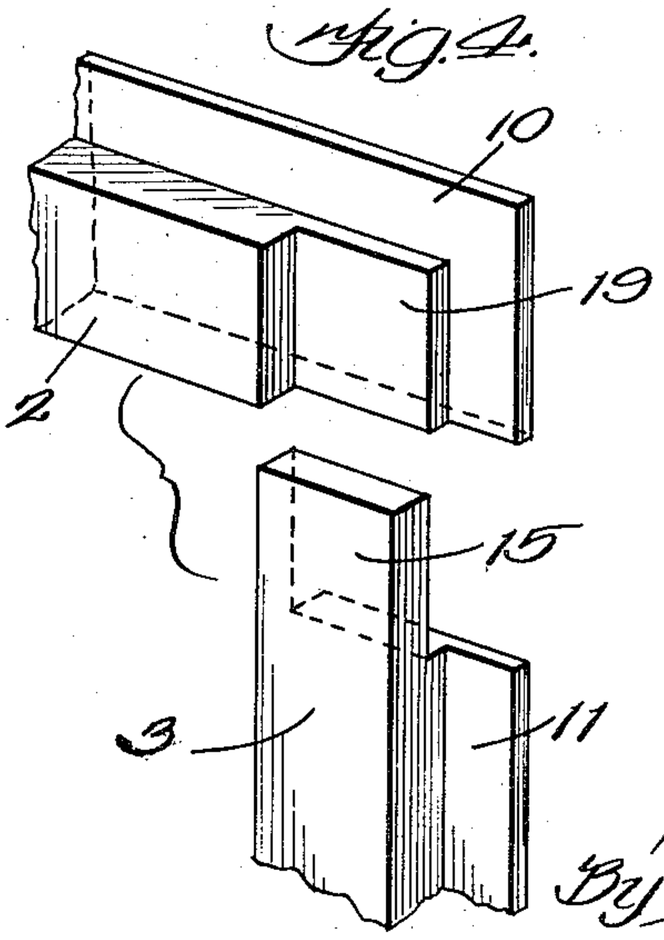
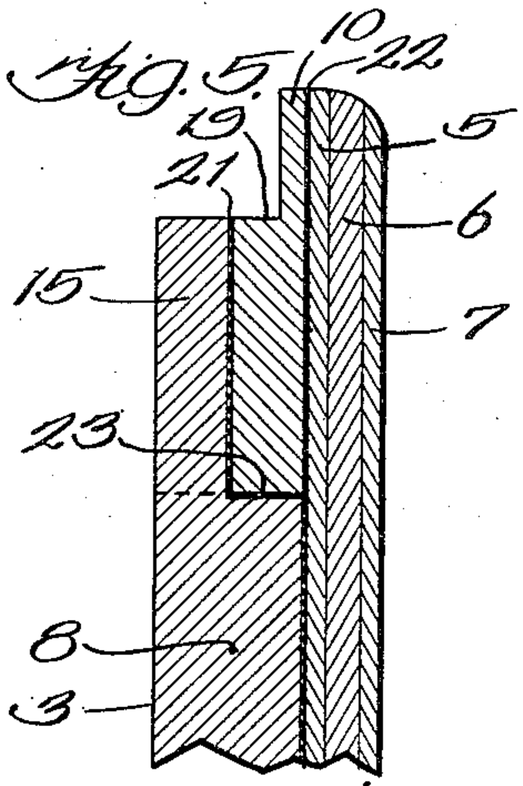


Fig. 5.



Inventor:
Walker E. Land
By G. L. Cragg Atty.

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UNITED STATES PATENT OFFICE

WALKER E. LAND, OF RICHMOND, INDIANA

PANEL

Application filed March 8, 1929. Serial No. 345,391.

My invention relates to panels employed as fixed parts of furniture or in doors and resides in an improved construction thereof.

The panel of my invention is inclusive of a frame, usually rectangular, and a panel board applied to the frame and covering the opening surrounded thereby. The board is preferably made of wooden laminæ with grain of adjacent laminæ running relatively crosswise in accordance with common practice. The frame is also desirably made of wood and has a circumscribing flange formed integrally therewith and of a thickness approximately the thickness of each lamina. Such flange, therefore, partakes of the nature of the panel board applied to the frame, and enlarges the thickness of the border of the board that projects, with the aforesaid flange, beyond the body of the frame. The board is desirably glued or cemented to the frame, the flange and board mutually reinforcing each other to prevent warping and wrinkling of the component parts of the panel.

Owing to the thinness of the integral flange of the frame, I employ a lapped butt joint into which the body and flange portions of the frame enter and of such construction as not to impair the strength of the thin flange.

I will explain my invention more fully by referring to the accompanying drawing in which Fig. 1 is a perspective view illustrating the preferred embodiment of the invention, parts being broken away; Fig. 2 is another perspective view showing the other side of the panel; Fig. 3 is a sectional view on line 3—3 of Fig. 2; Fig. 4 is a perspective view showing the adjacent end portions of two frame members in separated relation; and Fig. 5 is a sectional view on line 5—5 of Fig. 2.

The frame member of the panel is shown as being rectangular and composed of four wooden bars 1, 2, 3 and 4 which are preferably joined at the corners as illustrated. The panel board is made of wooden laminæ 5, 6 and 7 which are glued together in accordance with common practice, the grain of adjacent laminæ running relatively crosswise. The panel board is cemented or glued to the panel frame and projects beyond the body portion 8 thereof on all sides to form a projecting border or flange with respect to the body portion of the frame.

The body portion of the frame has an outsetting flange 9, 10, 11, 12 at one face of the frame and in integral formation with the frame and to which flange the panel board is also glued. The frame members or bars 1 and 3 are preferably formed with tenons 13, 14, 15, 16 at the unflanged face of the frame and the bars 2 and 4 are formed with tenons 17, 18, 19, 20 at the flanged face of the frame. Tenons 13 and 17 extend in angular directions and lap each other as do also tenons 14 and 18, 15 and 19, and 16 and 20. The shoulder at the base of one of each two lapping tenons has abutting engagement with the adjacent side of the other of these two tenons. The flange sections 10 and 12 extend to opposite sides of the panel beyond the tenons and the bodies of the bars integral therewith, and abut the shoulders at the bases of the tenons upon and integral with the frame members 1 and 3 and also abut the ends of the flange sections 9 and 11 that are between the flange sections 10 and 12 and terminate at said shoulders. I have thus produced joints in the body portion of the frame having tenons in lapping relation with each other and in abutting relation with the shoulders at the base of the tenons and have provided a thin flange continuation of the frame made in sections that only have abutting engagement at the corners of the frame whereby the strength of the flange is not impaired, the joints proper being formed between the comparatively heavy parts of the component bars of the frame.

The flange enlargement of the frame constitutes, in effect, a marginal thickening of the panel board and serves to incorporate the panel frame in one unitary structure with the panel board. In other words, the integral flanged continuation of the panel frame is a unitary part of the panel board, the body portion of the frame consequently being integral with the board structure. All of the component members of the panel are thus so interlaced that the frame constitutes an effective reinforcement for the board and

the board an effective reinforcement for the frame, wrinkling and warping of the adjacent glued or cemented together parts being consequently effectively guarded against. I have shown layers 21, 22, 23 of cement or glue in Fig. 5 to illustrate the manner in which the panel board and frame flange and frame body are merged into a unitary structure.

Having thus described my invention, I claim:—

A panel structure including a frame having a flange at one face of the frame and projecting beyond the frame and integrally formed therewith; and a panel board cemented to and covering one face of the frame and flange, wherein the frame is polygonal and is formed of bars, adjacent ends of adjacent bars being formed with lapping tenons at the corners of the frame and respectively integral with such bars, one side of one tenon at each corner being in abutting engagement with the shoulder at the base of the contiguous tenon, the flange section that is integral with the bar having the first tenon extending lengthwise of this tenon beyond the body portion of the frame and also having abutting engagement with said shoulder and with the contiguous flange section which terminates at said shoulder.

In witness whereof, I hereunto subscribe my name.

WALKER E. LAND.