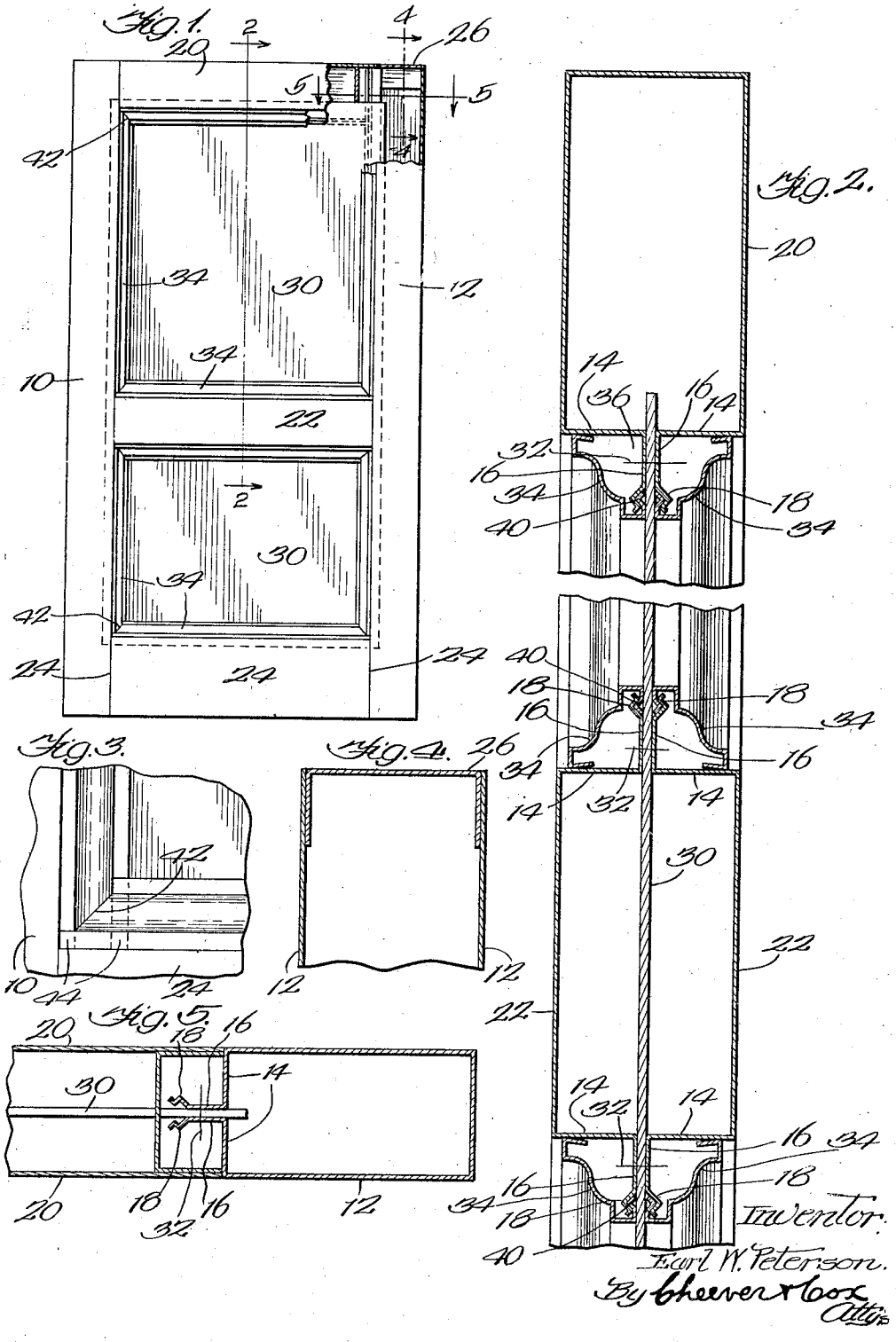
Aug. 28, 1923. 1,466,650

E. W. PETERSON

METAL DOOR

Filed Dec. 2, 1920



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UNITED STATES PATENT OFFICE.

EARL W. PETERSON, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-THIRD TO FERNANDO J. LE BEAU AND ONE-THIRD TO ERICK BLAINE THELIN, BOTH OF CHICAGO, ILLINOIS.

METAL DOOR.

Application filed December 2, 1920. Serial No. 427,688.

To all whom it may concern:

Be it known that I, EARL W. PETERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Metal Doors, of which the following is a specification.

This invention relates to metal doors used in fire proof buildings and the like. The object of the invention is to provide a door of this class which has all the appearance of being a high class metal door sometimes known as an art craft door, but which is really very much more economically constructed than has heretofore been usual in this line of business.

The invention consists in means for carrying out the foregoing objects, which can be very easily and cheaply made, which is entirely satisfactory in use and is not liable to get out of order. More particularly the invention consists in a novel means for securing the door parts together and particularly the mouldings thereto and in many other features and details of construction which will be hereafter fully set forth in the specification and claims.

Referring to the drawings in which like numerals designate the same parts thruout the several views:—

Figure 1 is a face view of a door, certain parts being shown in section, illustrating this invention in its preferred form.

Figure 2 is an end sectional view taken on the line 2—2 of Figure 1.

Figure 3 is an enlarged detailed face view showing the method of connecting adjacent end portions of mouldings together and to the doors.

Figure 4 is a sectional detail view on the line 4—4, Figure 1.

Figure 5 is a sectional detail view on the line 5—5, Figure 1.

In constructing a door of this invention two vertical side members, commonly called stiles, 10 and 12 are provided, of box like cross section, as shown, particularly in Figure 3. The side 14 of each stile which is toward center line of the door is divided in its middle and provided adjacent to the line of division with a pair of parallel projecting flanges or jaws 16, terminating in irregular surfaces such as the angular ribs 18 extening up the door. These parallel stiles are connected together cross-ways at any desired number of points, in the particular case here illustrated three, by the cross rails 20, 22 and 24, also of box like construction is shown in section in Figure 2. The lower edge of the top rail 12 is provided with the same construction 16—18 as that of stile 12 (Figure 5) and the bottom rail 24 is provided on its upper edge, not shown in detail of the drawing, with the same construction. The center rail 22 is provided, top and bottom, with the construction 16—18, referred to, as clearly appears in Figure 2. The upper and lower end of the stiles are closed by end members 26, similarly welded thereto.

In assembling the door, a suitable panel 30, is provided and placed in the position shown. In putting the panel in place it is slipped entirely thru the space between the jaws 16 on the center rail 22 and inside the jaws on the upper and lower rails as clearly indicated in Figure 2. When in place the rails are secured to the stiles by any suitable means, usually acetylene or arc welding on the lines 24 of the Figure 1, and the panel is welded in fixed position by spot welding or riveting at the points 32 indicated on the drawings.

The mechanism thus far constructed produces a very simple inexpensive door which can be and is exclusive of the ribs 18 used very extensively in factories and the like where fancy construction is not required and will not be paid for. In order to convert this cheap factory door into a high class door it is only necessary to provide for each panel section, between cross rails, a set of four pieces of moulding 34 adapted to cover up the angular corners 36 between the stiles or rails and the adjacent jaws 16. These pieces of moulding are provided with reversely turned flanges 36 having thereon ribs 40 adapted to slip up under and interlocked with the members 18 heretofore described so that the moulding pieces can be automatically fastened to the panel 30 in the positions shown in the drawings without the use of solder rivets, spot welding or the like. The moulding sections are so shaped at their ends 42 that when finally in place they readily fit together and are secured by what is known in the trade as a cope construction 44, clearly illustrated in Figure 2, being ultimately spot welded or

otherwise secured in the panel 30 at these points.

The result of the construction described is that without any riveting or welding except at the points of coping 44, these pieces of moulding can be supplied to the comparatively rough door first constructed and a very satisfactory, more or less artistic, door produced as shown in the drawing, capable of use in the finest sort of building with the entire satisfaction to everybody concerned without going to the heavy expense which has heretofore been required where a fine door of this class is provided. The door is finally finished by welding the edges of the moulding which contact the stiles and rails thereto.

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

1. A structure of the kind described including a member having a jaw extending therefrom, a panel fitted between said jaw and an adjacent portion of the member, and a molding member including a portion fitted between and engaging overlying portions of said panel and jaw and interlocked with the latter.

2. A structure of the kind described including a member having a jaw extending therefrom, a panel fitted between said jaw and an adjacent portion of the member, and a molding member including an inturned portion fitted between said panel and jaw and interlocked with the latter, the inner face of the inturned portion of said molding member being disposed flush with the inner face of said jaw.

3. A structure of the kind described including a member having a jaw extending therefrom, a panel fitted between said jaw and an adjacent portion of the member, and a molding member having two marginal portions one of which is interlocked with the jaw against movement away from the member in the direction of the panel and the other of which engages the member without interlocking engagement with the jaw.

4. A structure of the kind described including a member having a jaw extending therefrom, a panel fitted between said jaw and an adjacent portion of the member, and a molding member having two marginal portions one of which is disposed between the panel and jaw and interlocked with the latter against movement away from the member in the direction of the panel and the other of which engages the member without interlocking engagement with the jaw.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

EARL W. PETERSON.

Witnesses:
DWIGHT B. CHEEVER,
VELMA GRIFFITH.