No. 629,448. Patented July 25, 1899.

J. M. LEAVER.

DOOR, SHUTTER, OR LIKE ARTICLE.

(Application filed July 6, 1898.)

(No Model.) 2 Sheets—Sheet 1.

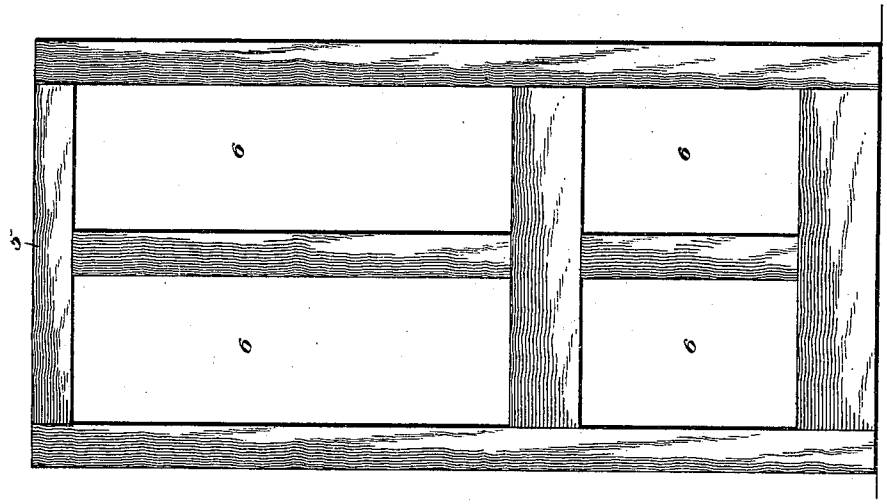
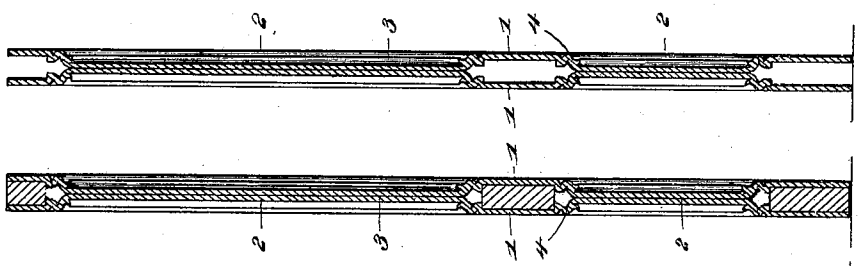
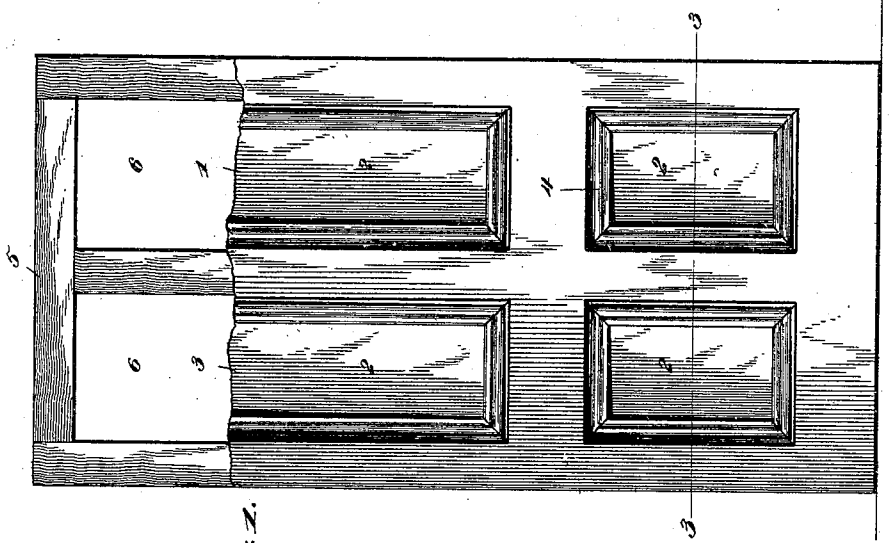


Fig. 1.



Figs. 2 & 4.



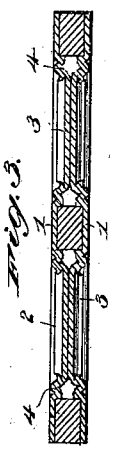


Fig. 3.

Witnesses
W. F. Doyle.
S. P. Wolhaupter.

James M. Leaver, Inventor
By his Attorneys.
C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 629,448. Patented July 25, 1899.

J. M. LEAVER.

DOOR, SHUTTER, OR LIKE ARTICLE.

(Application filed July 6, 1898.)

(No Model.) 2 Sheets—Sheet 2.

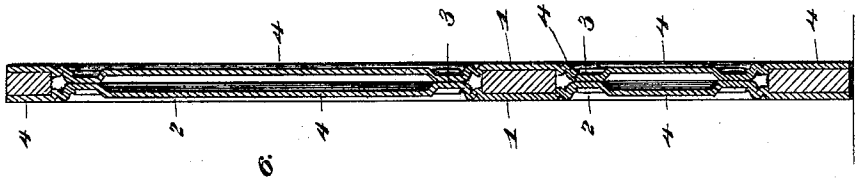


Fig. 6.

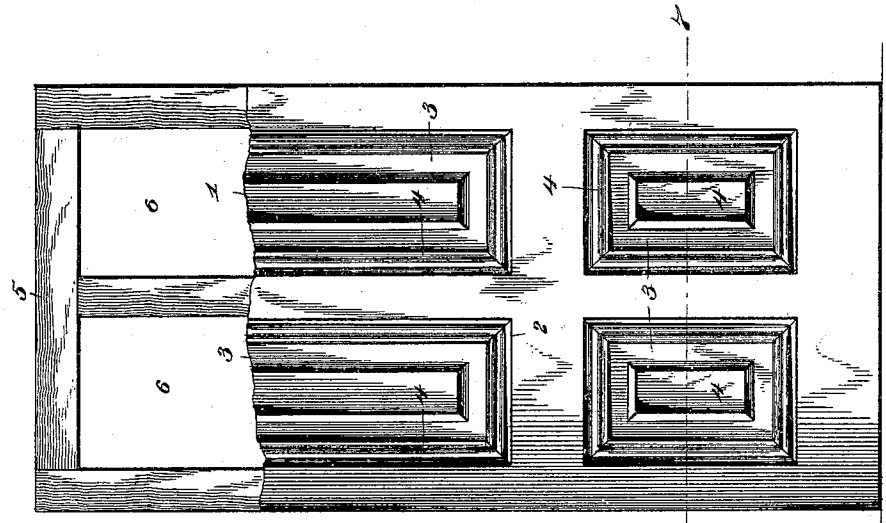


Fig. 5.

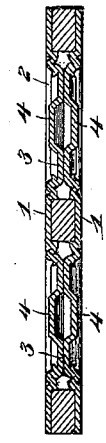


Fig. 7.

Witnesses
Wm. F. Doyle.
D. C. Wolhaupter.

James M. Leaver, Inventor
By Cris & Co. Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES M. LEAVER, OF BAY MILLS, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO LEWIS A. HALL AND ROBERT H. MUNSON, OF SAME PLACE.

DOOR, SHUTTER, OR LIKE ARTICLE.

SPECIFICATION forming part of Letters Patent No. 629,448, dated July 25, 1899.

Application filed July 6, 1898. Serial No. 685,266. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. LEAVER, a citizen of the United States, residing at Bay Mills, in the county of Chippewa and State of Michigan, have invented a new and useful Door, Shutter, or Like Article, of which the following is a specification.

This invention relates to doors, shutters, and like articles; and it has for its object to provide an improved structure which will greatly cheapen the manufacture of such articles, which are ordinarily constructed of wood, and the improvements contemplated by the present invention, while susceptible to embodiment in the construction of shutters and similar mill products, are specially designed for the construction of doors to provide a cheap, durable, and easily-constructed door which will be free from many of the defects of a door composed entirely of wood. Doors constructed entirely of wood are objectionable in most cases on account of the shrinkage or swelling of the material, especially in the panels, as at times this shrinkage is sufficient to produce cracks or openings which mar the appearance of the door and at the same time permit dust and draft to pass therethrough. The present invention obviates these objections and at the same time provides a door or similar structure thoroughly practical and durable, while also susceptible to a wide range ornamentation.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is an elevation, partly in section, of a door constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a cross-sectional view on the line 3 3 of Fig. 1. Fig. 4 is a view similar to Fig. 2, showing the sheets of paper or pulp material secured together without the use of the skeleton wooden frame or core for filling the open spaces therebetween. Fig. 5 is an elevation, partly in section, similar to Fig. 1, showing a modified construction of panel. Fig. 6 is a longitudinal sectional view of the construction shown in Fig. 5. Fig. 7 is a cross-sectional view on the line 7 7 of Fig. 5. Fig. 8 is a plan or elevation of the skeleton wooden frame or core used as a filling for the door.

Referring to the accompanying drawings, the numerals 1 1 designate two duplicate sheets of paper, wood-pulp, or equivalent sheet material cut in the proper dimensions to form the door, shutter, or like article and stamped or pressed to be given the usual configuration or shape of such article. The said duplicate sheets of material 1 1 form the body of the door or other structure and may be properly termed the "body-sheets," and in the construction of a door the said body-sheets are stamped or pressed with the usual rectangular panels 2, having the sunken and raised portions 3 and 4, respectively. In some forms of doors the greater portions of the panels 2 are sunken to form what are commonly termed "sunken panels," as clearly illustrated in Figs. 2 and 3 of the drawings, while in other forms of doors the central as well as the edge portions of the panels are raised, and the depressed portions 3 are in the form of a sunken channel or groove extending around the central raised or elevated portions, as clearly illustrated in Figs. 6 and 7 of the drawings. However, in all forms of doors, shutters, and like articles constructed in accordance with this invention the panels pressed or stamped in the body-sheets 1 are provided with depressed portions 3, which flatly contact when the body-sheets are arranged back to back and have their inner contacting surfaces securely joined or secured together by means of glue, cement, or similar fastening means. In the forms of panels shown in Figs. 2, 3, and 4 the entire flat surfaces of the sunken panels closely contact and are joined together in the manner described, while in the form of panels shown in Figs. 6 and 7 of the drawings only the flat annular depressed portions 3 contact and are joined together; but the method of assembling and securing the sheets together is the same in both cases, as well as in every other application of the invention.

The raised portions 4 of the panels not only

act in the capacity of bracing-ribs, but also form ornamental molding projections when impressed with a suitable design, and it will also be understood that the outer faces of the panels, as well as the stiles and rails of the door, may be provided with any decoration or ornamentation as may be desired, and, further, the sheets 1 of paper or pulp material may be made in imitation of various woods and enameled or decorated in any preferred way without departing from the principle of the invention, which essentially consists in the manner of joining the sheets together in the way described.

In carrying out the invention the body-sheets 1, of stamped or pressed material, may constitute the entire body of the door, shutter, or like article, as shown in Fig. 4 of the drawings; but if a more solid structure is desired the said sheets are used in connection with a skeleton wooden frame or core 5, having the configuration of the door or other article and provided with panel-openings 6 to receive the panels and permit the same being joined together, as explained. The skeleton wooden frame or core 5 forms a filling for the stile and rail portions of the door, as plainly shown in the drawings, and when said frame or core is employed the inner surfaces of the sheets 1 are coated with glue or cement at the proper places, and said sheets are then applied to opposite sides of the frame or core 5 under pressure, with or without the use of heat, as may be found necessary. Of course the frame or core 5 is not absolutely necessary to successfully carry out the present invention; but it may be found desirable under some conditions to fill up not only the stile and rail portions of the door, but also the remaining vacant spaces between the attached sheets 1, and this may be resorted to without departing from the invention.

Under some conditions the structure may be modified for the reception of glass panels, especially when the door is designed for use as an ornamental front door; but in all modifications of the invention the sheets of material are arranged and secured together in the same way, so it will be understood that any changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A door or like article of manufacture, consisting of two pieces of sheet material arranged back to back and having certain portions contacting, and the other portions separated laterally, and fastening means for tightly joining together the contacting portions, substantially as set forth.

2. A door or like article of manufacture, consisting of two duplicate sheets of paper or pulp material arranged back to back and having panels provided with sunken flat portions closely contacting and with raised ornamental brace portions, and fastening means for tightly joining together the contacting panel portions, substantially as set forth.

3. A door or like article of manufacture, consisting of a skeleton frame or core having panel-openings therein, two duplicate sheets of paper or pulp material arranged respectively at opposite sides of said frame or core, and having panels provided with sunken flat portions lying within the panel-openings and closely contacting, and fastening means for tightly joining together the contacting panel portions of the separate sheets, substantially as set forth.

4. A door or like article of manufacture, consisting of a skeleton frame or core having openings therein, two duplicate pieces of sheet material arranged respectively at opposite sides of said frame or core and having certain portions lying within the openings of the frame or core and closely contacting, and other portions separated laterally and closely fitting the sides of the frame or core, and fastening means for joining together the contacting portions of the separate pieces, substantially as set forth.

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

JAMES M. LEAVER.

Witnesses:
WM. M. DRAKE,
J. A. MCMILLARY.