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P. EBNER.
FIREPROOF DOOR.
APPLICATION FILED MAY 7, 1908.

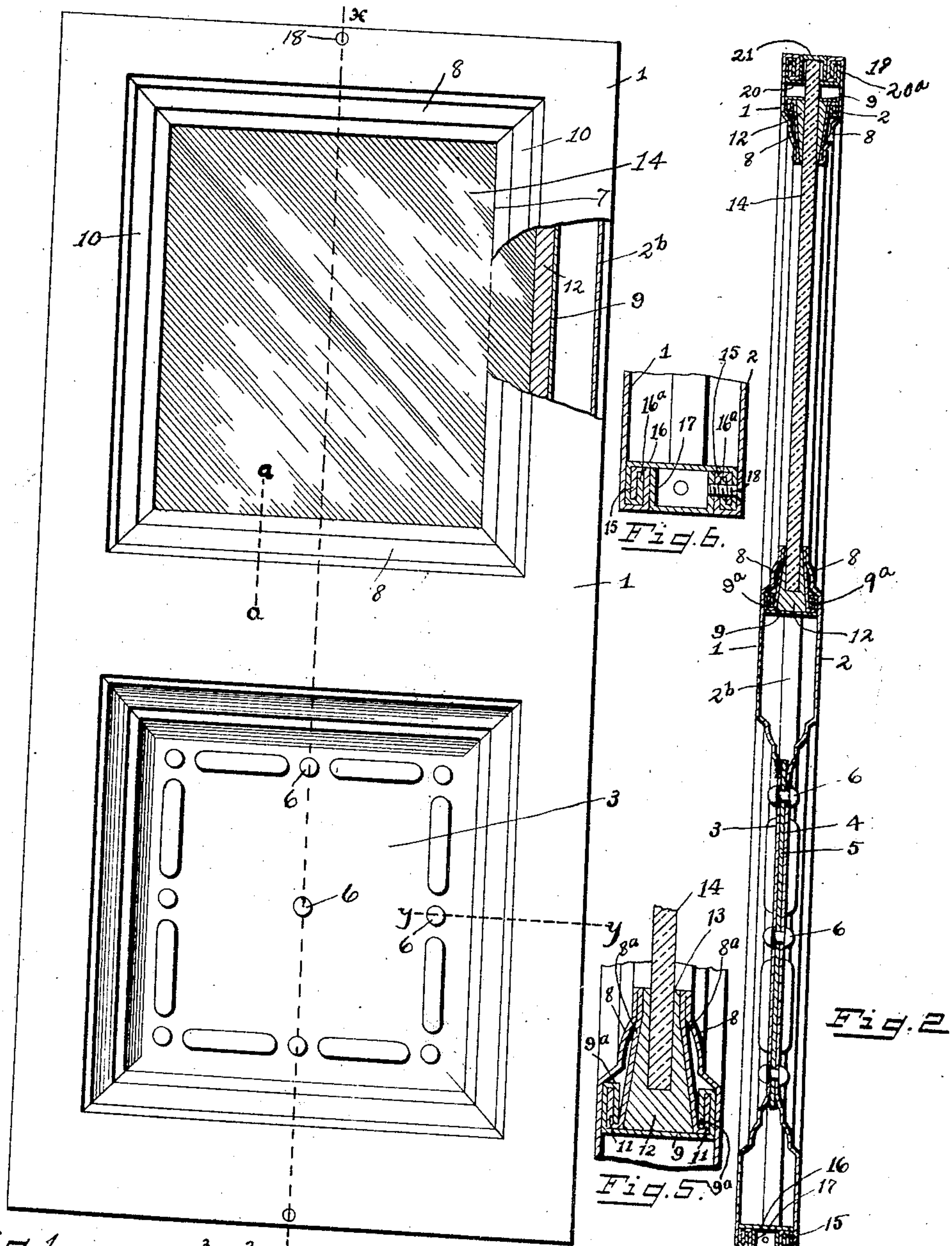


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses

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FIREPROOF DOOR.

No. 894,373.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PETER EBNER, 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 Fireproof Doors, of which the following is a specification.

My invention relates to the improvement of fire-proof doors of that class which are adapted to be used in building construction and the objects of my invention are to provide an improved construction of metallic fire-proof door which will tend to resist the action of heat; to so construct my improved door to prevent the same from twisting or warping when subjected to a high temperature; to provide improved means for supporting a glass panel therein and to produce other improvements the details of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawing, in which:

Figure 1 is a view in elevation of my improved door, Fig. 2 is a central vertical section on line $x-x$ of Fig. 1, Fig. 3 is a transverse section on line $y-y$ of Fig. 1, Fig. 4 is a view in perspective of one of the end filling members which I employ in the manner hereinafter described, said filling member being shown broken for the sake of clearness in illustration, Fig. 5 is an enlarged sectional view on line $a-a$ of Fig. 1, and, Fig. 6 is a sectional view representing an enlargement of the lower end of Fig. 2.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention, I employ two opposing door facing plates 1 and 2 of sheet metal, these plates having their longer edges provided with flanges 1^a and 2^a which extend at right angles with the faces of the plates, the flange 2^a terminating in an inwardly projecting hook 2^b which is engaged by a hook tongue 2^c formed throughout the length of the flange 1^a. In the lower half of each of the plates 1 and 2 is formed a panel depression and these opposing panels which are indicated at 3 and 4 are separated only by a sheet of asbestos 5, said panel portions and asbestos separated sheet being closely united by metallic rivets 6.

In the upper half of the door, the opposing plates 1 and 2 are cut away to form suitable sized panel openings 7 and about each of these openings said metal plates are stamped

or pressed to form a frame, said frame portion being provided with miter cuts at its corners to produce upper and lower frame tongues 8 and side frame tongues 10. Between the door sections or plates 1 and 2 and about the openings 7, I provide a metal frame, the sides and ends of which comprise as indicated at 9, channel shaped bars, the side flanges of which are formed throughout their lengths with inturned hook lips 9^a. The depressed frame tongues 8 and 10 are as indicated more clearly in Fig. 5 of the drawing, bent inward upon themselves said inturned members which are indicated at 8^a being of greater depth than the members 8 and having their edge portions terminating in hooks 11 which engage the inturned hook projections 9^a of the frame sections 9. The inturned frame tongue members 8^a embrace, as shown, opposite faces of wood frame bars 12 which form a complete frame about the openings 7 of the plates 1 and 2. The inner edges of these frame bars are recessed as indicated at 13 to receive the marginal portions of a glass door plate 14.

As indicated more clearly in Fig. 6 of the drawing, I form the lower end or edge portion of each of the plates 1 and 2 with an inturned double hook 15 which are engaged by inturned hook terminations 16^a of the downturned side flanges of a channel plate 16 which extends between the plates 1 and 2 in the lower portion of the door. The space between the hook members 15 is closed by an elongated box-like member 17 and the underside of which is flush with the underside of the inturned hook members 15 of the plates 1 and 2. Said plates may be united with the channel member hooks 16^a by the hooks 15 and side walls of the member 17 by screws or other fastening devices 18. For the sake of clearness in illustration, but one of these screws is shown in the drawing, the same being indicated in Fig. 6 thereof.

As prescribed for the lower end of the door, the upper ends of the plates 1 and 2 are as indicated at 19, bent inwardly to form double hooks which are engaged by the hook terminations 20^a of a channel bar 20 corresponding in position and arrangement with the channel bar 16 at the lower end of the door, with the exception that said channel bar 20 has formed therein a central slot through which the upper end of the glass plate 14 projects within a filling bar 21 corresponding in form and position with the

lower filling bar 17. It will also be observed that the upper wood frame bar 12 which corresponds, is separated centrally in two sections so as to permit of the passage there-
5 through of the upper portion of the glass plate.

From the construction described it will be observed that the only inflammable material employed in my improved door are
10 the wood frame pieces 12 which cushion the glass plate 14 and which are so incased by metal as to prevent their being readily affected by external heat. It will also be observed that the formation of the de-
15 pressed panel in the lower half of the door, which results in the drawing together of the plates 1 and 2, will in conjunction with the structure described, operate to impart great strength to the door and prevent the same
20 from being readily warped or twisted by the action of heat. The tendency of the door to warp is further obviated by the fact that with the exception of those portions of the door occupied by the lower panel and
25 the upper glass panel, an air space is formed between the two faces of the door.

Although no means of hinging or locking my improved door are shown or described herein, it will be understood that suitable
30 metallic devices for these purposes may be employed in connection therewith.

What I claim, is:

1. In a fireproof door, the combination
35 with two opposing metal door plates, said plates having inturned hook terminations at their upper and lower ends and having edge flanges formed with engaging hooks, metallic

channel bars between the upper and lower portions of said door plates, said channel bars having their sides formed with inturned
40 hooks which engage the end hooks of said door plates, and metallic filling pieces between the inturned hook terminations of said door plates.

2. In a fireproof door, the combination of
45 two opposing metallic plates, each of said plates having a panel depressed therein, said depressed panel portions being riveted one to the other, channel pieces 16 and
50 20 extending between the lower and upper portions of the door plates and having hook terminations which engage hook terminations of said door plates, and filling bars between the hook portions of said plates.

3. In a fireproof door, the combination of
55 two metallic door plates having their longer edges flanged and united, said plates having oppositely located openings in their upper portions and inwardly bent frame tongues formed in said plates about said openings,
60 said tongues being turned inwardly and formed with terminal hooks, a metallic channel frame having its sides hooked into engagement with the hooks of said frame
65 tongues, wood members embraced by said tongues, and a glass plate having its marginal portions embraced by said wood members.

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

PETER EBNER.

Witnesses:

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A. L. PHELPS.