C. W. LARSON.

METALLIC DOOR OR THE LIKE.

APPLICATION FILED MAR. 6, 1912.

1,171,445. Patented Feb. 15, 1916.

Fig. 1.

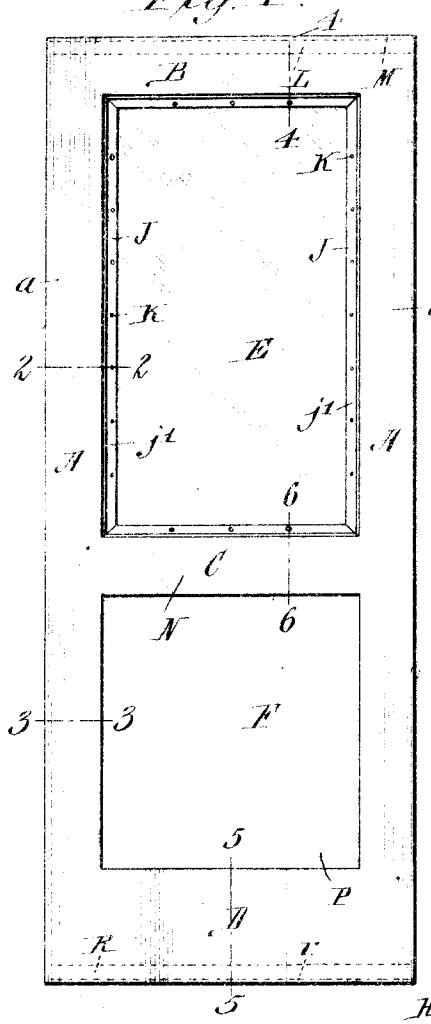


Fig. 2.

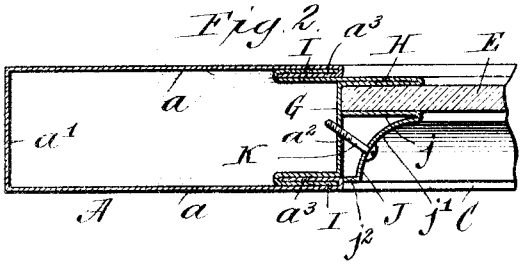


Fig. 3.

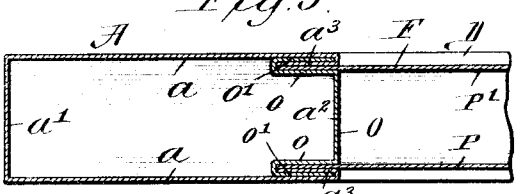


Fig. 4. Fig. 5. Fig. 6.

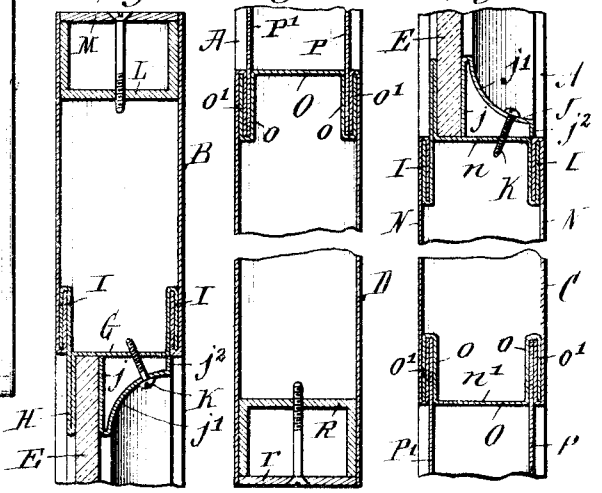


Fig. 7.

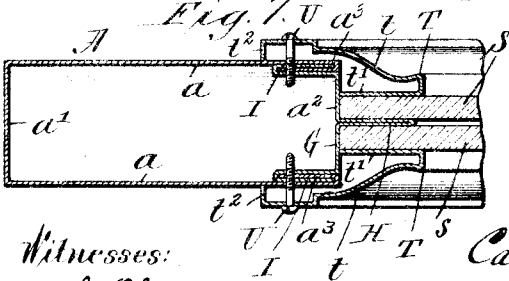
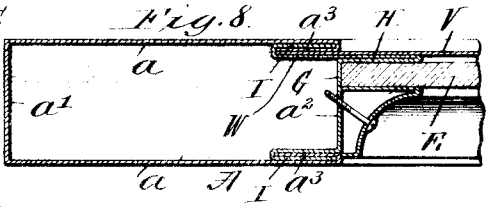


Fig. 8.



Witnesses:

Jacob Oberst, Jr.,

Ella C. Kueckhahn

Carl W. Larson, Inventor.

By Emil Neubürk

Attorney.

UNITED STATES PATENT OFFICE.

CARL W. LARSON, OF JAMESTOWN, NEW YORK, ASSIGNOR TO DAHLSTROM METALLIC DOOR COMPANY, OF JAMESTOWN, NEW YORK, A CORPORATION OF NEW YORK.

METALLIC DOOR OR THE LIKE.

1,171,445. Specification of Letters Patent. Patented Feb. 15, 1916.

Application filed March 6, 1912. Serial No. 681,870.

To all whom it may concern:

Be it known that I, CARL W. LARSON, a citizen of the United States, and resident of Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Metallic Doors or the like, of which the following is a specification.

This invention relates to metallic doors and the like and it has for its object the provision of a door or similar article in which the backing wall for a glazed panel is extended from the stiles and rails.

It has for its object the production of an exceedingly simple but durable door in which few parts are employed, and with these and other objects in view the invention consists in the construction, formation and arrangement of parts to be hereinafter described and particularly pointed out in the subjoined claims.

In the drawings, Figure 1 is a side elevation of a door constructed according to this invention. Fig. 2 is an enlarged horizontal section taken on line 2—2, Fig. 1. Fig. 3 is an enlarged horizontal section taken on line 3—3, Fig. 1. Fig. 4 is a enlarged vertical section taken on line 4—4, Fig. 1. Fig. 5 is an enlarged broken vertical section taken on line 5—5, Fig. 1. Fig. 6 is an enlarged broken vertical section taken on line 6—6, Fig. 1. Fig. 7 is a horizontal section through a portion of a door showing a modified glazed panel construction. Fig. 8 is a similar section showing a still further modified glazed panel construction.

Referring now to the drawings in detail, like letters of reference refer to like parts in the several figures.

The reference letter A designates the stiles of the door, B the top rail, C the intermediate rail, and D the bottom rail thereof. Bounded by the stiles, the top and the intermediate rails, is a glazed panel E, and F designates a metallic panel bounded by the stiles and the intermediate and bottom rails. The stiles are each constructed of two sheets of metal one sheet being bent or rolled to provide side walls a and an outer edge wall a^1, while the other sheet serves as the inner edge wall a^2. The sheet of metal forming the sides and the outer edge wall of each stile has its marginal portions re-bent, as at a^3, the re-bent portions being parallel with and separated from the side walls by spaces which receive the marginal portions of the second sheet forming the inner edge wall a^2; said second sheet being bent to provide a transverse wall G, a double backing wall H against which the glass or other panel E bears and re-bent marginal portions I arranged at right angles to said transverse wall and formed to provide a receiving space between said re-bent portions in which the re-bent marginal portions of the sides of the stile are retained.

A fastening molding J bears against the panel E and each length thereof is formed of a single strip of metal having a bearing wall j which bears against the panel and a curved or other ornamental facing wall j^1 which terminates in an angular portion j^2 arranged parallel with the bearing wall j and bearing with its edge against the inner edge of the stile. Screws K are passed through the fastening molding and take into the inner edge wall a^2 of the stile.

The upper rail is constructed of three pieces of sheet metal and between the side walls thereof a channel bar L is inserted with a plate M bearing against the edges of the side walls of said bar. The bar and plate extend into the upper ends of the stiles and lie flush with the edges of the side walls of both the rail and stiles. Screws pass through the plate M and take into the inner wall of the channel bar L. The channel bar is preferably held in place by spot welding or otherwise securing it to the side walls of the upper rail and the stiles. In other respects, the upper rail is formed similar to the stiles.

The intermediate rail is formed of four pieces of sheet metal to provide side walls N, an upper edge wall n and a lower edge wall n^1. The upper edge wall is similar in construction to the inner edge walls of the stiles and is connected to the sides of the rail in exactly the same manner as the inner edge walls of the stiles are connected to the sides thereof. The lower edge wall n^1 of the intermediate rail, the inner edge wall of the stiles adjacent the panel F, and the upper edge wall of the lower rail are each formed of a strip of metal bent to provide a transverse wall O, at opposite edges of which the metal is bent at right angles thereto, as at o, and then re-bent, as at o^1,

to provide a channel which receives the re-bent marginal portions a^3 of the side walls of the stiles and rails and also the marginal portions of two plates P, P^1 which form the panel F.

The lower rail is constructed of three pieces of sheet metal and the side walls are connected at their lower ends exactly as the side walls of the upper rail, the lower edge of the lower rail and the lower ends of the stiles receiving a channel bar R and a plate r fastened and secured in place similar to the bars L and M at the upper edge of the door.

The description thus far relates to a door having a glazed panel and a metallic panel beneath the glazed panel, but it is apparent that a door with a single glazed panel, or a door with a single metallic panel or a number of metallic panels can be constructed without departing from this invention, as this would require merely the elimination of parts of my invention, and it is clear that certain parts of my invention can be dispensed with, if desired.

In the modification shown in Fig. 7, a double glazed panel is shown. In this instance the stiles and rails of the door are constructed similar to those described in the preceding figures except that the backing wall H is arranged in a plane centrally between the side walls of the stiles or rails and two panes of glass S, s, bear against opposite sides thereof. A fastening molding T is employed at each side of the door and each length of the fastening molding is formed of a single strip of metal bent between its marginal portions into any desired form to provide an ornamental facing wall t which has its opposite marginal portions bent at right-angles to each other to provide a bearing wall t^1 which bears against the pane of glass and an outer edge wall t^2 which bears against the side walls of the stiles and rails. Screws U are passed through the fastening molding and take into the screws at the inner angles of the stiles and rails which connect the side walls with the inner edge walls of the same.

When a metallic panel is desired on one side of the door and a glazed panel on the other, the construction shown in Fig. 8 is employed. In this construction the several parts of the door are exactly as shown in Fig. 2 with the exception that bearing against the side of the backing wall H opposite that against which the glazed panel E bears is a metallic plate V which has its edges entering the seam W, by means of which one side wall of the stile or rail is connected with the inner edge wall thereof.

Having thus described my invention, what I claim is,—

1. A metallic door or the like having hollow stiles and rails and a panel bounded by said stiles and rails, each stile being formed of two sheets of metal, one sheet forming even faced side walls and an outer edge wall and having its marginal portions re-bent parallel with said side walls, said marginal portions being separated from said side walls by spaces, the other sheet being bent to provide a transverse wall, a double backing wall against which the panel bears and rebent marginal portions arranged at right angles to said transverse wall and interlocked with the re-bent marginal portions of said side walls, and means for retaining the panel against said backing wall.

2. A metallic door or the like having hollow stiles and rails and a panel bounded by said stiles and rails, each stile being formed of sheet metal bent to provide opposite even faced side walls with re-bent inner marginal portions parallel with said side walls and an inner edge wall having channeled marginal portions bent at right angles thereto and engaging the re-bent marginal portions of said side walls, and a panel having its marginal portions entered into the channeled portions of said inner edge wall and clamped therein with the inner marginal portions of said side walls.

3. A metallic door or the like having hollow stiles and rails, each stile and rail being formed of sheet metal bent to provide straight opposite side-walls, having re-bent inner marginal portions parallel with said side walls, an inner edge wall separating said side walls and having opposite marginal portions bent at right angles thereto and doubled upon themselves to provide a receiving space between said doubled portions in which the re-bent inner marginal portions of said side walls are retained, each inner edge wall being bent upon itself to provide a double backing wall extending into the space bounded by said stiles and rails, a panel having its marginal portions bearing against said backing walls, fastening moldings bearing against said panel, and screws passing through said moldings and taking into the inner edge walls of said stiles and rails.

In testimony whereof, I have affixed my signature in the presence of two subscribing witnesses.

CARL W. LARSON.

Witnesses:
E. W. SELLSTROM,
JOHN A. WESTMAN.