No. 656,741. Patented Aug. 28, 1900.

J. M. LEAVER.

DOOR.

(Application filed Nov. 8, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

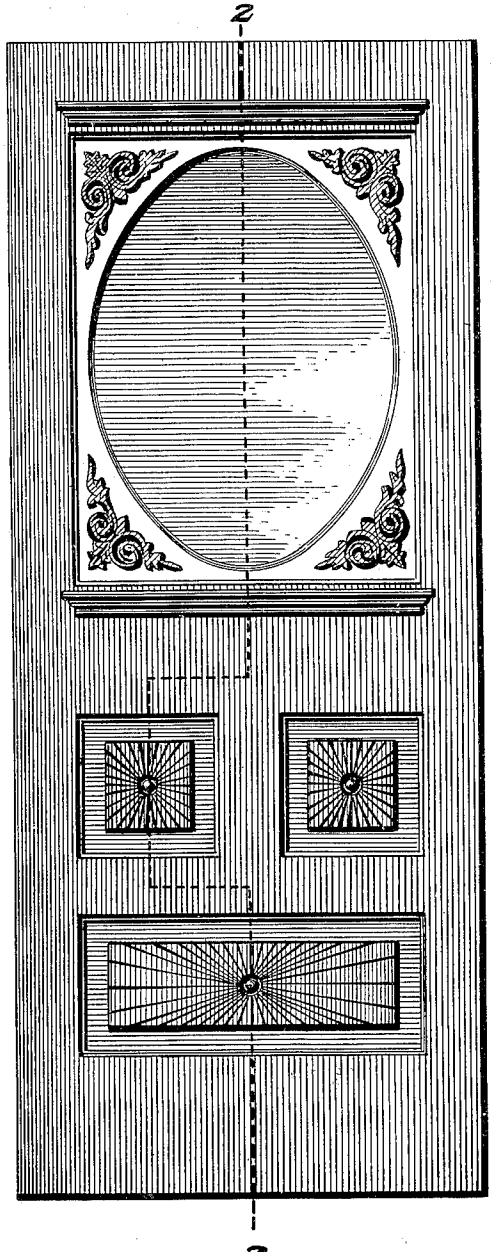
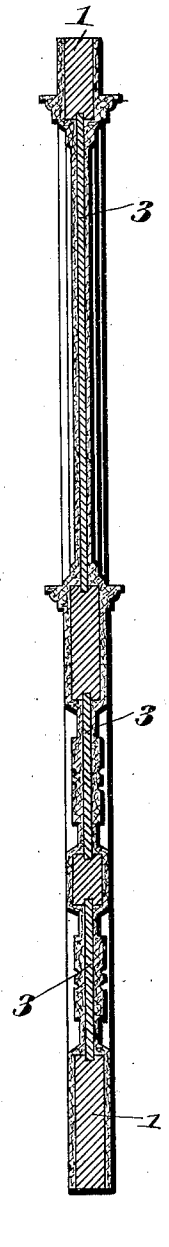


Fig. 2.



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Fig. 3.

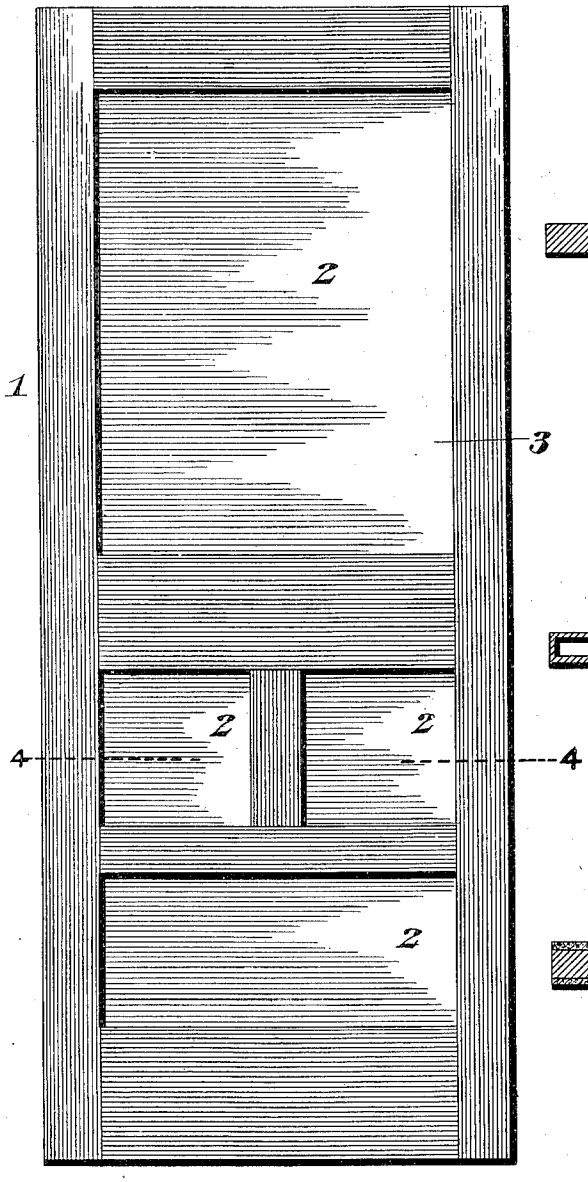


Fig. 4.

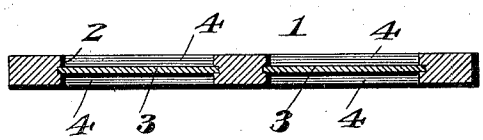


Fig. 5.

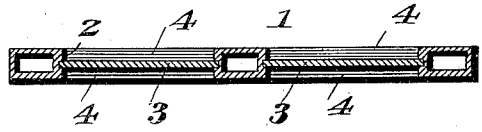
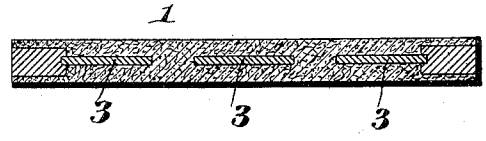


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES MARSHALL LEAVER, OF BAY MILLS, MICHIGAN, ASSIGNOR TO LEWIS A. HALL AND ROBERT H. MUNSON, OF SAME PLACE.

DOOR.

SPECIFICATION forming part of Letters Patent No. 656,741, dated August 28, 1900.

Application filed November 8, 1899. Serial No. 736,276. (No model.)

To all whom it may concern:

Be it known that I, JAMES MARSHALL 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 Analogous Article, of which the following is a specification.

This invention relates to the construction of doors, shutters, or analogous articles, and has special reference to structures of this character which consist of a core and a body of pulp material enveloping the same, the main or primary object of the invention being to provide an improved door, shutter, or analogous structure which will be a thoroughly-practical and cheap substitute for articles which are ordinarily constructed entirely of wood or of pulp.

In carrying out the present invention means are provided for constructing a door, shutter, or analogous article from pulp material, which shall be entirely practical and durable and susceptible to a wide range of ornamentation and decoration; and the essential feature of the invention resides in associating with the pulp material constituting the main body portion of the article a novel form of supporting core or frame so constructed as to provide for the thorough reinforcement of the article, while at the same time preventing possible warping of the panels thereof.

With these objects in view the invention consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed, and while the essential feature of the invention is necessarily susceptible to a variety of modifications, still the preferred embodiment of the improvement is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of door constructed of pulp materials in accordance with the present invention. Fig. 2 is a longitudinal sectional view on the line 2 2 of Fig. 1. Fig. 3 is an elevation of the preferable form of core used in the formation of the article. Fig. 4 is a cross-sectional view of the core on the line 4 4 of Fig. 3. Fig. 5 is a view similar to Fig. 4, showing a modified form of core having hollow stile and rail portions. Fig. 6 is a cross-sectional view of the completed article, showing a slight modification, in which the veneer panel-slabs do not completely fill the panel-openings of the core-frame.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

Many articles—such as doors, blinds, sash and window frames, interior finish for houses, furniture, and the like—are provided with plain as well as ornamental panel portions, and the present invention is therefore applicable to all of such articles for the reason that a core may be employed which provides for the formation of the panels at the time the pulp material is pressed and molded upon the same. In constructing the article, whatever it may be, it will be understood that it is necessary to use in every instance a core of some description so constructed as to permit of the formation of plain or ornamental panel portions, and this core may be of metal or any other material suitable for the purpose; but is preferably constructed of wood to insure a more ready adherence of the pulp material thereto. The general shape or form of the core necessarily depends upon the nature of the article; but an essential feature of the core in all instances is to construct the same with a reinforced support for the pulp material at the panel portions, and for the purpose of clearly illustrating this essential feature of the invention in connection with the body of pulp material a door structure is shown in the drawings, which structure involves the use of a rectangular skeleton core 1, consisting of a jointed frame or framework provided with panel-openings 2, conforming in size, shape, and disposition to the panel-openings of the completed door. In constructing the frame or framework of the core 1 the stile and rail portions thereof may be solid, as shown in Fig. 4 of the drawings, or even hollow, as shown in Fig. 5 of the drawings, without materially affecting the article or departing from the scope of the invention; but it is essential in carrying out the invention to provide the core with veneer or equivalent thin panel-slabs 3. These panel-slabs are centered within the panel-openings 2, equidistant from the side faces of the core 1

and may be conveniently mortised at their edges in the stile and rail portions of the core-frame, as plainly shown in Fig. 4 of the drawings. The panel-slabs 3, as thus positioned, necessarily provide upon opposite sides of the core panel-recesses 4, which receive that portion of the pulp material which is pressed into the configuration of the panel or panels of the article. The slabs 3 in the panel-openings of the core-frame reinforce the pulp material and prevent possible warping of the panels, and while in some forms of the invention the slabs 3 are shown as completely filling the panel-openings, still it may be found desirable to have the slabs only partially filling the panel-openings, as suggested in the modification shown in Fig. 6 of the drawings, so as to permit the pulp material to be molded entirely through the vacant portions of the panel-openings without departing from the reinforcement afforded by the slabs 3.

In the manufacture of the article the core 1, forming the binder or base for the pulp material, is enveloped in the pulp material, and this material is pressed upon the core from the opposite sides thereof, so as to not only closely adhere to the opposite faces of the core, but also to be firmly pressed into the said recesses 4, formed by the panel-slabs 3. At the time the pulp material is pressed about the core on opposite sides thereof by means of suitable dies the desired ornamentation is impressed upon and into the surfaces of the pulp material. Also any desired panel-beading or other ornamentation is impressed upon the pulp material simultaneously with its compression upon the core, whereby the exposed faces of the pulp-body will be provided with ornamental panel portions around and within the pulp-receiving recesses.

From the foregoing it is thought that the construction and many advantages of the herein-described article will readily suggest themselves to those skilled in the art without further description, and it will be understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention. In this connection it may be observed that the article may be modified so as to have provision for leaving a panel or panels blank for the insertion of glass; but this would not affect the essential features of the invention herein pointed out.

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

1. A door, shutter, or analogous article, consisting of a core-frame having openings therein, and plain reinforce-slabs centered in said openings and forming duplicate pulp-receiving recesses upon opposite sides thereof, and a body of pulp material pressed upon both sides of the core and into said recesses, the exposed faces of the pulp-body having ornamented panel portions around and within said recesses.

2. A door, shutter, or analogous article, consisting of a core provided with openings, and reinforce-slabs partly filling the said openings and forming pulp-receiving recesses at opposite sides of the core, and a body of pulp material pressed about the core, into the said recesses, and through the interstices or spaces between said slabs.

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

JAMES MARSHALL LEAVER.

Witnesses:
WM. M. DRAKE,
WM. H. FULLER.