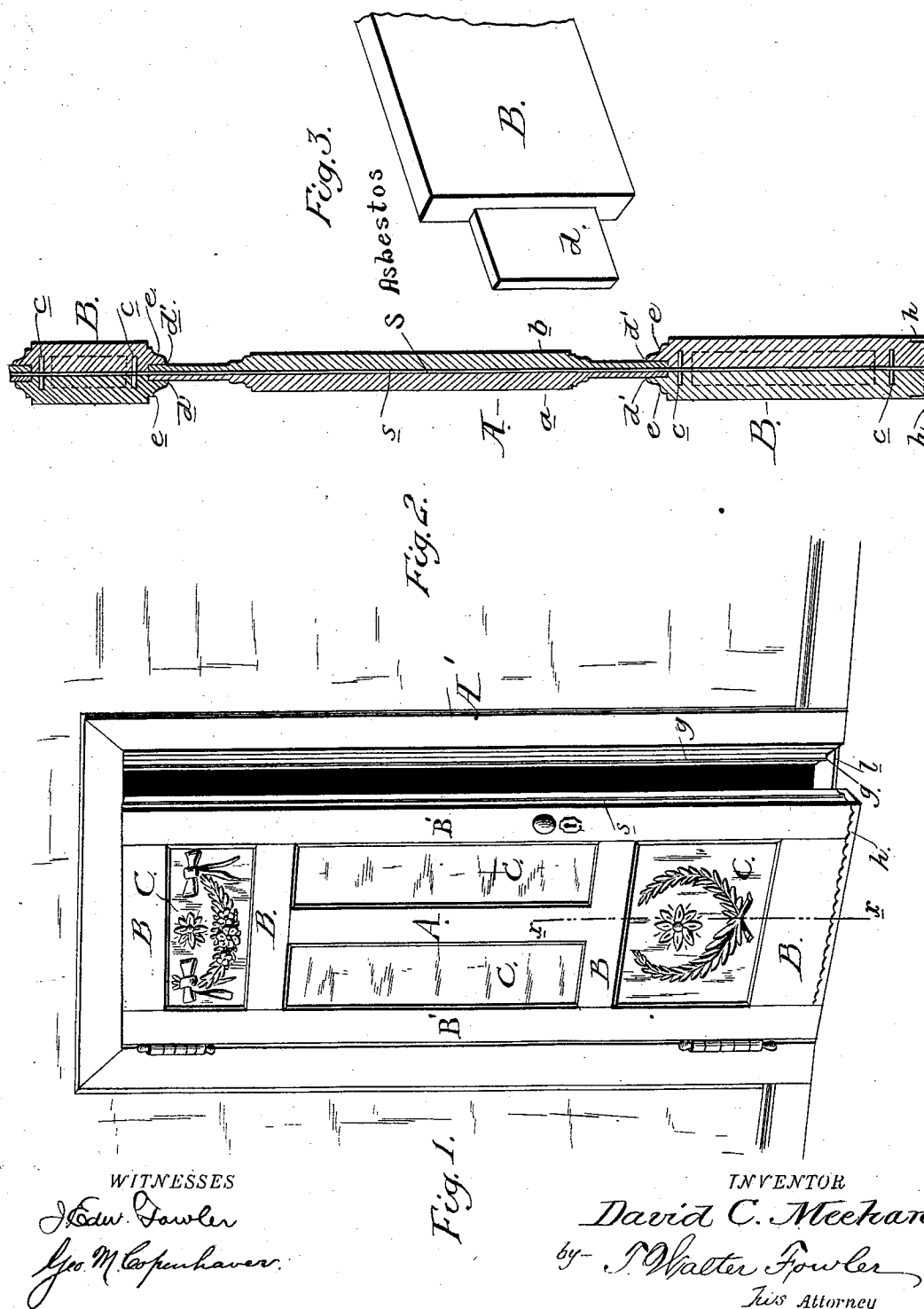


(No Model.)

D. C. MEEHAN.
DOOR.

No. 532,574.

Patented Jan. 15, 1895.



UNITED STATES PATENT OFFICE.

DAVID C. MEEHAN, OF COLUMBUS, OHIO.

DOOR.

SPECIFICATION forming part of Letters Patent No. 532,574, dated January 15, 1895.

Application filed September 25, 1894. Serial No. 524,059. (No model.)

To all whom it may concern:

Be it known that I, DAVID C. MEEHAN, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to doors composed essentially of wood, as such doors are not only cheaper to manufacture but possess advantages that are not apparent in metal doors or doors composed of wood interior and metal facing or exterior.

The object of the present invention is to construct a door which, while not alleged to be fire-proof, will possess such slow burning qualities as to hold in check the flames of a burning room until the fire department can have an opportunity to arrive at the scene of the fire and combat the flames.

The question of fire-proof and fire-resisting doors between adjoining rooms has been a subject of considerable discussion by architects and builders, as it is recognized by all familiar with building construction and the ravages of the flames, that the ordinary wooden doors with their thin panels are not designed for and cannot resist the flames in one room quickly eating their way through such doors, and spreading the flames to the adjoining apartment or room. Attempts have been made to meet the dangers referred to by constructing the doors in some cases of metal; while in other instances metal doors have had an asbestos or a similar non-conducting or fire-resisting medium packed or placed in their interior. Another plan has been to make a door with a wooden center or interior and facing the outside with metal, and placing over this the wooden panels. These constructions are objectionable because of the great expense attending their manufacture. Therefore it is desirable to construct a door which possesses the advantages of a thorough slow-burning door but one in which the cost will

but slightly exceed that of a door of the ordinary form.

It is the object of my invention to construct a door entirely of wood, except as to such metal facing strips as I may wish to use surrounding its edges to prevent the flames working their way through the joint between the door and its jamb, or casing, and to so cheapen the manufacture of such a door as to place it within the reach of the public, and thus enable the latter to apply such doors to their buildings without increased expense. Not only this, but wooden doors of this description are more susceptible of a high finish and a better degree of ornamentation than metal doors, while at the same time they are lighter and cheaper.

Referring now to the accompanying drawings for a more complete explanation of my invention, Figure 1, represents a door and its jamb or casing, and showing these parts provided with metal plates or binding strips to protect the joint between them. Fig. 2, represents an enlarged vertical sectional view on the line $x-x$ of Fig. 1. Fig. 3, is a detail showing a portion of one of the rails.

Similar letters of reference indicate like parts in the several figures.

In the said drawings, A represents the door and A' the frame or casing therefor, having the usual bead or stop-rail against which the door closes.

The door A is composed of wood rails B, wood stiles B' and wood panels C, and the construction and putting together of the component parts of the door will be substantially as follows:

The door is made in two complete sections $a-b$ each of which has its own stiles, rails and panels, with an outer face finished and ornamented in any suitable and desired manner, and an inner face or back approximately straight or flat with surfaces of the stile and panel sections flush with each other, to form a flat face or abutting surface whereby the inner faces or backs of the two complete sections of the door may be readily and closely fitted together back to back, and then secured in a substantial manner by concealed dowel pins c or by any other suitable or desired means.

In constructing the sections *a-b*, I prefer to form each rail with tenons *d* as shown in Fig. 3 whose inner surfaces or backs are flush with the inner side or back of the rail, so that when the two sections of the door are fitted together, back to back, the stiles, rails and panels of each section combine to constitute practically single sections whose dimensions are about equal to those used in the ordinary wooden doors of the same size.

Each rail and stile has its inner face or back recessed or mortised at *d'* and it may and preferably is, formed with any suitable design of molding *e* thereby doing away with the necessity of inserting moldings or strips to form a finish at the junction of the panel with the stile and rail.

Each panel will be of such design and ornamentation as may be desired, and its ends and edges are designed to be fitted in the recessed inner faces or backs of the rails and stiles as shown. This enables me to finish the panels complete prior to their being placed in position, and obviates the necessity of employing glue or other means for securing them in place.

Placed between the adjoining inner faces or backs of the sections *a-b* is a layer or sheet *s* of fire resisting medium, preferably a sheet of asbestos, which extends the full length and width of the door, so that in the event of fire occurring in a room and igniting the door on that side, the progress of the flames will be resisted upon meeting the layer or sheet of asbestos long enough to hold the door intact and prevent the spread of the flames to the adjoining room, to enable the firemen to arrive and bring into play the apparatus used for the extinguishment of fires.

I do not claim that my door is fire-proof, but I do claim that it is sufficiently slow-burning, because of the intermediate layer of fire resisting medium, that the progress of flames to an adjoining apartment or room will be checked for a reasonable time to permit the arrival of the fire department, thus increasing the possibilities for the extinguishing of the fire before it has passed beyond control; and in most instances such delay in the flames burning their way through the door will result in confining the fire to the room in which it originated.

To further check the advance of the flames, I secure a narrow metal strip *g* to the casing so that it will project slightly into the doorway, against which strip the door closes. The carpet strip *l* will also, preferably, be protected by a metal strip, and the lower edge or bottom of the door may also have a metal strip *h* secured to it whereby the joint at this point may be protected and the combustible parts covered by the metal to prevent the flames igniting the wood at such points. The bottom strip *h* may also project upwardly so as to slightly overlap the bottom of the door upon each side to give an ornamental or pleas-

ing feature to the door, and if preferred the door may have a binding strip around all of its edges without departing from the spirit of my invention.

The weak part in all doors being the panels, it is obvious that by interposing the asbestos or fire resisting medium along the median line of the door, I practically reinforce the panels, and hold fire in check so that the destruction of the door by fire will be slow enough to make reasonable safety; while the cost of these doors is so small as to place them within the reach of the public for business and residence purposes; also the panels will not shrink out of place at the first high temperature to which they are exposed, as is the case with ordinary wooden doors. I am also able to use more varied styles of panels than the ordinary construction, and, besides, the panels may be completed and thoroughly finished before being put into place.

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

1. A wooden door consisting of two sections adapted to be united and form the complete door, each section composed of panels, rails and stiles with each rail having a coincident recess opening through its inner face, adapted to receive the tenons of the panels and produce a flush joint, and a sheet of asbestos placed between the meeting faces of the sections and extending from edge to edge.

2. A slow-burning door divided centrally into two sections each of which comprises rails, stiles and panels, said rails having coincident recesses opening through their inner faces to receive the tenons of the panels, a sheet of asbestos placed between the sections and extending throughout the length and width of the door to the edges thereof, and a metal strip or binding for protecting the lower edge of the door.

3. A slow-burning door divided centrally into two sections each of which comprises rails and stiles said rails having tenons located at one side of the center so that their inner faces are flush with the inner faces of the rails, and panels having tenons whose inner faces are flush with the inner face of the body of the panel, adapted to be fitted in recesses opening through the inner face of the rails and a sheet of asbestos placed between the sections of door and completely occupying the space from edge to edge in both directions.

4. A slow-burning door formed at two abutting sections each of which has its own rails, stiles and panels, whose outer faces are finished and whose inner faces of each section are flush, with the tenons of the panels fitting in mortises or recesses opening through the rear face of the rails, a sheet of asbestos placed between the abutting sections and extending from edge to edge of the door, means passing into the sections and through the asbestos sheet for uniting the parts together,

and means for covering and protecting the exposed lower edges of the sections.

5 5. The combination, with a door divided centrally into two sections, and a sheet of asbestos between the sections and extending to the edges thereof, of a metal strip on the bottom of the door and protecting the edges of the sections, and asbestos sheet, and a strip of metal *d* projecting from the frame or casing into the door-way against which the door closes.

6. In doors formed of abutting sections having wood panels, a means for reinforcing said panels consisting of a sheet of asbestos placed behind each panel in the median line of the door.

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

DAVID C. MEEHAN.

Witnesses:

JNO. J. CROSBIE,
W. H. SHARP.