W. L. EVANS, JR.

CONSTRUCTION OF DOORS.

APPLICATION FILED OCT. 30, 1908.

937,430. Patented Oct. 19, 1909.

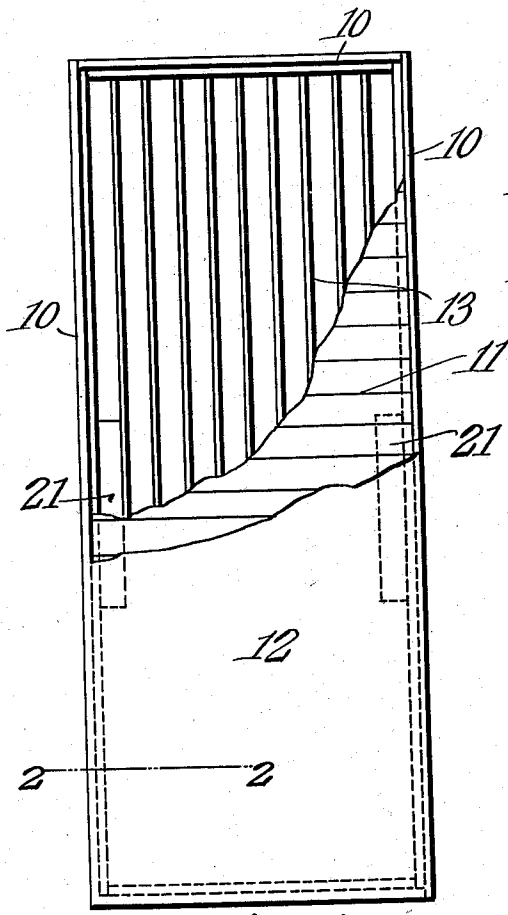


Fig. 1.

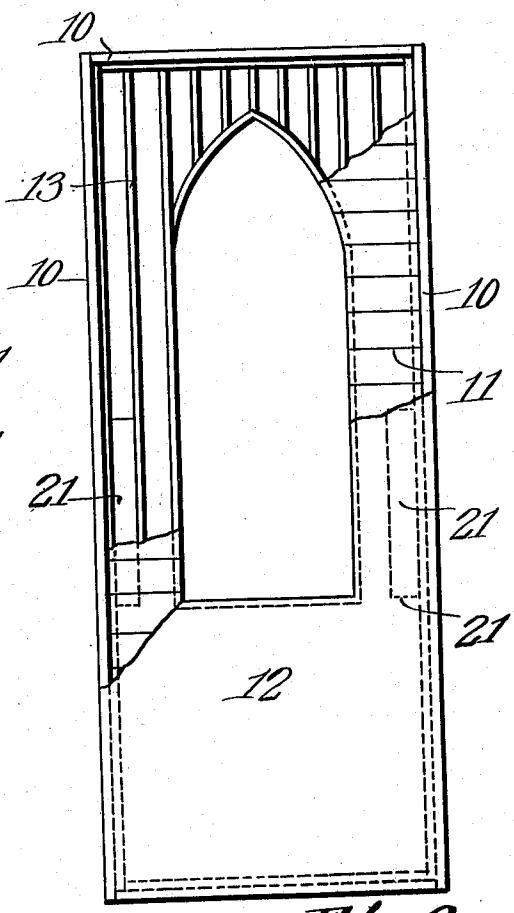


Fig. 3.

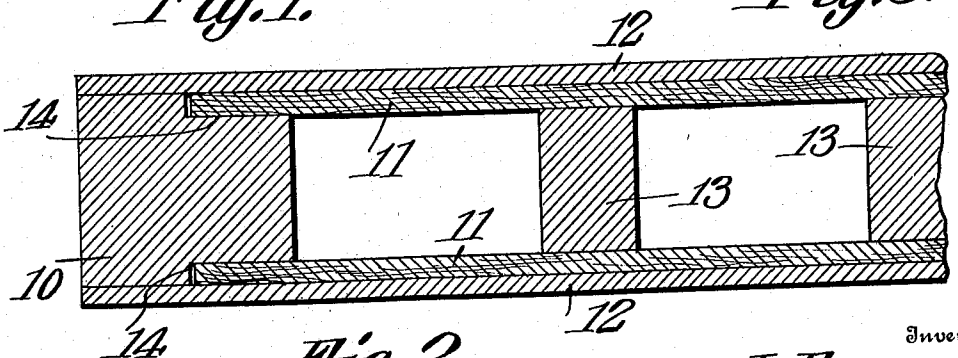


Fig. 2.

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# UNITED STATES PATENT OFFICE.

WILLIAM LEWIS EVANS, JR., OF WASHINGTON, INDIANA.

## CONSTRUCTION OF DOORS.

937,430. Specification of Letters Patent. Patented Oct. 19, 1909.

Application filed October 30, 1908. Serial No. 460,350.

*To all whom it may concern:*

Be it known that I, WILLIAM LEWIS EVANS, Jr., a citizen of the United States, residing at Washington, in the county of Daviess and State of Indiana, have invented a new and useful Construction of Doors, of which the following is a specification.

This invention relates to that class of doors known as "flush" by reason of their smooth surfaces, and sometimes called "sanitary" for the same reason.

The object of the present invention is to provide a door of this kind having air-spaces on the inside thereof to reduce the weight of the door, and also to obviate the necessity of gluing up a solid core, thus reducing the cost of the door.

A further object is to provide a construction which enables the parts constituting the door to be readily assembled and glued up in one operation.

The invention also has for its object to provide a door construction which will permit the omission or the cutting out of parts, and the insertion of glass or wood panels.

The invention also has for its object certain other advantageous and novel structural details, all of which will appear more fully hereinafter.

Figure 1 is a face view of the door, partly broken away. Fig. 2 is an enlarged section on the line 2—2 of Fig. 1. Fig. 3 is a face view, partly broken away, of a door provided with a space for a panel.

Each of the form of doors shown in the drawings comprises edge strips 10, forming a skeleton frame to which are secured horizontal cross strips 11 and the outer sheathing 12 of veneer. Between the cross strips are placed strips 13 which may run in any direction, but preferably perpendicular. The edge strips 10 are rabbeted on opposite sides as indicated at 14 to receive the inner end of the cross strips 11. The sheathing 12 is glued on the outside of the cross strips 11 and extends over the entire surface of the door to the outer edge of the strips 10, it being also glued to said strips.

By the construction herein described air spaces are left between the strips 10 and 13 inclosed by the strips 11, which reduces the weight of the door, and also provides a space for the reception of a non-combustible material if a fire-proof door is desired. The construction also does away with the necessity of gluing up a solid core, thus reducing the cost of manufacture. Glue can be applied to the different pieces during the construction of the door so that they can all be put under a press and finished at one clamping operation.

It will be readily seen that, by reason of the air spaces and by crossing the grain of the cross strips and the veneers, the door will have little tendency to shrink or swell in length or breadth, and the door is made very strong. The strips 13 and the rabbeted edge strips 10 make the door very stiff as they are all glued solidly to the cross strips 11. The cross strips and the sheathing can be run in any direction, but in general work it will be preferable to run the cross strips horizontally and the sheathing veneers perpendicularly. The strips 11 and the strips 13 are entirely hidden by the edge strips 10, thus leaving no end wood exposed for the absorption of moisture, which would have a tendency to cause swelling of the wood and softening of the glue. The construction is also such that it permits the cutting of the door in any manner necessary for the insertion of panels of any shape or kind. The strips 10 may be made of one or more pieces and they may be placed only at the two vertical edges of the door, but preferably they also extend across the top and bottom edges, thus entirely inclosing the strips 11 and 13, for the reason already described.

In Fig. 3 is shown a door provided with a hole for the insertion of a panel. In order to facilitate the shaping of the hole, and the fastening in of the panel and also to stiffen the door, the strips 13 are shaped and arranged to conform to the outline of the panel, and these strips are glued in between the strips 11 so that when the latter strips and the sheathing 12 are trimmed to accommodate the panel, the edges of said strips 11 and 13 and the sheating 12 will be flush or even with each other. This arrangement of strips 11 around the panel also closes all holes between the other strips 13 that would otherwise be seen before putting in the panel and the arrangement also facilitates the fastening in of the panel by furnishing in the band formed by the strips 13 around the panel, a fastening for the panel or the molding holding the same in.

In the air space of each of the form of doors herein described, are mounted blocks

21 in or on which the lock is to be secured. These blocks may be built in at either or both sides of the door.

The doors can be veneered with various kinds of wood, covered with burlap or other material, and they can be finished to match other doors, being veneered with the same kind of material.

From the foregoing it will be seen that I have provided a door which is light, strong and durable, and one which can be readily manufactured. It is obvious that the same construction can be used in panel work, table tops, and various kinds of woodwork, and variations in the form, proportions and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:

A door comprising a skeleton frame consisting of side and end strips rabbeted on opposite sides, bracing strips extending perpendicular between the end strips, and having their outer surfaces flush with the rabbets, some of said bracing strips being cut away intermediate their ends to form the outline of a panel, border strips defining the outline of the panel, horizontal cross strips connecting the side strips, said cross strips fitting the outer surface of the bracing strips and the border strips, and a portion of said cross-strips being cut away to extend flush with the inner edges of the border strips to conform to the outline of the panel, and said cross strips fitting at their ends in the rabbets of the side strips, and a sheathing of veneer over the cross strips and the exposed surface of the end and side strips.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM LEWIS EVANS, JR.

Witnesses:

HERVEY T. TRUEBLOOD,

MAGNESS J. CARNAHAN.