

Nov. 1, 1927.

1,647,836

G. W. LYONS

HATCHWAY DOOR

Filed Oct. 28, 1926

2 Sheets-Sheet 1

Fig. 1.

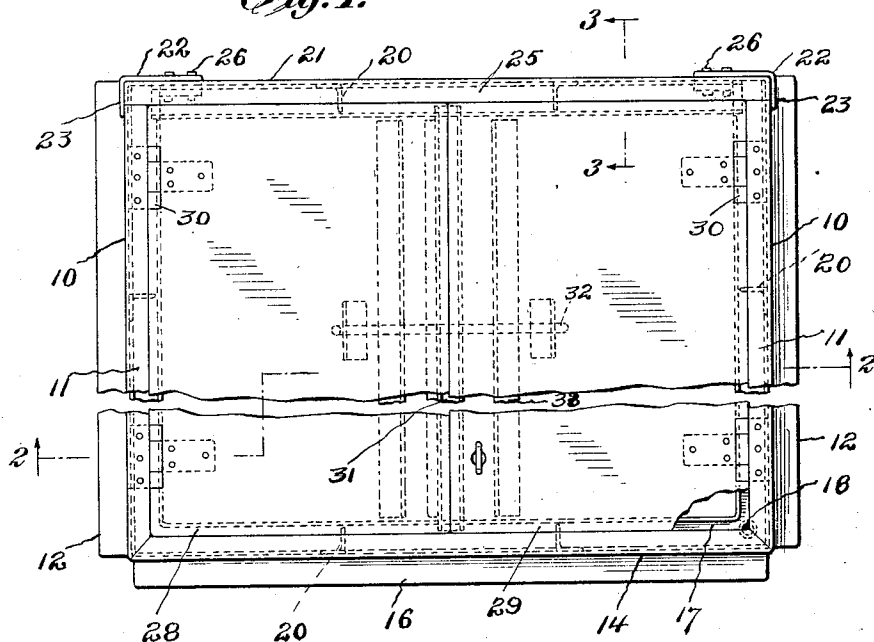


Fig. 2.

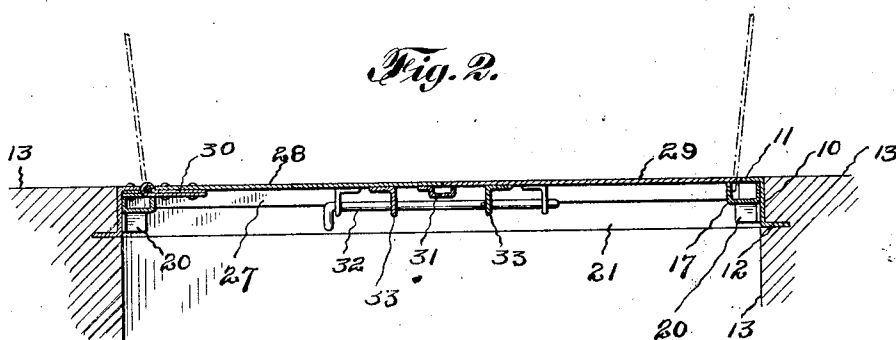
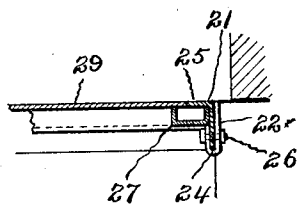


Fig. 3.



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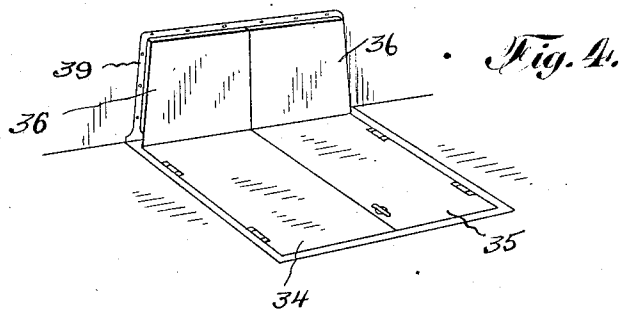
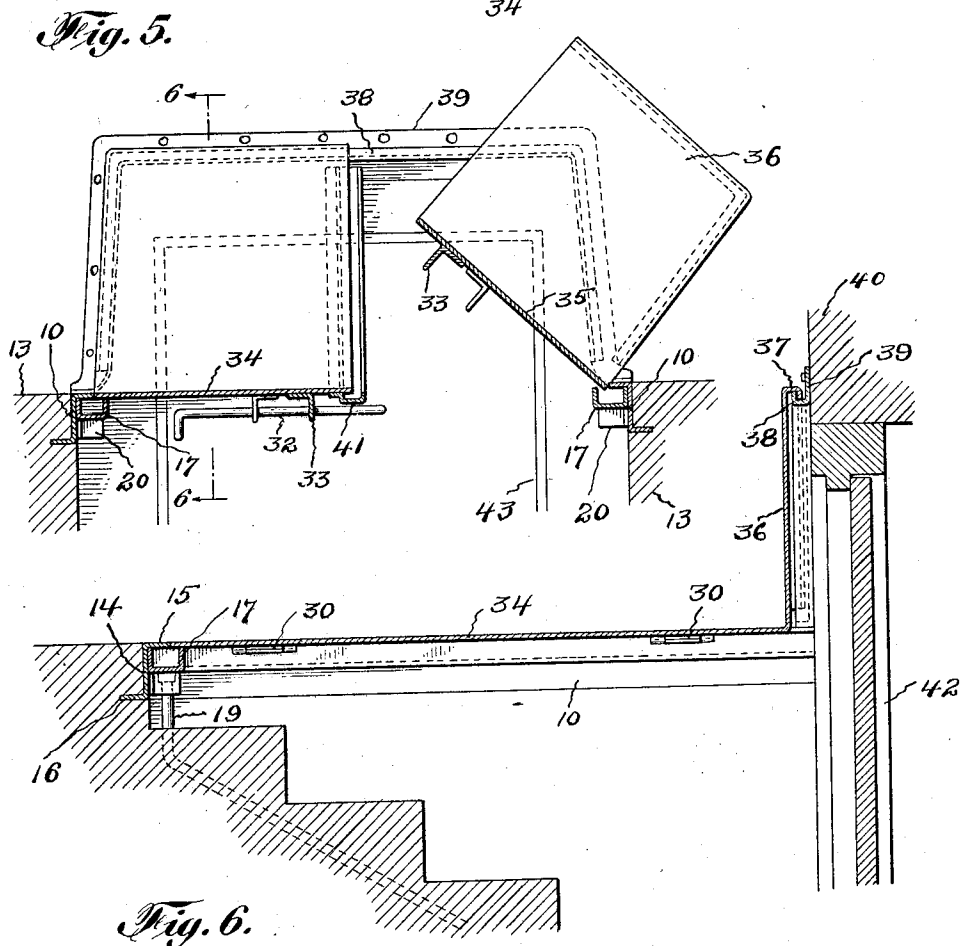
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2 Sheets-Sheet 2



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GEORGE W. LYONS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE BUILDERS IRON COMPANY, OF NEW HAVEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

HATCHWAY DOOR.

Application filed October 28, 1926. Serial No. 144,843.

This invention relates to a new and improved hatchway door.

It is the object of this invention, among other things, to provide a device of this character that will be rigid and strong, will withstand rough usage, sustain heavy loads, and provided with means to carry off any water that leaks through the joints and openings therein.

To these, and other ends, my invention consists in the hatchway door, having certain details of construction and combinations of parts, as will be hereinafter described and more particularly pointed out in the claims.

Referring to the drawings, in which like numerals of reference indicate like parts in the several figures;

Figure 1 is a fragmentary plan view of one form of hatchway door, constructed in accordance with my invention;

Figure 2 is a sectional elevation thereof, the parts in section being taken generally upon line 2—2 of Figure 1;

Figure 3 is a detail sectional elevation thereof, taken generally upon line 3—3 of Figure 1;

Figure 4 is a perspective view of a hatchway door constructed in accordance with my invention for use where space is required for head room above the level of the door;

Figure 5 is an enlarged transverse sectional elevation thereof, with one of the doors in a partially open position; and

Figure 6 is a longitudinal elevation thereof, the parts in section being taken generally upon line 6—6 of Figure 5.

In the embodiment of my invention, as disclosed herein, 10 indicates the side frames, which are preferably constructed of angle iron or the like, having top and bottom portions 11 and 12, the latter being imbedded in the wall 13, and 14 is the front frame, which is constructed with top and bottom portions 15 and 16, and mounted in the wall 12 in the same manner as the side frames.

Secured upon the inner side of each of the side frames 10 and front frame 14 is a trough 17, in one corner of which is an aperture 18, from which leads a drain pipe 19. This trough is a single member and in addition to carrying off water that falls therein adds great rigidity and strength to the hatchway frame and a support for the doors.

Substantially parallel with the front

frame 14, at the opposite ends of the side frame 10, is a back bar 21, which is supported in the lip portions 24 of the saddle members 22. Each of these members is provided with a leg portion 23 that lies adjacent to the outer wall of one of the side frames and imbedded in the wall 12.

The top face of the portion 25 of the back bar 21 is flush with the top of the doors, as shown in Figure 3. If desired, the back bar 21 may be secured permanently to the saddle members by bolts 26 or the like. Secured to this back bar 21 is a trough section 27 which has substantially the same shape and size in cross section as the trough 17 and is open at both ends so as to be connected with the inner ends of said trough and form a continuation thereof. By lifting the back bar out of the saddle members, increased head space is obtained.

The doors 28 and 29 are respectively secured to the side frames 10 by hinges 30 or the like, the joint between the outer edges of the door and the top frame 11 being over the trough 17 so that any water that may leak therethrough will drop into the trough.

The joint between the inner end of the doors and the upper plate 25 is over the trough 27.

Attached to the door 28 and projecting underneath the door 29 at their meeting edges, is a trough member 31, which at its outer end terminates over the trough 17 and at its inner end over the section 27 that catches and drains into the trough 17 any water that passes through the joint between these doors. This trough 31 also adds great rigidity to the structure at an usually weak point.

The doors are locked in a well known manner by a suitable bolt 32, slidably mounted in supports 33.

This hatchway door is so designed and assembled that it forms a single unitary structure that may be manufactured in quantities as distinguished from the conventional type that must be assembled on the job. It is positioned in the walls 12 at a slight incline to the horizontal, the lowest point being the aperture 18, so as to facilitate drainage through the drain pipe 19.

The stiffening knees 20 are arranged as may seem most convenient and provide additional strengthening members and a support for the trough.

In Figures 4 to 6 inclusive my improved

hatchway door is shown in connection with an entryway, wherein head space is required above the level of the door, such as the cellarway of a house or the like.

5 In this structure the doors 34 and 35 are provided with wall members 36 that are bent inwardly and downwardly at their outer edges so as to form the portions 37, which, when the doors are closed, project
10 into the lip portion 38 of the frame 39 fixed to the vertical wall 40. When thus closed these interlocking lips 37 and 38 form a watertight joint, and any water that enters the lip 38 drains therefrom into the trough
15 member 17.

A trough member 41 similar to the trough member 31 is secured to the door 34 and provides drainage means for the joint between the door at the meeting edges.

20 In Figure 6 the opening 43 in the wall 40 is closed by the door 42, the top of which is considerably higher than the top of the wall 12.

25 Minor changes and alterations may be made within my invention, and I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but claim all that falls fairly within the spirit and scope of the
30 appended claims.

What I claim as new and desire to secure by Letters Patent, is—

1. In a device of the character described; a substantially horizontal frame; a substantially
35 vertically vertical frame; a trough within the horizontal frame having a drain opening at one corner thereof; doors hinged to the horizontal frame at a point above the trough
40 and having a vertical portion thereon which has an intermeshing engagement with the vertical frame when the doors are in their closed position.

2. In a hatchway door for closing an opening in a horizontal and vertical wall;
45 a frame connected with the horizontal wall; a frame connected with the vertical wall; doors hinged to the frame in the horizontal wall and having a vertical extension to cover the opening in the vertical wall, the outer
50 edges of the vertical extension to said doors and the frame connected with the vertical wall having an intermeshing engagement with each other when said doors are closed; and a trough connected with the frame in the
55 horizontal wall positioned below the meeting edges of the doors and frame.

3. In a hatchway door for closing an open-

ing in a horizontal and vertical wall; a frame connected with the horizontal wall; a frame
60 connected with the vertical wall; doors hinged to the frame in the horizontal wall and having a vertical extension to cover the opening in the vertical wall, the outer edges of the vertical extension to said doors and the frame connected with the vertical wall
65 having an intermeshing engagement with each other when said doors are closed; and a trough connected with the frame in the horizontal wall positioned below the meeting edges of the doors and frame, the frame in
70 the vertical wall having a lip thereon which terminates adjacent to the said trough so that water will drain therefrom into said trough.

4. In a hatchway door for closing an open-
75 ing in a horizontal and vertical wall; a frame connected with the horizontal wall; a frame connected with the vertical wall; doors hinged to the frame in the horizontal wall and having a vertical extension to cover
80 the opening in the vertical wall, the outer edges of the vertical extension to said doors and the frame connected with the vertical wall having an intermeshing engagement with each other when said doors are closed;
85 a trough connected with the frame in the horizontal wall positioned below the meeting edges of the doors and frame; and a second trough that drains into the first mentioned trough connected with both the
90 horizontal and vertical portions of one of said doors and projecting under the other door so that the meeting edges of said doors are over the trough.

5. In a door structure of the type set forth,
95 a horizontal frame, a vertical frame, doors hinged to the horizontal frame and having vertical extensions at their inner ends, said vertical frame having an upwardly extending U-shaped portion along its top, and outwardly and downwardly extending portions
100 on the upper ends of the vertical extensions of the doors formed to be removably received in the U-shaped portion of the vertical frame.
105

6. In a door structure of the type set forth, a horizontal frame, a vertical frame, and doors hinged to the horizontal frame and having vertical extensions at their inner
110 ends overlying the vertical frame.

In testimony whereof, I have hereunto affixed my signature.

GEORGE W. LYONS.