No. 826,549.

PATENTED JULY 24, 1906.

A. H. DIVER.

FIREPROOF DOOR.

APPLICATION FILED MAR. 3, 1905.

2 SHEETS—SHEET 1.

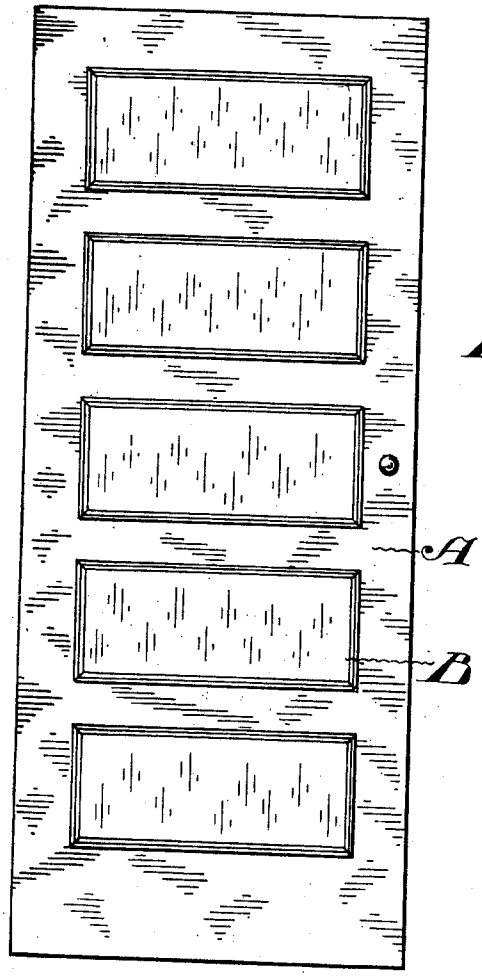


Fig. 1.

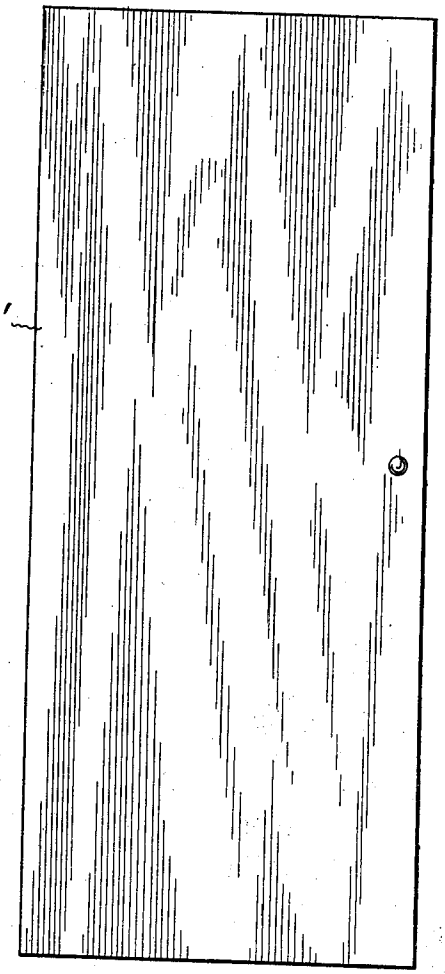


Fig. 2.

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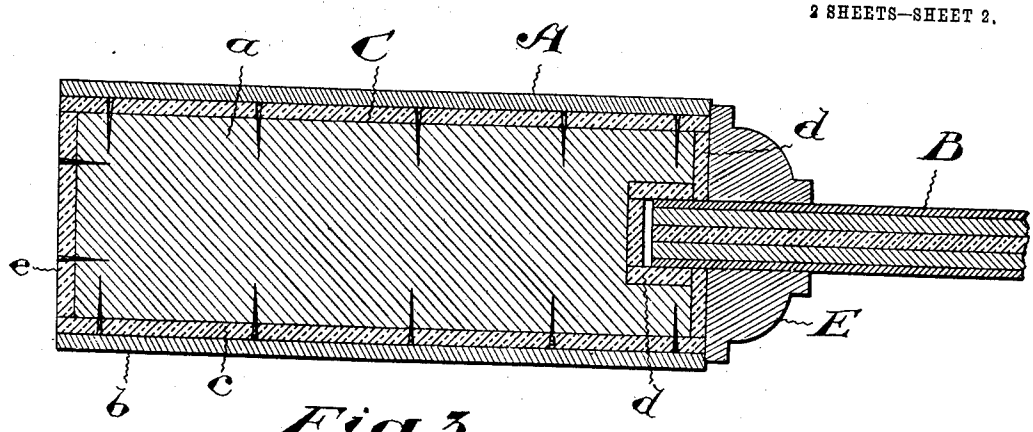


Fig. 3.

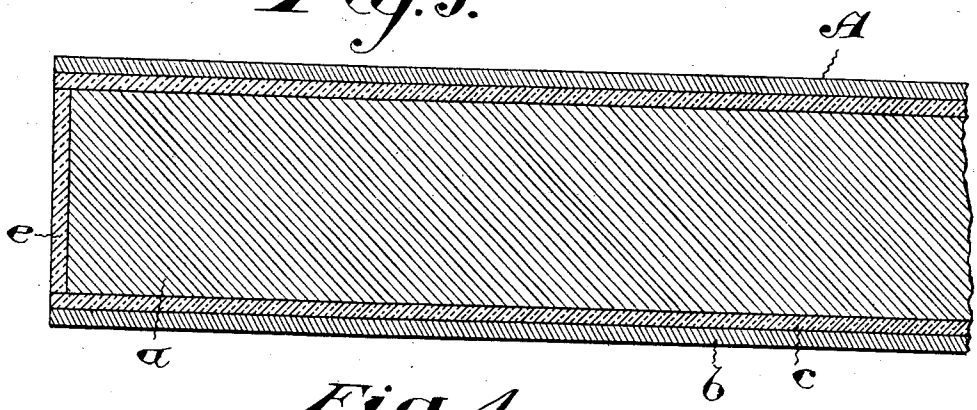


Fig. 4.

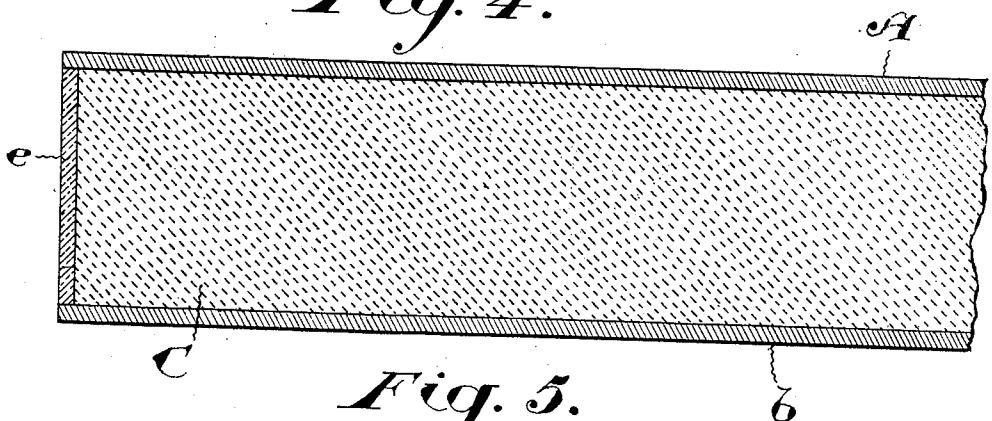


Fig. 5.

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ALFRED H. DIVER, OF TRENTON, CANADA, ASSIGNOR TO THE GILMOUR DOOR COMPANY, LIMITED, OF TRENTON, CANADA.

FIREPROOF DOOR.

No. 826,549. Specification of Letters Patent. Patented July 24, 1906.

Application filed March 3, 1905. Serial No. 248,250.

To all whom it may concern:

Be it known that I, ALFRED H. DIVER, of Trenton, in the county of Hastings, Province of Ontario, Canada, have invented certain new and useful Improvements in Fireproof Doors, of which the following is a specification.

The object of the invention is to devise a fireproof door having an outer surface of wood; and it consists, essentially, in forming the door of a plurality of plies of material thoroughly secured together with glue or other adhesive, one or more of the plies of material other than the surface plies being of asbestos or other fire-resisting material which will take the adhesive, substantially as hereinafter more specifically described and then definitely claimed.

Figure 1 is a front elevation of a door constructed in accordance with the invention and provided with panels. Fig. 2 is a similar view showing a door without panels. Fig. 3 is a full-sized sectional detail showing a portion of the framing of the door and a portion of a panel. Fig. 4 is a similar view showing a portion of a door without panels. Fig. 5 is a similar view showing a portion of a door provided with a center of fire-resisting material.

In the drawings like letters of reference indicate corresponding parts in the different figures.

Referring to the drawings, A represents the framing of the door, and B the panels.

It will be seen that the door is made up of a plurality of plies of material thoroughly secured together by the use of glue or other adhesives. One or more of these plies of material are formed of fire-resisting boards or sheets C.

In Fig. 3 is shown a sectional detail of a veneered hard-wood door, to which this invention is particularly adapted. In this figure, *a* represents the core, usually of inexpensive wood; *c*, sheets of fire-resisting material capable of taking glue or some other adhesive and thoroughly secured by the use of such adhesive to the outer surfaces of the core, and *b* the facing-veneers, of hard wood, thoroughly secured by a suitable adhesive to the surface of the fire-resisting material. The panel also is formed of several plies of material glued together, but as the panel is much thinner than the framing of the door a single sheet of fire-resisting material is likely to be sufficient, but more than one layer may be used, if desired.

It will be seen that the inner edges of the framing round the panels are protected by pieces *d* of fire-resisting material, and the insulation is carried all round the rabbet for the edges of the panels, so that no gap is left. These pieces *d* may be secured in position by a suitable adhesive or in any other suitable manner.

The moldings E are those ordinarily employed for finishing the edges of the panels.

It will of course be understood that the invention is not limited to the use of any particular fire-resisting material, but compressed asbestos sheets are, however, deemed preferable, as the best results are obtained by the use of such sheets or some other fireproof material which is hard and firm and possesses a surface which will take the glue or other adhesive.

Hospital-doors are usually formed without panels, and such a construction is illustrated in Figs. 2, 4, and 5. In Fig. 4 the door is shown constructed in the same manner as the framing of the paneled door. Instead of being constructed in this way the door may be built with a core composed entirely of a fire-resisting material to which the facing-veneers are secured, as before; but where it is desired to use asbestos, and solid asbestos would render the door too heavy, it is proposed to use a composite material containing a considerable proportion of asbestos. (See Fig. 5.)

It will be noticed that the outer edge of the framing is shown protected by an external layer *e* of fire-resisting material glued in position. This might also be covered with a wood veneer like the sides of the door.

It is not desired to limit the invention to the use of any particular number of sheets of fireproof material, as one or more may be employed, according to circumstances.

It is of course a common practice to sheath the doors with metal to render them fireproof, but it is not intended to claim such in the present application. It is, however, essentially new to build a door having one or more layers of fire-resisting material which will take glue or other adhesive secured by such adhesive between plies of wood to form practically a solid door.

A door constructed in accordance with this invention possesses the advantage of being

indistinguishable on the outside from an ordinary wooden door, and yet will be found in practice to give as effective a resistance to fire as the metal-sheathed doors and a more effective resistance than the chemically-impregnated doors already on the market and this at an expense very little greater than that of an ordinary veneered wood door.

Where it is necessary or desired to use a glue or adhesive of low fire-resisting quality or for the purpose of making the fire resistance of the door more certain under all circumstances, any ordinary means of fastening plies of materials together—such as pegs, nails, or screws—may be used to supplement the glue or adhesive in securing the fire-resisting sheets or plies to the core or inner plies, so that should the adhesive effect of the glue or like material be under any circumstances unduly weakened or destroyed the fireproof sheets or plies will nevertheless remain attached to the core or inner plies and in position to continue to protect the core or inner plies from the action of the fire.

What I claim as my invention is—

1. In a door a framing comprising a core; a sheet of fire-resisting material capable of taking an adhesive and secured thereby to each face of the core; and a facing-veneer similarly secured over each sheet of fire-resisting material, in combination with a panel independent of and rabbeted into the framing and having a sheet of fire-resisting material secured therein between other plies of material by a suitable adhesive, substantially as described.

2. In a door a framing comprising a core; a sheet of fire-resisting material capable of taking an adhesive and secured thereby to each face of the core, a facing-veneer similarly secured over each sheet of fire-resisting material, in combination with a panel having a sheet of fire-resisting material secured therein between other plies of material by a suitable adhesive, the edges of the panel being rabbeted into the framing; and sheets of fire-resisting material secured to the framing adjacent to and surrounding the edges of the panel, substantially as described.

3. In a door a framing comprising a core; a sheet of compressed asbestos capable of taking an adhesive and secured thereby to each face of the core; a facing-veneer similarly secured over each sheet of compressed asbestos, in combination with a panel having a sheet of compressed asbestos secured therein between other plies of material by a suitable adhesive, the edges of the panel being rabbeted into the framing; and sheets of asbestos secured to the framing adjacent to and surrounding the edges of the panel, substantially as described.

4. In a door a framing comprising a core; a sheet of compressed asbestos capable of taking an adhesive and secured thereby to each face of the core; supplemental metal fasteners further securing the asbestos to the core; and a facing-veneer similarly secured over each sheet of compressed asbestos, in combination with a panel having a sheet of compressed asbestos secured therein between other plies of material by a suitable adhesive, substantially as described.

Toronto, Ontario, February 11, 1905.

ALFRED H. DIVER.

In presence of—

CHAS. M. RICHARDSON,

G. T. BISSELL.