April 10, 1934. C. P. HAFF 1,954,290

ASBESTOS LUMBER CELL DOOR

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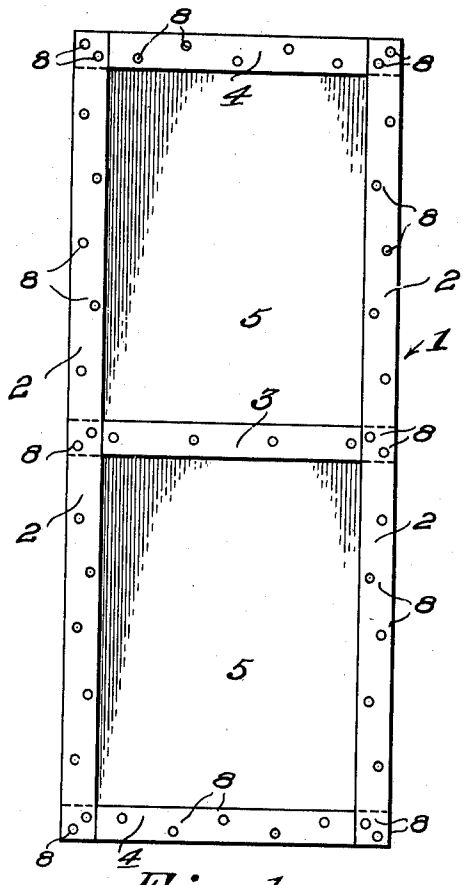


Fig. 1.

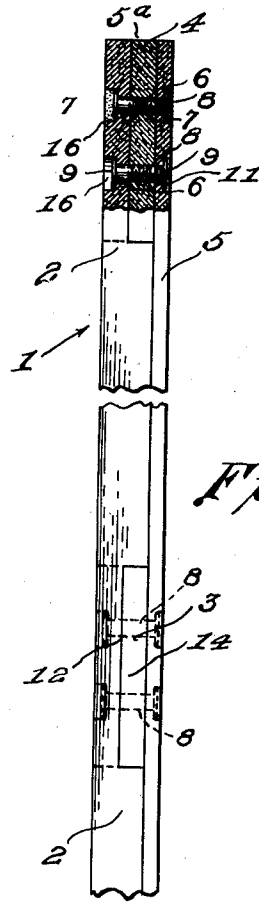


Fig. 3.

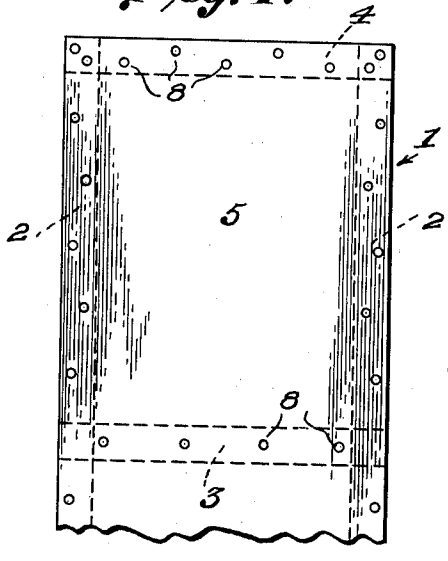


Fig. 2.

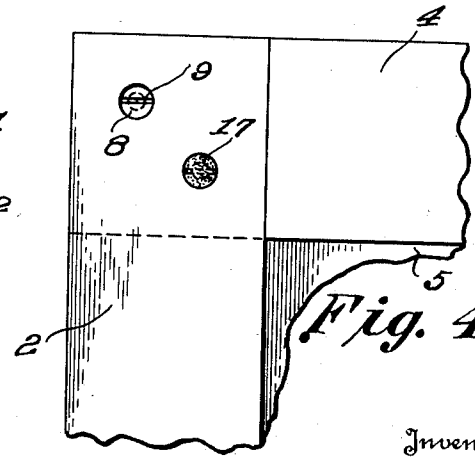


Fig. 4.

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ASBESTOS LUMBER CELL DOOR

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Application September 1, 1933, Serial No. 687,855

2 Claims. (Cl. 20—35)

This invention relates to door construction, and particularly a door formed of structural units of a composite material, such as a compound of asbestos fibre and Portland cement, and which I term "asbestos lumber".

Among the several objects of this invention is first that of providing a door of a minimum number of elements, all formed of the asbestos cement composition, which therefore renders the door fireproof; secondly, that of providing a door, the elements of which are so joined, particularly at their corners, that a maximum of strength is obtained at these points where the door is usually subjected to strain and warpage; and third, the provision of a door which is simple in construction and which presents a neat appearance. Among the features present in this construction is the specific joint fastening means and the manner of their application.

In the accompanying drawing,

Fig. 1 is a front elevation of the door;

Fig. 2 is a rear elevation of the upper portion of the door;

Fig. 3 is a side view of the door with the upper right hand corner shown in vertical section to illustrate the corner joint and the fastening devices; and

Fig. 4 is an enlarged detail view of the upper left hand corner of the door shown in Figure 1.

Referring now more specifically to the drawing by numerals of reference, 1 indicates the door in general, said door comprising a frame including vertical side stiles 2, center cross rails 3, and top horizontal cross rails 4, joined into the rectangular structure shown in Figure 1. Secured to this frame on the rear thereof, as seen in Figure 2, is a panel 5, all the aforesaid elements being formed of the composition of asbestos and cement, and formed by molding, pressing or other suitable process.

Since each of the four corners of the door frame is similarly formed and connected, a description of one will be sufficient for a full understanding of them all, the specific details being quite well illustrated by reference particularly to Figure 3 which shows in section such a construction which I prefer to provide.

To form the corner joint as shown, the vertical stiles and upper and lower cross rails 4, which in actual construction are approximately ¾'' in thickness, are reduced in thickness at their ends to ⅜'', for a distance back from their extreme ends, equal to the width of the respective stiles and cross rails, the reduced portions being associated to provide a lap-joint 5 shown in Figure 3, the contacting surfaces of the joined elements being suitably cemented before being permanently associated.

For the purpose of rigidly fastening the corner joints, as shown in Figure 3, I propose to provide the lapped portions with registering openings 6 and 7, the former, namely those in the vertical stiles 2, being enlarged on the outer face side thereof to provide countersinks 16 to receive the heads of fastening bolts 8, known in the building art as "Chicago binding posts", although other and suitable securing means might be employed. Specifically, these bolts 8 which pass through the registering openings 6 and 7 at each of the four corners of the door frame, comprise screw threaded telescoping members, each having a kerfed head 9.

Applied to the rear face of the door frame is a rectangular panel 5, also of asbestos cement composition, said panel extending entirely over the door frame members to substantially the extreme top, bottom and side marginal edges thereof, the contacting surfaces of adjacent portions being first cemented before being permanently joined, as by the fastening bolts 8 which pass through openings 11 in the corners of said panel, registering with the openings 6 and 7 in the lapped portions of the stiles and cross rails 2 and 4 respectively. At suitably spaced intervals along each side, top and bottom of the door frame, said panel 5 is connected with the stiles and rails by similar bolts 8 passing through registering openings in each.

Intermediate its length, each of the vertical stiles 2 on its rear face, is reduced to about one-half its thickness as at 12 to receive the similarly reduced ends 14 of the central cross rail 3 as shown in Fig. 3, the lapped portions being rigidly connected by fastening bolts 8 which also pass through the panel 5 at this point in the structure.

The countersunk recesses 16 which are provided in the outer faces of the stiles and cross rails, and also in the rear face of the panel are filled by asbestos cement plugs 17 or any other suitable cement for the purpose of giving the outer face of the door a plain surface, unbroken or marred by unsightly holes or other openings, and permitting the door to be artistically decorated by painting or otherwise.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A door construction comprising a frame formed of vertical stile and horizontal cross rail

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members of fireproof asbestos cement composition, a panel of fireproof asbestos cement secured to the rear face of said frame and extending substantially to the extreme top side and bottom edges thereof, said stile, rail and panel members having registering openings, fastening bolts passing through said openings and securing said elements in rigid relation, and means for concealing the heads of said fastening bolts.

2. A door construction comprising a frame formed of vertical stile and transverse upper and lower cross rail members of fireproof asbestos composition having lapped corner joints, the portions of said members at said joints being reduced in thickness in substantially equal amounts, an intermediate transverse cross rail having a lap joint connection with said stile members, a panel of fireproof asbestos cement secured to one face of said door frame and substantially coextensive in area with the marginal outline of said frame, said stile, rail and panel members at said joint portions being provided with registering openings, the openings in said rail and panel members having countersunk entrances, bolts passing through said openings and securing said members rigidly together and plastic plugs within said countersunk entrances.

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