O. E. MOULTON.

FIREPROOF DOOR.

APPLICATION FILED DEC. 11, 1907.

911,836. Patented Feb. 9, 1909.

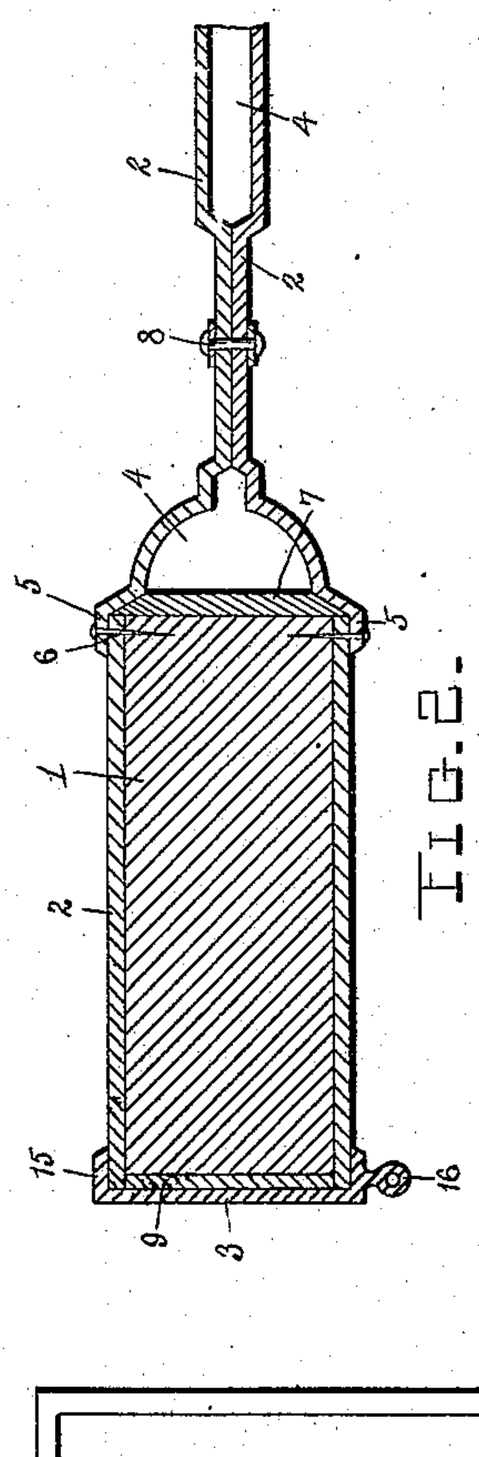

FIG. 2.

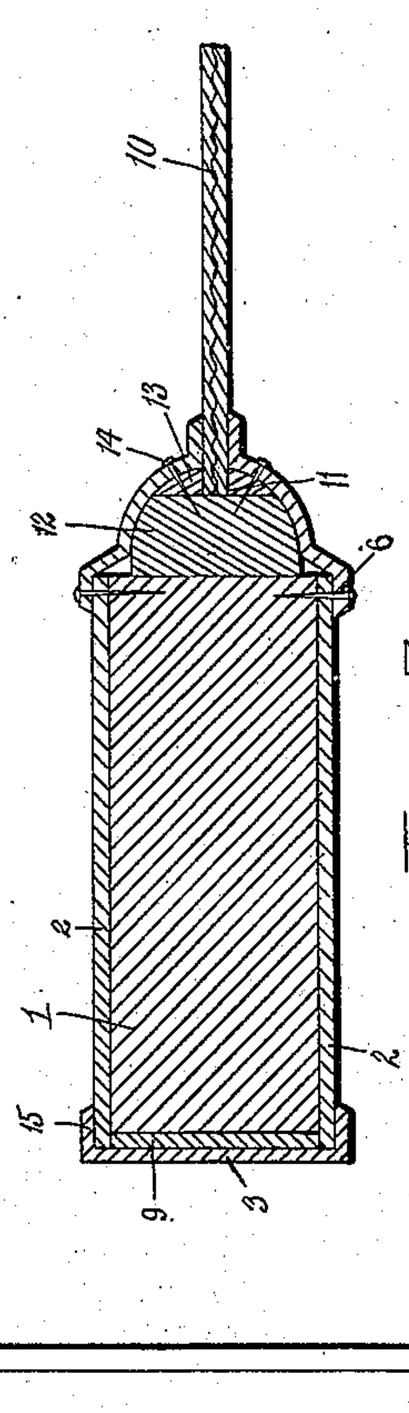

FIG. 3.

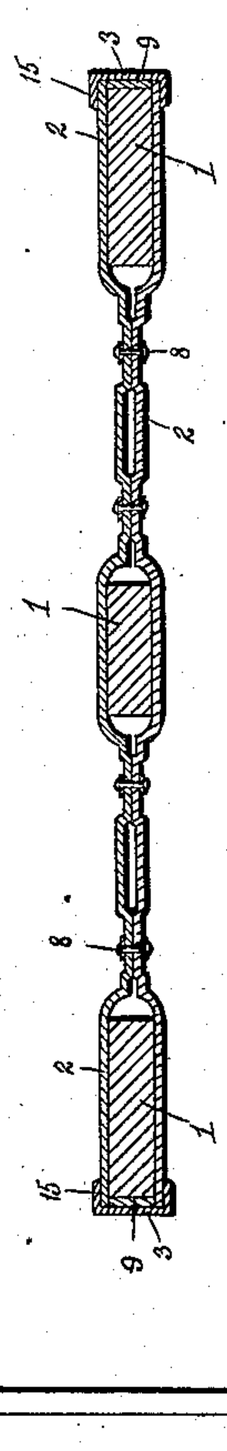

FIG. 4.

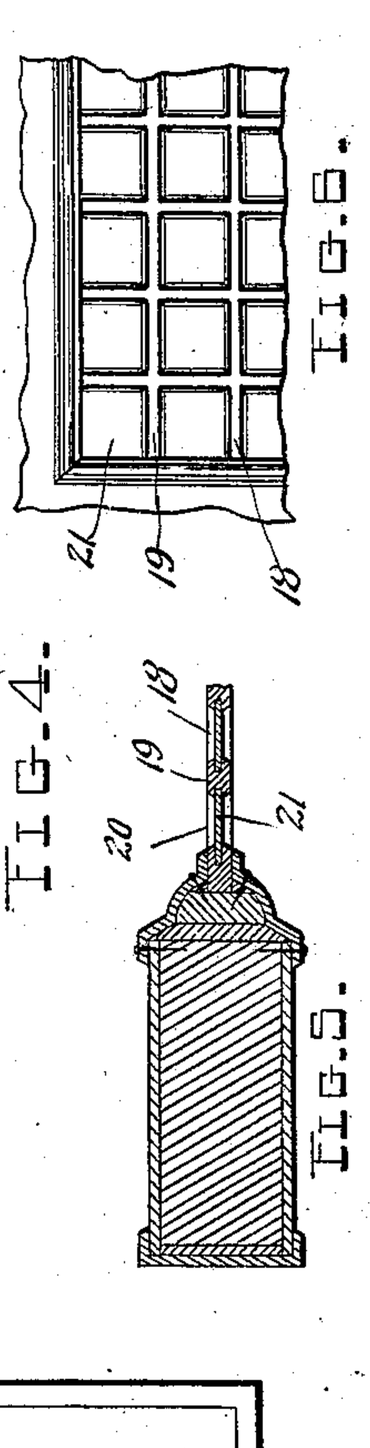

FIG. 6.

FIG. 5.

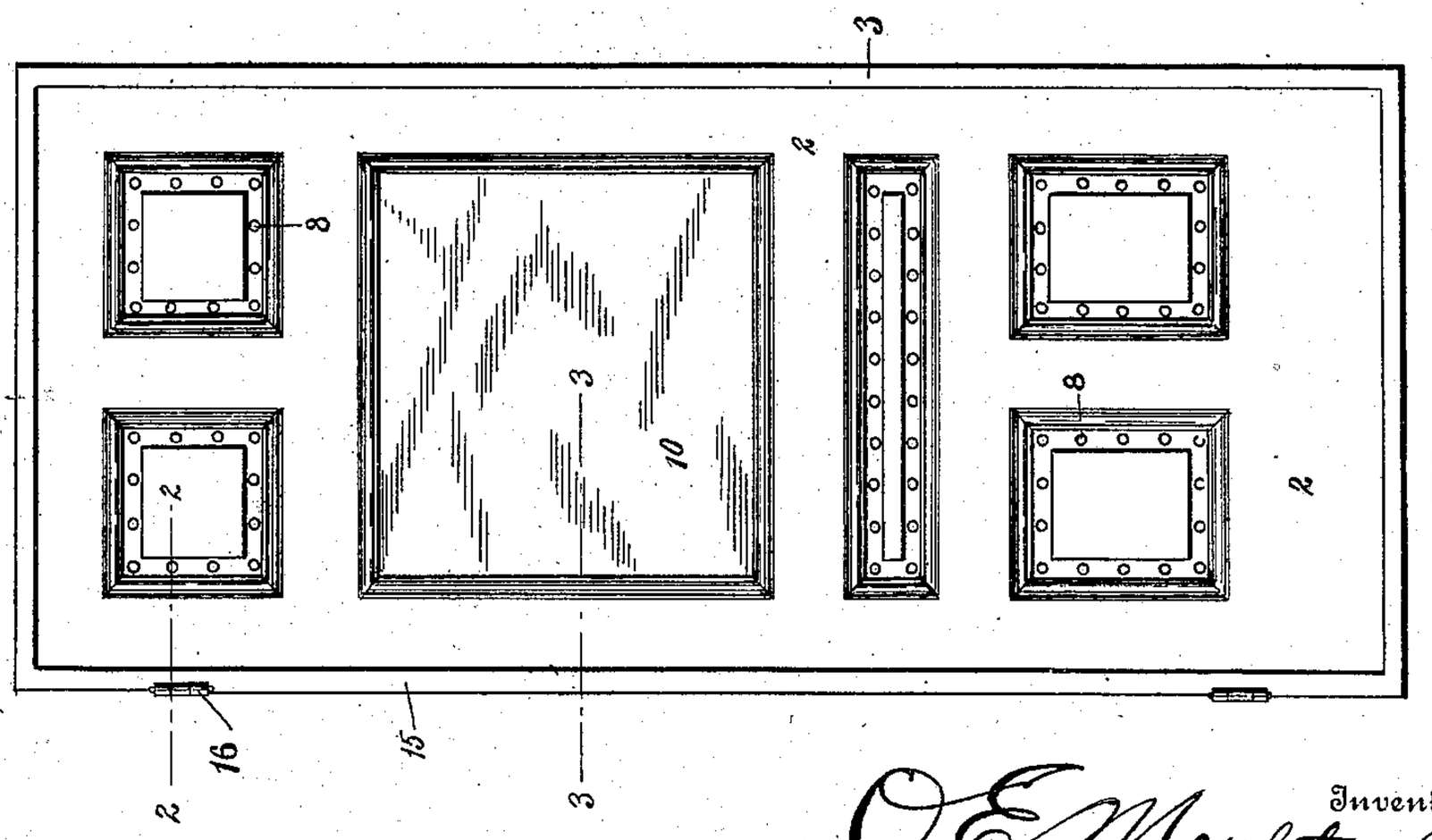

FIG. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

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FIREPROOF DOOR.

No. 911,836. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed December 11, 1907. Serial No. 406,061.

To all whom it may concern:

Be it known that I, OTIS E. MOULTON, a citizen of the United States, residing at Dover, in the county of Strafford and State of New Hampshire, have invented certain new and useful Improvements in Fireproof Doors, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in fire proof doors, shutters and similar structures, and consists of the novel features of construction and the combination and arrangement of parts hereinafter described and claimed.

The object of the invention is to provide a fire proof door or the like especially adapted for use in office buildings and dwellings which will be ornamental and attractive in appearance and at the same time light, strong, durable and comparatively inexpensive in construction.

The above and other objects of the invention, which will hereinafter appear, are attained in the construction illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a fire proof door constructed in accordance with my invention, parts being broken away and in section; Figs. 2 and 3 are enlarged detail sectional views taken respectively on the planes indicated by the lines 2—2 and 3—3 in Fig. 1; Fig. 4 is a transverse section through a door showing a slightly modified form of the invention; Fig. 5 is a detail section similar to Fig. 3 showing a transparent fire proof plate or sash which may be substituted for the wire glass shown in Fig. 3; and Fig. 6 is a detail view of the plate or sash shown in Fig. 5.

My improved door comprises a rigid frame 1, preferably of wood, covered with asbestos boards or sheets 2 and having its edges bound by a metallic frame 3. The frame 1 is of open rectangular or other form and the wood of which it is made is preferably dipped in or treated with some solution which will render it slow burning. It may be constructed of solid stock or of small stock glued or otherwise united.

The asbestos covering 2 is formed by stamping sheets of asbestos cardboard between hot dies so that it is given a shape corresponding to that of the frame and which resembles the panels and moldings of ordinary wooden doors. The boards or sheets before being stamped or otherwise shaped are preferably dipped in a glutinous solution so that they will retain the desired shape and they are then placed upon and united to the frame by suitable cement, small brads or nails, rivets or any other suitable fastenings. By shaping the asbestos boards in this manner the door is not only rendered ornamental and similar in appearance to ordinary doors, but air spaces 4 are formed between the two layers as more clearly shown in Fig. 2.

If desired a single sheet or board of asbestos may cover one side of the frame as shown in Fig. 4, in which case the dies which shape the same must be flat and large, and consequently somewhat expensive; but as shown in the remaining figures of the drawings, the asbestos covering may be constructed of a plurality of small pieces which are individually stamped or shaped and united to each other and to the frame. When such smaller pieces of asbestos board are used they may be readily shaped between rotary dies and consequently produced at a small cost.

When the covering 2 is made of a plurality of small sheets or boards their meeting edges are preferably overlapped as shown at 5 in Fig. 2 and united by brads or nails 6 or cement, or both.

The stamped portions of the boards or sheets which form the ornamental moldings of panels may, if desired, be reinforced by similar shaped strips of wood as indicated at 7. As above stated, the opposing sheets or boards which cover the opposite sides of the frame may be united to the latter or to each other by cement, glue or the like but I preferably employ rivets 8 for more effectively uniting said parts especially when they contact each other as shown in Fig. 2. The asbestos covering is not only arranged upon both sides or faces of the frame but also upon its edges as indicated at 9.

When it is desired to have one or more transparent panels in the door or other structure, the asbestos boards or sheets are cut away to receive wire glass or the like 10, the edges of which are inserted between the opposing asbestos sheets or boards and engaged with shoulders 11 formed in wooden strips or moldings 12 arranged upon the frame 1 and

between the asbestos boards as shown in Fig. 3. The glass is retained upon the shoulder 11 by strips of wood 13 and small brads 14 are preferably employed to securely unite said parts.

The frame 1 after being entirely covered with the asbestos boards or sheets 2 is bound by the metallic frame 3 which surrounds its edges and is formed with continuous inwardly extending flanges 15 to engage the side faces of the door and more effectively retain the covering 2 thereon. I preferably form integral with the metal frame 3 at suitable points hinge members 16 which are adapted to engage co-acting members upon the door or window frame in which the structure is hung. The door may be painted, enameled or otherwise finished and ornamented as may be desired and as may be necessary to protect it from the weather.

From the foregoing it will be seen that the invention provides a fire proof door which is not only effective but also ornamental and attractive in appearance so that it can be used in office buildings, dwellings and the like, and at the same time it is strong, durable and comparatively inexpensive in construction.

In Figs. 5 and 6 of the drawings I have shown a fire proof transparent plate 18 which may be substituted for the wire glass 10 shown in Fig. 3. Said plate 18 is in the form of a brass, aluminum, or other metal frame or sash 19 having openings 20 of any suitable form and size and closed by or covered with pieces of mica 21. A plate or sash constructed in this manner is fire proof and more durable than wire glass which might melt in some places.

Having thus described my invention what I claim is:

A fire proof door or similar structure comprising a wooden frame with rectangular openings arranged at suitable distances apart therein, sheets of asbestos secured upon the entire surface of said door including the surrounding edge portion thereof, said sheets of asbestos having stamped representations of panels and moldings thereon which are arranged at suitable distances apart and fitting in said rectangular openings, moldings having shoulders arranged upon the frame and interposed between the asbestos boards, a transparent panel in one of the rectangular openings having its edge projecting between the asbestos material and having its surrounding edge contacting with the shoulders of the molding, means for retaining the transparent panel upon said shoulders, a metal binding extending continuously around the edges of the asbestos on the edge of the door, comprising a metallic frame secured continuously around and covering the edges of the asbestos on the edge of said door, and said metallic frame having flanges formed therewith provided with hinges, substantially as specified.

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

OTIS E. MOULTON.

Witnesses:
ARTHUR NOEL SMITH,
ROBERT DOE.