W. E. C. LIEBERT.

FIREPROOF DOOR AND LIKE STRUCTURE.

APPLICATION FILED JULY 29, 1912.

1,045,714. Patented Nov. 26, 1912.

FIG. 1.

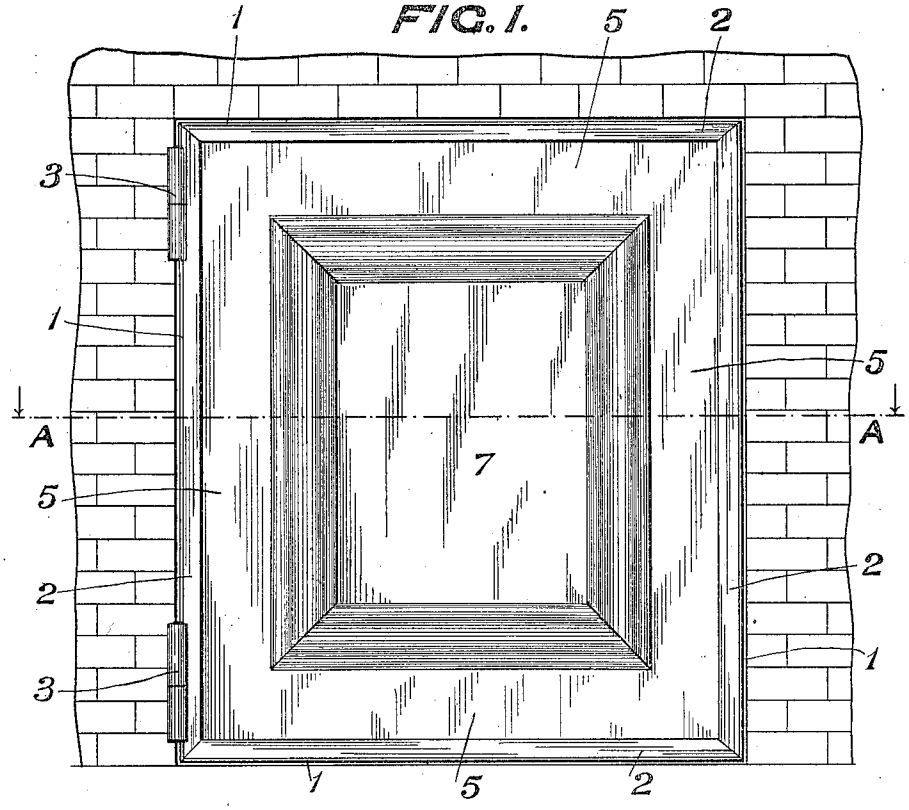


FIG. 2.

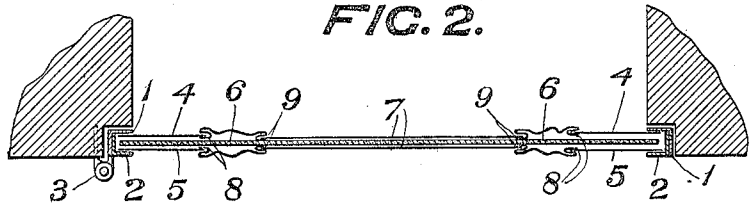
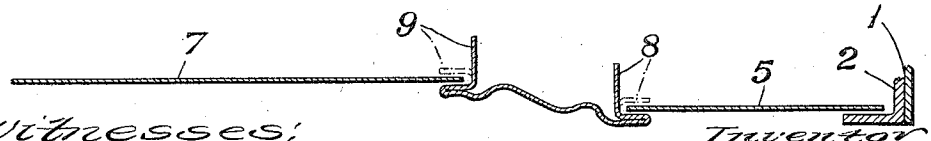


FIG. 3.



Witnesses:

Inventor

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UNITED STATES PATENT OFFICE.

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FIREPROOF DOOR AND LIKE STRUCTURE.

1,045,714. Specification of Letters Patent. Patented Nov. 26, 1912.

Application filed July 29, 1912. Serial No. 712,110.

To all whom it may concern:

Be it known that I, WILLIAM ERNEST CATO LIEBERT, a subject of the King of Great Britain, residing at 87 Greencroft Gardens, South Hampstead, London, England, have invented certain new and useful Improvements in Fireproof Doors and Like Structures, of which the following is a specification.

This invention relates to fireproof doors and to similar structures and it has for its object an improved construction of what are termed paneled doors and paneled structures whereby to render the same more efficient in use and considerably cheaper to manufacture than heretofore.

According to this invention the door or other body and the panel proper are each constructed so as to have a floating or non-rigid connection with the member or structure supporting the same, such combination enabling both the door body and the panel to expand or contract according to the variations in temperature to which the same may be subjected, by fire or otherwise, without any tendency of either to warp or to displace or strain the frame or other support. In addition, by means of the peculiar construction of panel about to be described there is a considerable saving in material and the necessity for the employment of expensive tools is entirely avoided.

The invention is illustrated by way of example in the accompanying drawings in which—

Figure 1 is an elevation of the improved paneled fireproof door. Fig. 2 is a cross-section on the line A—A Fig. 1. Fig. 3 is a cross section of a portion of a panel showing portions of the same before being wholly assembled.

The frame of the door is composed of a channel formed by laying together two rectangular or other suitably shaped frames 1, 2, of L-section angle iron which are secured together in any suitable manner and which constitute the rigid portion wherein the remainder "floats". The said frame may be provided down one side with hinges 3 which are secured thereto and to the wall or other support, or the door may be of the sliding type. Within the aforesaid frame 1, 2, the body of the door is arranged. This body preferably consists of two iron plates 4, 5, separated by a distance equal to the depth of the channel frame 1, 2, and between said plates is interposed a layer of insulating material such as asbestos. This layer of insulating material may be in the form of a sheet 6 of asbestos slate. The two iron plates are not riveted together nor to the channeled frame but are retained therein in such manner that the plates may expand or contract freely.

At its center portion the door body is preferably formed on each side with a panel, and to do this economically and without employing expensive tools, and, moreover to render the panel floating and thus to reduce the liability of the same to become distorted, these panels are fashioned in a novel manner. Each plate 4, 5, has a piece 7, of rectangular or other suitable shape cut out of it, and said piece 7 is then reduced all around by an amount equal to the width of the molding which is to ornament the panel. Molding of any desired ornamental configuration is then produced by the usual means, such as by rolling, and along its two edges said molding is doubled upon itself so as to form upstanding flanges. Suitable lengths of this molding are then cut and are fitted into the aperture in the door caused by the removal of the pieces 7 from the plates 4, 5, and, as seen in Fig. 3, the outer marginal flange 8 of each strip of molding is bent over so as to form a groove which houses the cut edge of the plate 4 or 5 as the case may be. When the molding has thus been completed around the aperture in each plate 4 or 5, the piece 7 is inserted in place and the inner marginal flange 9 of each strip of molding is bent over so as to constitute a groove housing the edge of the piece 7, the two pieces 7 thus forming the panel. In this manner each panel section 7 has a floating or non-rigid connection with the body portion of the door, and it is produced more easily and cheaply than by the usual process of riveting a panel and molding on to a plain sheet or by stamping up a panel and molding.

What I claim as new and desire to secure by Letters Patent of the United States of America is:—

1. A paneled fireproof door or like structure comprising, a framework, a body portion mounted therein so as to be capable of expanding and contracting freely, a panel in said body portion, and means to retain said panel so that it can expand and contract freely relatively to said body portion.

2. A paneled fireproof door or like structure comprising, a channeled framework, a fire-resisting body portion mounted therein so as to be capable of expanding and contracting freely, a fire-resisting panel in said body portion, and means to retain said fire-resisting panel so that it can expand and contract freely relatively to said body portion.

3. A paneled fireproof door or like structure comprising, a rigid channeled framework, a fire-resisting body portion mounted therein so as to be capable of expanding and contracting freely, a fire-resisting panel in said body portion, and molding connecting said fire-resisting panel to said body portion in such manner that said panel can expand and contract freely relatively to said body portion.

4. A paneled fireproof door or like structure comprising, a rigid channeled frame work, a fire-resisting body portion mounted therein so as to be capable of expanding and contracting freely, said body portion being apertured for the reception of a panel, a fire-resisting panel disposed in said aperture, and molding grooved at one edge to receive the adjacent edge of said apertured body portion and grooved at the other edge to receive the adjacent edge of said panel, said molding connecting said panel to said body portion in such a manner that said panel can expand and contract freely relatively to said body portion.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM ERNEST CATO LIEBERT.

Witnesses:
F. HERBERT KING,
HENRY JOHN STOGSEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."