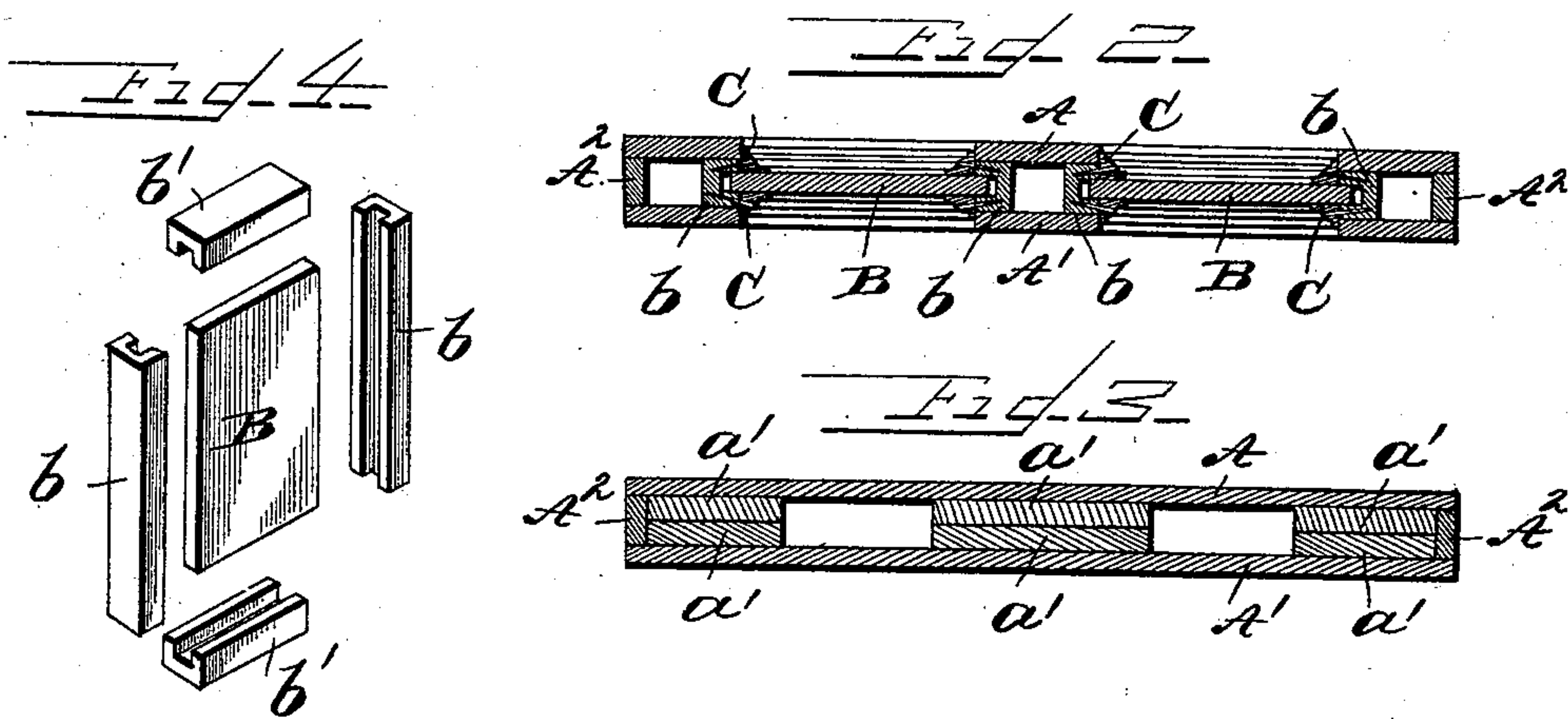
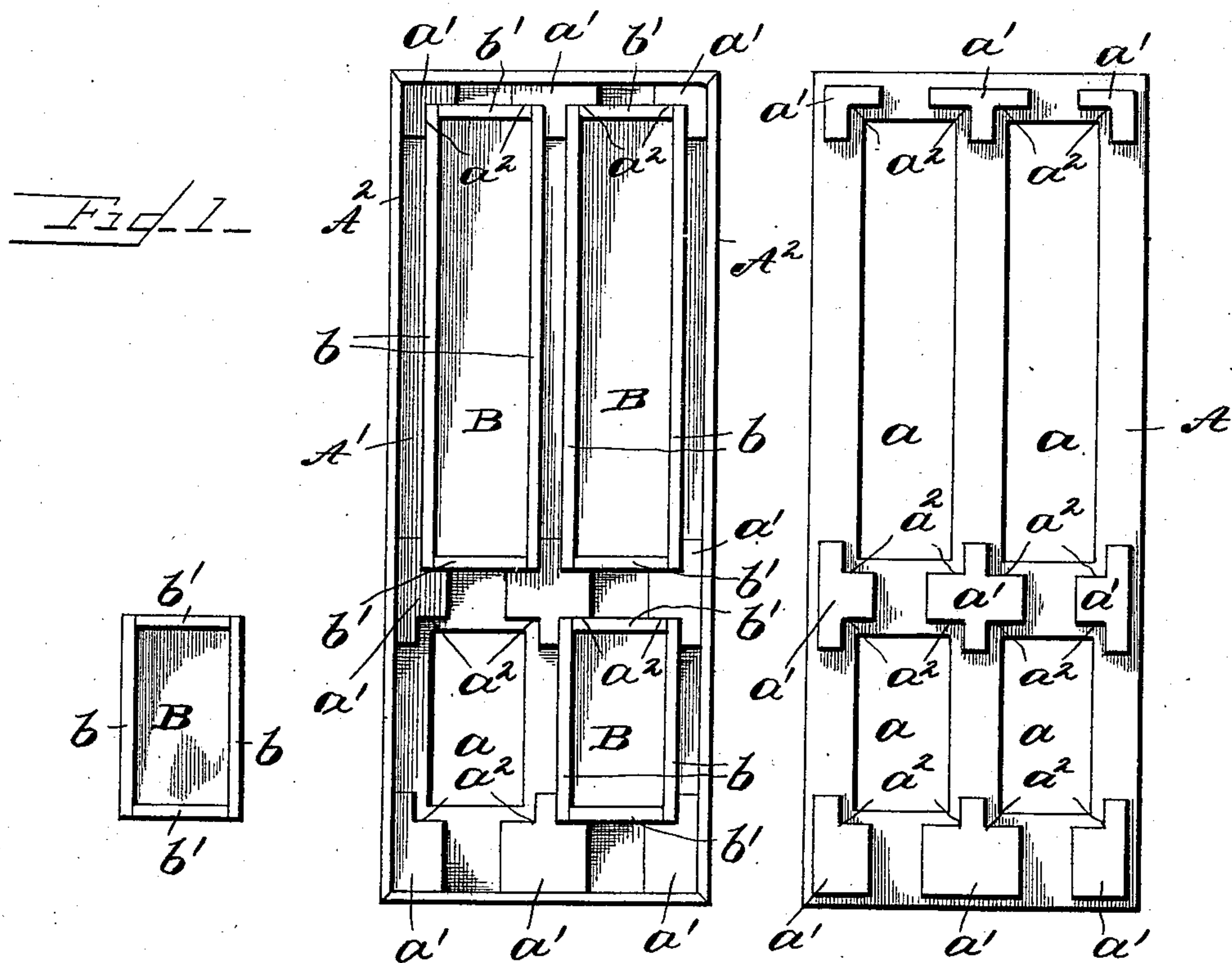


(No Model.)

J. S. CARTER.
DOOR.

No. 540,421.

Patented June 4, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN S. CARTER, OF BUFFALO, NEW YORK.

DOOR.

SPECIFICATION forming part of Letters Patent No. 540,421, dated June 4, 1895.

Application filed March 23, 1895. Serial No. 542,880. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. CARTER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention consists in the novel features of construction and combination of parts hereinafter fully described, reference being had to the accompanying drawings which represent one form in which I have contemplated embodying my invention and said invention is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 represents in elevation a door constructed in accordance with and embodying my invention, showing one of the side frames removed and one panel taken out. Fig. 2 represents a horizontal section of my improved door through the panels. Fig. 3 is a similar sectional view taken on a line between the upper and lower panels. Fig. 4 is a detail perspective view showing a panel and its casing.

The object of my invention is to construct a door out of thin pieces of wood so as to form a cheap door which will be stronger and lighter than a solid door and yet can be made without the employment of skilled labor.

In the drawings A represents one of the side frames of the door, and A' represents the other. Each of these frames is provided with a series of panel openings a and a series of blocks a' glued, nailed or otherwise secured to said frame, said blocks having angular recesses a^2 adjacent to the corners of the panel openings a which receive the corners of the panel casings. It will be seen that these blocks can be cut out with absolute accuracy and secured to the side frames in such positions that the panel casings must of necessity fit within them and be held accurately in their proper positions so that after the first door of a certain size and style is planned it will not require skilled labor to put together the parts of doors made subsequently.

B represents one of the panels which is of substantially the same size as the panel open-

ing for which it is intended. Each panel is provided with a panel casing consisting of four grooved pieces $b b, b' b'$ which are placed around the panel as shown, the panel engaging the grooves of said pieces, and the casing pieces will preferably be glued or otherwise secured together at their meeting points, but will not be secured in any way to the panel. It is not even essential that the pieces $b b'$ should be secured together as they will be held in place by the recessed blocks, and by the outside frames to which they are secured preferably by gluing.

The casing of each panel is constructed of such a size that it will exactly fit within the recesses a^2 of the blocks a' adjacent to the panel opening for which it is intended and the panels are arranged on one of the outside frames as shown in Fig. 1 after which the other outside frame is laid upon them.

A^2 represents a filling strip of wood extending entirely around the edge of the door and separating the outside frames. This strip A^2 is of the same width as the panel casings and the panel holding blocks a' are of one half the thickness of said filling strip and panel casings, so that when the two outside frames are brought together upon the panel casings, the blocks a' of one frame meet those of the other and form solid reinforcing portions for the panels as is clearly shown in Fig. 3.

In placing the panels B in their casings, the casings are made slightly larger than necessary so as to allow the panels to swell without injuring the casings, as is shown in Fig. 2.

To assemble the parts of a door, one of the side frames is placed in a horizontal position and the filling strip A^2 is attached thereto as shown in Fig. 1 by gluing or otherwise. The panel casings and panels are then placed in position, the casings having their outer faces coated with glue and the blocks a' of both frames and the filling strip A^2 being also coated with glue. The other side frame is then placed upon the top of the panel casings and the door is then subjected to the action of a press which clamps the parts firmly together and holds them until the door is dried. Of course a number of doors could be glued up and pressed at the same time. After the door is glued up the moldings C will be secured to the door around the panel openings

by nailing or otherwise securing them to the panel casings as shown in Fig. 2. By this means the panels are held only by the grooves of the panel casings and they can thus expand
5 or contract at will without straining the door.

In ordinary doors it is necessary to make the panels of a width considerably greater than that of the panel openings. In my improved door however they are made of substantially the width of the panel opening and are supported in the side frames by means of the casings. This enables me to effect a great saving in the manufacture of the panels as they may be made from narrower lumber than
15 could otherwise be used and the lumber therefor can be purchased at cheaper rates than wider material.

It will be seen that my improved door is a very strong and durable one being braced solidly at so many points and the blocks *a'* having broad engaging surfaces which give great rigidity to the door in addition to the surfaces offered by the filling strip and panel casings. It will also be seen that the blocks *a'* are so
25 located that they provide solid portions to receive the door hinges and the mortise lock commonly employed in such doors which is another very great advantage of my construction.

30 While I have shown my invention as applied to a four panel door, it will be obvious that it may be applied to a five or six panel door, as well, or to a door having part or all of its panels disposed horizontally without
35 departing from my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a door the combination with the side frames provided with panel openings, of panel
40 securing blocks secured to said frames and adapted to receive portions of the panel casings, the panels, casings surrounding said panels, and the filling strip, substantially as described.

2. In a door the combination with the side frames provided with panel openings and panel securing blocks secured to said frames and provided with rectangular recesses to receive the panel casings, the panels, the casings loosely engaging said panels and retained
50 within said recesses, and a filling strip of a width equal to the combined thicknesses of said blocks, whereby the blocks of one frame will engage those of the other when the parts of the door are assembled, substantially as
55 described.

3. In a door the combination with the side frames provided with panel openings, of panel securing blocks secured to said frames, and adapted to receive the panel casings, certain
60 of said blocks being located adjacent to the hinge and lock receiving portions of the door, the panels, grooved panel casings for said panels and operatively engaging said blocks, and a filling strip engaging the edges of the
65 side frames the thickness of said filling strip and panel casings being the same as the combined width of said blocks, when the parts of the door are assembled, whereby solid portions are provided to receive the lock and
70 hinges, substantially as described.

4. In a door the combination with side frames provided with panel openings, of recessed panel securing blocks, secured to said frames in position to retain the panels in
75 place, the panels of substantially the size of the panel openings, the panel casings loosely engaging said panels and fitting the recesses of said blocks, the filling strip and moldings for said panels and secured to said panel casings whereby said panels are left free to shrink
80 or swell, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN S. CARTER.

Witnesses:

HENRY E. MONTGOMERY,
EDWARD DAVIS.